

STRESSFUL LIFE SITUATIONS OF DUODENAL ULCER
PATIENTS AND THE ROLE OF THE MEDICAL SOCIAL
WORKER

by

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to

P. F. M.

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ABSTRACT

A study was undertaken of the stressful life situations of 87 duodenal ulcer patients (50 Indian and 37 Black males) and a control group of 75 non-ulcer patients (43 Indian and 32 Black males). The majority of the control group were orthopaedic patients selected on the grounds that they were not hospitalised for a psychosomatic complaint. The group emerged, however, as highly stressed in relation to possible work and income loss, because of their injuries.

The duodenal ulcer and non-ulcer groups were similar in many demographic details and in several stressful life situations. There was a significantly higher reporting of stress in family life, in the work situation and as a result of the illness itself, by duodenal ulcer patients compared with the controls. The initial hypothesis that there would be more areas perceived of as stressful in the case of duodenal ulcer patients than controls was confirmed in the study. A minor hypothesis that there would be cross-cultural differences in the perception of stress was also confirmed.

The follow-up study of Indian duodenal ulcer patients demonstrated the development of an "illness career" consisting of a periodic response to stress with onset or recurrence of duodenal ulcer symptoms accompanied by changes in the individual's family system.

Minuchin's (1978) concept of enmeshment or disengagement in family systems was found to be applicable to the duodenal ulcer patient. The symptom served to maintain family homeostasis by transforming family conflict into care and concern, or by legitimising the under-functioning of the sick person.

The role of social work intervention in relation to duodenal ulcer disease was explored through the establishment of a medical social work programme at the Gastro-Intestinal Unit, King Edward VIII Hospital, Durban. It was shown that the psychosocial aspects of duodenal ulcer disease must receive attention, together with medical treatment, if comprehensive patient care is to be achieved. Intervention should emphasise self-management of stress through behaviour modification and cognitive restructuring. Family therapy is essential in cases where the symptom has a function in the family system. Many systems are involved in the aetiology and treatment of duodenal ulcer disease. A general systems approach is therefore useful in promoting a holistic view of the person and the illness.

SAMEVATTING

Navorsing is onderneem om die spanningslewendighede van 87 duodenale ulkus pasiënte bestaande uit 50 Indiër en 37 swart mans te bepaal. In die ondersoek is ook gebruik gemaak van 'n kontrole groep bestaande uit 75 ortopediese pasiënte (43 Indiër en 32 swart mans) wat nie aan 'n duodenale ulkus gely het nie. Laasgenoemde groep is geselekteer as kontrolegroep omdat hulle nie as gevolg van psigosomatiese ongesteldhede gehospitaliseer is nie. Ten spyte hiervan het hulle egter spannings-toestande openbaar wat blykbaar te wyte was aan faktore soos werks-en inkomste verlies teweeggebring deur hulle beserings en hospitalisasie.

Beide groepe (duodenale ulkus sowel as nie-duodenale ulkus-groep) het wat demografiese en spanningswekkende lewensituasies betref ooreenkomstes met mekaar getoon. In teenstelling met die kontrole groep het die duodenale ulkus of eksperimentele groep 'n beduidend hoër voorkoms van spanning aangedui ten opsigte van hulle familielewe, werksituasie en die siektetoestand self. Met hierdie bevinding is die aanvanklike hipotese bevestig waarin beweer is dat duodenale ulkus pasiënte 'n groter omvang spanningsituasies sal openbaar as die kontrolegroep. 'n Verdere ondergeskikte hipotese waarin beweer is dat daar tussen-kulturre verskille sou wees in die opvatting van spanning, is ook met hierdie studie bevestig.

In 'n opvolgstudie het die Indiërpatiënte getoon dat hulle onderhewig is aan die ontwikkeling van 'n tipiese 'siekte-loopbaan' wat bestaanbaar wees met 'n periodieke reaksie tot spanning. Hierdie reaksie het weereens aanleiding gegee tot die herhaling van die duodenale ulkus simptome wat gepaard gegaan het met veranderinge in die individu se familie-sisteem. Minuchin (1978) se opvatting van verstrikking (enmeshment) of afbreking van gesinsisteme is van toepassing gevind op duodenale ulkus-pasiënte. Dit blyk dus dat die simptome, gesinshomeostasis, gehandhaaf word deurdat gesinskonflik herlei word tot versorging en besorgdheid om sodoende die wars-funksionering van die siek persoon te wettig.

Met die instelling van 'n medies-maatskaplike werk program by die Gastro-Intestinale Afdeling van King Edward VIII hospitaal te Durban, is die rol van maatskaplike werk ingryping met betrekking tot duodenale ulkus pasiënte ondersoek. Hiervolgens was dit duidelik dat pasiënte afgesien van mediese behandeling ook psigo-sosiale

behandeling moet ontvang om sodoende 'n behoorlike en omvattende pasiëntesorg te verseker. Deur middel van gedragsmodifikasie en kognitiewe herstrukturering is dit moontlik om by die pasiënt die vermoë te ontwikkel om spanningstoestande te verwerk, terwyl gesinsterapie van belang is waar die gesinsisteem versteur is deur die siektesimptoom. Verskeie sisteme is gemoeid met die etiologie en behandeling van duodenale ulkus. 'n Algemene sisteembenadering is daarom van groot waarde in die bevordering van 'n holistiese benadering ten opsigte van die persoon en sy siekte.

CHAPTER 1

1.1 INTRODUCTION

Interest in the study topic - stressful life situations of duodenal ulcer patients and the role of the medical social worker - developed through the author's involvement in establishing a social work service at the Gastro-Intestinal Unit (G.I. Unit) at the King Edward VIII Hospital, Durban. In 1975, the Department of Social Work of the University of Durban-Westville was approached by the Head of the Gastro-Intestinal Unit to assist in obtaining a suitable Indian Social Worker for the G.I. Unit. The medical staff were aware that patients with a variety of gastro-intestinal complaints, but, in particular duodenal ulcer disease, experienced psychosocial problems which interfered with medical treatment and retarded recovery. King Edward VIII Hospital employed a Black welfare assistant who tried to assist the large number of Black patients with social problems, but the hospital did not employ an Indian Social Worker or welfare assistant. The large number of Indian patients attending the G.I. Unit were therefore, without social assistance.

* There was difficulty in obtaining a suitable qualified Indian Social Worker because of the shortage of Indian Social Workers at that particular period. It was suggested that, as an alternative, a student placement should be instituted at the G.I. Unit. This would provide appropriate social work training in a specialised medical field, while at the same time offering a social work service to patients. This arrangement has continued since 1975 with social work students in the fourth and final year of study, undertaking a three day placement each week on a rotation basis. Several students who have served this internship, have been employed thereafter as Social Workers at the G.I. Unit. The establishment and supervision of the social work training has been the author's responsibility since its inception. During this period, the University of Durban-Westville has introduced a mental health and medical social work degree at Master's level. Post graduate students now play an important role in the development of the social work services at the G.I. Unit, with the author also

co-ordinating and supervising post-graduate training.

The request for social assistance for patients at the G.I. Unit was made at a period when an increasing incidence of duodenal ulcer disease was noted amongst Indian and Black patients in the Durban area (Moshal, 1980). This increase was evident at a period when a declining incidence was reported from Western European countries. Duodenal ulcer disease was virtually unknown before 1880, but increased steadily from then until a peak was reached between 1930 and 1965. Since then it appears to have reached a plateau, and may even now be on the wane. For example, a decline in incidence of 40% - 50% has been reported in the United Kingdom from 1960 - 1971, excluding N. England and Scotland. The United States of America reports a 50% decline, except in the case of the Black Americans, where the incidence has been rising steadily since 1930 (Tovey and Tunstall, 1975). An increasing incidence of duodenal ulcer disease in Blacks is reported from some areas of Africa, and from highly urbanised areas of South Africa such as Johannesburg (Segal et al., 1978). The African areas experiencing increasing incidence are currently exposed to rapid urbanisation and social change, so that the situation would be similar to that found in the Western European countries in the late 19th and early 20th centuries. In South Africa the effect of rapid urbanisation may be felt even more by Black and Indian populations who have previously lived in predominantly rural and traditional societies.

It is commonplace to implicate stress in the development and exacerbation of duodenal ulcer disease. The effect of psychosocial factors on duodenal ulcer disease has been variously researched in terms of Western communities. There is little known, however, of the psychosocial factors affecting duodenal ulcer disease in Black and Indian communities, apart from the research into the effect of urbanisation by Segal et al., (1978). It was the dearth of research that resulted in the establishment of an interdisciplinary team under the auspices of the RAID Group (Research into the African and Indian Duodenum) in 1978. The purpose of the group was to research from an

interdisciplinary viewpoint the physiological, psychological and social factors in duodenal ulcer disease in Indian and Black patients from the Durban area. The RAID group represented a wide spectrum of expertise in different fields, but the original aim of producing an integrated piece of research on all the aspects of duodenal ulcer disease was not fully realised. The reasons for this are discussed later in this report.

The author's part in this total enterprise was an exploration of the stressful life situations of duodenal ulcer patients. A control group was used for comparative purposes and to establish the significance of the findings. The study also involved the evaluation of social work intervention with duodenal ulcer patients.

The effect of duodenal ulcer disease in causing industrial absenteeism and reducing productivity of the working population has been acknowledged (Almy, 1978). Although not usually a killer disease, the person suffering from duodenal ulcers experiences pain, discomfort and debilitation. Reduction in the relapse rate of the disease is an important focus of medical treatment and research. It is surprising that, with the general acknowledgement of the influence of stress on the disease, more has not been attempted in providing psychosocial services aimed at reducing stress. The present research topic had a utilitarian function in terms of developing a medical social work service which is geared to assisting patients with stress management and reduction in their stressful life situations. It is proposed that this intervention is a necessary part of total, comprehensive patient care.

1.2 HYPOTHESES

At the outset of the study of stressful life situations of duodenal ulcer patients, and the role of the medical social worker, two main hypotheses are proposed. These are :

1. that the perception of the multiplicity of stressful life situations and the magnitude of perceived stress is greater in Indian and

Black duodenal ulcer patients than in Indian and Black non-duodenal ulcer patients ;

2. that Social Work has a contribution to make in the treatment of duodenal ulcer disease by alleviating stressful life situations as perceived by patients .

A minor hypothesis to the first, is :

3. that there will be cross-cultural differences in the types of stress which contribute to the development or exacerbation of duodenal ulcer disease as perceived by Indian and Black patients .

1.3 PURPOSE OF THE STUDY

This is :

1. to identify those stressful life situations which have a statistically significant association with duodenal ulcer disease . In the case of duodenal ulcer disease it is difficult to demonstrate causation because of the many variables and intermediate steps that are involved in the development of the disease ;
2. to consider the different stressful life situations in their interaction with each other and the patient ;
3. to compare the findings of this study of Indian and Black patients with previous research which has been mainly conducted with European or North American populations ;
4. to show the differences in the way that stressful life situations affect the two different cultural groups, viz . Indian and Black ;
5. to explore the use of different methods of social work intervention in improving social functioning and in minimising stressful situations of duodenal ulcer patients, in order to maximise opportunities for restoration and maintenance of health in these patients .

1.4 RESEARCH METHODOLOGY

The method of research was formulated after several years of initial exploration of the role of stress in duodenal ulcer disease. First hand experience of the stressful life situations of patients was obtained through casework with patients and supervision of students undertaking field work at the hospital. Opportunity was provided at the Gastro-Intestinal Unit for exposure to overseas experts in gastro-intestinal disease and for regular discussion with medical staff. An initial literature study was undertaken using the Medlars Retrieval Service¹ under the terms Duodenal Ulcer, Psychaspects, Socioeconomic aspects, Psychosomatic Medicine and Stress. International references to stress and duodenal ulcer disease were studied. The topic was explored further at regular meetings of the RAID (Research into the African and Indian Duodenum) group and at a symposium in August 1977 when team members presented papers from their different professional viewpoints. Following on this symposium, various research designs were submitted by different team members and the Director of the RAID project, undertook the practical logistics of arranging for the different research projects, including the present research, within the Hospital setting.

1.4.1 Research Design

The research design formulated for the study of stressful life situations was basically empirical using a controlled experimental method. Two groups of patients were involved: (a) the duodenal ulcer patients, and (b) a control group of medical patients with mainly orthopaedic injuries.

In addition to the main quantitative study, qualitative methods were also used to extend and deepen the research.

1.4.2 The Sample

This consisted of the experimental group of 87 duodenal ulcer patients and

1. Medlars Retrieval Service is a literature search service undertaken by the Institute for Medical Literature of the S.A. Medical Research Council.

75 non-duodenal ulcer controls. Only males were included in the study, because of the preponderance of males developing the disease.²

(a) The Experimental Group

The sampling was undertaken by the gastro-enterologist using a systematic selection of every sixth male patient attending the Gastro-Intestinal Unit with an endoscopically proven duodenal ulcer over a three year period from 1978-1980. The sample included both Indian and Black patients, but the smaller incidence amongst Black patients resulted in a smaller number of Blacks in the total sample. The final sample of 87 duodenal ulcer patients consisted of 50 Indians and 37 Blacks. A prerequisite was that patients were prepared to participate and co-operate voluntarily in the research. There was a certain amount of attrition in the original sample because of this requirement, as some patients withdrew when they realised what was required. In order to facilitate maximum participation, employers were contacted to give extended sick-leave in order that patients would not be penalised because of their participation.

(b) The Control Group ✓

A hospital group was used as a control because of easy accessibility, which reduced the time and cost factors. The use of a hospital control has the advantage of both groups of patients experiencing a sick-role. The groups were also more likely to be similar in socio-economic background, because they were patients at a State Hospital.

Hospital controls are usually accepted as adequate in socio-medical research. If hospital controls are used, however, they should have a different disease not related to the antecedent condition of the experimental group. In the present research, it was preferable to select patients outside the psychosomatic parameters, so that stress was not implicated. This elimination of stress, as an antecedent,

2. The sex distribution in Indians and Blacks showed a male: female ratio of 2,8:1 from 1972-1975 according to Moshal et al.,(1980).

is not possible, however, as there are elements of stress in most disease situations and the experience of hospitalisation is a stressful one, for most people.³

The control patients were selected from the medical wards of the Hospital. They were a mixed group of mainly orthopaedic patients, with no endoscopically confirmed duodenal ulcer disease. The control group was smaller than the duodenal ulcer group because of the difficulty of obtaining suitable patients prepared to co-operate in the research. The final group consisted of 75 non-duodenal ulcer patients, 43 of whom were Indian and 32 Black.

1.4.3 Data Gathering

1. Literature Study

Relevant literature was consulted throughout the research period, although the main literature sources were reviewed in the early stages of the research.

2. Pilot Study

The main research was preceded by a pilot study which consisted of semi-structured interviews with 20 Indian and 10 Black patients. This was undertaken in order to explore their life situations and gain a background which would enable the researcher to formulate hypotheses and design research instruments to test these hypotheses. Other research questionnaires and schedules of life events were consulted at this stage. Many of these were self-report questionnaires and were, therefore, not suitable for the predominantly lowly educated patients in this study.

3. Focused Social Questionnaire and Stress Battery

Two research instruments were then drafted:

(a) the Focused Social Questionnaire, and

3. The results of the study confirmed situational stress in many orthopaedic patients linked to antecedent factors, as well as the experience of hospitalisation and fears of the future.

(b) the Stress Battery.

The members of the research team, including the sociologist, the gastro-enterologist, research workers and the writer, collaborated in the drafting of these instruments. The first drafts were pre-tested with both duodenal ulcer and orthopaedic patients, and adjustments were made. Questions which were found difficult to answer or elicited too few responses, were eliminated. At a later stage the Stress Battery was shortened because its length was causing fatigue to interviewers and respondents.

In its final form the Focused Social Questionnaire consisted of sections on objective data about life circumstances, biographical details of patients, descriptions of family, work histories and the present life situations of the patients. Specific questions about marital status and duration of marriage, for example, were followed by subjective questions related to stress and problems experienced in the different areas. The patients were asked about the links between stressful life events and the onset of pain or illness symptoms.⁴ Medical information was not obtained at this stage but was extracted from medical files after the social questionnaires were completed. Medical records were fragmented, however, and often incomplete, which meant that the researcher could not usually detect from the records the relationship (if there was any), between illness onset and stress, which was the focus of study. Other research has pointed to the difficulty of using medical records for research purposes (Dunn and Etter (1962).

The administering of the Stress Battery was followed by the Focused Social Questionnaire and Anxiety Questionnaires.⁵ This was usually completed on the first day and the second day was devoted to other psychological tests and psychiatric interviews. This psychological testing was discontinued in 1979 because of staff problems. The

4. The Focused Social Questionnaire (FSQ) and Stress Battery (SB) are attached as Appendix A and B.

5. Spielberger Y1 and Y2 Anxiety Questionnaires are attached as Appendix C and D.

research assistants were fourth year Indian social work students and Black nursing sisters. The social work students were already trained in interviewing skills, but the nursing staff had to be given brief training in research interviewing. The quality of Indian interviewing remained fairly competent throughout, in spite of the rotation of students, but the quality of the Black interviewing was not uniform, as was indicated in the paucity of information in some of the Black questionnaires. The research assistants were supervised as closely as was practically possible by the writer.

4. Anxiety Measurement

The adaptation of the Anxiety Questionnaires for use with Black and Indian patients was undertaken by the psychologist - using Zulu translations for Black patients. The process is described briefly together with the results of the measurement in Chapter 6.

1.4.4. Organisation of Data

All information from the questionnaires was coded and then entered onto code sheets for computerisation. The main analysis was concerned with establishing significant statistical differences between the life situations of the duodenal ulcer patients and the control patients. Chi-square tests were used throughout for this purpose. Comparisons were made in terms of the differences between patient groups within each of the two racial groups.

1.4.5 The Follow-up Study

Many researchers, for example, Weiner (1973); Mirsky (1958) and Fordtran (1973) have pointed out the limitations of a retrospective study which relies on information collected after the onset of illness. Prospective studies have been called for in duodenal ulcer research in order to predict the disease rather than study the factors involved after the onset of the disease. Such studies must, of necessity, involve a much wider population - all those within the population who might develop the disease in the future. Mirsky and Weiner's study (1957 and 1958) discussed fully in Chapter 2.2.1, is an example of prospective research which involved 2 073 U.S.A. army

trainees. A prospective study was not feasible, however, in terms of the research resources available to the RAID group. A longitudinal study is an alternative research design, which incorporates the follow-up of patients at regular intervals after the initial research. It was decided to use a follow-up study of the duodenal ulcer patients in addition to the experimental design, to trace, as adequately as possible, the history of the disease in relation to the life situations of patients.

The first follow-up study was conducted three years after patients were interviewed for the research. Patients interviewed in 1978 were contacted in 1981 and patients interviewed in 1979 and 1980 were followed up in 1982 and 1983 respectively.

It was possible to contact all but five of the fifty Indian patients. Four patients had moved and could not be traced, either through land-lords or former employers. The majority of the other forty-five patients were still residing at the same addresses and very few had changed employment. One other patient had died shortly before the follow-up contact, reportedly as a result of suicide following on a long period of depression.

The follow-up of Black patients was not successful. They were predominantly migrant workers living in hostels or rooms, and letters sent to these addresses, in most cases, met with no response. Attempts to trace ex-patients through employers also met with minimal success. There were problems in obtaining suitable Black staff to undertake home-visits to townships. Five Black patients were seen when they attended the Clinic because of reappearance of ulcer symptoms. The problems of tracing other patients proved too daunting and the follow-up was reluctantly abandoned. More will be said of the need for further in-depth research of Black duodenal ulcer patients in the concluding chapter.

The Indian follow-up study, on the other hand, proved very fruitful. Sixty per cent of patients and their families were visited at home and the remainder of the patients, who could not be visited at home, came into the G.I. Unit for interviews.

The gathering of data in the follow-up study was based on information from the first study. The stress assessment at the beginning phase was compared with stress assessment at the follow-up and recorded on the Follow-up Interview Schedule.⁶

1.4.6 Descriptive Study of Social Work Intervention

The final aspect of the research was concerned with the social work programme with Indian duodenal ulcer patients. Here a descriptive method, based on an analysis of the programme in terms of a systems paradigm, was used. A study of the effectiveness of social work intervention with a group of duodenal ulcer patients, was also undertaken. Three control groups who did not receive social work treatment, were used as a comparison (Van Niekerk, 1983).⁷

1.4.7 Limitations of the Research Design

Apart from those already discussed, there are other limitations inherent in the research design, which have been pointed out in other duodenal ulcer research (Fordtran, 1973). 'Blind' controlled studies have been called for because, in this case, the researcher has no knowledge as to which are duodenal ulcer patients and which are controls. This, it is hoped, will remove the possibility of bias introduced when the researcher is looking for stress related to the disease. It was not feasible, however, to conduct 'blind' studies, when, as in this present study, the focus was on the link between stress and the onset or recurrence of ulcer symptoms. A careful description of the illness and life situations, as well as an exploration of the interacting elements, was required. This could not be obtained without reference to the symptoms by the researcher.

Small sample numbers have been criticised in previous research. In the present study it was intended that the sample would consist of over one hundred duodenal ulcer patients, preferably from each race group (Indian and Black) and a similar number in the control groups. This would have

6. Copy of Follow-up Interview Schedule is attached as Appendix E.

7. There is a description of the research design of this mini-study in Chapter 8.

been a more than adequate number to allow for multivariate analysis by computer. Problems arose, however, as a result of the initial design selected by the interdisciplinary group. This included a large battery of tests, which took two days to administer. The use of the large number of tests, which included the psychological tests and psychiatric interviews, slowed down the research process and prevented the inclusion of a larger number in the sample. This limitation was imposed by the interdisciplinary nature of the project.

The final outcome was that smaller numbers, than originally planned, formed the research sample and the psychological and psychiatric investigations were not continued for the whole period of the study. Some of the difficulties of interdisciplinary research will be referred to in the final chapter. In spite of these limitations, the research involved a representative sample from King Edward VIII Hospital of duodenal ulcer and orthopaedic patients, from whom an immense amount of in-depth information was gathered. The lengthy interviews, the follow-up studies and the social work programme contributed qualitative information which complemented the quantitative research.

1.5 CONCEPTS

1.5.1 Duodenal Ulcer Disease

Duodenal ulcers are lesions found in the duodenal bulb, pyloric channel and postbulbar area of the gastro-intestinal tract (Bardhan, 1977). There are fundamental differences between the various types of mucosal lesions affecting the gastro-duodenal segment of the alimentary tract. In previous research, gastric and duodenal ulcers have often been lumped together under the indiscriminate term, peptic ulcer. It is essential, however, to differentiate between the two types of ulcers, because of their different causes and manifestations (Sturdevant and Walsh, 1978).

Duodenal ulcers occur as a result of the effect of the normal gastric juices which aid digestion, namely, acid and pepsin. Several factors protect the walls of the stomach and duodenum, so that they do not also become digested. Yet in some people the protective mechanisms are inadequate

and erosions occur. Sturdevant and Walsh (1978) have stated that the causes of duodenal ulcer illness are not known in most patients with the disease. The average rate of acid-pepsin is higher in patients with duodenal ulcer disease than in control subjects, but it is not uncommon for duodenal ulcers to develop in patients who secrete less acid-pepsin than normal subjects. This observation shows that other factors, for example, decreased mucosal resistance, play a role in some cases of ulcer disease. Overactivity of the gastric juices can be reduced by half in surgery by severing the vagus nerve, as is done in a vagotomy. This procedure leads to the disappearance of the ulcer, but often has side effects.

Genetic factors have been implicated in duodenal ulcer disease (Doll and Buch, 1950). There is a greater risk of duodenal ulcers in individuals who are of blood group O and who are non-secretors of blood group antigens ABO (Doll and Buch, 1950; Baron, 1964; Rotter and Grossman, 1980). Duodenal ulcer disease is usually regarded as a chronic condition with periods of remission. It is distinguished from acute stress erosions that accompany physical trauma, such as burns, sepsis and some illnesses (Moodie, 1978). These stress erosions have often been cited in animal research into the effects of stress, without clearly indicating their difference from duodenal ulcer disease.

There is a consensus that stress is related to duodenal ulcer disease, but there are problems of definition and measurement of stress. Segal (1969; p.49) states "there is ample evidence to show that both acute and chronic psychogenic stress may influence gastric secretions. Stress may be mediated to the stomach not only through the vagus nerve, but also by excitation of the posterior hypothalamic-pituitary-adrenal pathway".

1.5.2 Stress and Stressful Life Situations

According to Lazarus (1976, p.54), "Stress refers to a very broad class of problems differentiated from other problem areas because it deals with any demands which tax the system, whatever it is - a physiological system,

a social system, or a psychological system, and the response to that system".

Cox (1978, p.25) summarises different definitions of stress and concludes that: "Stress, it is argued, can only be sensibly defined as a perceptual phenomenon, arising from a comparison between the demand on the person and his ability to cope. An imbalance in this mechanism, when coping, is important, and gives rise to the experience of stress and to stress response. If normal coping is ineffective, stress is prolonged and abnormal responses may occur. The occurrence of these, and prolonged exposure to stress per se, may give rise to functional and structural damage".

These two definitions emphasise the transactional nature of stress - the interaction of demands perceived by the person, which tax his system (physiological, psychological and social) and the perception by the person of his capability to meet these demands. Stress, as suggested by Cox's definition, may give rise to physiological damage, such as duodenal ulcer disease.

The present research is concerned with the life situations which are perceived as stressful by a patient and the response of the person to these stresses. The person's perception of stress was taken as the crucial factor used in describing and rating stressful life situations.

Much research has concentrated upon stressful life events (Hinkle and Wolff, 1957; Holmes and Rahe, 1967) and the connection between these and illness. In the present research it has not been stressful events, per se, which have been studied, but rather the accumulation of stress over long periods, including any particularly stressful events which have occurred during the person's life-cycle.

1.5.3 Medical Social Work

Bartlett's (1961) definition of social work in the health field is used as the basis for the description and implementation of the role of the medical

social worker with duodenal ulcer patients. Bartlett describes the social worker's overall concern in the medical and health field as the improvement of the social functioning of individuals and groups, with particular reference to the problem or condition of health, illness and medical care.

The social worker's major contributions are:

- "(1) to develop awareness of the significance and understanding of the nature of the psychosocial components - the social needs - which are a constant element in the central problem or condition (duodenal disease, in the context of this study);
- (2) to participate actively in the provision of adequate services to meet these social needs, either by giving direct services, or by influencing the development of specific programmes and of social policy as a basis for future programmes"(Bartlett, 1961, p.51).

The interaction of the different components of stress is recognised in the present research, but as the researcher is a social worker, not a physiologist or psychologist, the main focus of this study is upon the social situations which are stressful, and methods of social work intervention which may be used to alleviate stress.

1.6 DIVISION OF THE REPORT

Chapter 1 provides the background to the investigation and describes the research methodology. This is followed by a review of relevant literature dealing with the psychosomatic theory of duodenal ulcer disease in Chapter 2. In Chapter 3 the literature on the social factors in duodenal ulcer disease is reviewed and a systems or transactional paradigm for viewing the disease is proposed. The patients and their family systems are described in Chapter 4, followed by the patients' work system in Chapter 5. In Chapter 6 the patients and the illness systems are discussed and a systems paradigm is used to present the significant aspects of the

patients' situational stress in family life and the work place, as related to duodenal ulcer disease.

The development and function of medical social work, in general, is explored in Chapter 7. This is followed by a description of the establishment and implementation of a medical social work programme in the specialised medical field of duodenal ulcer disease in Chapter 8. The social situations of duodenal ulcer patients at a follow-up study are described in Chapter 9 and the effectiveness of a social work programme aimed at stress reduction, is evaluated. The final Chapter 10 discusses the conclusions of the research investigation into the stressful life situations of duodenal ulcer patients and makes recommendations about the social worker's role and future research.

CHAPTER 2

PSYCHOSOMATIC THEORY AND DUODENAL ULCER DISEASE

2.0 INTRODUCTION

The psychosomatic theory of disease gives recognition to the interrelationship of mind, body and environment in the production of illness. However, in reality it is extremely difficult to integrate what amounts to different systems of thought and there is some questioning of the possibility of achieving this (Pierloot, 1970). Certainly in the multidisciplinary team there are many semantic difficulties to overcome when several professions are involved in an integrated research project such as the one to be discussed. One of the problems in adopting a holistic view is the fact that most research, especially medical research, uses a linear, cause-effect model rather than a circular model which would more easily embrace multicausality and the interrelationships of different systems. To date there has been no adequate theory explaining the interrelationships of the three parameters - the physiological, psychological and the social in duodenal ulcer disease. Weiner (1973) is of the opinion that :-

"The contribution of psychological and social factors to the production (and exacerbation) of duodenal ulcers will be fully understood only when the transduction of such experience by the brain has been fully elucidated. (p.59)"

The review of research literature which follows is an attempt to explore and integrate, albeit tentatively, the wide spectrum of research into the psychosomatic theory of duodenal ulcer disease.

2.1 DEVELOPMENT OF PSYCHOSOMATIC THEORY

The theory of psychosomatic illness developed as a synthesis of two broad areas of scientific study - the psyche (soul, spirit or mind) and the soma (body). Several scientific movements occurred in the first half of the 20th Century and resulted in the beginning of a formalised approach to comprehensive medicine. Grinker (1953) described the new era as

commencing with the publication of Dunbar's "Emotions and Bodily Changes" in 1935, in which she reviews 2 251 articles reporting on the relationship between somatic functions and feelings. However, Grinker points out that the roots of psychosomatic medicine and unitary thinking about mind and body relations in health and disease have existed in both rudimentary and sophisticated forms throughout the history of science.

It was probably Pavlov, in his studies of conditioned reflexes in animals, who first showed that physical processes and behaviour could be experimentally correlated (Pavlov, 1928). Later Cannon (1929, 1932) studied the effects of strong emotional stimuli on the visceral activity of cats and dogs. In his experiments he demonstrated that when an animal is faced with danger it reacts with what Cannon termed "fight - flight" reaction. An increase in sympathetic nervous system activity and a decrease in parasympathetic activity mobilised the animal's resources for emergency fight or flight and increased available energy. Pavlov's and Cannon's investigations demonstrated that needs, or hunger, or fear, or anticipation of danger, could evoke severe, immediate or long-standing physiological disturbances within the nervous system and its innervated organs.

The conception that sympathetic excitation and the secretion of adrenalin is an emergency reaction led Cannon to trace the interlocking mechanisms by which the organism maintained a dynamic equilibrium despite environmental changes. He developed a theory of homeostasis based on Claude Bernard's concept of the 'milieu interieur' which described the coherence of human physiology. The sympathetic nervous system counteracts every kind of environmental pressure and the parasympathetic system builds up bodily resources. The various bodily changes during emotion as well as the reactions to heat and cold are brought about by the sympathetic nervous system, and act as homeostatic mechanisms (Arnold, 1960, p.231).

Other views of illness involving psychological reactions were propounded by the psychoanalysts who emphasised unconscious dynamic factors in the aetiology of illness. In 1910 Freud described his first theory of anxiety

which was psychosomatic in that the blocking of sexual activity was presumed to generate noxious substances within the gonadal system. Neurotic anxiety was a fear of libidinal impulses. However, in a later book published in 1926 he considered anxiety to be a signal which detonated repressed and regressive forces from higher level verbal or behavioural paths into old infantile patterns (Arnold, 1960).

Other psychoanalysts attributed physical symptoms in organs innervated by the vegetative nervous system to be symbolic representations of repressed emotion. For example, Menninger (1938) proposed that "those cases in which the symptoms were primarily gastric seemed to have an inordinately strong desire to be loved, and that this wish to be loved seemed to follow an infantile pattern of acquisition" (p.350). Michaels (1944), Szasz et al., (1947) and Margolin et al.,(1950) also subscribed to the view of psychosomatic illness as being an infantile regression, characterised by marked disturbances of homeostasis.

It is probably Alexander, a psychoanalyst with a background in biology, who made the most significant contribution to the theory of psychosomatic illness in the 1950's. In his opinion, neither the psychoanalysts nor the experimental psychologists succeeded in understanding the interrelationship of body and mind. It was rather the combined efforts of gestalt psychology, emphasising the unity of the organism and neurology with its developing knowledge of the nervous system, that succeeded in establishing a synthetic or holistic view of man and disease (Alexander, 1950).

Grinker, writing during the same period, described the term psychosomatic as denoting more than a kind of illness or medical approach. He saw it rather as a comprehensive view of the totality of an integrated process of transactions amongst many systems (Grinker, 1953). He proposed five systems, each of which served as the environment for the other. These were :

1. the enzymatic system including the hormones
2. the organ system including the function of each organ or their larger confluences
3. the nervous system
4. the psychological system
5. the socio-cultural system.

A stimulus impinging on one system which constitutes stress will set responses into action which tend to return that system to a relatively steady state or homeostasis, with other systems being involved in the reaction. Thus a multiplicity of circular and corrective processes between systems served to stabilize the organism and maintain its integration. A similar view was presented by Von Bertalanffy (1968) in his application of general systems theory to human systems.

Grinker described anxiety as serving a continuous function in man "Health and illness vary only in degree of smoothness of transactional operations, in nearness to equilibrium or disintegration, and degree of differentiation in response to stress signalled by anxiety". (Grinker, 1953, p.10). Acute emergency responses to external danger are less disturbing than long continuous psychosomatic reactions to stresses that have been internalised and cannot be avoided or abandoned.

In 1956 Seyle developed Cannon's concept of "fight - flight" reactions further and described stress as a state manifested by a specific syndrome which consisted of all the non-specifically induced stages within the biological system in response to many different agents (Seyle, 1956). Exposure to a noxious stimulus of sufficient intensity and duration would activate the autonomic nervous system and initiate a sequence of physiologic events which could lead to permanent morphologic damage. This he termed the General Adaptation Syndrome (GAS), illness Seyle described as the cost of defence against exposure to stressor agents. Excessive or inappropriate stress response could produce structural or functional damage, which Seyle termed the "diseases of adaptation".

Seyle (1977) discussed his experiments with rats whereby he found that organisms display the general non-specific reaction pattern to damage caused by a variety of potential disease-producers. In fact any noxious agent would elicit the General Adaptation Syndrome.

Seyle described the initial response as an alarm reaction, because he thought it represented the bodily expression of a generalized "call to arms" of the defensive forces in the organism. Such bodily reactions as increased blood supply to the heart, raising of blood pressure, reduced secretion of saliva and gastric juices and other physiological changes, take place as the body responds and prepares for fight or flight. The first stage of the alarm reaction is followed by a stage of adaptation or resistance (unless death has already ensued). During this stage the bodily manifestations are quite different from the first stage, and in many instances the exact opposite. After prolonged exposure the adaptation is lost and the animal enters the third phase, the stage of exhaustion (Seyle, 1977).

Seyle's view of the non-specificity of the stress response was in contrast to the theory of specificity espoused by Alexander, Dunbar and their colleagues. Recent stress research has also found that while many stress-producing situations produce similar physiological response patterns, this is not always true (Mason, 1971). Conditioning factors determine which pathways and organ systems will be most sensitive and affected in any stress situation. Thus some individuals may respond to stress by developing coronary heart disease (Friedman and Rosenman, 1974), whilst others may develop diabetes mellitus or duodenal ulcers (Cox, 1978).

As the present study is concerned with duodenal ulcer disease, research into the psychosomatic theory of duodenal ulcer disease will now be reviewed in more detail.

2.2 PSYCHOMATIC THEORY OF DUODENAL ULCER DISEASE

Fordtran (1973) has provided a useful review of what he considers to be the most important psychosomatic studies of peptic ulcer illness. He

reviews the literature in terms of three main suppositions which broadly correspond to the three parameters, psychological, physiological and social, as follows:

- "A. Ulcer patients are exposed to long-standing psychic conflict, anxiety, and/or emotional tension (the psychological parameter);
- B. This chronic emotional state predisposes to ulcer formation by stimulating acid pepsin secretion or by reducing mucosal resistance (the physiological parameter). Some have suggested that concomitant factors associated with emotional stress, such as fatigue, insomnia, long hours of work and increased smoking, might actually be responsible for activating an ulcer rather than emotional tension per se. Both A and B are present for a long time before the ulcer develops;
- C. A precipitating event or situation occurs that accentuates A and B, and this is followed, usually in 4-7 days by the onset of an ulcer crater and ulcer symptoms." (the social parameter)
(Fordtran, 1973, p.163).

Fordtran discusses the different research studies within these A, B, C categories. However, this is not an entirely satisfactory way of reviewing the literature because as Fordtran points out himself, both A and B must be present and be accentuated by C before an ulcer develops, thus many research studies fall into one or more of the categories. Nevertheless there is a need to systematise the presentation of the literature which is voluminous and often contradictory and Fordtran achieves this to a great extent.

Fordtran emphasises the fact that the psychosomatic theory of peptic ulcer disease does not require that emotional tension be an important factor in all patients with ulcer disease. Nor does this theory predict that everyone who has severe emotional tension affecting gastric function will develop an ulcer. Rather the ulcer patient is predisposed as a result of emotional tension, but some or all of many other variables such as genetic factors

(Doll et al., 1950; Baron, 1964; Aird et al., 1954); physiological factors, e.g. level of mucosal resistance (Wormsley, 1979, p.83-87); number and reactivity of parietal cells (Wormsley, 1979, p.51-52); general health and the presence or absence of a precipitating event will need to combine in order for an ulcer to develop. Thus in terms of King's distinction between the necessary and sufficient causes of illness, the necessary causes of duodenal ulcer disease are physiological and genetic, while the sufficient causes are emotional tension and the presence of a precipitating event (King, 1963, pp 136-137). Many authors in addition to Fordtran (1973), have pointed to the fact that as far as the precipitating event or stressful life situation is concerned, it is not the event or environmental situation which is decisive but the way in which it is perceived by the individual that is crucial (Wolff, 1953; Mirsky, 1958; Hinkle, 1961; Bourne, 1969; Cox, 1978).

There is a vast volume of research into the effect of long-standing psychic conflict, anxiety and/or emotional tension and its contribution to ulcer disease. As the main focus of the present study is on stressful life situations of duodenal ulcer patients rather than psychological or physiological factors, only a representative selection of the psychological and physiological research is presented in this chapter to indicate its inter-relationship with stressful life events in the production of ulcer disease.

2.2.1 The Psychological Parameter

For many years the work of Alexander and his associates (1948, 1950) at the Chicago Institute for Psychoanalysis dominated the scene as far as psychological research in duodenal ulcer disease was concerned. These researchers were responsible for numerous studies based on a detailed analysis of a small number of patients. The central hypothesis was that ulcer patients did not evince a common personality type or characteristic, but rather that they experienced a typical 'conflict situation' which might arise in persons with different types of personalities. A basic abnormality in these persons was a marked dependency and the wish to remain in the dependent, infantile situation, to be loved and cared for, which was supposedly in conflict with the adult ego's pride and aspiration for independence and accomplishment.

Depending on whether or not the patient gives in to his unconscious cravings for dependency, or over-compensates in his rejection of these cravings, he may outwardly appear as overtly dependent, demanding and disgruntled, or efficient, productive, aggressive, ambitious and willing to have others depend on him. In either case there would be a situation of conflict resulting from the persistence of severe dependent wishes.

As explained by the psychoanalysts at the Chicago Institute, if the person's wish to be dependent was not gratified, he would seek a regressive outlet. The wish to be loved would be converted into a wish to be fed and the stomach would respond as if food were to be taken in. This would result in an increase in acid secretion, increased gastric motility and mucosal blood flow. An ulcer might develop as a result of this continuous response. This explanation became known as "the specificity theory". Alexander suggested the possibility of constitutional or acquired weakness, with chronic stimulation of the empty stomach as an **aetiological factor**. Increased secretion and motility might also be precipitated by external deprivation such as the loss of a loved one, loss of money or position, or the patient might defend against unmet cravings by taking on added responsibility, for example, marriage or a new job.

Studies by Alexander's colleagues produced similar findings. For example, Kapp, Rosenbaum and Romano (1947) studied 20 men with peptic ulcers and found intense dependent needs traced to rejection or spoiling in childhood. Ulcers developed in later life when infantile cravings were denied. The group of 20 men were divided into Group A - outwardly independent and successful; Group B - openly expressing dependent longings; Group C - manifesting severe character disorders such as alcoholism, and psychopathic traits such as gambling, delinquency, inability to make a living, openly parasitic. Fordtran criticises these findings because a given physician might see a preponderance of patients in any one of these 3 groups depending on his type of practice.

Kezur, Kapp and Rosenbaum (1951) undertook one of the few studies of women, 4 with gastric ulcers and 21 with duodenal ulcers. They found a personality disturbance varying from overt weakness and passivity to domination and aggressiveness. The ulcer developed when the patient was rejected by a meaningful person, usually the father or husband. None of these women had a satisfactory sexual adjustment.

Scodel (1953) attempted to quantify personality attributes of ulcer patients. In a study similar to that undertaken by Kapp et al (1947), he applied the dependence-independence conflict hypothesis to deduce two personality types amongst a population of ulcer patients. The first group had strong needs for affection and dependence, but were unable to accept this in themselves. They consequently denied it verbally and behaviourally and instead were striving and ambitious. The second type, who came from a lower socio-economic group (where Scodel considered ambition and drive were less fostered and satisfaction was more likely in lower-level non-striving pursuits) were also found to deny dependence, but their overt behaviour was unassertive and inhibited in contrast to their perceptions of themselves as active and energetic.

Several extensive reviews have evaluated the independence-dependence conflict theory. Stine and Ivy (1952) in a review of 300 cases studied by psychoanalysts and psychiatrists found an unanimous opinion that ulcer patients had a serious dependency conflict. Streitfeld (1954) reviewed 45 fairly systematic studies and concluded that ulcer patients did not differ in regard to frustration of gratification of oral dependent needs, but reacted with strong aggressive wishes to frustration of oral aggressive wishes in contrast to other psychosomatic patients. Poser (1951) discussed studies of the personality traits of peptic ulcer patients, using psychological tests. These studies generally revealed abnormalities in ulcer patients compared with what is considered normal.

Many of these studies are criticised because they involved relatively short



series of patients (Draper and Touraine, 1932; Bacon, 1934; Mittelman, Wolff and Scharf, 1942; Weisman, 1956). There is also the criticism that, because dependency traits of some degree can be found in practically all people, they can be given undue bias by the researcher. With a few exceptions, no control groups were used and the results were not interpreted 'blind'. A study by Marquis et al. (1952) was one of the exceptions.

In 1950, Hamilton attempted an investigation which dealt with larger numbers. He compared four groups of 50 men each, using a personality inventory. One group had duodenal ulcers, one had gastric ulcers, one group was made up of non-ulcer dyspeptics and finally there was the control group. The personality findings indicated significant differences in only one dimension, which consisted of a group of traits corresponding to 'anxiety neurosis'. This characterized the non-ulcer dyspeptics, with the duodenal ulcer group fairly close and the gastric ulcer group coming half-way on towards the controls (Hamilton, 1950).

Roth (1955) discusses many of the so-called 'specificity theory' studies and points out that Hamilton's study is one of the few examples of adequate time being given to observing and interviewing patients - this obviously increased the validity of the conclusions. Roth levels many criticisms at the 'specificity theory' research. He points out that Hamilton's (1950) and Wretmark's (1953) studies are the only ones which distinguish between duodenal and gastric ulcers. Most studies also fail to distinguish between male and female, and generalizations are made from specific social classes instead of from representative samples of the population. He also points out the lack of statistical analysis to determine the significance of the findings in many cases.

Since Roth's review (1955), researchers have obviously attempted to improve their methodology. For example, Hójer-Pedersen (1958) conducted a study of 51 duodenal ulcer patients and 51 age matched controls. He found a significant dependent-independent character deviation in all 51 ulcer

patients and 16 controls .

De M' Uzan and Bonfils (1961) studied two groups of male patients (108 and 85 subjects respectively). They concluded that the unconscious oral motives of duodenal ulcer patients may find at least four different modes of expression :

1. Fifty percent of the patients were not particularly competitive and their professional and home life was stable
2. Twenty-five percent of the patients closely resembled the pseudo-independent patients originally described by Alexander
3. Fifteen percent were similar, if not identical, to the patients described by Kapp and associates. They were usually older when the ulcer developed and were often overtly depressed and/or anxious.
4. Ten percent vacillated between very dependent and independent forms of behaviour and relationships. They were frequently unmarried and drank too much.

These conclusions are similar to those expressed by Kapp et al,(1947) and Scodel (1953).

Kalucy (1979) is of the opinion that most clinicians working in the field of psychosomatic medicine would believe that Alexander's theories carried substance, simply because of their own clinical experience. However, he considers that the broad, philosophical view propounded by Grinker, Dunbar and then Alexander and his associates is too diverse and diffuse. He points out that it may have attracted an excess of speculative - even bizarre theorizing. When one considers, such theories as Garma's (1953) view of duodenal ulcers as "the bite of the mother" or Menniger's (1938) hypothesis of ulcer disease as "organic suicide" or even Alexander's work on the central dependency conflict, one would agree with Kalucy that the language used is largely figurative and the presence of inner states in

the individual is inferred because it cannot be directly observed. Robbins (1969) on the other hand, in a comprehensive review of Alexander's specificity theory from 1951-1965 concludes that Alexander offered a parsimonious and predictive approach, although it was perhaps oversimplified.

Weiner (1973) suggests that although Alexander's formulations and the studies based on his hypothesis can be criticised from both a scientific and conceptual point of view, nevertheless his basic propositions were never fully understood. According to Weiner, Alexander never identified the dependent-independent conflict as the sole 'cause' of ulcer disease. In 1950 he had clearly stated that other unknown factors besides 'oral frustration' were of aetiological significance. Alexander also postulated a concomitant physiological parameter, contending that 'oral frustration' was somehow mediated by neuroendocrine mechanisms to produce gastric vasoconstriction and hypersecretion. Thus Alexander postulated a multifactor theory with both psychological and physiological causes. As far as the specificity theory was concerned, Weiner points out that Alexander did not state that independent-dependent conflict was unique to duodenal ulcer patients, but rather that it had a specific configuration in patients with ulcer disease.

In 1968 Alexander attempted to overcome the criticisms of his early studies by devising a 'blind' study. All medical clues were removed from the transcripts of patients' interviews. Patients from seven designated psychosomatic diseases were included, viz. duodenal ulcer, asthma, rheumatoid arthritis, ulcerative colitis, essential hypertension, neurodermatitis, and thyrotoxicosis. A panel of psychoanalysts and physicians were required to make a diagnosis based on the edited material and Alexander's psychodynamic formulations. The study concluded that specific conflict was present in one-third of the ulcer patients which Alexander considered validated his theory that such individuals were characterized by a particular unconscious conflict. Fordtran disagrees although he points out that the results do not invalidate

the psychosomatic concept of peptic ulcer disease (Fordtran, 1973, p.165).

Eberhard (1968) attempted research similar to Alexander's 'blind' study using 30 pairs of monozygous twins, at least one of each pair having an ulcer. A second examiner analysed the personality and stress factors from material submitted to him by the author, without knowledge of which twin had the ulcer. The results of this study showed that the ulcer twin or twin with earlier onset of ulcer (if both twins had ulcers) had a statistically significantly higher sensitivity to stress and impaired defence mechanisms compared to the non-ulcer twin or twin with later onset of ulcer. Nervous complaints were found to be due to increased sensitivity to stress rather than to a greater amount of actual stress which was judged equal in the ulcer and non-ulcer twins.

Other researchers have undertaken twin studies (Pilot et al., 1957) and have predicted sets of circumstances which led to the development of an ulcer in the previously illness-free twin. Fordtran discusses Eberhard's (1968) and Alexander's (1968) attempts to eliminate all medical clues from the records of their patients and the assessment by other researchers. He is of the opinion that it is doubtful whether these attempts to mount a 'blind' study were successful in removing all clues.

Weiner (1973) recommended the use of studies prior to the onset of disease to overcome the methodological weaknesses of post hoc studies. Working with Mirsky, Weiner devised an ambitious piece of research involving 2073 United States Army draftees who were selected prior to onset of illness (Weiner et al., 1957; Mirsky, 1958). Mirsky measured hypersecretion of pepsinogen in the blood, which he postulated as a physiological condition necessary for the development of duodenal ulcers (Mirsky, 1952).

The 2073 draftees were tested for serum pepsinogen levels, 63 were designated hypersecretors and 57 were designated hyposecretors. These 120 men underwent psychological testing and gastro-intestinal X-rays

before going for basic army training and all but thirteen underwent a second examination between the 6th and 8th week of training. The researchers analysed the data from the psychological tests for evidence of dependency, frustration, unexpressed anger and hostility, to pick out hypersecretors. Hyposecretors were looked for on the basis of traits of pseudo masculine defenses or paranoid traits. Ten of the 120 were selected as most likely to develop duodenal ulcers on the basis of intense dependency needs. The first X-rays revealed that 2 of the 10 had a duodenal ulcer, on 2nd X-ray, 5 more had developed duodenal ulcers. Two of the 3 remaining were hypersecretors and one a hyposecretor. Two others from the 120 men (hypersecretors) developed ulcers. Thus 9 of the 120 developed duodenal ulcers, and all were in the hypersecretory group. Seven out of 9 men who developed an ulcer were in the top 8% judged most likely to get an ulcer on the basis of psychological criteria. The researchers concluded that together the two parameters of a high rate of gastric secretion and a specific psychodynamic constellation precipitate ulcers when persons are exposed to noxious social situations such as basic army training.

Fordtran (1973) describes this research as impressive. He points out that although the study would have been enhanced by including a control group with normal rates of gastric secretion, nevertheless it succeeded in picking out those most prone to ulcers, even among hypersecretors. The fact that one of the men in the group of 10 who were predicted ulcer prone was a hyposecretor who did not develop an ulcer suggests that the serum pepsinogen level may be independent of psychic conflict.

Weiner (1973) discusses other limitations of this study, which are particularly cogent in view of his involvement in the research. He points out the following :

1. The population from which these subjects are drawn was not representative. It was composed of young men from a predominantly urban population residing in the North-eastern section of the United States. Ethnic and social factors which play an important role in determining serum pepsinogen were not taken into account. For example, local stomach disorders

such as gastritis may influence serum pepsinogen levels.

2. The psychological findings have not been fully validated on another population. When the authors retested their original subject population, they found that the psychological criteria indicating anxiety no longer discriminated between the hyposecretor and hypersecretor groups. More recent evidence (State, 1970) showed that individual variations both in plasma and urinary pepsinogen occur from day to day and possibly from hour to hour. This indicates that single determinants of levels should be reviewed with caution.
3. The study was aimed at establishing the personality characteristics which were significantly associated with hypersecretion of serum pepsinogen and duodenal ulceration, based on Alexander's hypothesis. There were, however, difficulties in operationalizing Alexander's hypothesis.

The study findings, if valid, mean that a higher concentration of serum pepsinogen (as a criterion of gastric hypersecretion) in combination with certain personality characteristics predisposes some persons to react to a stressful environmental situation by developing a duodenal ulcer. The study did not address itself to the problem of pathogenesis. Mirsky (1958) discusses this in a subsequent paper and this is included in the next chapter in the section on family and childhood influences.

Since the Weiner and Mirsky study there have been several other predictive studies (Rutter, 1963; Graham and Stevenson, 1963; Valiant and MacArthur, 1972). Rutter concluded that regardless of whether or not psychiatric and social factors cause peptic ulcers, anxiety and depression are very significant factors in precipitating complications and leading to intractability.

Valiant and MacArthur (1972) reported on a study begun in 1940 of 280 men from a University Health Service intended as a prospective study from

20-50 years duration. Ninety-five men were chosen at random for follow-up. The results of this study indicated that patients with other psychosomatic complaints in addition to ulcer disease displayed oral character traits.

Philip and Cay (1971) studied a large group of patients in the Gastro-intestinal unit of Edinburgh General Hospital by means of a medical and psychosocial history and psychological testing. Clinical assessment revealed psychiatric morbidity in two-thirds of the cases. They found that duodenal ulcer patients did not present with more psychopathology than other patients.

Altman (1974) in an overview of psychological studies also quotes studies by Badal et al.,(1957); Apter and Hurst (1973), which indicate similar results. There is thus much supporting evidence for the hypothesis that there is no particular ulcer personality but rather that particular personality patterns produce a variety of psychosomatic complaints.

2.2.2 The Physiological Parameter

Fordtran's supposition B states that a chronic emotional state predisposes to ulcer formation by stimulating acid-pepsin secretion, or by reducing mucosal resistance in some way. This may be referred to as the physiological parameter, although in actual fact it is not possible to separate the psychological and physiological reactions because of their inter-dependence. The effect of emotion on acid-secretion was first demonstrated by Beaumont in 1833 in the case of Alexis St. Martin. Other studies of individuals, e.g. the well-known case of Tom, the man with a gastric fistula reported by Wolf and Wolff (1947), and Helen, a gastrostomy patient reported by Margolin et al.,(1950) provided opportunities of observing the effects of emotion on gastric functioning. Højer-Pedersen (1958) discusses the difficulty of interpreting data from a gastrostomy patient because of the intense meaning that this procedure may have for the patient. In Helen's case the gastrostomy had been sexualised in her mind and these results are therefore not necessarily applicable to other patients (Fordtran, 1973).

Other individual studies include one by Hoelzel (1942) who described his own increased acidity in response to a life-threat. Szasz et al., (1947) reported on a patient in whom gastric secretion was increased as a result of hostility. After a vagotomy (surgical severing of the vagus nerve), psychic tension no longer stimulated acid secretion. Szasz proposed that tension and conflict which cause an ulcer will result in other sequelae, such as depression, memory impairment, anxiety or drug dependency, even though the ulcer is cured.

These studies, similarly to many of the studies of psychological factors, were based on clinical evidence from individual patients. Conclusions were often contradictory, some studies suggesting that anxiety was associated with increased acid secretion whilst other studies suggested that depression was associated with decreased secretion. As already pointed out, it is easy to obtain a variety of results when individual studies are quoted, when there are no control studies and results are not recorded 'blind' or statistically analysed. There may also be different interpretations of terminology, e.g. anxiety and depression.

Studies by Mahl (1949 and 1950) are regarded as using a sounder methodology. In a study of medical students before examinations Mahl demonstrated that a high level of anxiety was associated with a convincing rise in the acid concentration of the subjects' gastric juice. There was no increase in gastric acidity in the 2 students who had no anxiety about the examinations. Mahl (1949) quoted his own studies and those undertaken by Mittelman and his associates (1942) which are discussed in the section on the social parameter, to support his hypothesis that psychosomatic symptoms in ulcer disease are causally related to physically experienced stress which evokes chronic anxiety. Mittelman and his associates interviewed 13 normal subjects and 13 patients suffering from ulcer or gastroduodenitis under controlled and emotion-producing conditions. They found a modest increase in free hydrochloric acid in the stomach during periods of emotional response, with a change in peristalsis from intermittent to

continuous activity in both groups but with greater intensity and duration in the patient population (Mittelman et al., 1942).

In Mahl's view, Cannon's fight-flight theory was applicable to acute but not to chronic anxiety. Mahl also considered it unimportant whether anxiety was produced by the environment or by internal ideation or by affective stimuli or whether it was conscious or unconscious. This was in contrast to Alexander's view that ulcers were the gastro-intestinal system's reaction to the dependency conflict.

Weiner et al., (1957) point out that these studies used one parameter of gastric function i.e. acid secretion, as compared to the studies by Mirsky and associates who identified serum pepsinogen as involved in the pathogenesis of duodenal ulcer disease.

In spite of the misgivings about their applicability to human subjects, animal studies are usually regarded as having contributed to the understanding of physiological stress. Studies often cited are the "executive monkey" studies by Brady et al., (1958) and Porter et al., (1958); and Sawrey and associates' studies of rats (1956). Brady found that the so-called executive monkeys developed ulcers whilst the controls did not. Measurement of gastric activity during a six hour cycle of shock avoidance sessions indicated that there was a rise in acidity after the session was over. Brady suggested that emotional stress led to an ulcer when the stress was intermittent rather than continuous.

Sawrey et al., (1956-1958) reported on the effects of chronic approach-avoidance conflict in the production of gastric ulcers in rats. The animals received shocks when they approached food or water. Many developed ulcers and some died of gastrointestinal haemorrhage whilst the control group, who were not shocked, did not develop ulcers. The rate of ulceration was less when the animals were in groups of three, suggesting that social interaction counteracted the effects of stress. Another study of rats by Ader, Beels and Tatum (1960) investigated the relation between

ulcer formation and the presence of pepsinogen in the subject. It was found that a combination of high blood pepsinogen levels and experimental stress produced ulcers, whereas either factor alone did not.

In spite of the knowledge derived from animal studies, Fordtran (1973) and Porter et al, (1958) have pointed out that the production of ulceration in animals may differ from chronic peptic ulcers in humans, because many of the ulcers produced in the animals were of the acute stress type, rather than chronic ulcers. Cox (1978, p.52) also points out that research into emotion using animals, may not have a great degree of relevance to human stress.

Although there has been considerable activity since 1960 in the area of stress research, much of this has not yet been related specifically to ulcer disease. A review, however, of some of this research gives pointers for future ulcer research. Bourne (1969) discusses the stress research being undertaken at the Reed Army Institute of Research, Washington D C using a psychoendocrine approach. Bourne points out that the work of Cannon and Seyle led to the expectation that the hormones secreted by the pituitary-adrenal-cortical axis could provide an easy and tangible measure of the degree of stress to which an organism was exposed. Further work in the field and the improvement of biochemical techniques accumulated evidence that other endocrine systems, in addition to those involving the adrenals, respond to psychological stimuli. Bourne quotes research by Wadeson et al., (1963); Bliss et al., (1956); Mason et al., (1965); Mason et al., (1957); Sachar et al., (1966) which deals with the response of the organism to acute and well defined events such as motion pictures, emotional stress, hospital admission and hypnotic trance. Subsequently, investigation of more chronic situations have shown that under circumstances of prolonged stress, as experienced by parents anticipating the death of a chronically ill child, both elevations and depressions in the mean adrenal steroid secretion can occur (Friedman et al., 1977).



Bourne, in similar fashion to Wolff, (1953), Mirsky, (1958), Hinkle (1958, 1961) and others, discusses the importance of recognising the degree of stress attached to an environmental event, which differs with the subjective assessment of the investigator, as well, of course, as with that of the person experiencing the event. Studies by Fox et al., (1961), Wolff et al., (1964), Sachar et al., (1966) demonstrated the significance of individual differences in psychological and physiological handling of similar events in the environment. Bourne reports that these studies demonstrate the relationship between the adrenal secretion of 17-hydroxycorticosteroids (17-OHCS) and an individual's characteristic style of dealing with the day to day stresses of living. Observed differences were explained by the manner in which ego defenses were utilized to handle the perception of threatening stimuli. It is now experimentally feasible to predict the chronic mean level of 17 - OHCS secretion in a given individual over a period of weeks or months on the basis of observed behaviour (Wolff et al., 1964). It has also been demonstrated in certain clinical situations that over extended periods of time, therapy, or other factors, may alter the efficacy of the individual's defense mechanisms and the characteristic mean level of 17-OHCS will change accordingly (Bourne, 1969).

There is now strong evidence to show that in addition to individual differences, social factors which have a significant effect in altering an individual's perception of stress, alter his level of adrenal-cortical secretion. Bourne (1969) reports that at periods of stress, free communication between members of equal standing tends to result in a consensus of how the stress is perceived, this in turn minimises individual differences in adrenal-cortical response. For example, in studies of 17-OHCS levels in airmen and ambulance medics in the Vietnam war, it was found that each subject utilised effective and extensive psychological defences to handle stressful events such as minimising danger and creating a feeling of togetherness and invulnerability. Officers showed a rise in chronic 17-OHCS secretion which the enlisted men did not. This was thought to indicate the additional stresses of the leadership role.

Levin et al (1981) have posited an explanation of the ætiology of duodenal ulcer disease based on the application of theories of psycho-physiological reaction to stress. The authors have suggested that an avoidance - avoidance conflict (involving two negative goals causing vacillation and unsuccessful attempts to escape) in individuals, with a dependent compliant personality incapable of appropriate stimulus seeking behaviour, will result in a parasympathetic dominance and noradrenergic depletion which will facilitate the development of duodenal ulcers. The authors reasoned that 56% of the duodenal ulcer patients whom they interviewed were caught in an avoidance-avoidance situation compared to 10% of the controls. This is an interesting attempt at a psychophysiological explanation of the ætiology of duodenal disease which awaits further investigation.

Weiner offers an overview of the physiological research up to 1973, which emphasises the interrelationship of physiological and psychological factors. He notes that the failure to achieve a definitive theory satisfactorily explaining the interrelationship of psychological and physiological factors could be attributed to the focus in physiological research on the role of hydrochloric acid and pepsinogen in ulcer formation. He suggests exploring some of the recent findings of physiological research (Weiner, 1973) as follows :

1. Such findings as those suggesting that the mechanisms residing in the central nervous system and its principle neural and hormonal outflows mediate psychological factors to produce changes in the physiology of the stomach and stimulate or inhibit secretion of acid and pepsin via the vagus nerve.
2. Recent evidence that gastrin is a critical variable in the autoregulation of gastric secretion and that gastrin levels are low during ulcer disease presumably inhibited by high levels of hydrochloric acid.
3. The evidence that cortical hormones, growth hormones and histamine may be involved in the pathogenesis of duodenal disease, although their role in the regulation of gastric function is not yet fully understood.

4. Two anatomical factors playing a role in the aetiology of duodenal ulcer disease have been identified. Gravvaards (1968) established that examinations at autopsy showed that the vagus nerve was significantly larger in patients with acute and chronic gastrointestinal ulceration compared to a comparative group without lesions. Cox (1953) demonstrated that at autopsy patients with duodenal ulcers had larger stomachs than a comparative group. This raises the question that the size of the stomach may be the anatomical basis for the increase in secretory capacity of the stomach of duodenal ulcer patients.
5. Genetic markers may need to be controlled in future psychophysiological studies, as they identify persons predisposed to peptic ulcer disease. For example, persons who carry blood type O and who do not secrete blood group antigens ABH into the saliva and gastric juices, have been shown to have a higher incidence of both gastric and duodenal ulcers.
6. In spite of a familial tendency to peptic ulcer disease, it has not yet been possible to determine whether genetic or environmental factors are prepotent. Pilot et al., (1957) suggested the importance of serum pepsinogen as an aetiological factor and this is discussed in the next chapter under family and childhood influences.

In concluding his discussion, Weiner points out that research has shifted to the auto-regulation of gastric secretion by antral and duodenal hormones. He suggests that ultimately duodenal ulcer disease may be the expression of the regulation of gastric functioning by the central nervous system, which in some way translates social and psychological stimuli and influences into altered gastric physiology.

2.2.3 Summary of Overview of Psychological and Physiological Factors

The factors which have been brought to light by the main psychological and physiological studies may be summarised as follows :

1. Ulcer patients experience a typical 'conflict situation' arising from a marked dependency need and a wish to remain in the dependent infantile situation, which conflicts with the adult ego's

aspiration for independence. The person may either give in to his unconscious cravings for dependency or overcompensate by appearing efficient, productive or aggressive.

2. The wish to be loved is converted into a wish to be fed, resulting in the stomach responding by being continually ready to digest, with the concomitant physiological reactions of increased acid secretion, gastric motility and mucosal blood flow.
3. The above two factors were described as the 'specificity theory'. This hypothesis was supported by many studies of small series of patients by Alexander (1950), Kapp et al., (1947), Kezur et al., (1951), Scodel (1953) and others.
4. These clinical findings were followed by more adequately constructed research studies. Some of these also substantiated the 'specificity theory' (Hójer-Pedersen, 1958, and De M'Uzan and Bonfils, 1961).
5. Hamilton (1950) studied the presence of anxiety in four groups of patients and found that the non-ulcer dyspeptics displayed more anxiety than the ulcer patients.
6. Alexander (1968) claimed to validate his theory of a specific unconscious conflict being present in ulcer patients by conducting a 'blind' study, when predictions were made without knowledge of which patients had ulcer disease, and which manifested other psychosomatic illnesses.
7. In twin studies Eberhard (1968) found a higher sensitivity to stress and impaired defence mechanisms in the ulcer twins.
8. Mirsky and Weiner (1957, 1958) in a study of army draftees found a high rate of gastric secretion and a specific psychodynamic constellation precipitating ulcers when persons were confronted with a stressful environment.
9. Rutter (1963) found anxiety and depression significantly associated with complications in ulcer disease.

10. Valiant and MacArthur (1972) found other psychosomatic complaints also associated with oral character traits.
11. Philip and Cay (1971) found that duodenal ulcer patients did not display more psychopathology than other patients.
12. The consensus of opinion is that there is no particular ulcer personality but that particular personality patterns may produce a variety of psychosomatic complaints.
13. The effects of emotions on gastric functioning were established by studies of individual patients or studies of small numbers of patients. There was usually no attempt to use control groups and findings were often contradictory. Fordtran, criticising these studies, states "Given a little bias, some spontaneous variation in the rate of acid secretion, considering the fact that anxiety and depression are very difficult to separate and define one could get any result he wanted" (Fordtran, 1973, p.172).
14. Later studies identified the role of serum pepsinogen in addition to acid secretion in the genesis of duodenal ulcer disease.
15. It is questioned whether the frequently quoted animal studies, which showed a rise in emotional stress and the development of ulcers as a result of approach-avoidance experimental situations are relevant to studies of human stress and duodenal ulcer disease.
16. Stress research is using improved biochemical techniques to measure the response of the endocrine system to emotional stimuli and prolonged stress.
17. Studies have demonstrated the significance of individual differences in the psychological and physiological handling of similar stressful events.

18. Weiner (1973) notes the failure to achieve a theory explaining the interrelationship of psychological and physiological factors and points to the need to extend research to include the most recent physiological findings about the regulation of gastric functioning by the central nervous system.
19. To date it has not been possible to assemble the evidence necessary to prove that chronic emotional tension produces more gastric activity in ulcer than in non-ulcer patients. Also according to Fordtran (1973) because mucosal resistance cannot be directly measured it is not possible to show that anxiety predisposes to ulcers by decreasing mucosal resistance. There is also no convincing data relating to motility. Thus while further understanding rests on the development of better research techniques, there is a limit to what can be measured.
20. The extensive research into the hypothesis that long-standing emotional tension is significantly more common in ulcer patients than controls has been marred by (a) the lack of adequately controlled studies, or follow-up in the case of well-designed research such as the Weiner-Mirsky study, (b) the concentration on small numbers, as in much of the clinical research, (c) the failure in many cases to distinguish between duodenal and gastric ulcer disease, which seriously reduces the value of the research according to Langman and Cooke (1976).

CHAPTER 3

THE SOCIAL PARAMETER

EPIDEMIOLOGICAL STUDIES, SOCIAL FACTORS AND STRESSFUL EVENTS

3.0 INTRODUCTION

Included in this chapter is the research which Fordtran (1973) describes as relative to the third supposition of the ætiology of peptic ulcer disease, namely, "a precipitating event or situation occurs which accentuates A and B (the psychological and physiological factors) and this is followed, usually in 4-7 days by the onset of an ulcer crater and ulcer symptoms" (p.163). This research into stressful life situations or events which is regarded as dealing with man's social existence will be augmented by the epidemiological studies of the effect of environmental factors on the ætiology of the disease and the frequency of the disease in different environments. The research into the effect of childhood and family relationships will also be included in this section on social factors. It is obvious that, as in the previous chapter, there is continual interplay between the different factors.

3.1 EPIDEMIOLOGICAL STUDIES

Susser (1967), Pflanz (1971) and Jones (1957) have provided comprehensive reviews of the epidemiological research of duodenal ulcer disease. They also point to the dangers inherent in epidemiological studies. For example, Pflanz points out that a hypothesis suggesting that the ætiology of duodenal ulcer disease is due to changes in the social environment requiring psychological adaptation, may be presuming that the prevalence of the illness had changed, whereas the question may rather be whether the number of patients presenting for treatment in different areas has changed.

Susser (1967) points out that there is a lack of precise information about the influence of the environment in the aetiology of peptic ulcers. It is difficult to establish frequencies in a chronic disease such as peptic ulcer disease and available measures often yield divergent results. Each

measurement may measure something different, or the measuring instruments may be inadequate or not properly handled. The identification and diagnosis of cases is a primary step in any epidemiological survey and this depends on adequate medical histories. Dunn and Etter (1962) have drawn attention to the inadequacy of medical records which hampers research. They found that research, using medical records of an executive group with radiologically proved ulcers, showed that many patients did not report symptoms which would justify the diagnosis. Therefore diagnostic procedures which do not include such methods as endoscopy may be inaccurate.

3.1.1 Prevalence and Incidence

Incidence refers to the frequency of cases over a period of time but there is always the risk of confusing new cases with recurring and relapsing cases. Cases are drawn at some point in the medical care service but they are not usually representative of the population from which they are drawn. They represent the group whose symptoms have been reported, which means that there is always the bias of self and social selection.

Hospital statistics are also not free of bias because of distorting factors - such as attitudes and training of doctors, facilities available and the purposes for which patients are examined. For example, in Britain, Watkinson (1960) found the incidence of recorded peptic ulcer lesions in Leeds as reported by Steward from 1920-1939, to be double that of a prospective national necropsy survey in 1956. Watkinson therefore cautions against interpreting hospital statistics incorrectly.

Mortality statistics are useful where there are accurately certified figures for total populations but, because ulcer disease is chronic with a low fatality rate, there is a sharply increasing mortality rate towards the end of the life span. Some studies have been restricted to patients with incidental peptic ulcer found at necropsy whatever the cause of death (Levij, 1959; Watkinson, 1960; Raper, 1958). However, these statistics will only be useful in a country where necropsy is standard practice. With ulcer disease,

there is the problem that more scars are found than active ulcer craters so that this must be seen as an indication of "life-time" prevalence.

3.1.2 Age

There is a difference in the incidence of ulcer disease which is related to chronological age. All duodenal ulcers are more common in men than women but the disparity between sexes is smaller after menopause in women. This supports the theory that endocrine factors in women protect against the development of duodenal ulcers. Knutsen and Selyaag (1947); Watkinson, (1960); Doll et al.,(1951) found that in men the expectation of developing ulcers was constant between 20-55 years.

Since the 1939-45 war, both mortality and perforation statistics have declined in the youngest age groups although until recently have risen in the older age groups. This is explained by Susser (1967) using cohort analysis - that is, an analysis that follows each age group through time. He proposes that young and middle-aged men have experienced an environment different from that of their predecessors, whereas ulcer disease is still manifest amongst older people who experienced the earlier environment.

3.1.3 Urbanisation

Urbanisation is a variable that distinguishes developed economies from others and might be responsible for differences in duodenal ulcer disease between countries. Differences between town and country are also evident.

In Britain mortality, prevalence and incidence of new cases show a higher rate in town than country (Doll et al., 1951; Morris and Titmuss, 1944; Pulvertaft, 1959; Litton and Murdoch, 1963). Similar results are found in Scandinavia (Alsted, 1953). In N.E. Scotland, Weir and Backett (1968) have demonstrated higher rates of urban than rural perforations. The higher urban rate is not seen as resulting from the availability of medical care (Doll et al., 1951). A decline in the incidence of diagnosed cases was reported from York (Pulvertaft, 1959) where the urban rate



is approximating the rural rate. High rates have been reported from recently industrialised areas such as S. India, Assam, S. Nigeria, Uganda and in Sumatra amongst the Chinese population (Kouwenaar, 1930; Somervell and Orr, 1936; Amure, 1967; Malhotra, 1964). There are obviously some causes acting independently of urbanisation to produce peptic ulcers, as is shown in S. India and S. Nigeria. Malhotra has postulated a connection between high ulcer rates and high humidity in India, as well as dietary differences in the areas of S. and N. India.

Susser (1967) and Susser and Stein (1972) suggest that peptic ulcer disease is a disease of an early phase of urbanisation. For example, in Great Britain today, there has been an adaptation to the industrial society and since World War II, social security measures have, to a large extent, abolished poverty even when unemployment is on the increase. Consequently duodenal ulcer disease declines. Paulley (1975) has elaborated further and suggests that the trends may be linked to family influences also. He hypothesises that the low incidence of ulcer disease before 1900 coincided with a high infant mortality rate, so that a high proportion of children with unmet high 'oral tension' would probably have died in infancy. During the last twenty years of the 19th Century, larger families were born and survived to face increasing competition in the family and labour market. From 1920-1939, the Western world faced mass unemployment and children growing up in these circumstances would have to show exceptional diligence in order to obtain some measure of reward for work. Thus for the child with high 'oral tension', it would have been an 'uphill job' to satisfy his need for love, esteem and approval. According to Paulley the rise in the incidence of duodenal ulcer disease could be explained in these terms.

3.1.4 Incidence in Different Countries

Variations from country to country in the incidence of peptic ulcer disease are evident but difficult to compare, because of the different methods of collecting statistics in different countries. Duodenal ulcer disease is reported to be more common than gastric ulcer in all countries except in

Norway, among Indian miners in the Peruvian Andes and as a cause of death in Japanese men. Many variables could enter into the differences between countries and no obvious correlations were found by Segi et al., (1959) in their study of mortality in 23 countries.

America

In the U.S.A. a 50% decline in duodenal disease has been reported since 1960 (Mendeloff, 1974; Spiro, 1977; Elashoff and Grossman, 1980). The fall has mainly been in the urban male population. The incidence among Blacks in the U.S.A. has steadily risen since 1930 and is now as high as Whites (Tovey and Tunstall, 1975). It appears as if the same environmental influences are affecting the American population as reported in Britain and other European countries.

India

Tovey (1977) reports an increasing incidence in Madras, India. The disease is also common in the south, along the coastal belts, extending to Bangladesh and in the valley of Kashmir and Assam (Moshal, 1980). In India it is the larger cities that are characterised by a population with duodenal ulcers (Tovey and Tunstall, 1975), again showing the difference between town and country. However, it is difficult to assess whether duodenal ulcer disease is truly a disease of this century in India, or if cases were previously not diagnosed (Moshal, 1980).

Africa

In Africa there are reports of increased duodenal ulcer incidence in areas of rapid social change, such as Nigeria (Roberts, 1937) and in war torn areas of Burundi (Vint, 1936-7), Ethiopia (Wapnick, 1973), Uganda (Tovey and Tunstall, 1975), and in the urban areas of Zimbabwe (Segal et al., 1978). Necropsy evidence has shown a high incidence in Kenya from the turn of the century. This still continues. In South Africa there is a fairly recent increase reported among

Indians and Blacks in the urban areas such as Johannesburg (Segal et al, 1976 and Bremner, 1972) and Durban (Campbell et al., 1973; Moshal et al., 1979; Robbs and Moshal, 1979). The disease is rarely reported in rural Black populations. In 1927 Beyers reported only 3 cases of duodenal disease in 18 000 admissions to the non-white section of Johannesburg General Hospital from 1921 to 1926 (0,02%) (Beyers, 1927). This has been followed by a steady increase in the number of cases over the past 50 years. Thus Eagle and Gillman (1938) found 13 cases of duodenal ulcer disease in 9 472 necropsies performed in 1928 to 1937 (0,14%) whilst in the 7-year period 1964 to 1971, 87 cases of duodenal ulcer from a total of 315 000 admissions were admitted to the surgical section of the same hospital (0,28%) (Bremner, 1971). Segal et al.,(1978) report that by 1976, 105 patients with newly diagnosed duodenal ulcers were admitted to Baragwanath Hospital medical and surgical wards out of a total of 23 244 adult admissions (0,45%). Cooke (1978) points out that admissions to the Johannesburg General Hospital of cases of perforated ulcer from 1973 to 1976 were as common amongst Black as amongst White patients. He suggests that duodenal ulcer disease is now behaving in a similar manner in both Whites and Blacks in South Africa.

Robbs and Moshal (1979) have reported on the increase in duodenal ulceration amongst Black and Indian populations in Durban, which had been reported by Kark in 1961 as an extremely low prevalence area. The incidence is expressed as the number of hospital admissions for duodenal ulceration per 1 000 (excluding maternity cases) at King Edward VIII Hospital. During the period 1950 to 1959, 550 Indians were admitted with duodenal ulceration out of a total of 65 000 (8,45/1 000). During the period 1972 to 1975 the incidence rose to 24 duodenal ulcer patients per 1 000 admissions (2,8 fold increase). Amongst Blacks (Zulus) there were 88 out of a total of 361 000 admissions diagnosed as duodenal ulcer disease during the period 1950 to 1959(0,24/1000). During the period 1972 to 1975, there were 369

Black duodenal ulcer patients among the 128 361 admissions (2,9/1 000), a 12 fold increase. Based on the criteria of Tovey and Tunstall (1975) regarding the incidence of duodenal ulceration in Blacks in Africa South of the Sahara, Durban may now be regarded as an area of high prevalence for the Indian population with more than 10 cases per 1 000 admissions and as a moderate prevalence area among Blacks (1 to 10 cases per 1 000 admissions).

Robbs and Moshal have also shown a marked drop in the male to female ratio in South African Blacks from 6,8:1 between 1950-1959 to 2,8:1 in 1976; and in Indians from 7,3:1 between 1950 and 1959 to 2,7:1 in 1976. This is compared to the figures for Whites in South Africa which are 1,6:1 and in Britain 1,9:1. Thus the male:female ratio in South African Blacks appears to be changing in response to changing roles of Black women in South Africa, bringing about a pattern that is more similar to that found in Western countries.

In a study of 3 392 duodenal ulcer patients in Durban, Moshal and others found a mean age of Blacks and Indians with the disease to be 15 years younger than that of Whites (Black males 36,7 year: females 40,2 year; Indian males 37,1 year: females 42,8 year; White males 50,6 year: females 55 year) (Moshal et al., (1981).

These findings are similar to those reported from elsewhere in Africa and in India where duodenal ulcer tends to occur in a far younger age group than found in Britain (Tovey and Tunstall, 1975). Changing dietary habits and increasing urbanisation were postulated as possible aetiological factors for the changing patterns that were observed (Robbs and Moshal, 1979). The authors pointed out, however, that the development of an active Gastrointestinal Unit at King Edward VIII Hospital in Durban in 1969 with improved endoscopic and radiological diagnostic services may have contributed to some extent to the larger number of duodenal ulcers found.

In a study of duodenal ulcers in Johannesburg's Black population Segal and others attempted to test Susser's proposition that duodenal ulcers are associated with "early urbanisation". They stated that they found that Johannesburg Blacks did seem to "fit the pattern", in that as Blacks rose into the higher working and middle classes in the city, the incidence of ulcers increased (Segal et al., 1978). The authors then comment that the findings seem contrary to common sense expectation that migrants from rural areas during the early period of urbanisation, would be subjected to tremendous stresses, which would result in duodenal ulcers. Instead, it is the younger, urbanised educated men in higher employment categories who are the chief sufferers.

Moshal et al., (1979) criticise Segal and associates' arbitrary grouping together of professional, technical, clerical and transport workers for comparison with service and production workers and the ignoring of other groups. They point out the need to examine occupational status not only in terms of prestige, as was done, but also in terms of authority and control over others and responsibility required in a work situation. Segal's findings might have been different if this approach had been followed.

3.1.5 Social class and occupation

Occupation is usually taken as the chief indicator of social class. Social class in turn defines social collectivities which have characteristic beliefs, values, ways of life and distinctive patterns of health, disease and death, so that social class denotes a distinct environment (Susser, 1967, p.444). Social classes have distinctive configurations of peptic ulcer disease which have been complicated by fluctuations in the disease. For example, before 1860, gastric ulcer deaths among men in England and Wales were as high in the upper classes as in the lower. Amongst later cohorts the highest rate shifted to the lower classes. With duodenal ulcers, mortality was highest amongst upper classes before 1870 and this changed to the lower classes in later cohorts. There are no reliable statistics from other

countries relating to social class and ulcer disease .

Occupation

Doll et al,(1951) conducted a prevalence study of ulcer morbidity in London studying the association of ulcers to five gradings of occupation. Agricultural workers had low morbidity and mortality rates whilst doctors showed high morbidity rates, perhaps because of early and accurate diagnosis. Managers and foremen in industry showed a modest excess of duodenal ulcers over other workers. Other studies again reported high rates among foremen and executives. Sea-pilots in Swedish ports with high executive responsibility showed a high liability to ulcers with the highest rate associated with longest working hours .

However, Dunn and Cobb (1962) found high rates amongst foremen and not executives. They analysed the percentage of ulcer disease according to serum pepsinogen levels and found the highest values correlated with ulcer disease. Attacks of ulcers in craftsmen increased progressively with increasing serum pepsinogen levels.

Dunn and Cobb (1962) quote a study by D'Alonzo et al., which showed that in the age group of over 45, executives had a higher frequency of peptic ulcer. Dunn and Cobb (1962) also report on a survey by Vertin (1954) of a large electrical company in Holland which found foremen and assistant foremen had significantly higher rates of ulcers than did skilled and unskilled workers.

In Assam and Britain, rates for sedentary workers are low. In India, railway sedentary workers showed 8% incidence compared with 15% in manual workers (Malhotra et al., 1964). These conflicting reports may be because of a failure to distinguish between gastric and duodenal ulcers. Foreign migrant workers in Germany were found to have a high incidence of duodenal ulcers associated with many psychosocial problems (Wormsley, 1979b, p.27).

Moshal and others (1979) have reported on a study of 522 Black and Indian patients, 206 of whom had duodenal ulcers; 192 a variety of gastro-intestinal diagnoses and 124 hospital controls. The authors hypothesised that the level of responsibility in an occupation is likely to be associated with stresses which in turn would relate to ulcers. Occupations were divided into five grades of responsibility. The degree of control over others in the work situation was also assessed on a ten point scale. In the study the researchers looked for differences in responsibility and control between the present occupations of subjects with duodenal ulcers and the control group. It was also proposed that the social status or prestige of an occupation would have social implications, such as the weakening and disruption of social and kinship ties and social supports, if the subject's occupational prestige differed from the sex-related parent's occupation. Thus the subjects were classified according to occupational status/prestige and compared with their same sex parent.

It was found that significantly more patients with duodenal ulcers were in the lowest group in terms of occupational authority compared with other diagnoses and controls. Upward shifts in prestige had not occurred in Black male patients with duodenal ulcers when compared to their parents, but had occurred among Indian men. More duodenal ulcer patients were in the very lowest occupational authority category compared to other groups. Similar numbers of all groups had been urban for their entire lives. Stress was present in the 10 days preceding an attack in significantly more Indian males with duodenal ulcers compared to controls. In conclusion it was proposed that it was not occupational prestige as such that is important, but the factors associated with it, such as lack of control over others and powerlessness in the work situation. Among Indian men it appeared to be the stresses associated with social disruption following upon occupational mobility, that were important. The lack of consistent findings across race groups and sexes suggested that stresses within occupational categories may manifest differently in different communities. This study was based on a large number of patients and used control groups, one consisting of

other gastro-intestinal diseases and the other, of non-gastro-intestinal disorders. It therefore overcame some of the criticisms levelled at earlier studies.

3.1.6 Diet

A dietary factor has been postulated as contributing to duodenal ulcer disease by Cleave (1962), who suggests that the introduction of refined carbohydrate foods or starchy foods (Manioc) results in a loss of buffer which may be an important factor. This concept fits in with the distribution of ulcer disease in many parts of India, for example in the rice-eating area of the south along the coast and in the manioc eating area of Kerala. It also fits in with the situation in some parts of Africa, where the diet in high incidence areas tends to be starchy and where the staple diet in low incidence areas is millet and sorghum, which has a higher protein content (Tovey and Tunstall, 1975). It is also true that the urban areas of Africa and India, which show a higher incidence of duodenal ulcer disease are areas where more refined carbohydrates are consumed but there are many exceptions which tend to confuse the picture. Tovey has suggested that protective dietary factors in unrefined wheat and rice, pulses, millets, eggs, butter and full cream milk operate to prevent duodenal ulceration in the low incidence areas in India.

The consumption of peppers and spices has often been blamed for the occurrence of duodenal ulcers but there is only contradictory evidence from different regions about this factor (Tovey and Tunstall, 1975).

3.1.7 Alcohol consumption

A number of studies has pointed to a high frequency of peptic ulcer among alcoholics (Gosling 1957; Hagnell and Wretmark, 1957), however Hagnell and Wretmark found that the ulcer often preceded alcoholism. Alcohol abuse was found to be a significant factor associated with difficult healing of ulcers in a Black population in Durban (Mason et al., 1981).

3.1.8 Smoking

Smoking has been shown to be a definite factor in gastric ulceration in Western countries, but it has not been shown to have any ætiological significance in duodenal ulcer disease (Tovey and Tunstall, 1975). There is, however, tentative evidence that smoking delays healing and maintains the chronicity of ulcers (Doll et al, 1958).

3.2 STRESSFUL LIFE EVENTS

One of the earliest studies of stressful life events and peptic ulcer disease was undertaken by Davies and Wilson (1937). They studied 205 ulcer patients (113 males and 92 females) of whom 100 had duodenal ulcers and 105 gastric ulcers. These were compared with a control group of 100 inguinal hernia patients. The researchers found that 84% of all ulcer patients experienced stressful social events 5-6 days prior to the onset of ulcer symptoms, compared with 22% of the hernia patients. Stressful social events consisted of change in work, financial difficulties and illness or misfortune experienced by family members. The authors reported the absence of sexual problems, possibly because they "found it necessary to 'tread delicately' while interviewing", and consequently could have found it difficult to elicit information on sexual problems, especially in the 1930's. The problems were all real problems, not imaginary, according to the researchers and associated with responsibility, security and independence. Thirty-three of the cases who were known to have had recurrent ulcer craters were followed up, and 85% of these were found to have experienced disturbing events prior to recurrence of the ulcer.

Fordtran (1973) faults this study (inspite of the use of a control group) because the patients knew that anxiety was regarded as related to ulcer disease and not to hernia. However, the researchers, Davies and Wilson state "We were surprised to find that the patients failed to observe any connexion between their anxiety and dyspepsia, although in most cases it was blatantly obvious." (Davies and Wilson, 1937, p.1360) and again, "It may be that there is much suppression of their anxiety, and that

emotional problems, thus put out of the mind, retain their power to cause long-standing tension, dysfunction and eventual structural changes." The researchers point out that medical treatment is more effective once the sequence of stressful events is understood by the physicians. Furthermore, the researchers state that as duodenal ulcer disease is an example of the influence of the mind in producing structural change, successful therapy must depend upon attention being given to the whole man - his work and his anxieties as well as his diet.

Mittelman, Wolff and Scharf (1942) also demonstrated a close association between the onset, recurrence and course of ulcer symptoms and the occurrence of emotional reactions to situations engendering anxiety, conflict, feelings of being caught, resentment, guilt, self-denunciation and helplessness. The authors constructed life charts for 30 peptic ulcer patients from independently collected data of psychological and clinical factors. They found that the home backgrounds of these ulcer patients were unstable and were characterised by unhappy marital relationships. Unlike Davies and Wilson (1937) these researchers found a fairly high incidence of sexual problems. This study can also be faulted because of the lack of adequate controls. However, in its favour is the independent collection of psychosocial and clinical material. A close association was demonstrated between symptoms and the occurrence of emotional reactions to stressful life events. The authors pointed out that the precipitating event had a specific meaning at a particular time and this determined whether the response was noxious or not.

Studies by Myers (1953), Weisman (1956), Hójer-Pederson, (1958) and Mirsky and Weiner's study (1957) all give details of stressful events prior to onset of ulcer symptoms. Studies by Stewart and Winser (1942) and Spicer et al (1944) reported a statistically significant increase in perforated ulcers as evidenced in frequency of admissions to London hospitals during the air-raids in 1940 and 1941. This was seen to indicate that the related stress increased the complication of peptic ulcer although other environmental changes might also have occurred.

Compton et al (1976) comment on similar studies by Illingworth, Scott and Jamieson, who investigated the records of perforated ulcers which occurred in the West of Scotland during the years 1924 to 1943, and found a very marked rise in incidence in 1940 and 1941 followed by a drop thereafter. Illingworth et al., (1944) suggested that anxiety about the war, overwork and possibly undernutrition might explain their similar findings in Scotland. Compton et al., point out that this picture of a rising incidence in perforations in Britain was matched by increases in Paris in 1941 described by Lambling and Brissy (1942) and in Austria according to Slany (1942) and Mayr (1948) where there were no bombings or air-raids at this stage but considerable social upheaval.

A study by Compton et al., (1976) of all the cases of perforated peptic ulcer in Belfast hospitals in the years 1967 to 1974 showed that the incidence of peptic ulceration during the years of civil disturbance, 1967 to 1974, was at no time higher than in the preceding years, nor was there an increase in incidence even in the most troubled districts. They question the potency of stress-induced anxiety as experienced in Belfast as an aetiological factor in the pathogenesis of perforated ulcer. They conclude that their findings show that the situation in Northern Ireland has not produced a significantly different pattern of morbidity from that obtained in Scotland, England and Wales where hospital admissions and deaths from perforated ulcers have decreased following a peak in the 1950's (Langman, 1973).

In a South African study of the effect of stressful life situations on the healing of duodenal ulceration, it was found that significantly more stressful life situations occurred in patients with a difficult healing period than in those who experienced easy healing (Mason et al., 1981). Ninety-five duodenal patients (39 Indian males and 13 females; 30 Black males and 13 females) were assessed by a gastro-enterologist as being either difficult or easy healers. The detailed psychosocial questionnaire compiled for patients was then analysed by the social worker in terms of stressful life situations experienced at the time of treatment.

Among Indian patients there was a significant difference between difficult and easy healers in the area of family conflict; in the reporting of accommodation problems; alcohol abuse and disease of a family member causing stress. In the Black group the significant differences between difficult and easy healers were in the areas of family and marital conflict and alcohol abuse. This study noted a difference in the way the two race groups perceived their life situations, with Indian patients reporting their lives as having more stressful areas than Black patients. This agreed with the results of the study of occupational stress (Moshal et al., 1979) which found a lack of consistent findings across race and sex groups.

A carefully conducted study in Prague, Czechoslovakia (Pfeiffer et al., 1972) involving 402 subjects selected at random from the total male population between 50 and 54 years of age, showed no association between peptic ulcer and 65 independent parameters grouped in 4 categories. These were: cardiovascular variables, respiratory tract and smoking habits, 'stress' factors, and physical and social status and information on the history of peptic ulcer disease.

The study did not substantiate a significant correlation between peptic ulcer disease and stress factors such as presence of other diseases, death age of parents, degree of physical activity at work, number of changes of employment. The researchers point out that although such factors may have some significance in individual cases of peptic ulcer, they cannot be used collectively as predictive factors in the aetiology of the disease in adult urban males. Unfortunately this study, although more sophisticated than many others, does not distinguish between duodenal and gastric ulcers. One is therefore still getting results which lump together the two disease entities, although it has been shown that duodenal ulcers are more likely to be associated with stress than gastric ulcers.

Sandberg and Bliding (1976) conducted a study on a practically unselected group of military trainees in Sweden, who had contracted a symptomatic

duodenal ulcer during basic military training. On the basis of what they reported in the questionnaires, a surprisingly small number of differences were observed in a comparison between the ulcer group and all the trainees, or non-X-rayed group, as regards subjectively experienced problems both in anticipation of basic training and during the entire basic training period.

Thus, the trainees who had duodenal ulcers during basic training, seemed to have reacted more readily to external stress, by manifesting gastrointestinal disorders, than by having subjectively experienced many or particularly difficult problems. The ulcer group did, however, report more problems with regard to authority relationships during the first month and to problems with food and physical demands during basic training. The duodenal ulcer group appeared to be very heterogeneous as regards personality and triggering problems and in respect of most of the variables tested in the study, they did not differ markedly from other men.

Considering the aforementioned studies, it is impossible to draw any overall conclusions from them, except to note that the methodology is as heterogeneous as the results of the studies. One of the observations which is made repeatedly is that stressful factors are perceived differently by different persons, or even groups.

3.3 FAMILY FACTORS AND CHILDHOOD INFLUENCES

As already discussed, considerable research has focused on the effect of early family relationships on the development of the ulcer prone personality. Garma (1950, 1959) advanced a speculative theory that the mothers of ulcer patients were strict and dominant women, who restricted children's wishes to be independent. Alexander (1952) traced the dependency conflict in adult ulcer patients to a lack of satisfaction, or to early frustration in early feeding, and to strong dependencies on parent-figures. Mittelman, Wolff and Scharf's study (1942) showed that the home backgrounds of 30 peptic ulcer patients were unstable because of unhappy marital relationships, separation or loss of father during childhood, early remarriage of mother, children's feelings of rejection by parents or foster-parents, anxiety created by

parents who either restricted or coddled.

Kapp et al. (1947) traced dependency needs in 20 male peptic ulcer patients to rejection or spoiling in early childhood. Ruesch et al. (1948) in their study of Navy personnel, compared information about 42 Naval men and 20 civilians with duodenal ulcers to information from other authors on 200 U.S. Navy men without ulcers. They reconstructed family constellations from information from the subjects and found a large percentage of Naval ulcer patients reported dominant mothers and uninfluential fathers. This was in contrast to the civilians who had affectionate and idealized mothers and punitive fathers. Ulcer patients tended to be younger or youngest children separated from other siblings by several years and thus fairly isolated. H.M. Goldberg (1957) found the loss of a father reported in 25% of the cases in his study. Chapman (1956) in a study of 5 children with duodenal ulcers, found marked inhibition of aggression in patients and a close and ambivalent relationship to a restrictive or overindulgent mother and an ineffective relationship with the father. All these studies were based on small numbers and their results differed markedly from those of Kellock (1951), who investigated the early childhood experiences of 250 duodenal ulcer hospital patients and 250 patients with other diseases. Kellock found no differences regarding the position in the family; in age of mother at birth of subject, death or separation of parents or frequency of remarriage of parents.

Ellen Goldberg (1958), a psychiatric social worker, in conjunction with a multi-disciplinary team, studied the family relationships and background histories of the parents of 32 young male duodenal ulcer patients, aged 16-25 years and a control group (a random sample from a list of patients of general practitioners matched for age and similar social status). She concluded that two-thirds of the mothers of the ulcer patients were dominant and efficient with obsessional characteristics. There were strong tendencies towards psychosomatic symptoms such as dyspepsia in family members. The mothers of the control group patients were less dominant and there was no tendency towards psychosomatic disorders or obsessional

behaviour. There was no apparent difference in child-rearing practices in the two groups. The duodenal ulcer patients had a predominantly stable family background with a tight form of family relationship. The mother was dominant and the son, the good child, had difficulty in expressing aggression. There was a conflict between dependence on the powerful mother and a need to be free. This was especially evident when the time came for the young man to leave the parental home.

Goldberg discusses the question of 'blind' studies because of the need to guard against the bias of knowing the patient's diagnosis. However, she points out that in an investigation of home and family backgrounds (she conducted interviews during home-visits) it is not feasible to conduct a 'blind' study. No statistical tests of significance were attempted, but she concluded that the family patterns which she observed suggested that the two groups differed. Goldberg hypothesised that changing trends in female roles, which had given the mother an increasing authority in the home, may lead to problems of identification in growing sons. There is a conflict with the demand from the outside world for independence and this may lead to psychosomatic illness.

Kanter and Hazelton (1964) who were members of the same multi-disciplinary team as Goldberg, compared the young men with duodenal ulcers with a hospital non-psychosomatic group and found higher neuroticism scores and lower extroversion in the ulcer group. They reported that young men with duodenal ulcer disease, tend to reveal a larger degree of general neuroticism than other young men and this seems to be only in part explicable as a consequence of their disease. The author states, "There is some evidence from psychological tests that 'Neuroticism' in young duodenal ulcer patients is associated with a closer emotional attachment to the mother and hostility, probably unconscious, to the father. It would be wrong to conclude from the psychological test findings that all duodenal ulcer patients are neurotic or introverted or emotionally dependent on their mother." (Goldberg, 1958, p.252).

The overall methodology of this study was good. A battery of psychological tests was used and a psychiatric social worker and a psychiatrist conducted interviews independently of the psychologists, which increased the reliability of their findings.

There has been a paucity of studies investigating familial factors such as family structure in duodenal ulcer disease in the past twenty years. One study is by Monson (1970) who compared a number of factors related to family structure in a group of physicians with a history of duodenal disease and in those without a history of ulcer. No difference was noted with respect to parental age at birth, order of birth, ordinal position, marital status, occupation of father or religion. Cases had lost more fathers and fewer mothers before age 20 than controls. No relationship was found between the early loss of a father and age at diagnosis of ulcer. While cases came from larger families and had more children than controls, the differences observed were not statistically significant. Brothers of cases and brothers of controls from large families had more ulcers than corresponding brothers from small families. Several of these findings were similar to those reported by Kellock (1951).

In 1958, Mirsky gave attention to describing a possible hypothesis for the development of the dependent ulcer personality. He proposed that pepsinogen levels were genetically determined and that a high level of serum pepsinogen in a newborn infant would influence the mother-child relationship. The infant with gastric hypersecretion would have a stomach which would behave like that of the hungry normosecreting infant. The child possibly does not respond to feeding with the same degree of relaxation and even a mother with strong ego qualities might find it difficult to provide the physiologic satiation which permits the infant to pass from the biologic to the psychologic phases of dependency. The child's insatiability may induce frustration in the mother and she may react in a hostile and rejecting way. As a result the child's infantile passive oral-dependent wishes will persist. Subsequently the environmental



events, which are innocuous to most, may become noxious to the hypersecretor. This hypothesis has never been tested.

Coddington (1967) describes his work with children which is related to the studies of duodenal ulcer disease. In a set of twin infants he found marked variability in gastric secretion associated with whether or not the child was alone or with people. The variation was much more pronounced in the child with an oesophageal atresia who required hospitalisation. Her more normal twin had more stable secretory rates but these dropped to nought on one day when she was isolated in a separate room. Coddington considers his work confirms the findings of Engel and Reichsman (1956) who showed that a greater amount of acid was secreted by the infant that is reaching out towards others in the environment. Coddington points out that a potential patient, with a biological predisposition to peptic ulcer with a large secretory capacity, and a characteristic personality conflict regarding activity vs. passivity, will secrete higher levels of acid when faced with stressful situations. Gray and associates in 1951 demonstrated the response to increased corticosteroid activity, which results in increased acid and pepsin secretion, by administering corticosteroids but no-one else has successfully replicated his experiments (Mirsky, 1973). Neither has there been any consistent demonstration of the influence of these hormones on the excretion of pepsinogen, the concentration of pepsinogen in the blood, or the rate of gastric secretion.

Coddington (1967) discusses the alternative mechanism, by which environmental noxious stimuli can result in hypersecretion of acid via the hypothalamus. The response of the neonate to hunger is essentially an unconditioned response to the diminution of essential nutrients in the circulation and the resultant changes in the rate of various biochemical processes in the cells. The cessation of muscular activity that follows feeding is also an unconditioned response to the absorbed nutrients. These responses are subcortical and effect gastric secretion via the vagus nerves. Neither response has any 'emotional significance' until it becomes associated with a specific environmental event, such as the sight and the voice of th

mother, the holding of the infant, etc. As the child develops, these associated events will affect gastric secretory rates via the hypothalamic-autonomic nervous system axis. The response becomes a conditioned response which involves the cerebral cortex also. There will also be variations in the secretory activity of the pituitary and alterations in the trophic hormones. According to Coddington this would account for some of the variations found by Gray, because the neural pathway will predominate where the increase in pepsinogen excretion is a response to an emotional event.

The contradictory findings of different researchers may be explained in terms of individual differences in the ability to adjust to changes in the external environment. Hinkle and Wolff (1957) describe clusters of illness episodes which occur at times when the individual perceived his life situation as threatening and when no satisfactory adaptation could be made. Following on research into life changes Holmes and Rahe (1967) quantified the degree and severity of life changes using a method of life change units (L.C.U.). These researchers found that, in general, a two year period of life change clustering precedes the onset of severe illness. According to Holmes these life changes might not necessarily be negative or undesired but they did require adaptive behaviour by the individual. Coddington (1972) has used the quantification of life change units (L.C.U.'s) introduced by Holmes and Rahe and applied it to children. He studied the lives of healthy children in an effort to gain some understanding of the social readjustment required of them by their environment. He concludes that any event can be stressful when one considers mixed affect or ambivalence. A number of insignificant events occurring during a given period of time may add up to a greater stress than a single obviously traumatic event.

Thus the findings of the authors quoted in this section on family and childhood influences must be considered in the light of the individual's reaction to stressful life events. For one potential duodenal ulcer patient, the death

of a father may be the significant event which precipitates the ulcer, whilst for another a long history of rather more insignificant events may eventually produce the disease. Alternatively the effect of a stressful event may be overshadowed by a genetic predisposition to hypersecretion. Coddington's quote from Engel substantiates this point :

"By virtue of what has gone on before, the person may be more or less able to cope with ingested typhoid bacilli and more or less able to tolerate the death of his mother"

(Engel, 1962, p.259) and again

"The judgement as to whether or not (a particular situation) constitutes a stress for an individual cannot be made from the nature of the external event alone, but requires knowledge of the response as well. A separation may constitute a welcome release as well as a loss." (p.264).

Susser (1967) is of the opinion that although many negative results have been obtained in the investigation of family relations, the better executed studies with positive results share a degree of consistency which should not be ignored. According to Susser the studies suggest that in Western societies duodenal ulcer patients tend to be dependent, or uncomfortable with aggressive impulses; their mothers tend to be neurotic or dominant; their fathers to be passive and inadequate and in some cultures, alcoholic and neurotic. However no evidence exists which establishes a relationship between these patterns and the variations in peptic ulcer syndromes with environment and time.

3.4 AN OVERVIEW OF SOCIAL FACTORS

Prevalence and Incidence

In interpreting epidemiological studies it is necessary to be aware that there may be a presumption that the incidence and prevalence of the disease has changed because of sociological factors, whereas the change may be due to increased use of medical services and improved diagnosis.

Geography

In spite of the difficulties of comparing statistics obtained by different methods in different countries, duodenal ulcer disease is usually reported as being more common than gastric ulcer disease in nearly all countries. Duodenal ulcer disease is declining in Britain, West Europe, and the U.S.A. except amongst the Blacks.

Increasing incidence is reported in India and Africa. In S. Africa the incidence is increasing rapidly amongst Indians and Blacks, especially as reported from the urban areas of Johannesburg and Durban. This may partly be due to improved diagnostic services.

Urbanisation

Higher rates of duodenal ulcer disease are reported in town than country in Britain, Scandinavia and in recently industrialised areas of India and Africa.

Age

The incidence of duodenal ulcer disease is more common in men than in women but the disparity is smaller after female menopause. In men there is a constant expectation of developing duodenal ulcers between the age of 20 and 55 years. In Europe there has been an increase in this age group since the turn of the century, but this now seems to have reached its peak and is beginning to fall, possibly because of adaptation to urbanised living so that less stress is experienced. In S. African Blacks there is a marked increase in the female incidence which is bringing the male : female ratio closer to that of Whites. In a Durban study, the mean age of Black and Indian male patients was found to be 15 years younger than Whites.

Social Class and Occupation

There are conflicting reports on prevalence amongst different occupation groups. Some studies report on excess of duodenal ulcer disease amongst foremen, executives, sea-pilots, foreign migrant workers, whilst one study found high rates amongst foremen but not executives. A South African study

found that duodenal ulcer patients were in the lowest group as regards authority in the job situation and that this powerlessness caused stress which precipitated ulcer symptoms.

Diet, Smoking and Alcohol

The introduction of refined carbohydrate foods has been postulated as a cause of duodenal ulcer disease. This fits with the situation in many parts of India and Africa, especially in the urban areas. There is only contradictory evidence about the association of peppers and spices with duodenal ulcer disease.

A definite association has been established between smoking and gastric ulcers but not between smoking and duodenal ulcer disease. Studies have pointed to a high frequency of duodenal ulcer disease amongst alcoholics but often the ulcer preceded the alcoholism.

Stressful Life Events

Several studies have been concerned with stressful life events prior to onset of ulcer symptoms, the most notable one being undertaken by Davies and Wilson (1937). These researchers found that 84% of ulcer patients compared to only 22% of the control group of hernia patients experienced stressful social events 5 - 6 days prior to the onset of ulcer symptoms. There are several drawbacks to this study, such as the failure to distinguish between the sexes. Also a distinction has not been made between gastric and duodenal ulcer patients in the statistical analysis, but rather they have been studied as one disease entity - peptic ulcers.

Another group of researchers who used a method of constructing life charts for ulcer patients found these patients to be characterised by unhappy home lives and marital conflict (Mittelman et al., 1942). Studies of stress in wartime have shown an increase in duodenal ulcer perforations during London air-raids and in W. Scotland, Paris and Austria during periods of disturbance as a result of war. Studies in N. Ireland, however, did not show an increase in duodenal ulcer disease as a result of the civil disturbances,

but rather a decrease as being experienced in the rest of W. Europe since the 1950's.

Well conducted studies using larger populations have tended to show no significant relationship between stress factors, social status, negative factors in the work situation or problems during basic army training and peptic ulcers. Unfortunately again there has been no distinction in many studies between duodenal and gastric ulcers.

Family Factors

Many studies have traced dependency needs in adulthood to early childhood frustrations and dependencies especially on the mother. However, in contrast to studies involving small numbers, Kellock (1951) found no familial differences between 250 duodenal patients and 250 controls. Monson (1970) supported many of Kellock's findings in a study of physicians and their families.

All the findings in this section must be considered in the light of the individual's reaction to stressful life events. Susser (1967) suggests that in spite of the contradictory findings, the better executed studies are consistent in their findings.

More recent research, however, has been highly inconclusive. Rather than attempting to refute some studies and to accept others, it is perhaps more appropriate to use the work already completed as a spring-board for the present research and to be alerted to the many factors that have already been proposed as contributing to the psychosomatic view of duodenal ulcer disease.

3.5 ALTERNATIVE PARADIGMS

The problem of a great deal of the research which has already been reviewed is that although it pays lip-service to the psychosomatic approach to disease and claims to be concerned with the wholeness of man and his environment, nevertheless the research is concerned with



specialities or a part of the whole. Thus there is research which is specifically concerned with the psychological, physiological or social aspects of duodenal ulcer disease and there are only a few attempts such as Mirsky's research (1958) at integrating different aspects. Often one particular variable is studied in relation to duodenal ulcer disease such as occupation (p.35) or smoking (p.39) and many other variables are ignored. It is interesting that Alvin Toffler in "The Third Wave" (1980) comments on the use of research which studies the independent and dependent variables, concluding:

"There is no independent variable upon which all other variables depend. There are only interrelated variables boundless in complexity. Faced with this maze of causal influences, unable even to trace all their interactions, the most we can do is to focus on those that seem most revealing for our purposes and recognize the distortion implicit in that choice." (pp. 132, 133).

The many specialised aspects of duodenal ulcer research which have been reviewed in this chapter leave one with the impression that one "can take one's pick" from a wide variety of suggested causal influences. Often the researcher concludes by stressing multicausality or the multi-faceted nature of the disease and single causality is replaced by a theory of multi-causality, which still implies that events occur in a linear succession (A causes B) and that society and people behave according to fixed and predictable laws. What is lacking is a research design, which permits the study of the complexities of the different systems that are involved and encompasses their interactions also. There appears to be a need for an overarching view which will incorporate the interaction between the different systems and the interactions within the systems themselves.

Two approaches hold promise for the building of this overarching theory of duodenal ulcer disease:

3.5.1 The Transactional Model

The one approach is Cox's view of stress as a man-environment transaction and the other, the systems approach as exemplified by Von Bertalanffy in "General Systems Theory" (1968). In his comprehensive text "Stress", Cox (1978) discusses the three main approaches to stress as found in scientific literature (Lazarus, 1966; Appley and Trumbull, 1967; Levine and Scotch, 1970; McGrath, 1970; Cox, 1975). The first approach treats stress as a dependent variable for study, describing it in terms of the person's response to disturbing or noxious environments. The pattern of response is treated as the stress or as its defining parameter. Stress is the response to a stressor agent but the stress may in turn act as a stimulus for the production of further responses (Frankenhaeuser, 1975).

Hans Seyle's (1956) theory of the General Adaptation Syndrome is, of course, describing the organism's response to stress. As has already been pointed out there is presently a questioning of Seyle's view of the non-specificity of the stress response. While many stress situations produce similar physiological response patterns, this is not always the case (Mason, 1971).

The second approach describes stress in terms of the stimulus characteristic of those disturbing or noxious environments, and thus usually treats it as an independent variable for study. The stimulus-based model was originally developed from engineering and is the model popularised in everyday language. Cox (1978) points out that it is based on an analogy with Hooke's law of elasticity - just as physical systems have a limit of elasticity beyond which permanent damage results, so people have a point beyond which stress can result in physiological or psychological damage. There have been criticisms of the attempt to relate psychosocial stresses to biological stresses (Janis, 1958). There appears to be great individual variation in resistance to stress and levels which are tolerable for one person may be intolerable for another. It is the intervening psychological process, i.e. the perception, or recognition, of the situation as stressful which

introduces another variable so that the analogy, with the mechanistic view of stress, breaks down.

The third approach outlined by Cox (1978) is that stress is part of a complex and dynamic system of transaction between the person and his environment which reflects "a lack of fit" between the person and his environment.

This approach draws from both response and stimulus-based definitions, but emphasises the ecological and transactional nature of the phenomenon. Stress is studied in terms of its antecedent factors and its effects and is the intervening variable between stimulus and response. Cox points out the similarity between this approach and that developed by McGrath (1976) and Lazarus (1976). Specific attention is paid to the feed-back within the system, thus the description is cyclical rather than linear. The perception by the person of the situation as stressful is an essential element of this approach. This has also been emphasised by the researchers before Cox, such as Wolff, Mirsky and Hinkle. Cox and MacKay have illustrated this model with the diagram reproduced on the following page, showing the Transactional Model of Stress (Cox, 1978).

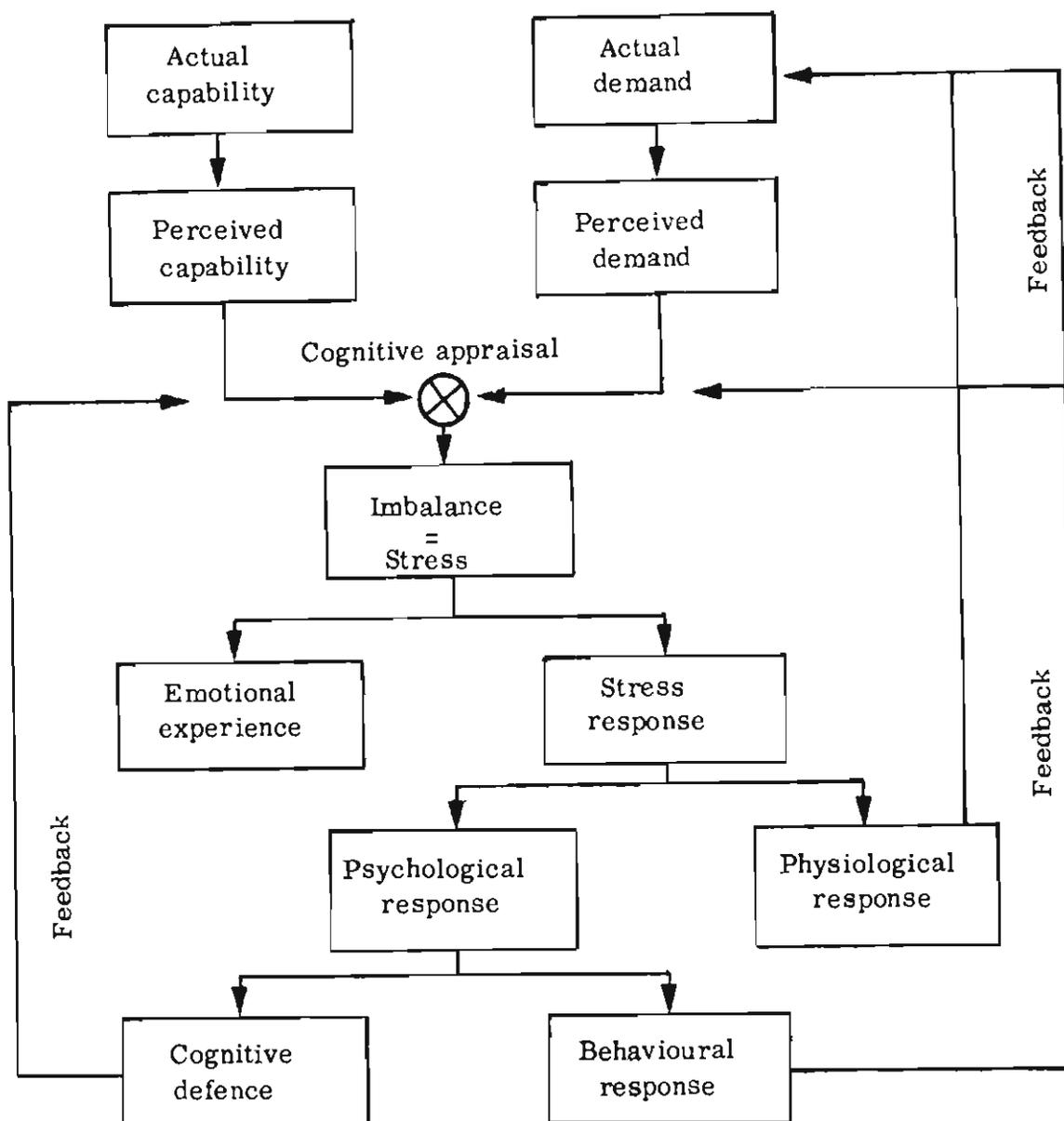


Fig. 1. Transactional Model of Stress (Cox & MacKay, in Cox (1978) p.19).

As shown in Fig. 1, the transactional model, according to Cox, consists of five stages:

1. The first stage is represented by sources of demand, both external and internal environmental demands. Internally generated demands are psychological and physiological needs which must be met. External environmental demands are those impinging on the person from the outer world.

2. The second stage is the person's perception of the demands and his ability to cope with them. Stress is imbalance between perceived demand and the person's perception of his capability to meet the demand.

What is important is man's cognitive appraisal of the potentially stressful situation and of his ability to cope. If a situation demands too much of a man, but he is not aware of his limitations, he will work on without being stressed until he realises he cannot cope. Only when he realises his limitations and the imbalance between demand and his capabilities will he experience stress. Lazarus (1976) draws attention to the person's appraisal of his or her situation and to the role of frustration, conflict and threat in producing that stress. Frustration is danger or harm which has already occurred to the person; it is the thwarting or delaying of some important goal. Conflict is the simultaneous presence of two (or possibly more) incompatible tendencies or goals. It must lead to frustration. Threat, the anticipation of harm, may also arise from conflict. If the person feels capable of dealing with the danger, the threat is minimal. Lazarus (1966, 1976) suggests guidelines for alleviating stress which will be considered further in the discussion of psychosocial treatment of duodenal ulcer patients.

3. The third stage is represented by these psycho-physiological changes in the normal pattern of behaviour and represents the response to stress. The responses to stress are sometimes regarded as the end point of the stress process, but should rather be seen as methods of coping available to the person.
4. The fourth stage, which is most important, is the consequence of the coping responses. The actual as well as the perceived consequences are important. This is the feed-forward stage as compared with the feedback stage.
5. The fifth stage is the feedback stage which occurs at all other stages in the stress system and shapes the outcome of each of these stages.

For example, feedback occurs when the physiological response, involving release of adrenalin, influences the organism's perception of the stressful situation. Inappropriate and ineffective responses to stress, prolong or increase the experience of stress. Functional and structural damage can occur as a result of prolonged or severe experience of stress (Cox, 1968, p.19, 20).

The transactional view of stress emphasises cyclical or circular transactions rather than linear causality. Instead of A causing B, A causes B which causes C and may even cause D which through a process of feedback returns to factor A. Feedback, as pointed out by Cox, occurs at all the different stages of the stress system. Applying Cox's model to duodenal ulcer disease (or in fact any disease) psychological, physiological and social factors may be A, B and C causing D the duodenal ulcer. D (the ulcer) in turn may affect C (the patient's social milieu - capacity to work, support a family) or D (the ulcer) may result in E (becoming a patient) which in turn affects C (social situations) and B (the meeting of dependency needs without conflict). Healing of the ulcer as a result of the factor E (becoming a patient and receiving medical treatment) will again bring changes in A, B, C and D. Cox's transactional view appears similar to Von Bertalanffy's work on General Systems Theory.

3.5.2 A Model based on General Systems Theory

Von Bertalanffy begins his book "General Systems Theory" (1968) by pointing out that the use of "analytical procedure means that an entity investigated be resolved into and hence can be constituted or reconstituted from, the parts put together." (p.18). However, the application of analytical procedure depends on two conditions. The first is that interactions between the "parts" is non-existent or weak enough to be neglected for research purposes. The parts can then be "worked out" separately and then be "put together". The second condition is that the relations describing the behaviour of parts is linear, i.e. involving measurement in one dimension. However these conditions are not fulfilled when the

entities being studied are systems, i.e. parts in interaction. Thus if we apply these conditions to psychosomatic research, which emphasises the holistic approach, the existence of different systems in interaction and system maintenance through homeostasis (Cannon 1929, 1932; Grinker, 1953), classical analytical procedures would seem to be unsuitable.

Von Bertalanffy (1968) points out that there is an array of approaches to investigate systems, including powerful mathematical models which make it possible to explore problems which were previously considered beyond science or purely philosophical. General systems theory was developed by engineering science and is pre-eminently a mathematical field, but it is also a broad view which transcends technological problems. According to Von Bertalanffy it provides a way of dealing with the complexities, wholes, or systems in our increasingly complex society. However, it requires a basic reorientation in scientific thinking. He describes Cannon's work on homeostasis and Claude Bernard's organismic conceptions in biology, which emphasise the organism as a whole, as the precursors of general systems theory. These ideas developed in different parts of the world and took time to be accepted. They were amplified by Von Bertalanffy and by Wiener (1950) in his development of cybernetics, the theory of control mechanisms in technology and nature. Von Bertalanffy points out the limitations in the field of systems theory because it is only approximately 40 years old. He suggests that it may still be necessary to use a verbal model rather than a mathematical model at this stage, but the system's ideas may be used to construct a model for theory and research.

General Systems Theory is described by Von Bertalanffy as a general science of wholeness which makes possible the use of identical or isomorphic laws applied in different fields, irrespective of the entities involved. In order to apply general systems theory to living organisms, it is necessary to expand the laws of physics. In the living organism, compared to an inorganic system or a machine, there is a continuous process in which building materials as well as energy-yielding substances

are broken down and regenerated. This continuous decay and synthesis is regulated so that the cell and organism is maintained in a so-called steady state. Two aspects are involved, statics - the maintenance of the system in a time independent state, and dynamics - changes of the systems in time. Living organisms preserve their order and proceed toward higher differentiations in contrast to closed systems (e.g. inorganic systems or machines). Closed systems are governed by the 2nd law of thermodynamics, which describes entropy as increasing towards a maximum disorder and the levelling down of differences. In the living organism entropy can be avoided and may rather develop towards increased organization and order. Through the principle of equifinality the final state is reached in different ways and this, of course, has relevance for the re-establishment of health which may occur in different ways. Feedback is the homeostatic maintenance of a characteristic state based on circular causal chains and mechanisms which monitor back information. Thus the person (or bio-psychosocial system) may be viewed as an active system which is a complex of interacting elements rather than in terms of the stimulus - response paradigm. The principle of stress needs some re-evaluation according to Von Bertalanffy, as stress is not only a danger to life but also creates higher life. Emphasis on homeostasis, adjustment and equilibrium tend to ignore creativity as a response to a stimulus which drives towards higher things. Von Bertalanffy (1968, p.194) refers to the phenomena of change, differentiation, evolution, which result from a build up of tension, which Cannon also recognised in his description of heterostasis.

Over the past 30 years there has been considerable development in the application of General Systems Theory to the description of the family as a system. In particular family therapists have conceptualised a model of family functioning, which relates the symptom of one family member to the family system as a whole. The whole family rather than the identified patient is seen as the unit of treatment. Minuchin and his associates (1978) have applied the systems model to studies of psychosomatic disorders such as anorexia nervosa, diabetes mellitus and asthma. The families of the

young patients they have treated, have been described by the Minuchin group as "psychosomatic families". Minuchin describes successful outcomes of treatment in 86% of the 53 cases of anorexia nervosa followed up over a period of 8 years (Minuchin et al., (1978). The focus is on the interpersonal transactions which govern each family member's range of behaviour. The family organization of these patients is seen as related to the development and maintenance of the psychosomatic syndrome which, in turn, maintains family homeostasis. Thus in the study of anorectic patients, the symptom has a function within the family, for example, uniting parents in concern for the patient. In turn the symptom is maintained by the interaction of family members who take over responsibility from the patient for monitoring intake of food and weight loss, so maintaining the person in the dependent, sick role. Treatment, therefore, does not only involve the physical symptoms but must aim to change the family transactions which constrain and regulate the behaviour of family members.

Minuchin et al. (1978) have described four characteristics of family functioning in so-called psychosomatic families, viz. enmeshment, over-protectiveness, rigidity and lack of conflict resolution. In the enmeshed family, for example, there is a proximity and intensity in family interactions. Interpersonal differentiation of individuals is poor - the individual is lost in the system and family members intrude on privacy and autonomy. This type of family is also characterised by a higher degree of over-protectiveness in the concern shown by family members for each others' welfare. The family shows rigidity by not allowing for change and growth but by maintaining the status quo. The family may appear normal and well functioning except for the patient with the psychosomatic problem. These families are very vulnerable to external events such as changes in occupation or loss of kin. Almost any outside event may overload the family's coping mechanisms and precipitate an illness. These factors combine to make a low threshold for conflict. Often there is a strong religious or ethical code used as a rationale for avoiding conflict. Thus problems are left unsolved. When parental conflicts become open and



explicit, the young patient produces symptoms, e.g. the asthmatic begins to wheeze. Hence conflict is avoided by the need to show protective and nurturant concern for the sick family member. Minuchin used a research design which tested levels of free fatty acids (FFA) in a diabetic child who was exposed to parental conflict by watching through a one-way mirror. The FFA response was exaggerated when the parental conflict increased.¹ Minuchin's work has similarities to the research undertaken by Goldberg (1958) into the family dynamics and childhood influences of duodenal ulcer patients. Several other researchers are currently exploring family patterns and themes in relation to illness (Lewis et al., 1976). Minuchin illustrates the open systems model of psychosomatic disease, which appears to be easily adaptable to duodenal ulcer disease as follows:

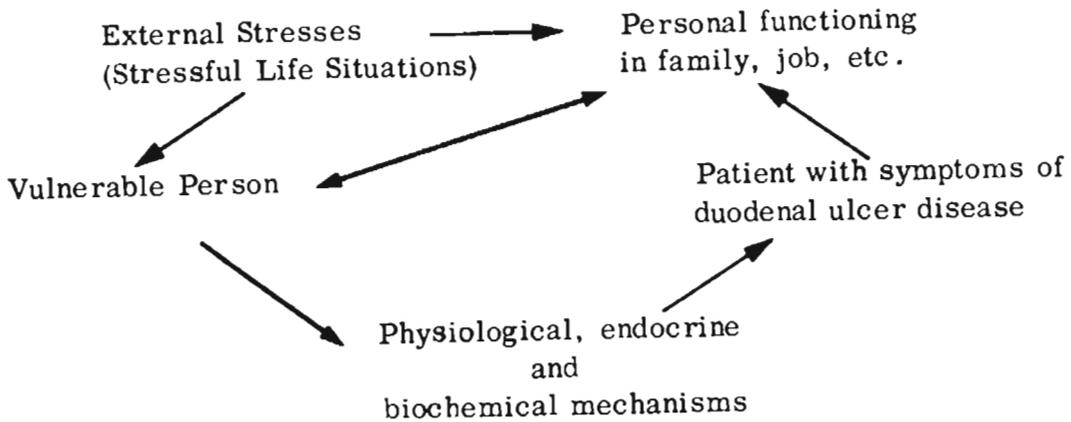


Fig. 2. Open Systems Model of Psychosomatic Disease,
e.g. Duodenal Ulcer (Minuchin et al., 1978, p.21)

The family systems model seems to lend itself to application to the duodenal ulcer patient and his family. It is also possible to link the person's functioning in the family to functioning in the work and community situation through the use of a systems model. The final goal in implementing a systems epistemology would be to link the various systems as outlined by Grinker (1953) several decades ago within a systems framework to account for the duodenal ulcer disease system.

1. Plasma free fatty acids are both a biochemical correlate of anxiety and a key metabolite in the production of diabetic acidosis.

3.6 SUMMARY

In true systemic fashion the review of the literature has reached a full circle and one is thus ready to embark on further exploration into the many complexities which are involved in a study of stressful life situations of the duodenal ulcer patient. Wormsley (1977), critical as he is of "the jargon and verbiage" of psychiatric studies of duodenal ulcer disease, provides, nevertheless, a succinct summary in his chapter on "Psychiatric Aspects". Referring to Oberbeck's comprehensive review of psychosomatic models he summarises as follows:

"... there are probably only individual illness - predisposing factors but no general illness-specific conditions. Among the predisposing factors are not only psychic and personality characteristics but also somatic abnormalities ("constitutional", hereditary, hormonal and mucosal). The psychosomatic illness (duodenal ulcer disease) is not, therefore, the expression of a specific conflict or personality but represents the specific response pattern of an individual, in whom the gastric dysfunction is somehow linked with certain emotional or psychic conflicts which have usually arisen during early development." (Wormsley, 1977, p.31).

As Cox (1978) points out, the person, because of the complementary and interrelated psychological and physiological factors, is vulnerable when external and internal pressures or demands overload the individual's coping mechanisms. This is particularly relevant to duodenal ulcer disease. The development of the duodenal ulcer in turn affects the person's functioning in family and community. For example, the person may be relieved of work or family pressures with which he or she has been unable to cope. Healing of the ulcer brings changes in role and resumption of responsibilities. At a later stage the person may once again fall prey to the pressures of external or internal pressures. Thus the chronicity and periodicity of ulcer disease described by clinicians (Hallenbeck, 1976; Bardhan, 1977) may not be related to only the physiological state of the body, but may also be affected by social factors. The advantage of

applying a systemic or transactional paradigm lies in the fact that it is no longer necessary to try to solve the problem of the antecedent (which comes first, the ulcer or the personality or the stressful social situation). Rather there will inevitably be interacting causal chains which function in maintaining, exacerbating or healing the disease at any point in time when the investigator seeks entry into the duodenal ulcer disease system.

CHAPTER 4

THE PATIENTS AND THEIR FAMILY SYSTEMS

4.1 INTRODUCTION

The study population consisted of an experimental group of 87 duodenal ulcer patients made up of 50 Indian and 37 Black males and a control group of 75 non-duodenal ulcer patients, 43 of whom were Indian and 32 Black males. The method of sampling has already been outlined in detail in Chapter 1.4.2. Briefly, the number of duodenal ulcer patients was matched by age, as nearly as possible, with non-duodenal ulcer hospital patients from the orthopaedic and medical wards during the same time period, 1978-1980.

In order to follow a systemic model, as proposed in Chapter 3.5.2, the demographic details and the life situations of patients have not been described in the sequence of the items in the interview schedules - the Stress Battery (SB) and the Focused Social Questionnaire (FSQ). The analysis and the discussion is presented instead, in the three main areas or systems that emerged as crucial for the patients, viz. the family system, (the present Chapter) the work system, (the following Chapter) and the illness system, involving diagnosis and treatment of the illness or disability, (Chapter 6).

Information from the Stress Battery is integrated into the discussion of the findings from the Focused Social Questionnaire. The presentation of the research findings has proved a difficult task because of the large number of variables that were included for study in the hope that, by throwing the net as wide as possible, as many significant factors as possible would emerge. The method selected for the report is the presentation of only the significant findings from the Stress Battery because many of the items in the Stress Battery were repeated in a more detailed form in the Focused Social Questionnaire. There is a discussion of all the aspects covered in the Focused Social Questionnaire whether found to be significant, or not, but only the tables and graphs of items found to be significant are included in the body of the report. The non-significant tabulated findings are included in the Appendix. Non-

significant differences are included in the discussion because, in interaction with the significant factors, they form the totality of situations which create stress for the individual.

4.2 AGE

Slightly under half of all duodenal ulcer patients and controls were in the 18-29 age category.¹ The mean age of duodenal ulcer patients was similar to that found in a study by Moshal et al, (1979). In the present study the mean age of Indian males with duodenal ulcer disease was 36,4 years compared to 37,1 years quoted by Moshal et al, (1979). The mean age of Black males was 35,7 years compared to Moshal's figure of 36,7 years. Although there were small differences between the numbers according to age categories in the duodenal ulcer and control groups, these differences were not significant.

4.3 ETHNIC AND LANGUAGE GROUPS

Half of the Indian duodenal ulcer patients and almost half of the control group were Tamil-speaking.² This was a larger percentage than found in the general population in Durban.³ The next largest group were Hindi-speaking followed by Telugus. Although there were more Hindi-speaking duodenal ulcer patients than controls, this, and the other differences between the duodenal ulcer and control patients, were not significant. All the patients spoke English in addition to the vernacular language and, in fact, were more likely to use English at work and at home, except when speaking to older relatives or friends of the same language group.

As was to be expected in the Durban area, Zulus predominated in the Black group

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1. Table 1 in Appendix.
 2. Table 2 in Appendix.
 3. There are four language groups to which South African Hindus belong. Tamil and Telugu are from South Indian, Dravidian origin and Hindustani or Hindi and Gujarati of North Indian, Sanskrit origin. According to Meer (1969, p61) 38% of Durban Indians may be classified as Tamil-speaking, 12% Telugu-speaking, 26% Hindi-speaking and less than 2% Gujarati-speaking. Muslims speak Urdu or Gujarati, there being twice as many Urdu and Gujarati-speaking Muslims.

of patients (84% in both the duodenal ulcer group and the control group). The remainder were Xhosa speaking. In addition to their own language, all the Xhosa patients spoke Zulu also because of their constant interaction with Zulu speaking Blacks in the Durban area.

4.4 THE FAMILY SYSTEM

The findings relating to the patient and the family system are presented according to a developmental sequence from childhood, to marriage (where this is applicable), and to the family system of which the individual was a part at the time of the interview.

Table 3 summarises the significant differences in the family system of duodenal ulcer and control patients.

TABLE 3. Chi-square Scores Indicating the Statistically Significant differences in the Family System of Duodenal Ulcer and Non-Ulcer patients

df.	Family System DU x NON-DU	Indian		Black	
		Chi-sq.	p	Chi-sq.	p
3	Dominant parent in childhood			9,20	<0,05
3	Spoiling in childhood	11,86	<0,01		
2	Favourite parent			9,30	<0,01
	Separation stress	Obvious diff. (17 DU x 0 NON-DU)			
1	Unhappy family life	9,98	<0,01		
1	Worried by no family involvement	13,80	<0,01		
1	Family conflict	8,01	<0,01		
1	Stressed by illness	6,09	<0,03	12,48	<0,01
1	Worried about children in past	4,09	<0,05		
1	Worried about children at present	6,25	<0,03		
2	Family stress load with part or whole family	5,90	<0,05	7,30	<0,03
3	Living singly			7,62	<0,03
2	Type of dwelling (house, hostel, etc.)			11,55	<0,01
1	Renting or owning a home			4,92	<0,05*
1	City x country			5,02	<0,01
2	Family visiting (weekly, fortnightly, monthly)	6,88	<0,05	8,41	<0,03
2	Visiting friends (weekly, fortnightly, monthly)	9,31	<0,01		
1	Religious observances	4,54	<0,05		

* greater number of non-ulcer patients.

As shown in Table 3, twenty-one stressful areas in the family system were found to be significantly different between duodenal ulcer and non-ulcer patients (12 in Indian patient groups and 9 in Black groups). These significant differences are discussed together with the non-significant findings in the various sections dealt with in this present chapter.

4.5 CHILDHOOD

The theories relating to the effect of childhood influences and family factors on the development of the ulcer prone personality have been outlined in Chapter 3.3. The hypotheses mainly stress over-dependency on parent-figures especially the mother, or over-indulgence or dominance of mother and ineffective father-child relationships; or focus on unhappy home backgrounds; separation from one or both parents or over-anxiety of parent, creating anxiety in the child. (Mittelman et al., 1942; Alexander, 1952; Kapp et al., 1947; Ruesch et al., 1948; Goldberg, 1958; Chapman, 1956). Some research, however, such as that undertaken by Kellock (1951) found no differences between the early childhood experiences of duodenal ulcer patients and patients with other diseases. Bearing this controversial evidence in mind, the researcher asked detailed questions about the childhood and family experiences of patients. This retrospective information obviously depended on the individual's ability to recall and for older respondents, in particular, this was sometimes difficult. Furthermore, because of the importance placed on family life in both Indian and Black communities there may have been a tendency to recall childhood experiences in a more positive light than was actually the case.

The majority of patients from both Indian groups reported that as children they had lived at home with both parents. A slightly higher number of Indian duodenal ulcer patients were brought up by a single parent or by relatives, but this was not of statistical significance.⁴

A comparison of the two groups of Black patients indicated that a higher

4. Table 4 in Appendix.

percentage of duodenal ulcer patients compared with non-duodenal ulcer patients were raised by both parents, but this also was not statistically significant.

Significant differences between groups in parent-child relationships are shown in Table 5.

Table 5 shows that several differences emerged in the ways in which duodenal ulcer and control patients perceived their relationships with their parents in childhood. Father was reported to have been the dominant figure by significantly more Black control patients, and mother, or mother and other relatives, to have been dominant in significantly more of the families of Black duodenal ulcer patients. This finding gives some support to the "mother-dominance" theory in duodenal ulcer disease in the Black group, but not in the Indian group, where this was not a significant finding. In the Indian group significantly less spoiling by mother was reported by the duodenal ulcer group, indicating that neither mother-dominance, nor spoiling by mother, was significantly associated with duodenal ulcer disease in Indian patients. There were no significant differences reported in spoiling by particularly one parent in the Black groups.

Father was reported as favourite by significantly more in the Black control group, but in the Indian group there was no significant difference in the reporting of who was the favourite parent by duodenal ulcer or control patients.

In contrast to other research, there was little reporting of an unhappy childhood by duodenal ulcer or non-ulcer patients, although more Indian duodenal ulcer patients (22 per cent) than controls (7 per cent) reported an unhappy or deprived childhood.

Reasons for an unhappy childhood were given as follows: (some respondents gave more than one reason).

- Eight per cent of the Indian duodenal ulcer patients and 7 per cent of the Indian controls reported that their childhood had been unhappy because of the death of mother or father or both parents while they were very young.
- Ten per cent of duodenal ulcer patients had been brought up by relatives who acted as foster-parents. The patients reported that they had always felt deprived of parental love and continually mourned the loss of their parent. Two non-ulcer patients reported similar experiences of deprivation.

- Fourteen per cent of the Indian duodenal ulcer patients, but no control patients, reported an unhappy childhood because of the father's failure to support the family adequately and heavy drinking, or alcoholism, on the part of the father and other male family members. The atmosphere in the home had been one of constant quarelling between the parents with patients feeling "caught-up" in the marital conflict. These stressful experiences often continued into adulthood, with the result that six per cent of Indian duodenal ulcer patients reported problems in late adolescence arising from the father's drinking, such as the need to give financial support to the mother or siblings because of father's failure to support.

In contrast to Indian patients, most patients in both Black groups recalled their childhood as being a very happy time, with only one ulcer patient and two non-ulcer patients stating they had experienced an unhappy childhood. Reasons for unhappiness were because of death of father and subsequent financial difficulties, or heavy drinking by the father.

The majority of Indian and Black patients (78 per cent Indian and 65 per cent Black duodenal ulcer patients, and 79 per cent Indian and 50 per cent Black controls) reported that they had a good relationship with their siblings in childhood.

As a further exploration of the hypothesis that duodenal ulcer patients may be mother-dominated (Goldberg, 1958), patients were asked to describe their present contact with their mothers. Sixty per cent of Indian and 68 per cent of Black duodenal ulcer patients, compared with 53 per cent of the Indian and 66 per cent of Black controls reported regular contact with their mothers, indicating no significant difference between duodenal ulcer and non-ulcer patients. These numbers included single Indian male patients living at home and married men living with their mothers in the joint family system. Of the Black patients, many had wives and families who lived with their parents in the rural areas and reported visiting them regularly at least once per month. Whatever the circumstances, it appeared that for most patients whether duodenal ulcer patients or not, the close family ties established in childhood were maintained into adulthood.

To summarise, the majority of patients had been brought up by both parents and they described their homelives as happy. The present research does show that more Indian duodenal ulcer patients, but not Black duodenal ulcer patients, had unhappy childhood experiences or were more likely to have come from unstable family backgrounds. A significantly greater number of Black duodenal ulcer patients compared with controls reported that mother, or mother plus other relatives dominated the family while the controls reported domination by the father. This was not the case with the Indian patients. Indian duodenal ulcer patients reported significantly less spoiling by their mothers or by both parents than the Indian controls. Significantly more Black duodenal ulcer patients reported that mother was the favourite parent, while father was more frequently the favourite in the control patients. This was not found in the Indian group. Although there is no consistent trend in the significant differences over the two racial groups, most of these results do not support previously reported research in Western Europe and America which has found the duodenal ulcer patient to be mother-dominated or over-indulged by the mother in childhood. The results of the present study are more akin to the findings of Kellock (1951) that statistically there were no differences in the childhood experiences of duodenal ulcer patients and patients with other diseases.

4.6 EDUCATION

On the whole most patients were poorly educated.⁵ Slightly less than half of all Indian patients, both in the duodenal ulcer and control groups, had not attended school beyond Standard 7. The Indian duodenal ulcer patients reported an inadequate education as being one of the greatest disappointments in their lives. They saw it as having affected their employment opportunities and as having blocked advancement in the job situation. As a result of their own lack of education they wanted their children, in the case of the married men, to have the opportunities which they had lacked. The Indian control group did not express these sentiments to the same extent, although they were also educationally disadvantaged. The difference between the number of duodenal ulcer and non-ulcer patients who were dissatisfied with their educational standard was statistically significant.

5. Table 6 in Appendix.

The majority of Black duodenal ulcer patients had only a Standard 2 level of education compared with the Black non-ulcer group where the majority had attained Standard 3-6 levels. Approximately one-third of the Black duodenal ulcer group, and one-quarter of the Black controls had some high school education beyond Standard 7.

The results of 3 x 2 Chi-square tests showed that there was no significant difference between the educational levels of Indian duodenal ulcer patients and controls, in spite of the significant difference in their expression of disappointment about lack of education. Black duodenal ulcer patients and controls showed no difference of significance in educational attainment nor in attitude to lack of education. Overall, the Indian patients were more highly educated than the Black patients, but less than half of all patients had received a high school education. In some cases this affected the administration of tests and interview schedules. Especially the older patients, those over 55 years of age, had difficulty expressing themselves adequately and sometimes were unable to give correct time sequences. This increased the time that needed to be spent in interviewing.

4.7 MARRIAGE

4.7.1 Marital Status

The majority of patients in both experimental and control groups were married at the time of the study.⁶ Approximately one-third of all patients, mainly in the 18-29 age group, had never been married. Chi-square tests indicated that there were no significant differences between duodenal ulcer and control groups in either the Indian or Black groups. The majority of patients were living in

6. Table 7 in Appendix.

long-established marital situations of over 10 years in duration and there were comparatively few cases of widowhood, divorce or separation. Some Black patients reported living with a partner without marriage, but this was not the case with any of the Indian patients.

4.7.2 Type of Marriage

Among the Indian patients, 22 of the 35 married duodenal ulcer patients had married a person of their own choice and only 13 married by arrangement, which has been the traditional form of marriage for South African Indians (Meer, 1969, p.75). A similar pattern was found in the Indian non-ulcer group with 22 of those 29 who were married, having made their own choice, whereas 7 had arranged marriages. Thus both Indian groups showed the changing pattern of marriage in the community with the duodenal ulcer group retaining a slightly more traditional form of marriage, but not significantly. All the married Black duodenal ulcer patients (22) and 21 of the 22 Black controls reported that they had married a person of their own choice.

4.7.3 Marital Stress

Marriage is regarded as one of the stressful events in the human life cycle (Holmes and Rahe, 1967). It is also a transitional process for the couple forming a new family and for the families of origin from whom they are separating. There may be stress and pressures from the demands to accommodate and adapt to a new situation. Anxiety may characterise this new process, but this is not necessarily pathological but rather part of a temporary process of accommodation (Minuchin, 1977, pp.46-66). In both Indian and Black cultures, customary and religious marriage rites have great significance, and may result in stress experienced at the time of marriage. Although Meer (1969, p.77) points out that it is the Indian bride who suffers the greatest traumatic experience at marriage, the results of this present research indicate that the bridegroom also

experienced stress in many cases.

In this present research, 54 per cent of the Indian married duodenal ulcer patients compared with 29 per cent of the Indian control patients reported stress at the time of marriage. Although this difference was not statistically significant, almost twice as many Indian duodenal ulcer patients as controls experienced marriage as a stressful period.

In the case of the Black patients there was more similarity with 67 per cent of the married duodenal ulcer patients compared with 57 per cent of the married controls reporting stress at the time of marriage.

4.7.4 Marital Problems

The types of marital problems which patients reported in the Focused Social Questionnaire were varied and some respondents described more than one type of problem. Because of the use of multi-choice questions and responses, tests of significance were not employed. Nearly half of the Indian duodenal ulcer patients, however, compared to no Indian controls described themselves as being worried about separating from the family of origin at the time of marriage. This was an obvious difference between the two groups. Minuchin (1977, pp.53-55) describes the difficulty experienced by a person who tries to separate from an enmeshed family system because the family's interactional pattern is characterised by a heightened sense of belonging and a yielding of individual autonomy. In such a family, symptomatic behaviour is often a response to the family system which becomes disequibrated as a result of the family member wanting to leave the system. The family unites with concern for the person with the symptom, and the concern may even result in the person delaying time and again, his separation from the family. This is illustrated in the following case example, from the present study.

Case No. 133 Mr R. P. an Indian duodenal ulcer patient aged 28 years reported that he had continually delayed

marriage because of the need to care for and support his widowed mother and siblings. When he spoke of marriage, his mother reacted violently and this caused him epigastric pain, resulting in his inability to pursue marriage plans.

For most of the Indian duodenal ulcer patients the reasons given for anxiety at the time of marriage were because they felt unable to meet the increased demands, both financial and emotional, which would face them because of marriage. Their ulcer symptoms could be seen as described by Minuchin (1977) as a response to the family disequilibrium. Other types of stress at the time of separation from the family of origin were caused by differences of religion or language between the families. These stresses continued throughout marriage in most cases, as shown in the following case excerpt :

Case No. 170 Mr. J. M., a 37 year old Hindu duodenal ulcer patient, resolved the conflict over religious differences by living separately from his wife. His wife, a Muslim, lived with her child and parents next door. The couple had only lived together for 4 years in a total of 12 years of married life. At the time of the follow-up study, (reported in Chapter 9) the couple had moved back into one house, and Mr J. M's current anxiety was the fact that they still had only one child because of the years of separation.

There was no similar reporting by control patients of problems with in-laws continuing throughout married life. The heavy responsibilities of the extended family were reported by 29 per cent of the Indian duodenal ulcer patients compared with 10 per cent of the non-ulcer patients.

The small number of Indian duodenal ulcer patients and controls

who had been involved in marital separation or divorce reported this as causing stress. A wife's death and the consequent responsibilities of caring for a family unaided, were also reported as causing stress.

Of Indian patients who were contemplating marriage, one patient in each group reported stress caused by quarrels with a girl friend and conflict with parents over their choice of partner.

The majority of the Black duodenal ulcer patients and controls who reported stress at the time of marriage, said this was connected with family interference or because of additional responsibilities when they were already supporting family members. Twenty-seven per cent of the Black duodenal ulcer patients, and 13 per cent non-ulcer patients reported that they were stressed by a demanding girl friend, but in each case were not contemplating marriage to the woman concerned.

4.7.5 Comments

The analysis of problems relating to marriage has shown that there were more problems related to marriage reported by the Indian duodenal ulcer patients than by non-ulcer patients. This was particularly in relation to the reporting of stress arising from separation from the family of origin by the Indian duodenal ulcer group. There was no notable difference in reporting of stress by the two Black patient groups.

4.8 FAMILY SIZE

The size of the family of origin was fairly similar for both Indian groups with 88 per cent duodenal ulcer patients and 81 per cent control patients having come from families of more than 7 members. Three-quarters of the Black patients in both groups had come from families of more than 7 members.

The size of the family of procreation was also similar in Indian experimental

and control groups. Twenty of the 35 married duodenal ulcer patients, and 15 of the 29 married controls had families of procreation of more than 5 members. More Black patients from the control group had families of over 5 members - 15 out of 23 married duodenal ulcer patients compared with 18 out of 22 married controls.

The statistical analysis showed no significant differences in size of family of origin or procreation in either Indian or Black experimental or control groups. The majority of patients, in both racial groups, both duodenal ulcer and non-ulcer patients had come from large families of more than 7 members, and if they had families of their own, these usually consisted of more than 5 members.

4.9 PATIENT'S POSITION IN FAMILY

There were only slight differences between the two Indian groups in the patient's birth position in the family, whereas the two Black groups were almost identical, except for slightly more Black non-ulcer patients who were only children.⁷ The largest number of Indian duodenal ulcer patients were in mid-positions in their families of origin, while the majority of Black duodenal ulcer patients were the eldest children in their families of origin. These eldest children may have carried extra responsibilities in the family. Tests of significance, however, indicated that the differences were non-significant.

4.10 FAMILY STRUCTURE AND LIVING ARRANGEMENTS

There were no Indian duodenal ulcer nor control patients living on their own at the time of the study. Sixteen per cent in both duodenal and control groups were living in a traditional joint family system - or kutum (Gujarati, Hindustani and Urdu) or, Kudumbom or Kudama (Tamil and Telugu respectively) i.e. several nuclear families hierarchically arranged by male seniority, usually consisting of three or more generations (Meer, 1969, p.64). Most patients in both groups were living in a nuclear family system i.e. parents and children (62 per cent of the duodenal ulcer patients

7. Table 8 in Appendix.

and 74 per cent of the non-ulcer patients) including single unmarried male patients. More Indian duodenal ulcer patients than controls were living in a household which could be termed transitional, where several members of different generations were living together and sharing resources or "eating from a common pot" but lacking the traditional male hierarchy. (22 per cent duodenal ulcer patients, and 10 percent controls). These families were characterised by family conflict caused by a loosening of the tight traditional family system often with resistance from the older members. This could be described as a transitional conflict which may become evident only in the symptomatic behaviour of one or several family members (Landau et al.,1982).

It has already been shown that Indian duodenal ulcer patients felt stressed by the increased responsibility resulting from marriage, when they were required to help support, financially and emotionally, both family of origin and the new family that would result from marriage. The close involvement of parents, especially the mother, also created stress in both transitional and joint family systems where the male tried to please both his mother and his wife in what often appeared as an irreconcilable triangle.

The family system of Black patients differed from Indian patients as far as their living arrangements were concerned. This is shown in Figure 3.

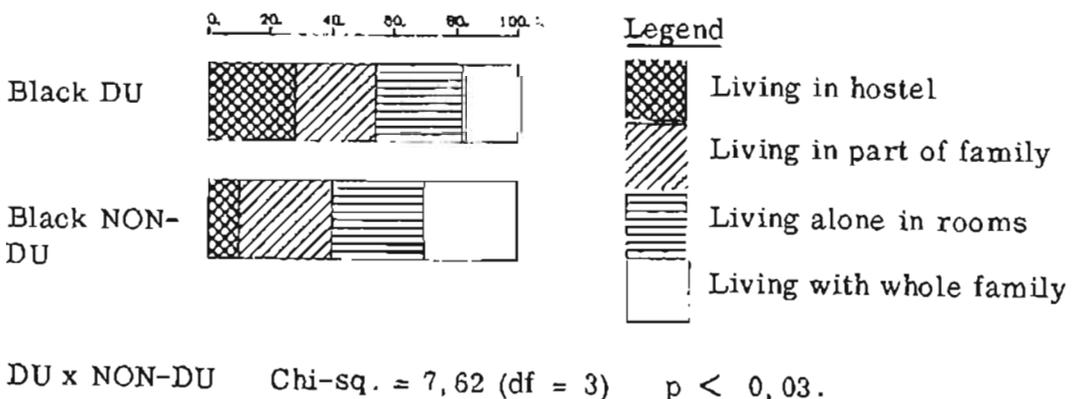


Fig. 3. Living arrangements of Black Patients (in percentages).

As shown in Figure 3, significantly more Black duodenal ulcer patients than controls were living singly in a men's hostel, while their families were living in the country, or the family was split between town and country. This indicated a much more transient pattern of family life in the Black ulcer group than in the controls.⁸ Black patients in both groups, lived together with girl-friends more frequently than Indian patients. Sixteen per cent in both groups had illegitimate children.

The picture which emerged from these findings was of Indian duodenal ulcer patients experiencing the stress of intense family involvement or family enmeshment to a greater extent than the control group. The Black patients on the other hand experienced detachment or disengagement from their family systems which was more marked for duodenal ulcer patients. These differences in the Indian and Black family systems emerged further in the subsequent analysis.

4.11 FAMILY HAPPINESS

Respondents were asked whether they perceived their family life in the past, as well as in the present, to be "very unhappy, sometimes happy, usually happy". In the analysis it was necessary to combine categories into either "usually happy" or "usually unhappy", in order to obtain sufficient numbers for the chi-square test. Figure 4 shows the perception of happiness in family life.

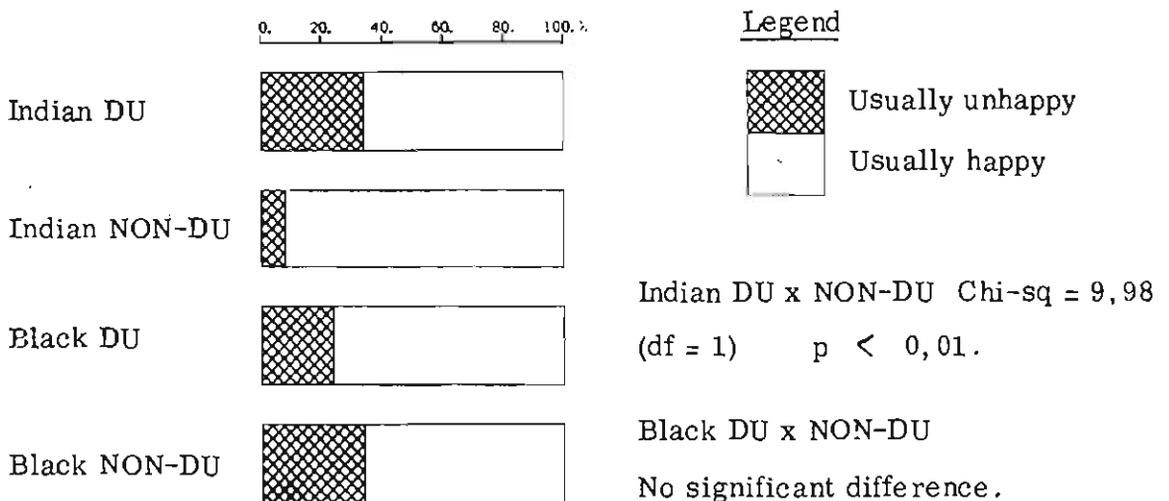


Fig. 4. Happiness in Family Life by Race and Diagnosis (in percentages).

8. S.A. Institute of Race Relations, 1977 survey showed that 57% of Black employed persons of both sexes were living singly, whereas in this present survey, 87% of duodenal ulcer patients and 69% of controls lived singly or with only part of the family

As shown in Figure 4, significantly more Indian duodenal ulcer patients than controls perceived their home life as being usually unhappy. They also reported onset of epigastric pain after facing an unpleasant situation at home. Over half of the number of Indian duodenal patients reported a happy home life compared to the large majority of non-ulcer patients who reported this.

There was no significant difference between Black duodenal ulcer and control patients in the number who reported experiencing an unhappy home life. The large majority of both duodenal ulcer and non-ulcer patients reported that their home lives were happy.

The finding that the majority of Black duodenal ulcer patients reported happiness in their home life was unexpected, in view of the fact that the majority of Black duodenal patients were living apart from their wives and families, and could therefore have been expected to register dissatisfaction with this state of affairs. A possible explanation for these positive replies could be that the questionnaire did not take into account the different living arrangements of the Black male when posing the question about family happiness. It was not clear from replies whether patients were referring to life with their families or to their more transitory relationships in town. It is possible that "out of sight, out of mind" applied to the Black males, who visited their families only once or twice per month, and thus did not experience the normal vicissitudes of family life.

4.12 FAMILY INVOLVEMENT AND DECISION MAKING

Table 9 indicates family involvement as reported by the patients.

TABLE 9. Family Involvement by Race and Diagnosis (in percentages).

Family Involvement	Indian		Black	
	DU	NON-DU	DU	NON-DU
Never do things together	8	7	5	0
Sometimes do things together	36	28	19	9
Often do things together	54	63	60	66
Not applicable	0	0	16	25
TOTAL	98	98	100	100
DU x NON-DU	No significant differences			
Worried about not doing things together	44	9	7	12
Not worried or not applicable	56	91	93	88
TOTAL	100	100	100	100
DU x NON-DU	Chi-sq. = 13,8 (df = 1) p < 0, 01		No signif. diff.	

Table 9 shows that the majority of Indian duodenal ulcer and control patients reported that they often did things together as a family. There was a significant difference however, in the attitude towards "not doing things together" with a much higher number of Indian duodenal ulcer patients compared to controls reporting concern about lack of family involvement. The majority of Black respondents, both duodenal ulcer and non-ulcer patients reported frequently "doing things as a family", with no significant difference between the two groups.

As regards family decision-making, a larger percentage of Indian duodenal ulcer patients than controls reported making decisions on their own, and perceived themselves as being the executive head of the family, but these differences were non-significant.⁹

Less Black duodenal ulcer patients than controls reported making sole decisions in the family. Although this may reflect a more submissive role for the Black duodenal ulcer patient in the family, it may also be a reflection of the life-situation of the Black duodenal ulcer patients, the majority of whom lived apart from their wives and families. In this situation the wife was required to take more responsibility for family decision-making than her absent husband.

To summarise, Indian duodenal ulcer patients reported more family unhappiness and dissatisfaction, with lack of family involvement, to a significantly greater degree than the controls. There was no difference in reporting of family happiness or involvement by the two Black groups. Nor was there any significant difference between either Indian or Black duodenal ulcer or control groups as regards family decision-making, which was either shared by husband and wife or the sole prerogative of the husband. This supports Alexander's (1950) theory, that duodenal ulcer patients while experiencing a dependency conflict, may be either submissive or overly assertive in the family situation.

9. Table 10 in Appendix.

4.13 SEXUAL RELATIONSHIPS

A slightly higher percentage of Indian duodenal ulcer patients reported an unsatisfactory sex life, and concern over unsatisfactory sexual relationships.¹⁰ Less than one-third of Black patients reported dissatisfaction with their sexual relationships. Differences between duodenal ulcer and non-ulcer groups were not significant.

4.14 FAMILY PROBLEMS

A check-list of types of problems experienced in a family was used in the Focused Social Questionnaire to summarise stressful family situations. The problems experienced by duodenal ulcer patients and controls are compared in Figure 5.

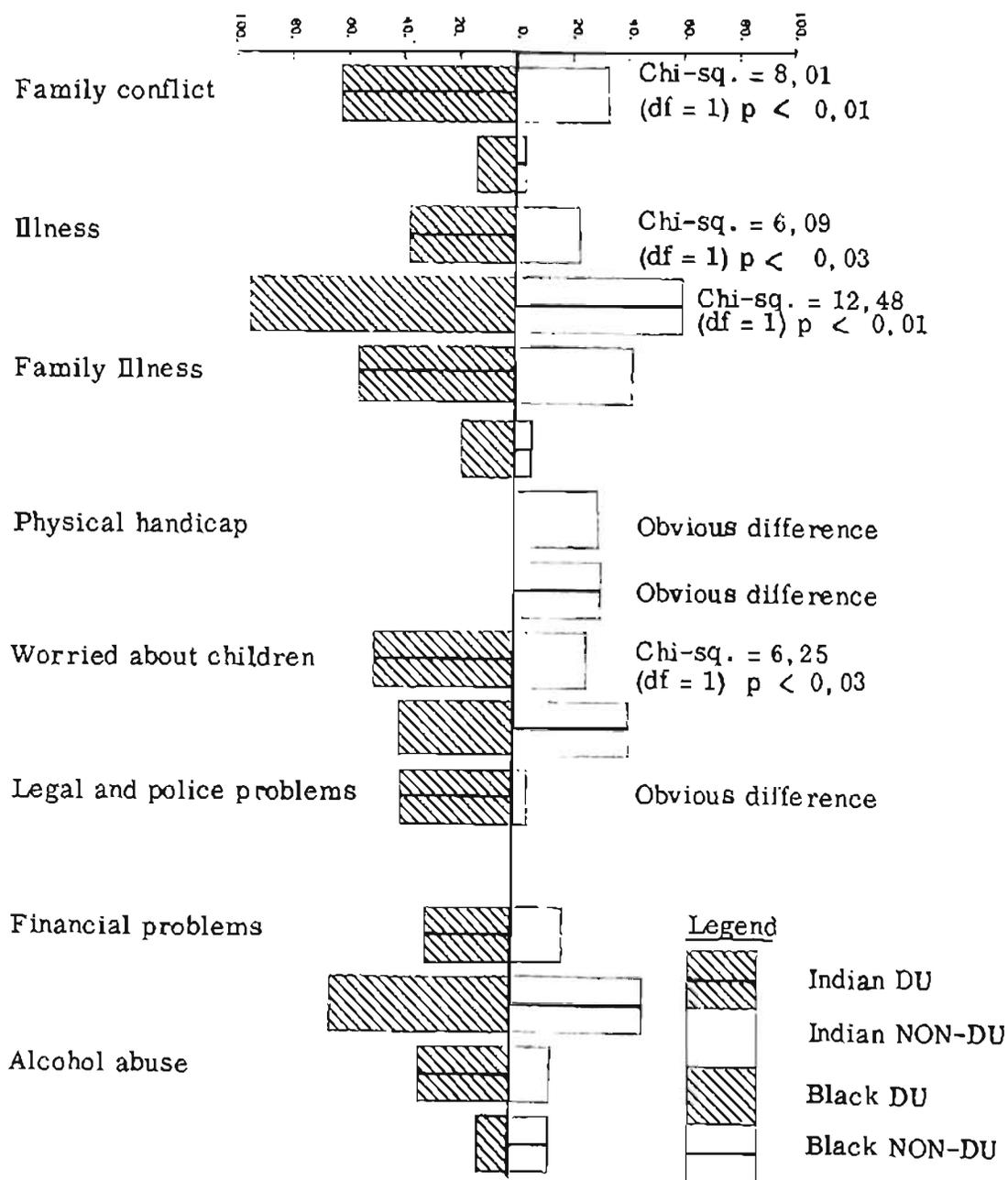


Fig. 5. Family Problems by Race and Diagnosis (in percentages)

10. Table 11 in Appendix.

Figure 5 shows that family conflict was reported by considerably more Indian duodenal ulcer patients than controls. In contrast, Black patients reported very little family conflict, although duodenal ulcer patients reported more than non-duodenal ulcer patients.

The patient's illness caused stress for significantly more of the Indian duodenal ulcer patients than the controls. Black patients reported stress from their own illness as the most frequently stated problem, and significantly more duodenal ulcer patients than controls cited this. The two Indian groups reported a close degree of similarity in the amount of stress engendered by illness of family members (approximately half of the Indian patients in each group). Illness of family members was reported by only a small number of Black duodenal ulcer patients, and by even less controls.

Neither Indian nor Black duodenal ulcer patients reported stress as a result of personal physical handicap, compared to nearly one-third of the non-ulcer groups. This was an anticipated finding, however, because the control group were mainly orthopaedic patients suffering from a variety of physical injuries.

Significantly more Indian duodenal ulcer patients compared with the controls reported worry over children's problems. There was no significant difference between the two Black groups of patients. Both groups reported worry about their children's problems. There was particular concern over their children's education, shown by the Indian duodenal ulcer patients. They wanted their children to have the educational opportunities which they had lacked.

Other areas of higher reporting of family problems by Indian duodenal ulcer patients were as regards criminal activity of family members and legal problems. There was no significant difference in the reporting by Black duodenal ulcer and non-ulcer patients of problems in these areas. There was also no significant difference in the reporting of financial difficulties between ulcer and non-ulcer groups, although more Black

than Indian patients reported financial problems.

There was more reporting of alcohol abuse by Indian duodenal ulcer patients than by control patients. During the thorough discussion of the different areas of situational stress, it became evident that alcohol abuse had been a problem for one-third of the Indian duodenal ulcer patients in the past, although they reported having given up drinking because of their illness. There was minimal reporting of substance abuse by Indian patients and a similar but minor reporting of alcohol and substance abuse by Black patients.

To summarise, family conflict; their own illness; worry over children and legal problems, were all significantly associated with duodenal ulcer disease in Indian patients. Worry over illness was significantly associated with duodenal ulcer disease in Black patients. In all problem areas there was more reporting of problems by Black duodenal ulcer patients than controls. There was the obvious exacerbation of stress, particularly in the case of duodenal ulcer patients, as one stressful area interacted with another in the lives of the patients.

4.15 DEATH OF FAMILY MEMBERS AND CLOSE FRIENDS

The death of a family member or close friend is another life event which has been rated as highly stressful requiring change in ongoing life adjustment (Holmes and Rahe, 1967a and 1976b; Masuda and Holmes, 1967 and Casey et al, 1967). In the present study respondents were asked about the experiences of stress relating to deaths in the family, or of friends which had occurred within the previous five year period; periods longer than five years and deaths of parents in childhood.

More Indian duodenal ulcer patients compared with control patients reported stress ranging from some worries to a great deal of worry and physical pain experienced at the time of death of a close relative within the previous five years.¹²

12. Table 12 in Appendix.

In the Black group, there was similar reporting of stress by the duodenal ulcer and the non-ulcer patients. Deaths of family members that had occurred more than 5 years previously were perceived as stressful by more duodenal ulcer patients than controls in both Indian and Black groups. Tests of significance of these results showed no significant differences between the Indian duodenal ulcer and control groups and between the Black duodenal ulcer and control groups. This was also the case with the number responding positively to the items "grieving about death of father" or "grieving about death of a mother" in the Stress Battery.¹³ Thus, although not significant, there was a positive trend in the reporting of the effect of past deaths on duodenal ulcer disease.

The death of a parent or both parents in childhood was reported and perceived of as having affected their lives detrimentally by a greater number of duodenal ulcer patients than controls. Tests of significance were not done on these results, because of the small number of control responses involved. The effect of a death of a parent in childhood interacted with other variables throughout the life of the duodenal ulcer patients, in particular, to produce a greater perception of multi-stress in the lives of the duodenal patients compared with the controls.

The following excerpt from the Focused Social Questionnaire is an example of how the patient perceived the effect of childhood bereavement on his later life, causing multi-stress :

Case No. 101, Mr L.M., a Black duodenal ulcer patient, aged 31 years, reported that his childhood had been unhappy because of the death of both parents. He had been cared for by a succession of relatives, and he experienced feelings of insecurity and being unloved. As a young man he had several love affairs, and had fathered three children as a result of these relationships. He still did not have a proper home life, but, "lived on the job", working as a hospital porter. He had experienced financial

13. Table 46a and Tables 47a and 47b in Appendix.



problems all his working life, although this had improved somewhat. His ulcer had been diagnosed a year before, during an unhappy love affair. It healed easily with medical treatment, but he had experienced relapses and eventually had repair surgery after a perforation. He perceived his life as having been unhappy and stressed since childhood, because of the death of his parents.

The findings indicated a positive trend in the perception of death as a stressful event in the lives of duodenal ulcer patients, although not statistically significant.

The perception of stress as a result of death of family or friends was combined with other areas of perceived stress to give a family stress load for each patient as shown in the next section.

4.16 FAMILY STRESS LOAD

In order to assess multi-stress within the patient's family system, a "stress load" was calculated for each patient, which was a summation of stress ratings in areas of family life reported by each patient.

Figure 6 illustrates the family stress load of Indian and Black patients.

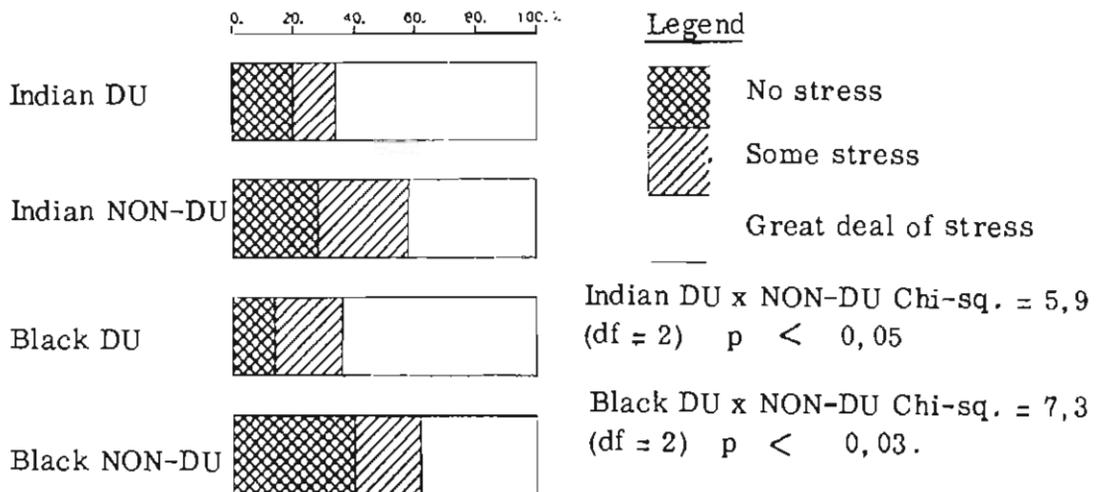


Fig. 6. Family Stress Load by Race and Diagnosis (in percentages).

As indicated in Figure 6, Indian and Black duodenal ulcer patients reported a significantly greater magnitude of stress than the controls. The results supported the hypothesis that duodenal ulcer disease was linked with multi-stress in the family system.

4.17 HOME CIRCUMSTANCES

As shown, all the Indian patients, but a much smaller number of Black patients were living in a family system. Of interest to the researcher was whether a particular type of accommodation and locality of the accommodation was characteristic of the duodenal ulcer patient. Table 13 shows the type and locality of accommodation of patients.

TABLE 13. Type and Locality of Accommodation by Race and Diagnosis (in percentages).

Type of Accommodation	Indian		Black	
	DU	NON-DU	DU	NON-DU
Living in a house	82	65	46	63
Living in a hostel or rooms	18	35	40	6
Living in a kraal in the country	0	0	14	31
TOTAL	100	100	100	100
DU x NON-DU	No significant diff.		Chi-sq. = 11,55 (df = 2) p < 0,01	
Home ownership	32	23	27	53
Pays rent or board and lodging	68	77	73	47
TOTAL	100	100	100	100
DU x NON-DU	No significant diff.		Chi-sq. = 4,92 (df = 1) p < 0,05	
Located in city	82	79	68	41
Located in country	18	21	32	59
TOTAL	100	100	100	100
DU x NON-DU	No significant diff.		Chi-sq. = 5,02 (df = 1) p < 0,01	

As shown in Table 13, there was no significant difference between the Indian duodenal ulcer patients and the controls, as regards their type of accommodation. The majority of Indian patients in both groups lived in a rented house in an urban area. There was a significant difference, however, between the Black duodenal ulcer patients and the controls, with more duodenal ulcer patients living in a room or hostel in the city or township. Home-ownership was more likely in the Black non-ulcer group, and this included patients living with their families in the rural situation of kraals. A significant majority of Black duodenal ulcer patients were located in the city. As cited, the Black duodenal ulcer patient was more likely to be assuming a peripheral role in his family, because of his physical detachment from family life. As pointed out in the discussion of the patients' perception of stress in family life, an unexpected finding was that the Black duodenal ulcer patient did not describe stress in family life, arising from his separation from his family. There may have been other stressful factors also, which were involved in living as a migrant worker in a hostel or rooms, which were not described by the patient or explored in the present study, such as the lack of a relaxed home atmosphere, providing the opportunity to "unwind" after the stress of the working day. Other aspects of hostel dwelling, such as isolation or crowding of the male workers, leading to homosexual practices, may also have been the cause of stress, which was not reported, but nevertheless may have been present.

4.18 CROWDING

Over-crowded housing is often presumed to be a cause of individual stress. In the present study, both the perception of crowding by the respondent, and an objective rating of crowding was used to study the relation between crowding and stress. The objective criterion used was that 3-4 persons sharing a bedroom or sleeping accommodation, would be regarded as crowded. Using this criterion, over half of the Indian duodenal ulcer patients, and 33 per cent of the Indian control patients were deemed to be living in crowded accommodation. The number of Indian duodenal ulcer patients who perceived of themselves

as living in crowded circumstances did not concur with the objective criterion, although it was confirmed in the case of the non-ulcer patients. Only 16 per cent of the Indian duodenal ulcer patients described their accommodation as overcrowded, compared with 33 per cent of the controls.

Freedman (1975) discusses the research on the impact of crowding on human behaviour, and concludes from his own and others' research, that high density is not inherently negative. There appears to be an individual variation in perception of crowding and its accompanying stress, which is influenced by previous adaptation and social learning. It is evident that the norms of the cultural or socio-economic group will influence the individual's perception of crowding. The importance for the Indian group of the extended family, and the larger mean size of the family, (as compared to a White family in the Durban area) would indicate that the norm could be living conditions which another group, (e.g. White South Africans) would consider crowded. This explanation, however, does not satisfactorily account for the difference between the Indian duodenal ulcer and non-ulcer groups in their perception of crowding.

The difference between the attitude of the Indian duodenal ulcer and control groups may indeed be in the individual's perception of crowding as stressful. It may also be the tendency of some of the duodenal ulcer patients to deny stress in some areas of their lives in spite of evidence of obvious stress noted by the interviewers. It is interesting to note that Minuchin et al., (1978, p.31) found that families with a member displaying psychosomatic symptoms of anorexia nervosa, diabetes mellitus or asthma presented themselves in a favourable light as normal or untroubled, except for the patient's medical problem. It appears as if the use of denial by some duodenal ulcer patients may be part of the over-protectiveness of the family which Minuchin describes as one of the characteristics of families with a member with psychosomatic symptoms (see discussion in Chapter 3, 5. 2).

During the administration of the Focused Social Questionnaire, Black

duodenal ulcer patients complained more frequently of unsatisfactory living conditions than the Black controls. It was difficult to establish a criterion for crowding for the Black patients, because of the range of living arrangements from hostel accommodation, living in a room, living in a township house, to living in a traditional rural kraal. It was presumed that all hostel living was unsatisfactory, especially as patients were resident in the older hostels with few modern improvements. The Black duodenal ulcer patients were the most affected by this. According to the Stress Battery, more Black duodenal ulcer patients, compared to controls were worried about accommodation,¹⁴ but this was not a significant difference between the two groups.

4.19 URBAN-RURAL MOBILITY AND HOME MOVEMENT

Urban, rather than rural living has been suggested as a reason for the increase in duodenal ulcer disease. (Chapter 3.1.3). There was no significant difference found, however, between the Indian duodenal ulcer and control groups as regards the proportion of their lives which had been spent in the urban area. The majority of these Indian patients had lived their whole lives in the urban environment.¹⁵

With Black patients there was more variation in the amount of time spent in urban or rural areas. The majority of Black duodenal ulcer patients had moved to town in their adult lives as work seekers.¹⁶ This was a different finding to that of Segal et al., (1979) who found that the majority of Black duodenal ulcer patients were urbanised throughout their lives. The differences between the Black groups were found to be non-significant, although it must be remembered that significantly more Black ulcer patients were located in the city at the time of the study.

Moving accommodation with the resultant adjustment and adaptation may also be a stressful life situation. The perception of stress to a large extent may depend on the circumstances under which relocation is made.

Indian patients, for example, gave reasons for moving, as follows :

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- 14. Table 47a and 47b in Appendix.
 - 15. Table 14 in Appendix.
 - 16. Table 15 in Appendix.



- moved to better or cheaper accommodation, 42 per cent duodenal ulcer and 30 per cent non-ulcer patients
- moved to work in city; to get closer to children's school; because of changes in work situation or marital status; because of relocation by the local authority as a result of river flooding in the area - 18 per cent duodenal ulcer and 14 per cent controls
- forced to move because of Group Area proclamation¹⁷ - 16 per cent of duodenal ulcer and 5 per cent non-ulcer patients
- no relocation reported - 24 per cent duodenal ulcer patients and 51 per cent controls.

Approximately half of the Indian patients and less than half of the Black patients had moved up to five times in five years.¹⁸ There was no statistically significant difference between the duodenal ulcer and control groups as regards their perception of moves as stressful, although more Indian duodenal ulcer patients reported stress arising from forced movement in terms of the Group Areas Act.

Black patients, and in particular duodenal ulcer patients, tended to move fairly frequently between town and country in order to maintain home-ties. Forty-two per cent of Black duodenal ulcer patients compared with 22 per cent of Black controls were migrant workers who visited their rural homes every week-end, or once or twice per month.

4.20 FAMILY AND FRIENDSHIP NETWORKS

The number of times that respondents visited family members and friends was used as an indicator of the family and friendship network and support systems of patients. This was of interest because of the supposition that

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- 17. A large number of Indian people living in Durban were affected by the Group Areas Act of 1950. Meer (1969, p.88) quotes the Minister of Interior as stating in August 1958 in the House of Assembly that according to estimates based on the 1951 census, 75 000 Indians had to be moved in Durban.
 - 18. Table 16 in appendix.

duodenal ulcer patients lack social support systems which assist in adaptation to a rapidly changing society (Moshal et al., 1980). Family and friendship networks are shown in Figure 7, overleaf. Reference to Figure 7 shows less duodenal ulcer patients than controls reporting visiting of family members on a weekly basis, but more frequent visiting on a fortnightly or monthly basis than the controls. There was more frequent visiting on a monthly basis by Black duodenal ulcer patients. This was usually the visit by the migrant worker to the family in the country, which has already been discussed.

The figure also illustrates the friendship network of Indian and Black patients. Both Indian and Black duodenal ulcer patients visited friends on a fortnightly or monthly basis more frequently than the controls. The difference in the pattern of visiting of family and friends by Indian duodenal ulcer and non-ulcer patients was significant. There was also a significant difference in the more frequent monthly visiting to the family by Black duodenal ulcer patients than controls. There was no significant difference however, in the visiting of friends by Black duodenal ulcer and control patients. The data about family and friendship networks does not substantiate the view that duodenal ulcer patients were socially isolated or lacking support systems as hypothesised by Moshal et al., (1980) in an earlier study.

4.21 LEISURE-TIME ACTIVITIES

Apart from the time spent visiting family and friends, there was no significant difference between either Indian or Black duodenal ulcer and non-ulcer patients in the ways in which they spent their leisure time. More Indian duodenal ulcer patients than controls belonged to clubs including charitable or welfare committees, played sport regularly and had active hobbies such as gardening, fishing or carpentry, but the difference between the two groups was not significant.¹⁹

Black duodenal ulcer patients also participated more in club activity than controls. The groups of which they were members included savings clubs

19. Table 17 in Appendix,

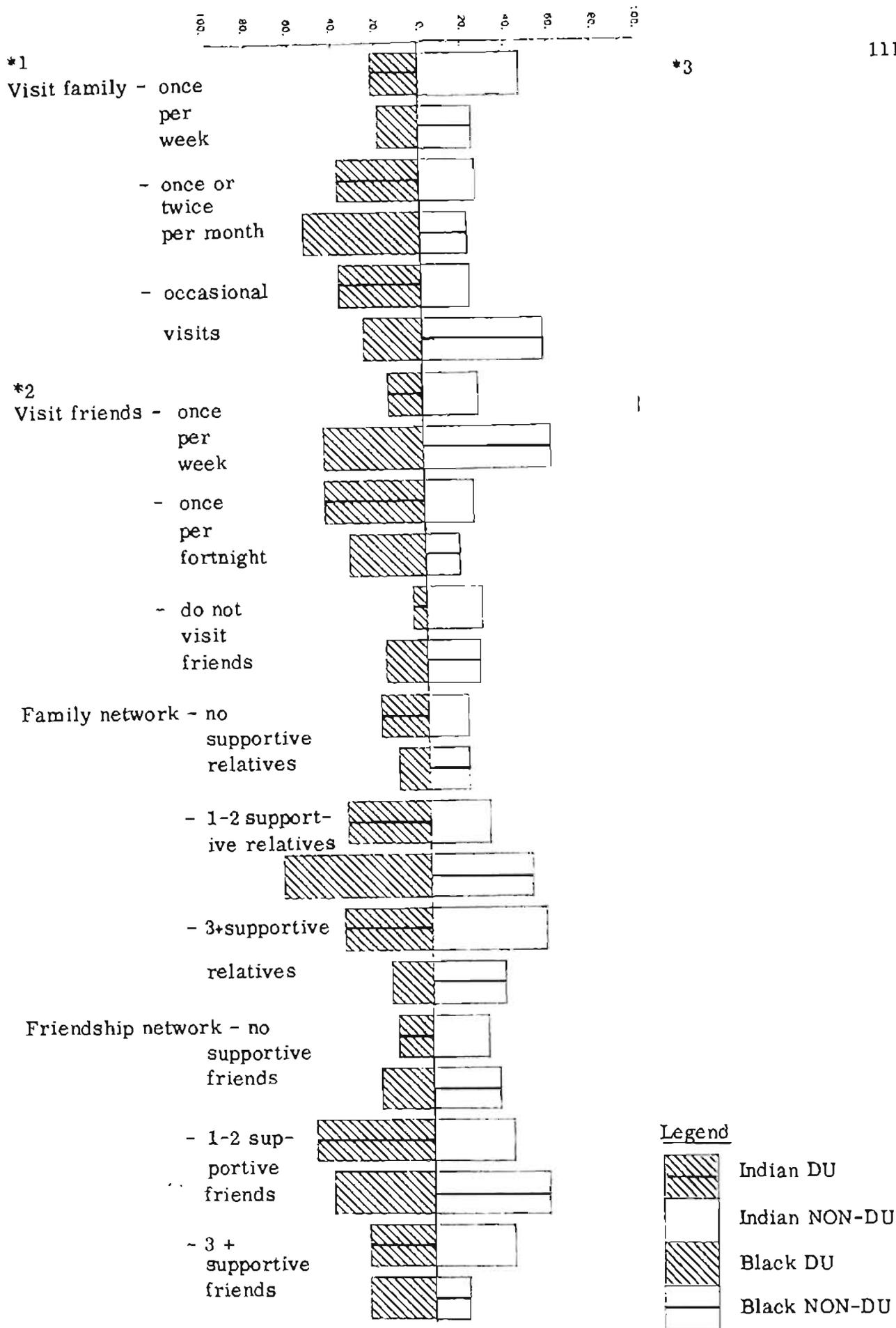


Fig. 7. Family and Friendship Networks by Race and Diagnosis (In percentages).

*1. Indian Chi-sq. = 6,88 (df = 2) p < 0,05

*2. Indian Chi-sq. = 9,31 (df = 2) p < 0,01

*3. Black Chi-sq. = 8,41 (df = 2) p < 0,03

Other differences non-significant.

and choirs. A higher percentage of Black duodenal ulcer patients reported that they did not play sport. They described their hobbies as reading or gardening more frequently than the controls. The majority of both Black duodenal ulcer and control patients did not have any form of hobby. Some patients in both groups gardened as a means of augmenting their income or supporting their families after disablement caused by physical injury or illness.

4.22 RELIGIOUS AFFILIATION AND OBSERVANCE

The majority of Indian patients, particularly the duodenal ulcer group were Hindu. There were more Muslim control patients than duodenal ulcer patients.²⁰

The distribution of the different religious affiliations was similar to the general Durban population,²¹ although the non-duodenal ulcer group followed the trend in the general population more closely. The duodenal ulcer group deviated more from the general population with more patients being Hindu and Christian, and less Muslim. These differences between the duodenal ulcer and control groups were found to be non-significant. The majority of Black patients were Christians, with the Protestant Christians predominating.²² There was obviously no significant difference between Black duodenal ulcer patients and control groups.

The analysis has therefore shown no significant differences in religious affiliation between the experimental and control groups, but obvious differences between the Indian and Black groups. There were differences however, in religious observance between Indian duodenal ulcer and control patients. The different religious observances of the different groups are shown in Table 19.

20. Table 18a in Appendix .

21. Hindus 74%; Muslims 16%; Christians 7% (Meer, 1969, p.61).

22. Table 18b in Appendix .

TABLE 19. Indicates the religious observances of patients by race and diagnosis (in percentages)

Religious Observances	Indian		Black	
	DU	NON	DU	NON
Regular religious observances	86	67	67	66
No regular observance	14	33	33	34
TOTAL	100	100	100	100
			Chi-sq. = 4, 54 (df = 1) p < 0, 05	No signif. diff.

Table 19 shows that there was a significant difference in the extent to which duodenal ulcer patients and controls in the Indian group observed religious practices. Significantly more duodenal ulcer patients compared to controls reported regular observance of prayers and religious activities either at the temple or in the home, in the case of the Hindus, or at the Mosque, in the case of Muslims, or attendance at regular church services in the case of the Christians. Most patients in both Indian groups claimed that religion was important in their lives, although the duodenal ulcer patients were most actively observing religious practices.

There was no significant difference in the religious observances of Black duodenal ulcer and control patients, the majority of whom belonged to Protestant Christian denominations. Approximately two-thirds in both duodenal ulcer and non-ulcer groups attended church services regularly and regarded religion as important in their lives.

The higher reporting of religious observances by Indian duodenal ulcer patients may indicate the use of religion by this group as a means of coping with stress and illness. In the case of Black duodenal and

non-duodenal ulcer patients there was equal reporting of religious observances by both duodenal ulcer and non-ulcer group.

4.23 SUMMARY

The analysis and comparison of the frequency of the different variables in the family systems of duodenal ulcer and non-ulcer patients has shown that there were many factors which were not significantly different in the duodenal and non-duodenal ulcer groups. These were language and religion; education; marital status and duration of marriage; family structure and size and birth position of patient in the family of origin; family decision making; sexual satisfaction; deaths of family members; length of time spent in urban or rural environments, urban-rural mobility and accommodation moves in past five years; and use of leisure.

Other factors which patients perceived to be causing stress, were present to a significantly greater degree in the life situations of duodenal ulcer patients than controls. These significant factors were tabulated at the beginning of this chapter. Indian duodenal ulcer patients presumably with a physiological predisposition to duodenal ulcer disease (Fordtran, 1973) and a characterological disposition to anxiety, which is sometimes repressed, and unmet dependency needs (discussed further in the section on the illness system -Ch 6) were often part of a family system characterised by conflict and problematic functioning. The patient found difficulty in separating from his family of origin, and this affected his subsequent marriage or even prevented this. He experienced marital conflict and worried about the lack of family unity. He worried excessively about his children's problems and the responsibilities of the extended family which he often assumed. This capacity to be concerned for others had extended to friends and community concerns. He also showed a tendency to strong religious attachments and regular religious observances. The factors of family conflict, combined with a low income, related to his inability to obtain a better work situation (which is discussed in the next Chapter) contributed to a high multi-stress load.

The Black duodenal ulcer patient, as pointed out earlier, lived in a very different family system to that of the Indian patient. The majority of Black duodenal ulcer patients, instead of appearing enmeshed in the family as was characteristic of many of the Indian duodenal ulcer patients, were disengaged - physically, psychologically and in terms of social functioning. They lived singly, visited the family once or twice per month, and had no real family involvement. They did not perceive of this as a stressful situation according to responses to the questionnaire (FSQ). Both Indian and Black duodenal ulcer patients fit the model of family functioning, developed by Minuchin (1977, p.54) which describes normal family functioning as being in the centre of a continuum with the two extremes being enmeshment or disengagement, as shown in Figure 8 :

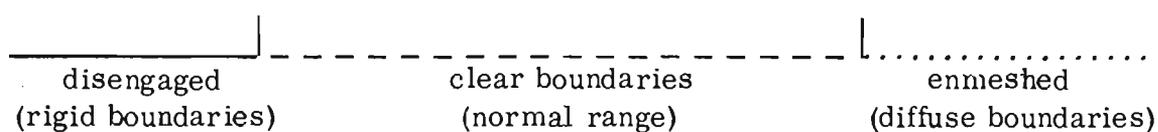


Fig. 8. A Continuum of Family Functioning (Minuchin 1977, p.54).

Locating a family at either of the two extremes is an indicator of possible family pathology (Minuchin, 1977, p.54). In families at either extreme, the symptom of the family member serves to maintain the dysfunctional family in equilibrium. For example, a Black patient with duodenal ulcer symptoms, disengaged from the family, will return home for a period of recuperation, and thus resume contact with the family and activate the family supportive system.

In an enmeshed family which is disturbed by a young man's effort to separate from the family of origin, the onset of ulcer symptoms prevents his leaving home or marrying and returns him to a dependent position, thus restoring the family equilibrium. This may be congruent with his own basic dependency conflict. Another pattern often observed was the ulcer patient in conflict, often covert, with a dominant wife. As a result

of onset of his symptom, he assumed a legitimately dependent role. His wife was allowed to take charge and to maintain her role as the family's executive head. In all these instances the male was permitted to maintain a dependent position within the family system without challenging the cultural norms.

In this context of disturbed or difficult family functioning the patient's symptom, while being seen as a response to stress, also succeeded in rescuing him from the overload of stress by allowing him to be dependent and cared for in the sick role, as discussed in Chapter 6. Although some patients denied the existence of problems and showed a high investment in a harmonious and happy family life, the majority openly admitted marital and/or family conflict. Conflict was converted by some wives and mothers into concern for the patient as the ill family member. In this way the symptom was a regulator of family homeostasis preventing the escalation of family conflict. The symptoms of illness served to control the conflict and to avoid the need to confront differences (Minuchin, et al., 1978, p.29-33).

Other aspects of the stressful life situations of the patients, in terms of the work system and of the illness itself will be discussed further in the next two chapters.

CHAPTER 5
THE WORK SYSTEM

5.1 OCCUPATION AND DUODENAL ULCER DISEASE

The popular layman's image of the duodenal ulcer sufferer is similar to that of the Type A personality, prone to coronary heart disease described by Friedman and Rosenman (1974). The person is thought to be a high pressured business executive, with insufficient time to complete what has to be done, hence many tasks are undertaken simultaneously. There is no relief from daily work pressures which are compounded by fatigue caused by late working hours. Travelling to and from work is often seen as producing stress because of time-urgency.

In spite of these commonly held beliefs, duodenal disease has been found to be as prevalent among non-executives as among executives. An occupational group that has been found to be over-represented are foremen, who stand mid-way between management and the work force and are pressurised from both sides (Chapter 3.1.5). The men in this present study were drawn from a State hospital population, and it was not expected that this group would include many senior executives, although there was an expectation that foremen would be fairly well represented.

5.2 SIGNIFICANT DIFFERENCES IN THE WORK SYSTEM BETWEEN
DUODENAL ULCER AND NON-ULCER PATIENTS

The significant differences in the work system of duodenal ulcer and non-ulcer patients are shown in Table 20.

TABLE 20. Chi-square Scores Indicating the Statistically Significant Differences in the Work System of Duodenal Ulcer and Non-Ulcer Patients.

df.	Work System	Indian		Black	
		Chi-sq.	p	Chi-sq.	p
1	Work dissatisfaction	4,68	<0,05		
1	Angry with bosses	4,84	<0,05		
1	Past Worry about doing well in job	4,12	<0,05		
1	Present Worry about doing well in job	5,33	<0,03		
1	Too much job responsibility in past	7,23	<0,01		
2	Too much responsibility at present	7,16	<0,05	7,30	<0,03
1	Underpaid in past	7,22	<0,01		
1	Underpaid at present	4,84	<0,05		
1	Not enough time to do things in past	4,45	<0,05		
1	Too much work to finish in time at present	5,25	<0,03		
1	Want to improve education (preventing job advancement)	4,70	<0,05		
1	Bored at home all day - past			4,00	<0,05
1	Bored at home all day - present			5,80	<0,03
2	Personal income	9,88	<0,01		
1	Insufficient family income	4,69	<0,05		
1	Worried by cost of living			6,00	<0,03

The significant differences as presented in Table 20 are incorporated in the discussion of the various aspects of the work system in the pages that follow. Table 20 indicates that there were 16 areas of significant stress in the work system of duodenal ulcer patients -12 for Indian patients and 4 for Black patients.

5.3 OCCUPATIONAL CLASSIFICATION AND PRESTIGE RATING

Patients were classified in terms of their occupation, using several different classifications. They were first classified into six broad occupational categories, consisting of 20 sub-groups, and then allocated prestige scores,¹ according to the method described in the CASS publication (1979), "A Guide to the Coding of Occupations in South Africa."²

In terms of the groups of occupations, and the prestige scores allocated to the occupations,³ a small number of the Indian patients who were teachers, fell into category (1), salaried professional and semi-professional with a prestige score of 73-80. A higher number of controls than duodenal ulcer patients were in Category (2), the middle white-collar category. A fairly similar percentage of duodenal and non-ulcer patients were in Category (3), and included foremen and skilled artisans. The highest percentage of Indian patients were in Category (4), the routine non-manual and semi-skilled manual group. There was a nearly similar percentage of Indian patients from both duodenal ulcer and control groups in Category (5), the unskilled manual and labourer group. The differences between the occupational categories were non-significant for Indian patients. Although there was a slightly higher representation of foremen as anticipated in the duodenal ulcer group, this was not a significant difference between the two groups.

1. Table 21 in Appendix.

2. Job-status value is allocated to occupations in order to differentiate systematically between occupations which represent levels of achievement in work-status. It is also an indicator of social standing in the community. CASS, 1979, p.3.

3. Table 21 in Appendix.

There were a small number of Black duodenal ulcer patients, but no Black controls in Category (1), professional and semi-professional. A nearly similar small percentage of Black duodenal ulcer patients and controls were in Category (2), middle white-collar workers. In Category (3) there was a similar small percentage of foremen in both groups, but no artisans in the Black duodenal ulcer group, although a small percentage in the control group. The largest percentage of Black patients, both duodenal ulcer and control patients fell into Categories 4 and 5. . In these categories, approximately one-third of duodenal ulcer patients were in routine non-manual or semi-skilled manual positions, compared with less than one quarter of the controls. A higher percentage of non-ulcer patients than duodenal ulcer patients were unskilled labourers. There were no significant differences between the Black duodenal ulcer and control groups.

The prestige scores of the semi-skilled workers in both Indian and Black groups were considerably higher than those of the unskilled manual workers ranging from 48 - 52 points for semi-skilled workers to 20 - 26 points for unskilled workers.

Thus, while the typical Indian duodenal ulcer patient in this study was a routine non-manual worker, the typical Black duodenal ulcer patient was a semi-skilled or unskilled manual worker. The differences between the duodenal ulcer and control groups in both racial groups were non-significant.

5.4. INCOME AND EXPENDITURE

5.4.1 Family Income

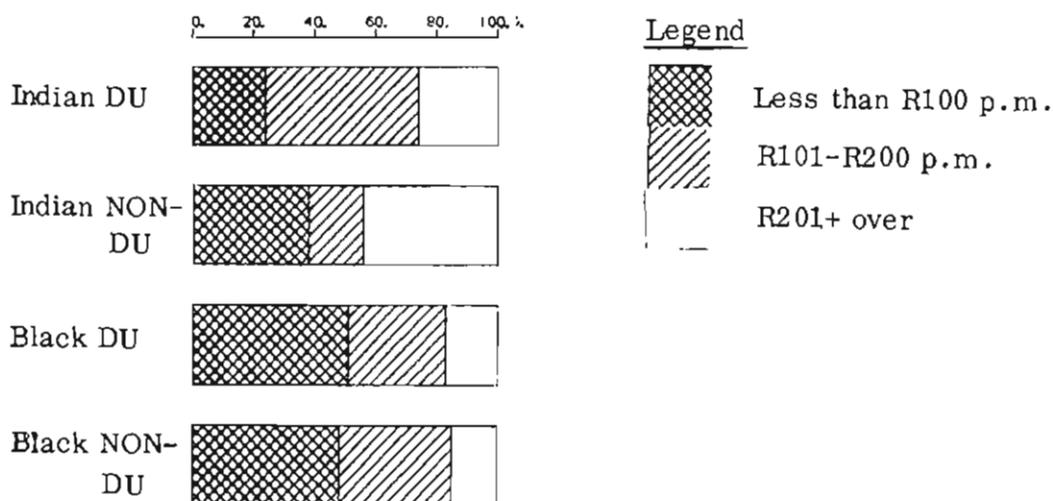
The majority of patients derived their main income from permanent employment.⁴ The differences between the Indian duodenal and non-ulcer patients and between Black duodenal ulcer and control patients were not significant. In the case

4. Table 22 in Appendix.

of the Indian and Black duodenal ulcer patients, the majority had retained their jobs in spite of their illness. They were either on sick leave, or were given time off work to attend the Gastro-intestinal Unit. On the other hand, a higher percentage of control patients, (especially Blacks), who were mainly orthopaedic patients, had been in hospital for extended periods, and were depending on family members to support them and their families.

5.4.2 Personal Income

The personal income of patients is shown in Figure 9.



Indian DU x NON-DU Chi-sq. = 9,88 (df = 2) $p < 0,03$.

Black DU x NON-DU No significant difference.

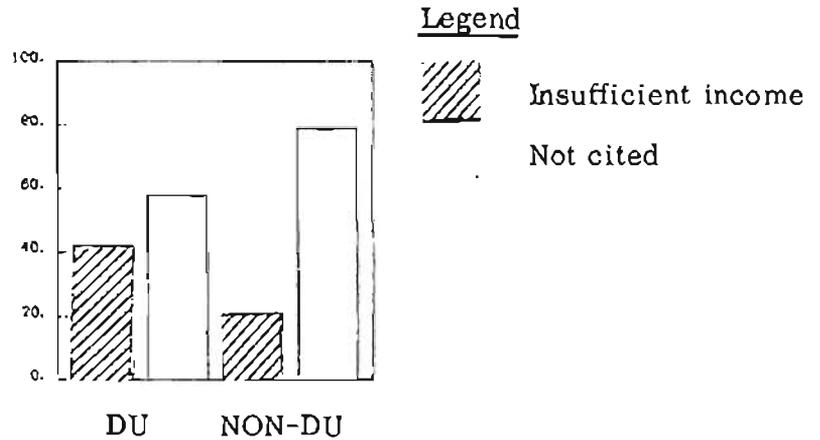
Fig. 9. Personal Income by Race and Diagnosis (in percentages).

Figure 9 shows that half of the Indian duodenal ulcer patients fell into the income bracket of R101 - R200 per month. On the other hand the majority of Indian non-ulcer patients were earning either less than R100 per month, or more than R200 per month. Taking an income of less than R200 per month as a low income, a significantly higher number of duodenal ulcer patients were in this low income bracket. As has already been indicated, more Indian duodenal ulcer patients were living in transitional or joint families where there was sometimes a contribution by other family members to the household income, but the patient was usually the chief income earner. Seventy-eight per cent of the Indian duodenal ulcer patients, and 58 per cent of the controls reported contributing to a family income. While this might serve to raise the level of income for the family, resulting in 56 per cent of the Indian duodenal ulcer patients, and 63 per cent of the controls falling into the over R200 per month income bracket, it also increased the financial burden, because of more "mouths to feed".

Calculating the per capita income is a way of indicating the income available per family member.⁵ This calculation indicated that 58 per cent in both duodenal ulcer and non-ulcer groups had a per capita income of R55. The shortcoming of this method is that it does not take into account the different needs of different age and sex groups in the family.

Figure 10 illustrates the percentage of Indian duodenal ulcer patients compared with controls who cited "insufficient income" as one of the three chief worries in their lives, in the final question in the FSQ.

$$5. \quad \text{Per capita income} = \frac{\text{available income}}{\text{Number of members dependent on income}}$$



DU x NON-DU Chi-sq. = 4,69 (df = 1) p < 0,05

Fig. 10. Insufficient Income cited by Indian patients (in percentages).

As shown in Figure 10, significantly more Indian duodenal ulcer patients than controls cited insufficient family income as one of the three main worries in their lives, although in the check-list of family problems (Chapter 5.3.9) a smaller number had reported "financial problems" with no significant difference between the Indian ulcer and non-ulcer patients.

It would seem safe to presume, that while in the short-term, there was no difference in the reporting of current financial problems by the Indian duodenal ulcer and control groups, looking at their life as a whole, more Indian duodenal ulcer patients than controls regarded an insufficient income as one of their chief concerns.

Referring back to Figure 9 (personal income), it is apparent that there was no significant difference in the income levels of the two groups of Black patients. They were well-matched groups with approximately half of the number of both duodenal ulcer and non-ulcer patients earning less than R100 per month. In the majority of cases, both the Black duodenal Ulcer and control patients reported that the household or family income was not markedly different from their own personal income.⁶ It should be taken into account that the majority of the Black duodenal ulcer patients and controls who were married had families of 5 or more members. The patient, as has been shown, was often the main or only wage-earner for the family. A calculation of the per capita income of these families showed that 81 per cent of the Black duodenal ulcer patients compared with 94 per cent of the controls had a per capita income of under R55 per month. Thus a low family income characterised both groups of Black patients and would be expected to create similar pressures on both duodenal ulcer and non-ulcer patients. Responses to items in the Stress Battery relating to cost of living are shown in Table 23.

6. As this study commenced in 1978, statistics were obtained from the Institute of Race Relations Survey of 1977. According to these, 65 per cent of Black households have an income of R99 per month or less. A comparison with the figures from the present study shows a higher percentage of Black patients in the present study are in this low income bracket. (Survey of Race Relations in S.A. 1977, p.237).

TABLE 23. Worry over cost of living - Black patients.

Cost of Living (present and past)	DU	NON
Worried at present	73	56
Not worried at present	27	44
TOTAL	100	100
DU x NON DU	No sig. diff.	
Worried in the past	88	59
Not worried in the past	12	41
TOTAL	100	100
DU x NON DU	Chi-sq. = 6, 0, (df = 1), p < 0, 03)	

Table 23 shows that in the past more Black duodenal ulcer patients than controls had worried about the cost of living. This difference was significant, and indicates that worry over the cost of living could have been one of the stress factors implicated in the development of duodenal ulcer disease in the Black group. Slightly less Black duodenal ulcer patients and controls reported present worry over cost of living.

5.4.3 Monthly expenditure

Expenditure on such items as debts, hire-purchase payments, rent or house loan repayments showed no significant differences between the two groups of Indian and Black patients.⁷

5.5 OCCUPATIONAL PRESTIGE, RESPONSIBILITY AND AUTHORITY

5.5.1 Intergenerational change in occupational prestige

Occupational status is more than a way of differentiating between

7. Table 24 in Appendix.

levels of achievement in work status. It is also an index of social achievement, and although it is only one of the indices of social standing, it has been found to be the single index which carries most weight in modern society (Kahl and Davis, 1955). What is of interest in the study of stress is the intergenerational change in occupational prestige. Upward or downward mobility in the prestige scale may weaken or disrupt social and kinship ties and support systems and create stress because of the need for social adaptation. In order to explore upward mobility and its associated stresses, a comparison was made of patients' prestige scores⁸ and those of their fathers'. A comparison of the educational standard of patients and their fathers was also undertaken.⁹

It was found that a higher percentage of non-ulcer patients both Indian and Black were in higher prestige occupations than their fathers. The reverse was true in respect of education with more duodenal ulcer patients being better-educated than their fathers. Tests of significance, however, revealed no differences of significance in intergenerational levels of duodenal and non-ulcer patients in either Indian or Black groups as regards either occupational prestige or education. A comparison of patients' educational attainment with that of siblings also showed no significant differences by race and diagnosis.¹⁰ This comparison serves to show that there had been no significant change in intergenerational prestige in occupations in either the duodenal ulcer or non ulcer groups, which might have resulted in stress and therefore been associated with duodenal ulcer disease.

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- 8. Table 25 in Appendix.
 - 9. Table 26 in Appendix.
 - 10. Table 27 in Appendix.

5.5.2 Occupational Responsibility, Authority and Stress.

It has been proposed that the levels of responsibility in an occupation are likely to be associated with stresses which, in turn, would relate to duodenal ulcer disease (Moshal et al., 1981). Responsibility is defined as including accountability for performance, output or behaviour of others, accountability for valuable equipment, making important decisions, being an important link in a work flow. The degree of control or authority over others, or lack of control and autonomy in the work situation, can also be associated with relevant stresses. In order to investigate the extent of responsibility and authority accorded in the work situation, respondents were asked for detailed job descriptions, indicating grades of work, and if in a supervisory position, the number of people supervised. This job description was obtained for first, previous and present employment, so that a classification was possible in most cases, even if the person was presently unemployed. Occupations were divided into 5 grades of responsibility, as follows: 1-2 - high responsibility; 3 - medium responsibility and 4 - low responsibility. No patients were found to have high responsibility, and this category was, therefore, omitted in the tables. Authority in the work situation was assessed on a nine-point scale varying in terms of the size or complexity of the group or organisation and the degree to which control was widely or closely delegated (1-5, control over a large organisation, down to 9 - no authority or control over others).

5.5.3 Occupational responsibility

The classification into responsibility in the job situation is shown in Fig. 11.

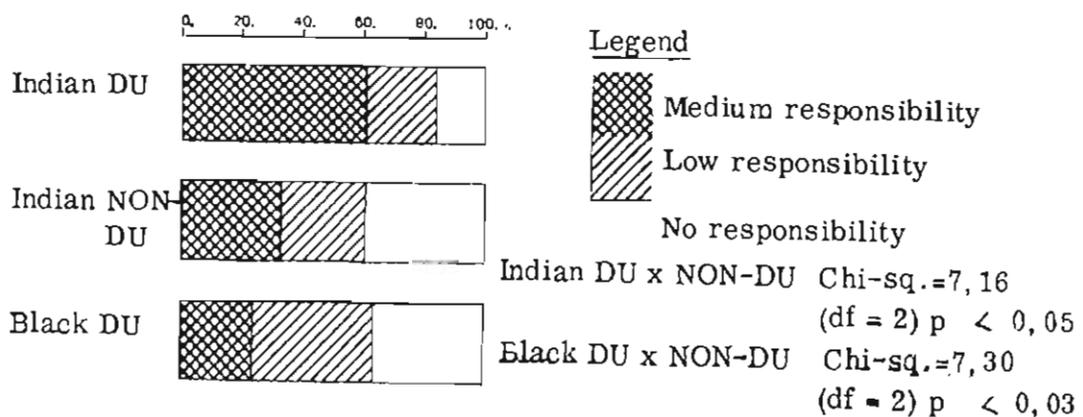


Fig. 17. Responsibility in the Job Situation by Race and Diagnosis

As shown in Figure 11, a significantly higher percentage of Indian and Black duodenal ulcer patients had medium responsibility in their job situation, compared with the controls. In the case of the controls, a higher percentage had no responsibility in the job situation. A greater percentage of Indian duodenal ulcer patients than controls perceived of themselves as stressed by the responsibility which they held in their job situations (52 per cent compared with 26 per cent of the controls), and reported epigastric pain associated with stress at work. The difference between the two groups was highly significant. (Chi-square = 7,23 (df = 1) $p < 0,01$).⁷

The stress caused by responsibility is indicated in the following excerpt from the Focused Social Questionnaire :

Case No. 134 Mr S.G. a 29 year old Indian male with a duodenal ulcer, was employed as an attorney's clerk. He stated, "I have too much of responsibility. I receive money from clients. If the money is missing I would be held responsible. I'm in charge of debtor's files. Although I'm happy with my job I often feel overworked".

This illustrates the feeling of stress associated with a lower white-collar job which carried considerable responsibility.

5.5.4 Authority in the work situation

None of the patients were in positions where they exercised considerable authority in large organisations or in units, section branches or sub-sections of large organisations. Thirty-two per cent of the Indian duodenal ulcer patients, and 25 per cent of the Indian controls had some degree of authority in the work situation. This consisted of a closely delegated authority over a limited number of people. These patients were either teachers

with control over their department or class in schools and colleges; foremen controlling small groups of workers, or proprietors or senior clerks in small businesses. Apart from 8 per cent of the Black duodenal ulcer patients who were either in professional or lower executive-type jobs; 14 per cent who were either foremen or salesmen, agents or clerks; the remaining 78 per cent of the Black duodenal ulcer patients had no authority in the job situation. The Black controls were in a nearly similar position, with 15 per cent being either foremen, artisans or salesmen with closely delegated authority over small numbers. Eighty-five per cent had no authority whatsoever. There was therefore very little difference between the number of Black duodenal ulcer and Black non-ulcer patients with no authority.

5.5.5 Comparison of responsibility and authority

Figure 12 compares the amount of responsibility with the degree of authority in the work situation for Indian and Black patients respectively.

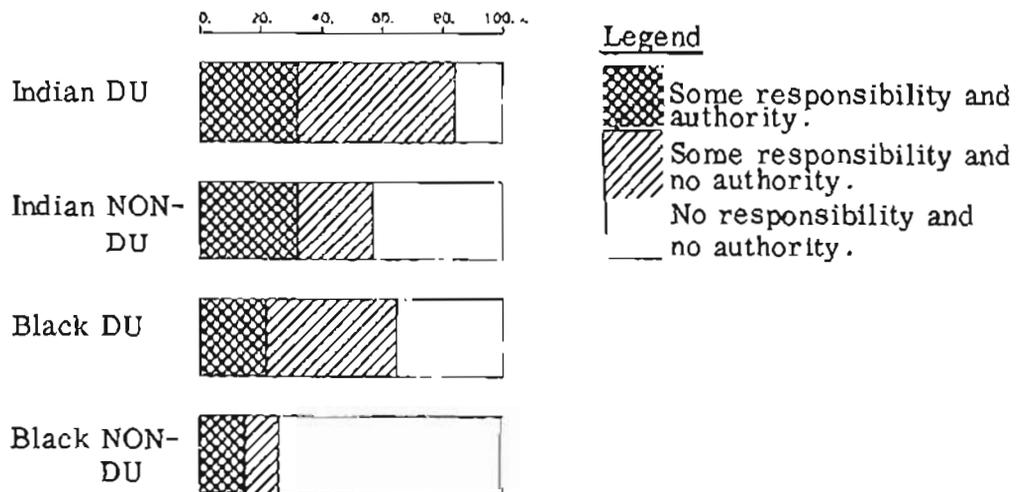


Fig. 12. Comparison of Occupational Responsibility and Authority by Race and Diagnosis (in percentages).

Figure 12 shows that more than double the number of Indian duodenal ulcer patients compared with controls, had some responsibility, but no authority in the work situation. The number was even larger for the Black group, with four times as many Black duodenal ulcer patients having some responsibility, but no authority in the work situation. This shows that powerlessness in the work situation, i.e. lack of authority or control, combined with an expected degree of responsibility, appeared to be more crucial as a stress factor associated with duodenal ulcer disease, than any intergenerational changes in occupational status. Neither were changes over time in the patients' job prestige, responsibility and authority significant factors associated with duodenal ulcer disease.¹¹

5.6. WORKING CONDITIONS

Excessively long working hours, night shift and overtime, long periods and distances spent travelling and inadequate transport facilities, have all been implicated as stress-producing for the working man. In order to explore these stresses, data was obtained about the working life of respondents, in terms of length of working hours, night shift, overtime, time leaving for and returning from work, time spent on travelling, distance travelled and method of transport.

An analysis of this data,¹² showed that more Indian and Black duodenal ulcer patients than controls had a working day of over 9 hours. They left home earlier, but also returned home earlier than controls. More duodenal ulcer patients travelled over 10 km to work, compared with controls. A similar mean time of 1 hour was spent travelling to work for all groups. None of the differences between duodenal ulcer and non-ulcer patients as regards these factors were found to be significant.

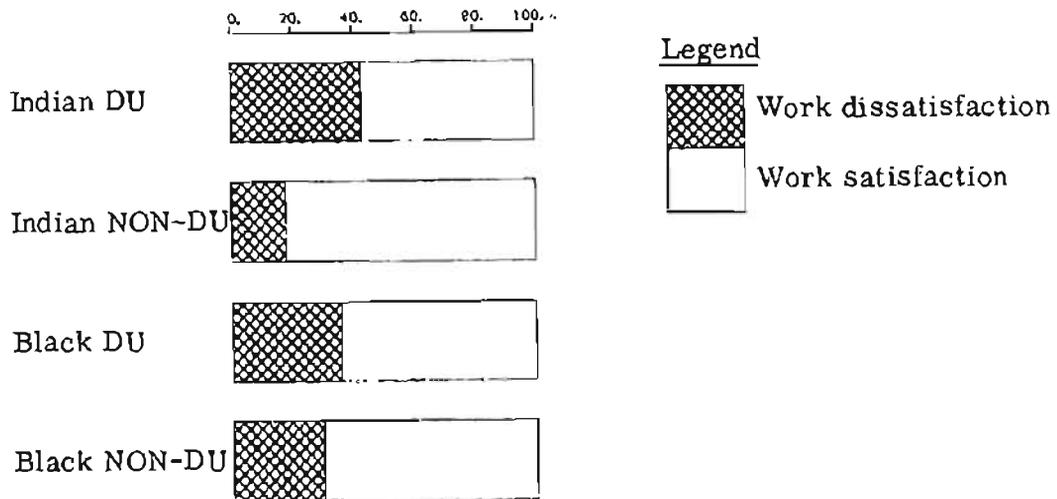
11. Table 28 in Appendix.

12. Table 29 in Appendix.



5.6.1 Work satisfaction/dissatisfaction

As shown in Figure 13, there was a difference in the attitude of patients in the different groups to their satisfaction or dissatisfaction in the work situation.



Indian DU \times NON-DU $\chi^2 = 4,68$ (df = 1) $p < 0,05$

Black DU \times NON-DU No significant difference.

Fig. 13. Work satisfaction/dissatisfaction by Race and Diagnosis (in percentages).

As shown in Figure 13, significantly more Indian duodenal ulcer patients than controls were dissatisfied with their present job situations, although this was not so with the Black group, where a similar number of duodenal ulcer and control patients expressed dissatisfaction.

The reasons for dissatisfaction are shown in Table 30. Some patients gave more than one reason for dissatisfaction.

TABLE 30. Reasons for work dissatisfaction by race and diagnosis (in percentages)

Reasons for Dissatisfaction	Indian		Black	
	DU	NON	DU	NON
Overtime and nightshift	27	14	7	9
Poor interpersonal relationships	24	0	7	4
Bad working conditions	51	7	29	17
(1) Angry with bosses in the past	30	12(1)	30	25
Underpaid at work in the past	44	19	60	69
(2) Underpaid at present	30	12(2)	49	66
% in employment	74	65	84	72

DU x NON-DU

(1) Chi-sq. = 4,84
(df = 1) p < 0,05

(2) Chi-sq. = 4,84
(df = 1) p < 0,05

No signif. diff.

As shown in Table 30, significant differences in reasons for job dissatisfaction reported by Indian duodenal ulcer patients and controls, were, "being angry with bosses at work" in the past, and "feeling underpaid at work at present." There were insufficient numbers reporting poor interpersonal relationships and bad working conditions to test for significant differences. There were apparent differences, however, with more reporting of these factors by Indian duodenal ulcer patients. There was no significant difference in the

reporting of overtime by Indian duodenal and non-ulcer patients.

An excerpt from one of the Focused Social Questionnaires illustrates reasons for job dissatisfaction as follows :

Case No. 156 Mr. P.M., an Indian duodenal ulcer patient aged 46 years, stated : "I'm in charge of an automatic machine, I regard this as a skilled job, but sometimes I have to do a labourer's job, which is frustrating. I have about four different supervisors, each giving me contradictory messages - which leaves me in a state of conflict. People under me are unco-operative and won't listen. I also am paid too little, and I don't like it when I have to do night-shift. These are the reasons for my job dissatisfaction".

In addition to these work-related stresses, Mr. P.M. had financial problems supporting the extended family after his marriage.

As shown in Table 30, a significantly higher number of Indian duodenal ulcer patients compared with controls complained of being underpaid at present. A higher number of Black non-ulcer patients compared with duodenal ulcer patients reported feeling underpaid at work, but the difference between the Black duodenal ulcer and non-ulcer groups was not significant.

Table 31 shows how patients experienced work overload.

TABLE 31. Work Overload - "Too much work to finish on time",
by race and diagnosis (in percentages)

	Indian		Black	
	DU	NON	DU	NON
(1) Too much work to finish on time at present	34	14	32	25
(2) Not enough time to do things in the past	58	37	51	31
(3) Worry about doing well in job in the past	66	47	43	41
(4) Worry about doing well at present	48	26	35	31
% in employment	74	65	84	31

DU x NON-DU

(1) Chi-sq. = 5,25
(df = 1) p < 0,03

No signif. diff.

(2) Chi-sq. = 4,45
(df = 1) p < 0,05

(3) Chi-sq. = 4,12
(df = 1) p < 0,05

(4) Chi-sq. = 5,33
(df = 1) p < 0,03

Table 31 indicates that significantly more Indian duodenal ulcer patients than controls reported too much work to finish on time and worry about doing well in their jobs. There was no significant difference, however, in the reporting of work overload by the two groups of Black patients.

Case No. 171, Mr. V.G. a young duodenal ulcer patient of 22 years, was a compactor-driver in the cleaning department of the local authority, removing household refuse. He described his job as follows : "My job is strenuous and demanding, I'm always fighting against time - I dislike my job very much, and get stomach pains on the job".

Mr. V.G. said he would like a better job, but he could not afford to give up the present job until he secured another, because he supported the extended family, which included his ailing parents.

Another aspect of working conditions which was explored with patients, was their feelings of security and insecurity in the job situation. Here there was a reporting by approximately half of the Indian and Black patients, both duodenal ulcer and control patients, of feeling very secure in the work situation,¹³ which indicated no particular association of job insecurity with duodenal ulcer disease.

These factors of working conditions, adequate pay, interpersonal relations and security are described as hygiene factors in Herzberg's "two factor" or "motivation-hygiene" theory of job satisfaction. (quoted by Cox, 1978, pp.151-152). Herzberg argues that dissatisfaction relates to hygiene factors in that good hygiene factors prevent dissatisfaction, but do not promote positive satisfaction. "Motivation factors" are those relating to the job itself, such as achievement, recognition, responsibility and advancement. It would seem that the patients in this study, and particularly the Indian duodenal ulcer patients (in terms of feeling angry at bosses and being underpaid) are low in hygiene factors as discussed by Herzberg. Motivation factors are, for the most part,

13. Table 32 in Appendix.

non-existent, apart from responsibility which is perceived by the workers as excessive in relation to recognition and advancement. The hygiene factors in Herzberg's theory are similar to the basic needs postulated by Maslow (1954) in his theory of a hierarchy of five classes of needs. Maslow proposed that physiological and safety needs were primary and must be fulfilled before the less potent needs of belonging, having self-esteem in terms of achievement and recognition and self-actualisation could affect behaviour. Cox (1978, p.150) questions this hierarchical placing of needs, and gives the example of a man finding his work so rewarding in terms of gaining self-respect, achievement and self-actualisation that he ignores a proper diet, risks his safety and loses his friends. In the occupations with low prestige, such as are characteristic of most of the workers in the present study, it is their basic needs or hygiene factors which most workers consider, when describing dissatisfaction or stress arising from the work situation. Cox quotes Locke (1976) as attempting to reconcile the salient aspects of Maslow's, Herzberg's and other theories. He suggests that job satisfaction results from an appraisal of one's job in terms of one's needs and values. The following factors should be provided for, according to Locke :

1. mentally challenging work, which the individual can cope with successfully
2. personal interest in the work itself
3. rewards for performance which are consistent with the individual's aspirations
4. working conditions which allow the job to be completed satisfactorily, and which are not physically demanding
5. high self-esteem on the part of the individual; and
6. basic values which are not violated by the above. (quoted by Cox 1978, p.52). This list allows for evaluating satisfaction in a wide range of job situations.

These criteria will be applied to a typical case to illustrate job satisfaction/dissatisfaction, as follows :

Case No. 151, Mr. M.N. age 30 years, an Indian duodenal ulcer patient, worked as an unqualified motor mechanic in a business owned by his father-in-law. He was involved in bus repair work, and often worked long hours of overtime in order to get a faulty bus back on the road. This urgency to complete work caused the patient much stress. Working conditions were poor with inadequate protection from the elements. In spite of these dissatisfactions and pressures, Mr. M.N. remained in the job because his wife felt that by leaving the job he would antagonise his boss, who was her father. He also had little hope of improving his job situation, because of lack of qualifications. The job provided for the basic physical needs of the patient and his family, who were provided with housing on the job site. The patient's mother was also provided with accommodation.

Mr. M.N. as already described, found his work challenging (c.f. with Lock's factor 1), but difficult to cope with when under pressure. He had personal interest in his work (factor 2), and the rewards for his work (factor 3) were in the approval of his family and his ability to provide for the physical needs of his wife, children and his mother. Thus, the basic value system of the Indian male, with its high priority on pleasing wife and mother and maintaining his family were met in the job situation. These positive factors were probably outweighed, however, by some poor "hygiene factors" : unpleasant work conditions, resentment and anger at his boss (father-in-law) and by feelings of time-urgency to get vehicles back on the road. In Mr. M.N's case, the responsibility in the work situation was not complemented by

authority. This led to feelings of stress. He might also be described as experiencing an avoidance-avoidance conflict,¹⁴ where he had no alternative but to remain in the present situation. These family and work factors interacting with one another produced stress for the patient, in spite of other factors providing for job satisfaction, and appeared associated with his duodenal ulcer disease.

There were many situations where Indian duodenal ulcer patients, in particular, felt stressed by an inability to obtain promotion or better work because of their lack of adequate education. Indian duodenal ulcer patients differed significantly from the controls, in their desire to improve their educational qualifications and to ensure that their children were adequately educated.

It is interesting that none of the patients commented on work monotony in spite of their repetitive jobs. Cox (1978, p.160) describes "turning off one's intellectual processes as a common strategy used by persons in repetitive production-line work." After only a short exposure to repetitive work, people find it difficult to introspect and report their feelings. He quotes a study by Johansson (1975) of saw-mill workers, which indicated that people doing very repetitive work compared to other workers, suffer more from mental or gastrointestinal disorders. It would seem that many of the patients in this study who were engaged in routine manual work may have failed to report their feelings about their work situation because of this "turning-off" of their cognitive processes.

14. Avoidance-avoidance conflict involves two negative goals causing vacillation and unsuccessful attempts to escape. Levin et al.,(1981) postulated that this type of conflict is present in situations of duodenal ulcer disease patients, but this hypothesis has not been tested.

5.7

WORK HISTORY

Most of the patients in the study had had a stable work history.¹¹ This would account for their reporting that they felt secure in their jobs.¹²

In spite of this, only a small percentage of patients described their present position as being a "good job". The majority of both Indian and Black duodenal ulcer and non-ulcer patients said that they had never been in a "good job". A high percentage of Black patients, but less Indian patients, did not expect to be promoted at any stage in their present job. The differences between duodenal ulcer and non-ulcer patients as regards viewing their job as "a good one" and expecting promotion, were non-significant.

Indian duodenal ulcer patients and controls had been longer in their present job situations than previous job situations.

In the case of Black patients, duodenal ulcer patients had been in the first job for longer than controls, but there was no difference as far as previous and present jobs were concerned.¹⁴

It is commonplace to link changes in job situations to periods of stress. In this study, however, both duodenal ulcer patients and controls were found to have made very few job changes in their working lives. More Indian duodenal ulcer patients compared with controls had changed jobs because of dismissal. Indian control patients had more often resigned from the job than had been dismissed.

Reasons for dismissal included staff reduction; the firm closing down; an employer moving; serving a gaol sentence and friction with supervisors.

11. Table 27a and 27b in Appendix.

12. Table 26 in Appendix.

13. Table 27a in Appendix.

14. Table 27b in Appendix.

Reasons for resignation were in order to move to better prospects or more interesting work; because the work was too heavy, or tiring; pay was too low, or the subject wanted another type of work. The reasons indicated that even those resigning from jobs may have experienced as much stress as those who were dismissed.

Black non-ulcer patients had resigned from their previous employment more frequently than the duodenal ulcer patients. The reason for resignation in the case of the Black control patients was often because of a period of prolonged hospitalisation, or the physical disability which prevented them from resuming their previous employment.

Since reaching adulthood, over one-third of the Indian duodenal ulcer patients and slightly less than half of the Indian controls, compared with a much smaller number of Black duodenal ulcer patients and controls (11 percent and 16 per cent respectively) had not worked for periods of between 2-6 years. These periods of unemployment occurred in many cases because of illness or physical handicap. Loss of productivity and income resulted in considerable stress for patients and their families, both for duodenal ulcer patients and controls. Some duodenal ulcer patients linked bouts of epigastric pain with periods of unemployment.¹⁵

5.8 SUMMARY

The discussion, in terms of the patient's work system, has included variables which have been shown to be significantly associated with duodenal ulcer disease, as well as those variables which have failed to differentiate between duodenal ulcer or control patients. There was no significant difference between the Indian duodenal ulcer patients and the controls

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15. In the case of the Black patients, the effect of influx labour control is to permit migrant workers to remain in the urban area only as long as they are employed. Unemployment means returning to the rural area.

in terms of occupational groups, nor between the Black duodenal ulcer patients and controls. Indian patients predominated in the routine non-manual occupations, while Black patients predominated in semi-skilled and unskilled manual occupations. Most patients tended to be better educated than their fathers and to have jobs with higher prestige scores than their fathers. The majority of patients had stable work histories and they did not describe their physical working conditions as particularly rigorous, nor did they complain of long work hours or overtime to any significant extent. There were no differences of significance between duodenal ulcer and control patients over any of these variables.

In spite of the degree of similarity between duodenal ulcer and control groups, there were some significant differences in the attitude of the two patient groups to their work situations. Indian duodenal ulcer patients were more likely to express dissatisfaction with their work situations than the Indian non-ulcer patients. They expressed feelings of anger against bosses at work, perceived themselves as having too much responsibility in the work situation, which was not backed up by concomitant levels of authority, and considered themselves underpaid in terms of the job requirements. Personal incomes of Indian duodenal ulcer patients were significantly lower than those of non-ulcer patients. Feelings of dissatisfaction were juxtaposed with a desire to perform well in the job situation and to get the job done, in spite of too much work to finish in a limited time. While feeling that they were not adequately appreciated by their employers, Indian duodenal ulcer patients tended to strive to give satisfaction and to be adequate. They often felt caught up in a job situation which they could not improve because of limited educational qualifications which prevented job advancement. This attitude to the work situation may be common to many middle/low-paid employees, but in this present study, it was the Indian duodenal ulcer patients compared with the non-ulcer patients who evinced these feelings and characteristics to a significant degree. This was true of the Indian patients, but was not so markedly significant in the Black group.

Similarly to the Indian duodenal ulcer patients, Black duodenal ulcer patients, in comparison to the controls, felt stressed by too much responsibility at work with no concomitant authority, to a significantly greater extent. They expressed concern about the cost of living to a significantly higher degree, than the controls. An unexpected finding which is difficult to explain was that significantly more Black duodenal ulcer patients than controls felt bored at home all day. This was a surprising finding because more controls than duodenal ulcer patients were unemployed and thus more likely to be at home all day. It is possible that this is an indication of the importance of work in the lives of the duodenal ulcer patients, who may feel most adequate when they are in employment, even if the employment does not satisfy all their needs, even basic financial needs. The finding, on the other hand, may be due to some artefact of the study, rather than an actual significant finding.

The disease or disablement with the assuming of a patient role, resulted in the worker entering the medical system. This had different implications for duodenal ulcer and non-ulcer patients, which are discussed in the following chapter.

CHAPTER 6

THE MEDICAL OR ILLNESS SYSTEM AND A SYSTEMS OVERVIEW

6.1 DIFFERENCES IN THE HOSPITAL ENVIRONMENT FOR EXPERIMENTAL AND CONTROL GROUPS

In considering the medical system impinging on the persons in this study, it was apparent that although patients were all part of the hospital system at King Edward VIII Hospital, their medical diagnosis determined their participation in the system, in terms of where, how and when. As the research study progressed, it became apparent that the duodenal ulcer patients were affected in different ways to the non-ulcer patients, by the medical system.

Treatment of the duodenal ulcer patient in the past (Jones, 1957), and even as recently as 1977, when the social work programme was first introduced at the Gastro-Intestinal Unit, has followed a recommended procedure of bed-rest, dietary regulations and medication. During recent years, however, the patient has been treated with medication, primarily as an out-patient, with the exception of cases of acute pain, perforations or complications. Patients in the present study were mostly warded for two days and then treated on an out-patient basis. They resumed their working lives broken only by their attendance at the G.I. Unit. The control patients, on the other hand, were warded for varying periods from two days to three months.

Therefore, the "where" - the type of hospital environment was different for the two groups of patients, as was the length of treatment and "when" it occurred.

There were similarities in "how" the hospital environment affected both groups. Croog and ver Steeg (1972, p. 300) point out that the patient role requires changed behaviour in terms of adopting dependent, infantilized behaviour patterns. In the present study patients were affected to a greater or lesser extent by the alien atmosphere of the hospital and the changed

behaviour required from persons in the patient role. For the duodenal ulcer patient, however, the G.I. Unit probably provided a more benign and caring environment, than was experienced by the control patients in the overcrowded and busy wards.

6.2 THE SIGNIFICANT DIFFERENCES IN THE ILLNESS SYSTEM BETWEEN DUODENAL ULCER AND NON-ULCER PATIENTS

Table 35 summarises the significant differences between the duodenal ulcer and non-ulcer patients in terms of their response to their illness.

TABLE 35. Chi-square scores indicating the statistically significant differences in the illness system of duodenal ulcer and non-ulcer patients

df	Illness system DU x Non-DU	Indian		Black	
		Chi.sq.	p	Chi.sq.	p
1	Feeling sick and weak in past	11, 12	<0, 01		
1	Feeling sick and weak at present	5, 46	<0, 03		
1	Feeling tired in past	8, 33	<0, 01		
1	Feeling tired at present	6, 18	<0, 03		
1	Stressed by illness	6, 09	<0, 03	12, 48	< 0, 01
1	Worried about being bewitched in past	4, 39	<0, 05		
1	Worried about people harming you in past	4, 39	<0, 05		
1	Consulted a priest about illness	8, 84	<0, 01		
2	Reduced use of alcohol			7, 78	< 0, 03
1	Stressed by physical handicap	Obvious difference between DU and Non-DU			

The significant differences, as shown in Table 35, are incorporated into the discussion of the illness system that follows.

6.3 DUODENAL ULCER DISEASE

Duodenal ulcer disease is characterised by chronicity and periodicity. Both specific pain (in the upper abdomen) and general discomfort is often experienced for lengthy periods before medical treatment is sought (Bardhan, 1977). Also, because of the recurrent nature of the disease, a patient may seek treatment at a hospital after several years of experiencing symptoms.

The Gastro-Intestinal Unit of King Edward VIII Hospital keeps files for patients dating back at least five years, which facilitated the gathering of information about the medical records of these patients. Nevertheless the history was still inadequate and the recording of detailed information varied according to the interest of the medical staff, some of whom were only in the Unit for a brief specialist training period.

There were no records of medical history prior to the first diagnosis by endoscopy¹ for 29 per cent of the Indian patients, and 46 per cent of the Black duodenal ulcer patients. The medical records indicated, however, that some patients had had an obvious history of duodenal ulcers prior to their first endoscopy because of the presence of old scars. Thirty-four per cent of the Indian patients had come to the G.I. Unit after a long history of duodenal ulcer symptoms and treatment by other medical practitioners or hospitals. Only one Black patient had a record stretching back for over six years. Most Black patients had come to the G.I. Unit within the first three years of experiencing symptoms.

The purpose of obtaining the medical history was in order to link the periods of stress in life situations, as reported by patients, to the onset of ulcer disease as reported in medical files. It was found, however, that because of the inadequacy of medical records, it was usually not possible to make this link, without resorting to the patient's own reporting of his medical history.

1. Examination by endoscopy is used in preference to other forms of examination e.g. X-ray after a barium meal.

6.3.1 Clinic attendance for endoscopy

After the initial diagnosis had been confirmed by endoscopy, patients in this study were requested to return for regular two-monthly endoscopies, which would establish whether the ulcer had healed. Regular attendance at the Gastro-Intestinal Unit was kept up for a period of approximately eight months for both Indian and Black patients, but fell away sharply thereafter for Black patients.

The relapse rates of duodenal ulcer patients are shown in Table 36.

TABLE 36. Relapse rates of Indian and Black patients
(in percentages)

Relapse Rate	Indian	Black
Easy healing and no relapse within 6 months	30	49
One relapse	34.....	16.....
Two relapses	2670	13.....51
More than two relapses	10.....	22.....
TOTAL	100	100

As shown in Table 36, the relapse rate for duodenal ulcer patients was higher than the rate of healing in nearly three-quarters of Indian patients and one-half of the Black patients. This may not have reflected a better healing rate in Black patients, as much as indicating the more frequent attendance of Indian patients with return of symptom to the G.I. Unit. As seen in the following chapter, the follow-up study of Black patients had to be discontinued because of the impossibility of contacting these patients after a two or three year period. This was in distinct contrast to the Indian patients, who were predominantly located at the same address after the 2-3 year period.

6.4 THE CONTROL PATIENTS

The control group was made up of mainly orthopaedic patients, but also consisted of patients with other medical complaints who were in the orthopaedic wards. Even greater difficulty was experienced in trying to

obtain detailed information about the control patients. In spite of many hours spent trying to trace the medical records of the patients through the central filing system at the Hospital, only the main diagnosis was obtained in each case from these records. A summary of the individual diagnoses is set out in Table 37.

TABLE 37. Medical diagnosis of Indian and Black Control Patients (in percentages)

Diagnosis	Indian	Black
Orthopaedic - fractures, dislocations, amputations	79	81
Other medical - abscesses, pain, paralysis	21	19
TOTAL	100	100

As indicated in Table 37, over three-quarters of Indian and Black control patients were orthopaedic, with leg, arm or multiple fractures. Some of these patients reported that they had been in stressful situations prior to their injuries, which were predominantly received as a result of a road-accident or an injury at work. Because of the failure to obtain adequate information from medical records, the patients were asked for information about their illness histories. This revealed that the control groups had experienced a variety of other medical disorders, in addition to those for which they had been awarded, e.g. epilepsy, diabetes, heart problems, asthma, pancreatitis and "ulcers", but this latter diagnosis was unconfirmed. Some Black control patients reported excessive use of alcohol and dagga prior to hospitalisation. One Black patient had served a gaol sentence prior to being involved in an accident and subsequently being hospitalised. The following case typifies the stress experienced by Black control patients:

Case No.245, Mr. J.D. was a foreman who was hospitalised with a broken leg. He had been in traction in the ward for 3 months



His previous history included a gaol sentence as a result of killing a man in a fight. His current concern about possibly finding himself replaced at work was increased because of his previous difficult experiences of trying to get work after discharge from prison. His family were in dire straits. The fact that he was helpless to assist them created high anxiety levels.

This typical case shows how the physical injury created stress because of its affect on the patient's employability in the future. The problem of future employment did not affect the duodenal ulcer patients to the same extent. Although the control group was selected because of the presumed absence of psychosomatic illness related to anxiety, this was not necessarily the case. The control group was heterogeneous, and some patients were in an extremely stressed situation prior to the trauma of their injury. This stress was exacerbated by the current hospitalisation. Past stressful life experiences, for example, those related to employability, affected the patient's perception of the present situation and increased their present feelings of stress.

6.5 NON-MEDICAL VIEW OF ILLNESS

In Indian and Black cultures, the approach to health and illness is strongly influenced by tradition and religion. The Hindu believes in his Karma, God's will and punishment for any sins committed in this or a previous life. Illness is part of a person's Karma, and may result from disturbances of harmony in everyday life. It is therefore necessary to expiate guilt by vows and propitiation ceremonies directed by priests or traditional healers. Hindus and Muslims will traditionally consult a priest before seeing a conventional doctor (Jithoo and Landua, 1983). Some illnesses, for example, stomach complaints, are thought to result from "the evil eye" or black magic (Kuper, 1960). The symptoms of duodenal ulcer disease may, therefore, be interpreted in this light. According to Jithoo and Landau (1983) physical illness is more acceptable than emotional illness, and there is a tendency to deny the emotional basis

of psychosomatic illness. The tendency to use denial rather than expressing anxiety, which was found in some Indian patients (Chapter 6, 8.4) may have its roots in the preferred view of an illness such as duodenal ulcer disease being regarded as purely physical.

In Zulu the word isifo applies to disease manifested by somatic symptoms; to various forms of misfortune and a state of vulnerability to misfortune and illness (Ngubane, 1977). This serves to emphasise the ecological view of illness in the Zulu tradition. Natural forces are believed to operate at two levels in the causation of illness. At the first level illness is a biological factor - everything that is alive has the quality of breaking down - ageing and dying. Ulcers fall into this category. Ngubane (1977, p.23) describes the diseases which are part of the natural process of life as not resulting from "any personal malice or fault of the patient; they just happen". It would seem that duodenal ulcer disease would be usually regarded in this way. There is a readiness to accept medication for these natural illnesses, and to use curing techniques of both Western and African medicine.

The second level of illness is described by Ngubane as based on Zulu cosmology. Zulus believe in a special relationship between a person and his environment. Illness affecting a person who has moved to a completely different region may be regarded as being caused by ecological dangers. It is therefore essential to identify the cause of illness and to correct this. The type of treatment will obviously depend on the cause of the illness, from the Zulu viewpoint. In terms of these theories of causation, duodenal ulcer disease may be a natural disease for some, but could be seen as the result of environmental changes in the case of a recently relocated migrant worker. There is insufficient attention given to these traditional views of illness in conventional medical treatment.

Some exploration was undertaken in both the Focused Social Questionnaire and the Stress Battery of non-medical beliefs and attitudes to illness.

As shown in response to questions in the Stress Battery, 32 per cent of the Indian duodenal ulcer patients compared to 12 per cent of the controls believed they had been bewitched or that black magic had been practised on them. This was a significant difference between the two groups. More Indian duodenal ulcer patients than Indian controls had worried in the past that someone was trying to harm them (33 per cent compared with 14 per cent controls). Forty-eight per cent of the Indian duodenal ulcer patients compared with 19 per cent of the controls had visited the temple or consulted a priest about their illness. These were all significant differences, as shown in Table 35.

A greater number of Black patients than Indian patients reported feeling bewitched (35 per cent of Black duodenal ulcer patients and 44 per cent control patients). The difference, however, between the duodenal ulcer and control groups was not significant. Forty-three per cent of Black duodenal ulcer patients and 34 per cent of the controls had consulted an *insangoma* or *inyanga*² about their illness, while 14 per cent Black duodenal ulcer patients and 25 per cent controls reported consulting a priest. Nineteen per cent of the Black duodenal ulcer patients and 25 per cent of the controls considered they had been helped by consulting with the traditional healer or priest.

These responses indicated that in spite of their treatment at the hospital or clinic, religious and traditional belief systems were invoked to provide a reason for the aetiology of the illness or disability. Help was also sought first or concurrently from traditional and religious healers, while utilising Western medicine. This concurs with the results of a study by

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2. "Insangoma is an African diviner, who divines the causes of illness or misfortune and recommends appropriate steps to take (often involving re-establishing good relations with one's ancestors). She is always female and primarily a diagnostician, although she may use medicines she has made" (Ngubane, 1977, pp.102-104).
 "Inyanga is a traditional African "medicine man" who prescribes medicines, mainly herbal, but sometimes using animal ingredients. He is always male" (Ngubane, 1977, pp.101-102).

Watts (1972, p.8) on attitudes to illness, in which he found that "religious and traditional belief system form an important part of the behaviour of both African and Indian households in Durban".

6.6. EFFECT OF ILLNESS OR DISABILITY ON PATIENTS' LIFE-STYLE

As has been shown in the check-list of stress in the lives of the duodenal ulcer patients, their illness was described by the respondents as one of the chief stressors in their lives (Chapter 5.3.9). It has been hypothesised that stress is the precipitator of a duodenal ulcer attack (Davies and Wilson, 1937) and that multi-stress or a life-time of stress both precipitates and exacerbates ulcer disease. The present research showed that the duodenal ulcer patients perceived their illness as stressful in half of the Indian and nearly all of the Black cases (Chapter 5.3.9). The stress caused by their illness, through a process of systemic or transactional feed-back, in turn became a further source of stress (Cox, 1978, p.20). This resulted in the patient role being reinforced for some patients and was clearly evident in the case of certain patients who underwent a vagotomy, the surgical procedure aimed at reducing high levels of acid secretion (which causes the development of duodenal ulcers), by severance of the vagus nerve. Although surgery was aimed at restoring the patient to a normal working life, instead of resuming a normal life, some patients saw the surgery as a confirmation of the severity of their condition and considered themselves permanently disabled as a result. This attitude often persisted in spite of reassurance from medical staff that this was not the case. It was probably one of the most frequent reasons for referral of the patient to the social workers.

6.6.1 The stress of illness

The analysis of clinic attendances, relapse rates and medical history of patients has shown that for the duodenal ulcer patients in this study, attendance at the G.I. Unit had become a fairly regular part of their lives, especially in the case of Indian patients. What emerged from the analysis and the subsequent follow-up reported in Chapter 9 was that many patients maintained their sick role over an extended period. During this time some patients formed strong personal relationships

with staff-members, who became part, not only of a medical support system, but also formed an unofficial social support system for the person attending the G.I. Unit. For other patients, attendances at the G.I. Unit involved loss of working hours and wages. Instead of maintaining contact they looked for medical attention closer at hand during off-duty hours.

As far as the control patients were concerned, one-quarter of the Indian and more than half of the Black controls felt stressed by illness and approximately one-third of the Indian and Black controls perceived their physical disability as stressful.

As already discussed, many of the orthopaedic patients felt stressed by prolonged hospitalisation. They experienced the enforced inactivity as stressful, and the hospital facilities did not extend to occupational therapy for most of these patients, although physiotherapy was given as part of the physical treatment. There was no social worker attached to the ward, so that these patients did not regularly have the services of the social worker as was the case with the duodenal ulcer patients. As a result of the research, some of the orthopaedic patients requested social work services. During the social worker's contact with the patients, the stressful nature of the life situations of some of the control patients became even more apparent.

A comparison of the numbers of patients who considered that they were unable to work again as a result of their illness or disability, showed that less than one-quarter of Indian duodenal ulcer and control patients, but more Black controls (50 per cent) than Black duodenal ulcer patients (27 per cent) considered themselves as unable to work in the future.

Figure 14a indicates the patients' reaction to their illness or disability in the past, and Figure 14b the present reaction to their illness.

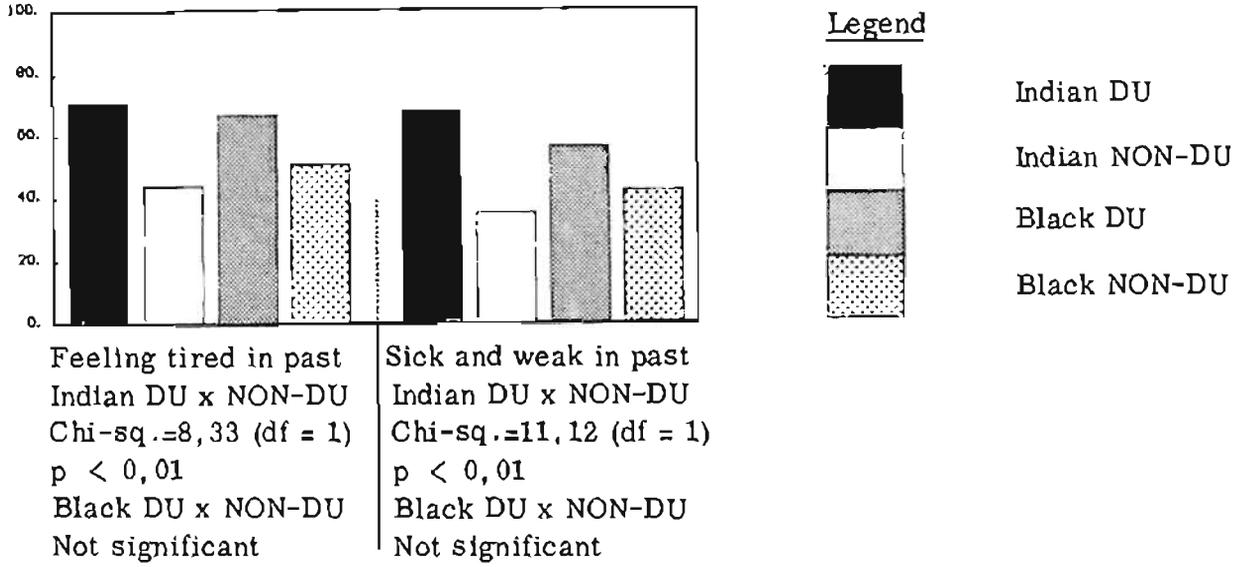


Fig. 14a. Reaction to illness in the past by Race and Diagnosis (in percentages).

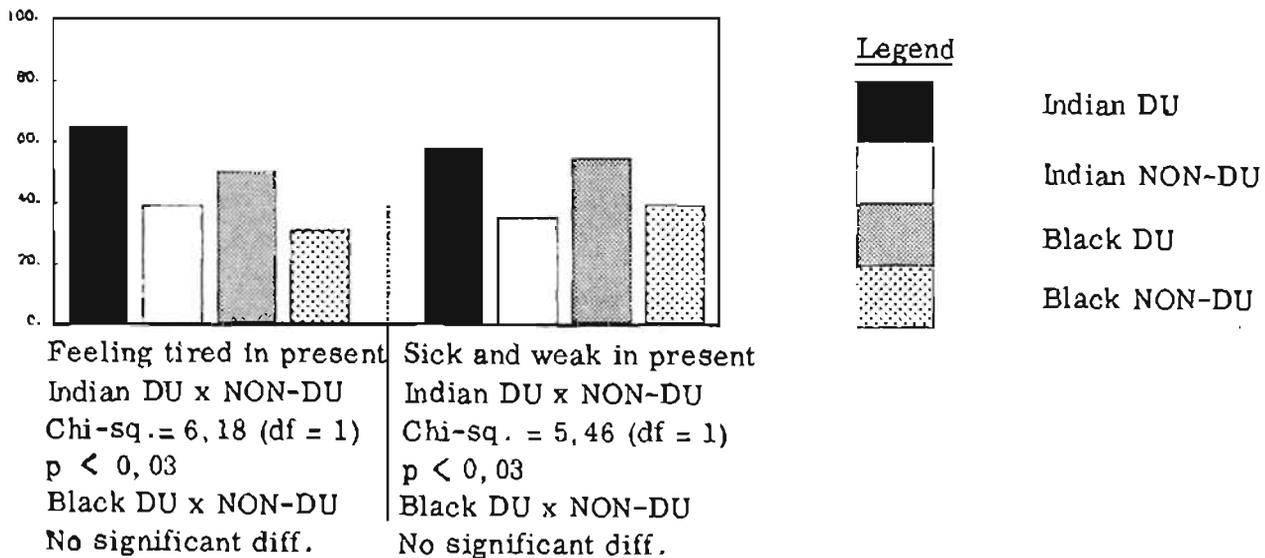


Fig. 14b. Reaction to illness at present by Race and Diagnosis (in percentages).

Both Figures 14a and 14b indicate a significant difference between the Indian duodenal ulcer and non-ulcer groups, but no similar significant difference between Black duodenal ulcer and non-ulcer groups. Although there was no significant difference between the two Black groups, "feeling sick and weak in the past" was the second most frequently reported stress factor in the Stress Battery for Black duodenal ulcer patients and the third most frequent in the non-ulcer group. "Feelings of tiredness" were the fourth most frequently reported by duodenal ulcer patients, and the sixth by non-duodenal ulcer patients.³

There was a similar pattern of reporting by Black patients that they were "feeling sick and weak" at present. This was the second most frequently reported factor in duodenal ulcer patients, and the fourth in the control group. "Feelings of tiredness" was the fourth most frequently reported stress for duodenal ulcer patients, and the fifth for non-ulcer patients.⁴

The perception by Black control patients of their disability causing feelings of tiredness, sickness and weakness, is borne out in the individual descriptions of stressful life situations as already discussed.

The findings from the Stress Battery confirm the responses in the Focused Social Questionnaire about the stress of duodenal ulcer disease and orthopaedic injury or pain, both in the past and at the time of the research interviews. This stress was in particular and most significantly perceived by Indian duodenal ulcer patients.

In addition to the illness or disability affecting the lives of patients in terms of loss of work - productivity and general debility, a change in life style often resulted from their illness so far as drinking, smoking and dietary habits were concerned, as was shown by responses to the FSQ.

3. Table 47a in Appendix

4. Table 47b in Appendix

6.6.2 Alcohol usage

The research into the association of duodenal ulcer disease with alcohol abuse has indicated that abuse of alcohol may precede ulceration and may also exacerbate the illness (Hagnell and Wretmark, 1957) or may be associated with difficult healing of ulcers (Mason et al., 1981).

In this present survey details were obtained from duodenal ulcer patients about alcohol usage and a comparison made with the control group.⁵

There were no significant differences in use of alcohol by either Indian or Black duodenal ulcer and non-ulcer patients. Slightly over half of the Indian and less than half of the Black duodenal ulcer and non-ulcer patients reported non-use of alcohol. More duodenal ulcer patients than control patients reported using alcohol in the past. Thirty per cent of the Indian duodenal ulcer patients compared with 2 per cent of the control group reported that they had given up drinking because of their illness. All the Black duodenal ulcer patients and 13 per cent of the Black controls who reported that they were not drinking at present, had given it up because of their illness. Duodenal ulcer patients gave the following reasons for giving up drinking:

- they felt ill as a result of drinking;
- because they were advised to give up drinking by their doctors; and
- because they no longer enjoyed drinking.

A smaller number of patients who reported past drinking also reported that their heavy drinking had caused problems at home and sometimes at work.

The type and amount of alcohol consumed is shown in Table 39.

5. Table 38 in Appendix.

TABLE 39. Type and amount of alcohol consumed by race and diagnosis (in percentages)

Type of Alcohol	Indian		Black	
	DU	NON	DU	NON
Spirits	16	19	14	9
Beer	14	7	35	28
Spirits and Beer	22	19	16	23
Nil	48	55	35	40
Total	100	100	100	100
DU x NON DU	No signif.diff.		No signif.diff.	
<u>Amount per week</u> (in grams)				
Less than 200g	28	14	46	19
200 - 400g	10	12	14	37
Over 400g	14	19	0	0
Nil	48	55	40	44
Total	100	100	100	100
DU x NON DU	No signif.diff.		Chi-sq. = 7,78 (df = 2) p < 0,01	

As shown in Table 39 the drinking pattern of the two groups of Indian patients did not differ significantly. There was a significant difference, however, in the amount of alcohol consumed per week by the two Black groups. Black duodenal ulcer patients drank smaller amounts of alcohol per week than the controls because of the reasons given, i.e. "felt ill", "doctor advised me".

The results of this investigation do not provide evidence to show that moderate alcohol consumption increases liability to duodenal ulceration, although it does show a decrease in the number of duodenal ulcer patients who drink at present because of their illness. In the listing of personal and family stress areas, no Indian duodenal ulcer patients described

themselves as having a drinking problem (Chapter 5, Family Problems, 5.3.9) compared with 6 Indian controls, whereas 4 in each group of Black patients reported alcohol abuse. During the administration of the questionnaire (FSQ), and follow-up social work interviews, and during psychiatric interviews conducted with a sample of patients, it appeared that some Indian duodenal ulcer patients had been drinking heavily prior to their illness, although not reported in the problem checklist (Chapter 5.3.9). It is possible that these patients would re-establish this heavy drinking pattern once their health improved.

The only other substance abuse reported by patients was the use of dagga. Two patients in each group of Indian patients reported daily use of dagga and one Black non-ulcer patient reported use of dagga. This was also reported under Family Problems (Chapter 5.3.9). As there was so little reporting by either duodenal ulcer patients or controls, of substance abuse, and similar reporting by duodenal ulcer patients and controls, it is obvious that this is not a factor particularly associated with duodenal ulcer disease in this present study.

6.6.3. Smoking

Several studies have established a moderate degree of association of duodenal ulcer or peptic ulcer⁶ with smoking and have shown that smoking delays healing and maintains chronicity of ulcer disease (Doll et al., 1958; Gillies and Skyring, 1968 and 1969; Monson, 1970; Dutta and Dutta, 1972).

The present study found no significant difference in the use of cigarettes by Indian duodenal ulcer and control patients, or by Black duodenal ulcer

6. Doll's study found a higher proportion of smokers in male duodenal ulcer patients than controls; Gillies and Skyring's two studies found a significant association between smoking and gastric ulcer, but not duodenal ulcer; Monson and Dutta and Dutta's studies did not differentiate between duodenal and gastric ulcers and cannot, therefore, be compared with the present study.

patients and the Black controls.⁷ There was no reporting of pipe smoking by these patients. One quarter of the Indian and approximately one third of the Black duodenal ulcer patients and one quarter Indian and half of the Black controls were non-smokers. More duodenal ulcer patients, both Indian and Black, reported smoking under 10 cigarettes per day as a result of instructions by the medical staff to reduce their smoking because of its deleterious effect on the healing of ulcer disease. This indicated that the presence of duodenal ulcers and the warnings of doctors had brought about a reported change in the smoking habits of some duodenal ulcer patients.

6.7 DIET AND BEVERAGES

Food and beverages which act directly on the gut are naturally suspect in duodenal ulceration. As discussed in Chapter 2, several authorities have tentatively advanced a dietary hypothesis for the aetiology of duodenal ulcer disease (Susser, 1961; Jones, 1953). The research has produced little evidence to incriminate either particular diets or particular elements of diet, such as processed foods, caffeine as in coffee and cola drinks or hot spices, according to Tovey and Tunstall (1975).

The results of the present study relating to consumption of beverages and spiced food are shown in Table 41.

7. Table 40 in Appendix

TABLE 41. Consumption of beverages and spiced food by race
and diagnosis (in percentages)

Beverages and Spiced Food		Indian		Black	
		DU	NON	DU	NON
Coffee	Yes	10	23	46	50
	No	90	77	54	50
TOTAL		100	100	100	100
DU x NON-DU		No signif. diff.		No signif. diff.	
Coca-cola	Yes	38	81	76	84
	No	62	19	24	16
TOTAL		100	100	100	100
DU x NON-DU		Chi-sq. = 17,9 (df = 1) p <0,01		No signif. diff.	
Spiced Foods	Yes	96	98	81	75
	No	4	2	19	25
TOTAL		100	100	100	100
DU x NON-DU		No signif. diff.		No signif. diff.	

As shown in Table 41, the Indian duodenal ulcer and non-ulcer patients and the Black duodenal ulcer and non-ulcer patients did not differ significantly as regards the use of coffee and spiced foods. There was greater use of coffee by both groups of Black patients compared with the Indian patients. The drinking of coca-cola was significantly higher in the Indian control group, but reported by the majority of the Black patients. This was explained by the fact that patients in the wards bought "cokes" for themselves frequently throughout the day. Either a "well" patient took orders or nurses assisted with the buying. The Black duodenal

ulcer patients fell mainly into the occupational categories of labourer or manual worker whose usual daily diet included a bottle of coke or cold-drink for lunch. The Indian duodenal ulcer patient, on the other hand, did not drink coke daily at lunch. Thus the differences may be explained in terms of the situation of the patients (in hospital wards) or the differences are a result of cultural differences in the drinking of beverages. A general comment on the results of this analysis is that, once again, it has not been established that particular elements in diet are associated with duodenal ulcer disease.

Patients had their own theories about which foods exacerbated their symptoms. In the medical treatment of duodenal ulcer disease, the physician usually advised patients to increase the buffer content of their diet and to leave out foods which disagreed with them. In the Focused Social Questionnaire, patients were asked which foods upset them. This is shown in Table 42 with patients giving up to three choices of foods which upset them.

TABLE 42. Foods which are perceived as upsetting by race and diagnosis (in percentages)

Type of Food	Indian		Black	
	DU	NON	DU	NON
Dried legumes	14	7	22	16
Cabbage	16	2	22	9
Fatty and oily foods	12	16	19	0
Rice and Maize products	16	2	16	3
Spiced food	12	2	24	19
Other	24	7	22	9

As shown in Table 42, both Indian and Black duodenal ulcer patients reported a greater number of foods which upset them, which was an anticipated result. Chi-square tests were not undertaken because of the multi-choice nature of the responses. It was impossible to establish accurately from most patients whether these foods had upset them before



the onset of the ulcer symptoms or thereafter. Obviously most patients would cut down on those foods which did not agree with them during treatment. It is interesting that duodenal ulcer patients named dried legumes and cabbage as upsetting, when these foods are described by Tovey and Tunstall (1967) as protecting against the development of ulcers provided if in the case of cabbage, it is eaten raw.

Little difference was reported by the two Indian groups in the frequency with which meals were eaten. Over half of both the Indian duodenal ulcer and control patients reported eating three meals per day. More Black patients reported irregular meals (approximately half in both groups) showing no difference between the duodenal ulcer and control patients.

Duodenal ulcer patients, quite predictably in terms of the effect of food and beverages on the gut, reported more foods which they found upsetting than the control patients. There were no significant differences found between duodenal ulcer patients and controls in both Indian and Black groups as regards particular dietary factors or regularity or irregularity of eating. Once again, research has failed to provide evidence for a dietary factor in the aetiology of duodenal ulcer disease.

6.8 ANXIETY

An investigation of anxiety was undertaken by the psychologist, who was a member of the interdisciplinary research team of R.A.I.D. (Chapter 1.4.3.4). The investigation has not been reported separately. The present discussion of anxiety measurement and the presentation of the results has been compiled in conjunction with the psychologist in order to compare these results with findings on stress obtained from the Stress Battery and the Focused Social Questionnaire. The method of anxiety measurement is discussed, in brief, followed by the presentation of the results.⁸

8. Dr. P. Clark of the Department of Psychology, University of Natal, was responsible for the anxiety research. The list of instructions for administration of questionnaires and copies of the Anxiety Questionnaires are included in the Appendix.

The concept of anxiety is described by Cattell as follows :

"Anxiety differs from fear, introspectively and presumably physiologically by being a response to precursory signals of perception of the true fear objects. It is a tentative alerting by cues and symbols rather than by concrete, present danger. Consequently, it has the associated qualities of uncertainty, and of lasting longer" (Cattell and Scheier, 1961, p.12). This general definition includes various types of anxiety. Realistic situational anxiety is distinguished from characterological anxiety. The former arises in response to real situational threats and comes and goes in response to stressful life situations, while the latter rises and falls with processes within the individual which are poorly related to immediate external threats. Variation in characterological anxiety levels are related to (a) temperamental differences which give rise to a greater reaction to exactly the same situations; and (b) differences in aspiration level and goals causing the same situation to be perceived as threatening or not.

The two types of anxiety interact, in that anxiety may be triggered off by external stimuli and the response will then vary both with the intensity of the stimuli and the individual differences in characterological anxiety.

6.8.1 Measurement of Anxiety

In selecting a measure of anxiety, cognisance must be taken of the fact that physiological measures of anxiety are seldom found to be closely related to one another or to psychological indices of anxiety or to the intensity of stress. Patterns of autonomic reactivity in anxiety states appear to be idiosyncratic and consequently unsuitable for use at the current stage of research on anxiety (Levitt, 1968). Projective tests have also been used, but reservations are expressed about their use. In this present study, problems of obtaining "culture-fair" tests and the low educational standards of the population had also to be considered. A pilot study confirmed that projective tests were not appropriate. The

inventory method of assessment has the advantage of being both inexpensive and easy to administer, as well as having been shown to be a reliable method. Two types of inventories were used in the present study. The Taylor Manifest Anxiety Scale (TMAS) and the Spielberger STAI form x-1 and STAI form x-2. The Taylor Scale has been in use for many years, and the items are drawn from the MMPI (Taylor, 1953). It is designed to measure characterological or chronic anxiety reaction or anxiety proneness. The Spielberger Scales are intended to measure (1) State Anxiety or A-State, the transitory emotional state that varies in intensity and fluctuates over time, and (2) Trait Anxiety or A-Trait.

(1) In the present study, the intention was not to measure the subject's anxiety state at the time of testing, as this may have been affected by the medical and testing procedures. The aim was rather to measure recent state anxiety. Consequently the instruction given to the subject was to indicate which statement best described "how you have been feeling lately—during the past week or so", and not as in the standard version of the A-State Form which requires the subject "to indicate how you feel right now, that is, at this moment". (2) The second scale measures Trait Anxiety which is the relatively stable individual difference in anxiety proneness. This is analogous to the chronic anxiety measured by the Taylor Scale. For scoring purposes, subjects are rated on a four point scale. The range of possible scores on each form varies from a minimum score of 20 to a maximum score of 80 on both the A-State and A-Trait subscales. Scoring weights are reversed on items for which a high rating indicates low anxiety. Some items (e.g. "I am tense") are worded in such a manner that a rating of (4) indicates a high level of anxiety, while items (e.g. "I feel pleasant") are worded so that a high rating indicates low anxiety (Spielberger et al., 1970, pp 4-5).

The psychologist in charge of the anxiety testing suggested the use of both the Taylor and the Spielberger measures. At a more advanced stage of the study the Taylor was dropped because of staff difficulties and the necessity of reducing the time spent on administering the questionnaires.

As predicted by the psychologist, there were difficulties using questionnaire measurements of anxiety in the practical situation. One of these difficulties was lack of literacy. The standard of education of many patients, especially the Black patients, but also to some degree the Indian patients, was not high enough to allow for self-administration of the questionnaire, which is the normal mode of administering these tests. As an alternative, the test items were read to the subjects, the categories of response explained and the answer recorded. This meant that the test items were open to the influence of the interviewer on the interviewee, or vice versa. The interviewers were therefore carefully instructed not to use their own explanations or to pressurise the subject to respond in a particular way.

It was also necessary to modify the Spielberger inventories and to a lesser degree the TMAS to overcome language problems. The anxiety tests are intended for use with persons with a fairly good command of so-called standard English (U.S. middle class, in fact). After a pilot study was conducted, a translation was made into Zulu for the Black patients, using the method proposed by Spielberger and Sharma (1976, pp.13-25) employing back translations. For the Indian patients a modification of the Spielberger and Taylor inventories was devised, substituting more generally understood adjectives. It was not possible to establish norms or obtain reliability and validity data on the revised tests.

The problem still remained of the lack of verbal ability of many of the Indian patients, who found difficulty in differentiating between a number of related adjectives, e.g. calm/at ease/rested or tense/nervous/jittery/rattled, as used in the STAI. The research workers also reported difficulties because Indian and Black patients were unused to thinking about their emotions and describing them. They therefore found difficulty in applying statements such as those used in the TMAS and Spielberger Scales to themselves. Until such time as suitable anxiety

scales are standardised in South Africa for Indian or Black patients, the results of any testing must necessarily be treated with caution.

6.8.2 Anxiety Scores

The relationships between the scores on the three anxiety measures, the Manifest Anxiety Score (TMAS), the Spielberger Y1 (State anxiety) and Spielberger Y2 (Trait anxiety) were determined by means of product moment correlations. This is shown in Table 43.

TABLE 43. Product Moment Correlations between the 3 Anxiety Measures for Indians and Blacks

	TMAS	Y1	Y2
Taylor (MAS)	1,00	0,59	0,79
Spielberger Y1		1,00	0,69
Spielberger Y2			1,00

Table 43 shows a positive correlation between the results of the three measures for all patients (both duodenal ulcer and control groups of Indian and Black patients). The highest positive correlation was obtained between Taylor's measure of anxiety and the Spielberger Y2 Trait Anxiety scores. The Manual for the STAI scale reports a correlation of 0,83 between the Manifest Anxiety Scale and the Trait Anxiety Scale (Y2). As already pointed out, these two measures, the TMAS and Spielberger Y2, are purported to measure an individual's characterological anxiety. The high positive correlation gave some support to the equivalence and hence validity of these two measures and contributed to the decision to drop the Taylor measurement from the study in the second and subsequent years. The discussion of anxiety scores which follows is, therefore, based on the Spielberger results only.

6.8.3 Discussion of anxiety results

The mean scores on the anxiety measures were computed and are shown in Table 44.

TABLE 44. SPIELBERGER Y1 AND Y2, MEAN SCORES FOR INDIANS AND BLACKS.

		DU	NON
Indians	Y1 Spielberger - state anxiety	44,84	43,68
	Y2 Spielberger - trait anxiety	44,69	39,55 (1)
Blacks	Y1 Spielberger - state anxiety	45,52	51,00 (2)
	Y2 Spielberger - trait anxiety	45,83	47,61

(1)	p	<0,03
(2)	p	<0,07

As shown in Table 44, the mean score for Indian duodenal ulcer patients on the State Anxiety measure was 44,84 and 43,68 for the controls.¹⁰ The tendency to slightly higher state anxiety in the duodenal ulcer group is not statistically significant although the tendency is in the expected direction. The difference in the measures for Trait Anxiety for Indians - 44,69 for duodenal ulcer patients and 39,55 for controls, is significant. This means that Indian duodenal ulcer patients have been shown to have a higher characterological measure of anxiety which gives some support to the supposition of anxiety-proneness in duodenal ulcer disease.

Table 44 also shows that the mean score for Blacks on the State Anxiety measure was 45,52 for duodenal ulcer patients and 51,00 for controls. This indicates a non-significant trend towards higher scores for the control group ($p < 0,07$). The tendency towards a higher mean score for Black controls on the Trait Anxiety measure, was not significant. The tendency in the Black group of control patients to higher anxiety scores than the duodenal ulcer patients, was unexpected, even though it did not reach statistical significance. It may have reflected the inappro-

10. Minimum score is 20 and maximum score is 80 for both State and Trait Anxiety.

priateness of the Spielberger test for Black persons in the lower socio-economic group who failed to comprehend the phrases used in the inventories, even though translations into the Zulu language were attempted.

On the other hand, the distribution of higher levels of State Anxiety in Black controls may be explained by the situational stress experienced by high scoring patients. A case example from the FSQ illustrates this, as follows:

No.48, Mr. A.C. was hospitalised with a bullet wound and compound leg fracture received during a fight. This resulted in a criminal charge being laid against him although the trial was postponed until his discharge from hospital. He obviously experienced high anxiety about the outcome of the court case.

Other patients with high State Anxiety scores were labourers or unqualified workmen, for example, house-painters and "handy-men". Fractures of the leg or arm would affect their future employment and their ability to support their families. The problems were compounded in the cases where the men had no education and the possibility of obtaining alternative sedentary jobs was minimal.

An example from the Black control group in the highest scoring category 60-72, was patient No.245. This man was hospitalised with a broken leg and had been in traction for 3 months. He was worried about whether his job as a foreman would still be available on his discharge from hospital. He had experienced previous episodes of unemployment, so that he perceived his present situation as highly stressful, realising that the demands of his job might be beyond his capabilities in the future, and his perception of obtaining other work was coloured by his previous negative experiences. The stress of the long period of inactivity in hospital, while in traction, added to his anxiety. On the other hand, Black

duodenal ulcer patients did not experience the same degree of situational stress related to possible job loss, because they were still employed whilst receiving out-patient medical treatment.

Another factor to be considered when using self-report anxiety measures is the role of repression. The investigators judged that 24 per cent of Indian and 11 per cent of Black duodenal ulcer patients repressed or denied anxiety during the social interview. This repression was also reflected in their anxiety scores, which were well below the group's mean for both State and Trait Anxiety. These scores did not correspond to their descriptions of the stressful life situations which were discussed during the social interviews. This tendency to repress anxiety was not found in the control patients. A similar finding is reported by Levin, et al., (1981) who suggest that the tendency to denial of stress found in duodenal ulcer disease should be taken into account when reaching conclusions about the role of stress in duodenal ulcer disease. As already discussed (Chapter 6.5) many Indian patients deny the existence of emotional problems and prefer a physical explanation of their symptoms.

Normative data are not available for samples of Indian and Black adult males in South Africa. Comparison was made with the STAI manual norms published by Spielberger, et., (1970, pp 5-8) for large samples of college freshmen, male psychiatric patients and general medical and surgical patients. This comparative data is shown in Table 45.

TABLE 45. Comparison of Y1 (A-state) and Y2(A-trait) Means for Duodenal Ulcer and Control Patients (present study) with STAI MANUAL NORMS (Spielberger, 1970, p.8).

STAI MANUAL NORMS					PRESENT STUDY			
Means	Neuro-psychiatric patients	General medical and surgical patients with psychiatric complications	General medical and surgical patients without psychiatric complications	College students	Indian Duodenal Ulcer patients	Indian Control patients	Black Duodenal Ulcer patients	Black Control patients
A-State Y1 Mean	47,74	42,35	42,68	40,01	44,84	43,68	45,52	51,00
A-trait Y2 Mean	46,62	44,62	41,33	38,07	44,69	39,55	45,83	47,61

Table 45 shows that in the Indian sample, the non-duodenal ulcer subjects have only a slightly higher mean than Spielberger's college students, but lower than the medical and psychiatric groups, indicating that the two populations are comparable. Contrasting with this, the Indian duodenal ulcer subjects have considerably higher scores than college students and the general medical group, but are comparable with the general medical and surgical group with psychiatric complications. This trend would support the findings of the present study, that duodenal ulcer subjects are anxiety prone. In the Black sample, the duodenal ulcer subjects display a similar relationship as do the Indian duodenal ulcer subjects to the Spielberger norms for the A-state scale. The anomaly of the very high A-state score for the non-duodenal ulcer Black group has been discussed elsewhere. The A-trait scores of the duodenal ulcer Blacks approaches that of the neuro-psychiatric Spielberger sample and is higher than the other three Spielberger groups. The non-duodenal ulcer group is higher than all the Spielberger groups on the A-state scores. The exceptionally high scores for the non-duodenal ulcer Black group, as compared with the STAI manual norms, tend to confirm the view of the inappropriateness of the questionnaire for this type of Black population.

The anxiety scores should be treated with caution because of the absence of norms for South African Indians or Blacks for comparison, or reliability or validity tests on this data. Nevertheless, if taken in conjunction with other research findings, there is confirmation of higher trait or characterological anxiety in the Indian duodenal ulcer patient and higher state anxiety in the Black non-ulcer group, for the reasons already given.

6.9 THE STRESS BATTERY

A scrutiny of the Stress Battery results shows that for the Indian patients, both in terms of past and present situations, there is a much higher overall percentage of Indian duodenal ulcer patients than controls who have responded positively to items in the Stress Battery.¹¹ In some individual

11. Tables 46a, 46b, 47a and 47b in Appendix.

items, the differences are statistically significant as already discussed in this and the previous two chapters.

In the case of the Black patients there was not as much difference between the percentage of duodenal ulcer and non-ulcer patients responding positively to items in the Stress Battery. Nevertheless, there was again a higher overall reporting by Black duodenal ulcer patients compared with controls.

On both individual items and the total Stress Battery there was higher reporting of stress by duodenal ulcer patients compared with controls. The only individual exception was in the higher response to the item "worry over cost of living" in the present and "feeling underpaid at work" in the present by Black control patients. This serves to confirm the findings of higher state anxiety scores as a result of financial stress experienced by Black control patients.

6.10 A SYSTEMS VIEW OF THE DUODENAL ULCER PATIENTS, THEIR FAMILY, WORK AND OTHER SYSTEMS AND THEIR ILLNESS

In reaching conclusions from this comparison of data about the life situations of Indian and Black men with duodenal ulcers and the control groups, it was found helpful to again adopt a systemic description of the many different variables which had been researched. As has been shown, many of the variables did not differentiate significantly between ulcer and non-ulcer patients. There were, however, many important areas where the differences were significant (Table 3, Chapter 4.3.1: Table 20, Chapter 5.1.2 and Table 35, Chapter 6.2). There is also the possibility that using a systems approach, even statistically insignificant differences, when considered in interaction with each other instead of in isolation, will be found to differentiate between duodenal ulcer patients and controls. In the final summing up of the research into stressful life situations, those factors, which in interaction produce stress for the duodenal ulcer patient, will be linked together in a systemic discussion.

The interacting factors relating to duodenal ulcer disease are shown diagrammatically in Fig. 15 - which deals with Indian patients, and Fig. 16 - which deals with Black patients. The figures show the factors which, in different individual combinations, have been noted as being reported by more duodenal ulcer patients than controls. In using the system's model there is a break-away from the medical model of attempting to establish the aetiology of ulcer disease. The patient's health, or illness, is rather seen at any point in time as being affected by ongoing life events. The cyclical or periodic nature of duodenal ulcer disease, acknowledged in medical research, is congruent with the model of stress which takes into account both the demands made on the individual and his capabilities in meeting these demands.

Stress, as it has been described earlier in this study, results from an imbalance between demands and capabilities and is linked to changing environmental and developmental demands at both intrapersonal and interpersonal levels in the personal and family life cycle. The illness, which has developed in response to stress and in interaction with a biological predisposition to the disease, in turn, may become the cause of further stress. The symptom has an important function both for the individual and for the family system, of which the person is a part. Grolnick (1981) refers to a stable pattern of illness, where one person in the family, whatever the origins of the illness, becomes the underfunctioning person via somatic symptoms. Symptoms also have a counter controlling function for the person who feels weakest in this family relationship system. The illness provides a way of asking for love (nurturance) or may be used in a manipulative way to avert separation in an enmeshed family. For some, it allows for withdrawal from overwhelming responsibilities which, although accepted, may be impossible to fulfil.

This pattern has emerged most significantly in the Indian duodenal ulcer patient, possibly because of the greater depth at which the interviews with Indian patients were conducted. The longer term contacts with Indian patients and the successful follow-up of Indian cases, also provided additional insights. In spite of the limitations of the study of Black patients,

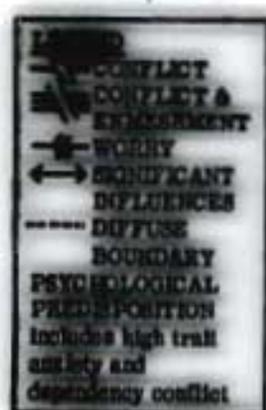
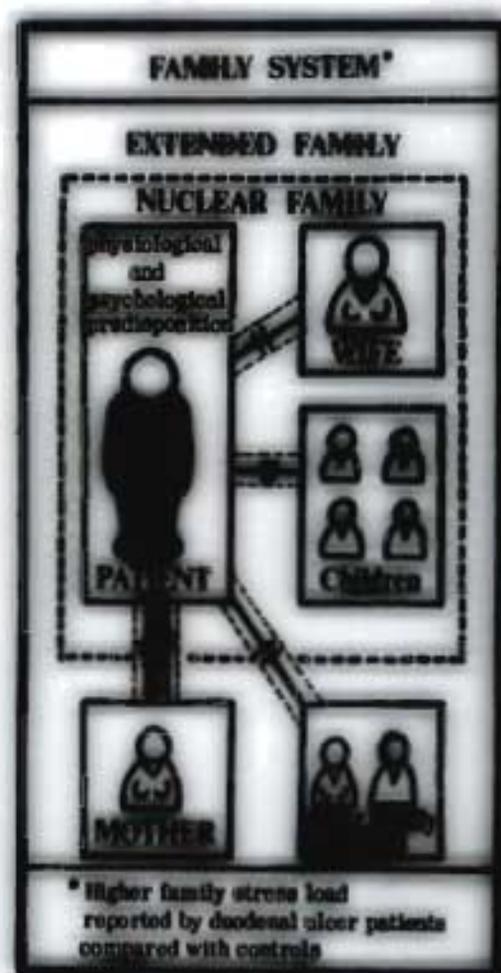
there was, nevertheless, sufficient data to develop a systemic view of duodenal ulcer disease. A similar pattern emerged, albeit with cultural variations, including the different situation of the Black migrant labourer in relation to his family.

6.10.1 A systemic view of the Indian duodenal ulcer patients

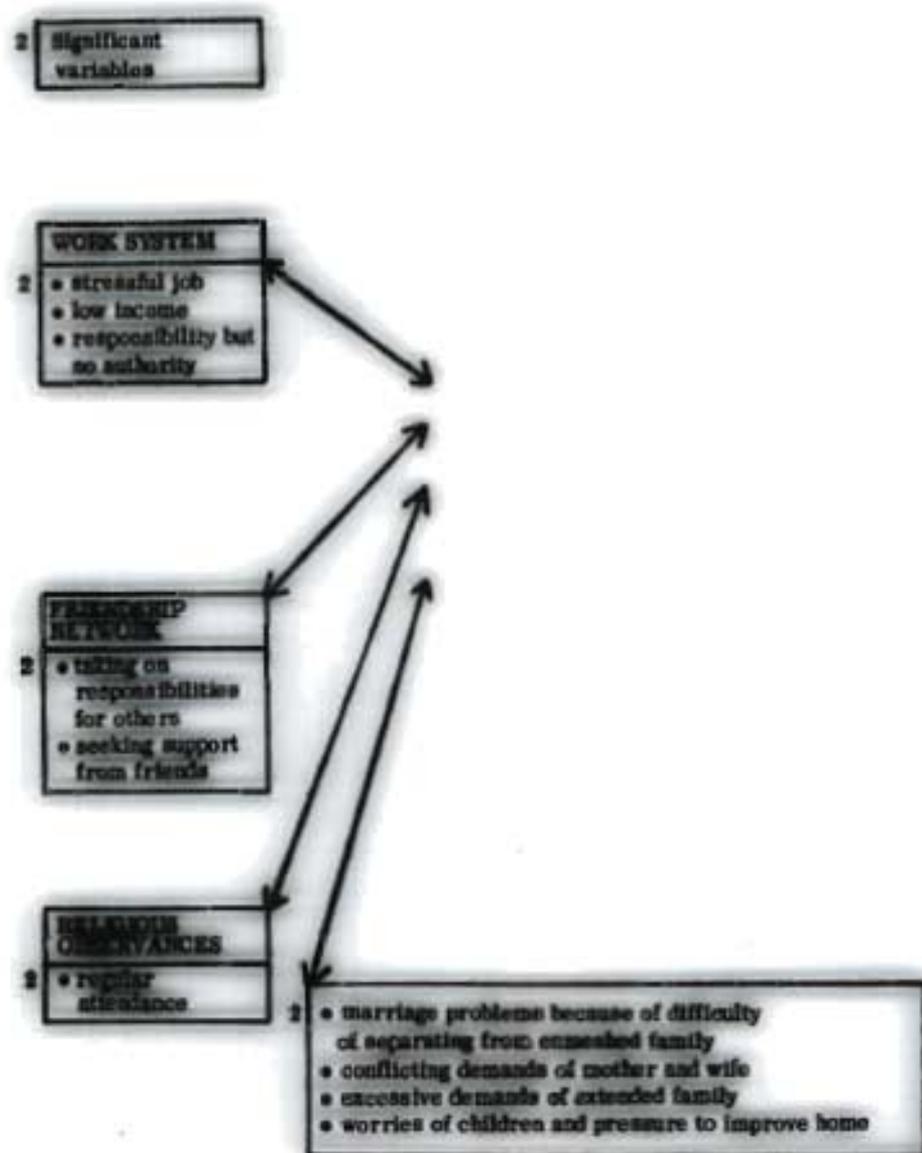
Figs.15(1, 2 & 3) show the transactional nature of the different systems of which the Indian duodenal ulcer patient is a part.

i

**FIG 15: A TRANSACTIONAL VIEW OF
THE INDIAN DUODENAL ULCER PATIENT
AND SIGNIFICANT SYSTEMS**



1. PRE--ULCER PHASE



2. SYMPTOMATIC PHASE

3 Significant responses

- time-off for treatment
- slow down permitted
- work demands re-organised

- friends give support

- help obtained from religious leaders

3 INTERVENTION

MEDICAL:

- sick role confirmed
- medical attention given
- advised to reduce alcohol and smoking
- symptoms relieved

SOCIAL:

- stressful situations reduced by problem-solving and counselling
- family therapy
- assertive training
- relaxation therapy

3 FAMILY'S RESPONSE

- marital conflict replaced by concern
- family approves of reduction of alcohol and smoking
- under-functioning of spouse/son is accepted
- extended family reduces demands

3 **POST-DUODENAL ULCER PHASE**

- duodenal ulcer is healed
- patient relinquishes sick role
- patient remains healed until new stress caused by increased demands when new symptoms may appear

3. ACTIVE AND HEALED ULCER PHASE

Fig. 15.1 shows the patient with a physiological and psychological pre-disposition to duodenal ulcer disease and his family system, both nuclear and extended; Fig.15.2 shows the other important systems and their influences in terms of the symptomatic phase of illness; Fig.15.3, shows the active and healed ulcer phase followed by the post-ulcer phase with the changes that take place in response to the illness.

Fig.15.2 shows the typical Indian duodenal ulcer patient faced with demands made upon him by marriage, including the problem of separating from the family of origin; by demands of family members, in particular a wife or mother, or both, in a conflictual situation. The demands of the extended family were often experienced as almost "too heavy to cope with". Some patients experienced strains of living with in-laws or working for father-in-law. Family pressures often led to plans to renovate or to make additions to the house, incurring loans with increased monthly instalments. Moving house, especially when this was forced by Government legislation, was also experienced as stressful. The married patient was worried by his children's problems, such as educational problems, truancy, delinquency and childrens' illnesses. He wanted his children to have a better life than he had experienced.

The patient's feelings of not being capable of meeting the demands made upon him resulted in feelings of hopelessness and helplessness. He had low self-esteem although this was sometimes masked by denial (often unconscious) and over-compensatory behaviour. Some patients used alcohol excessively although this was often denied. Single patients were often over-loaded by demands of family members or over-protected by their mothers. Over-protection led to continued dependency and a failure to hold down regular employment.

An insufficient income to meet the demands of family life was a recurring theme. The responsibility of the job situation, but the lack of compensatory status or authority, was also a feature of the life situations of the

patients. Work was important and great efforts were made to meet the demands faced by the person in the working situation. Sometimes the illness became the way to obtain much needed physical rest and to achieve some degree of intrapersonal equilibrium. The possibility of changing jobs or job advancement was limited by various factors, especially lack of education. Support was obtained from the friendship network, but also resulted in taking on added responsibilities of friends. Religious observances acted as a stabilising factor and religious beliefs accounted for the illness within the person's life-view. In terms of the capabilities of the person to meet the demands made upon him, there was a perception by the patients of their own inadequacy, or a defending against this, which then resulted in over extending themselves. This then placed greater strains on both their physiological and psychological capabilities.

Fig.15.3 shows the response by family and medical and social services to the ill patient. Within the family, the symptom allowed for the under-functioning of the patient. "My husband is a sickly man" or "your father is a sickly man" or "my son is weak", were recurring statements which seemed to legitimise the inadequate functioning of many of these men, both within the family and in the work situation. The patient's attention to the advice of doctors to reduce smoking and alcohol use also resulted in family approbation, while at the same time hastening the healing process. In particular the medical system was experienced by the duodenal ulcer patient as benign and supportive, for the most part, at the G.I. Unit. This also legitimised the sick role. The regular contact that was maintained, with regular endoscopies and acid tests, acted as a confirmation of the illness, while medication alleviated the symptoms. It was interesting to find during the Indian follow-up study, that ex-patients who had broken off contact, reported no symptoms or minimal symptoms, as if to emphasise that they had discarded the sick role. These ex-patients were in the minority, as will be shown in the results of the follow-up study in chapter 8. Detailed discussion of social work intervention is also included in chapters 7 and 8. Consulting with religious healers was a common strategy for dealing with the illness, whereas the use of social work services was a new resource for most patients. Fig.15.3 also shows the post-duodenal ulcer

phase where, as a result of intervention and treatment, the ulcer healed and either remained healed or there were relapses and re-appearance of the ulceration. Relapse or difficult healing was most frequent in patients who continued to experience marital and family stress and failed to reduce their use of alcohol. It is obvious that re-entry into the illness phase could recommence at any stage during or after ulcer healing had taken place. The cycle would then repeat itself, with onset of symptoms and medical treatment.

6.10.2 A systems model of Black Duodenal Ulcer Patients

Many of the patterns described above were also apparent in the Black patients. There were sufficient significant differences between Indian and Black patients to warrant a separate systemic analysis. This is shown diagrammatically in Fig.16 (1, 2 & 3).

Fig.16.1 shows the patient with physiological and psychological predisposition to duodenal ulcer disease and the family system; Fig.16.2 shows the work system and the urban environment and Fig.16.3, the response to the symptom from medical and social resources.

Fig. 16.1 shows the Black duodenal ulcer patient as usually separated from all or some family members, living singly in a hostel or room in the city, or living with some family members in a township. The single man often experienced difficulty in raising lobola and like the Indian patient, often felt over-loaded by the demands of other family members - mother, sisters and younger brothers. The married man moved frequently back and forth between the rural and urban areas in order to maintain some contact with family members.

Fig.16.2 shows the Black duodenal ulcer patient in relation to the work system. There was a great deal of similarity here to the Indian duodenal ulcer patient. Black patients reported unsatisfactory work conditions, a low income and too much work responsibility without authority or status. Living in an urban environment without the buffer of a stable family system increased the stress load.

Fig.16.3 shows the active and healed ulcer phase with the response to the ulcer symptom. The active ulcer phase often resulted in a withdrawal from the work situation and a return to the rural area until the patient felt well again. In this way the symptom provided a much needed relief from an oppressive and physically exhausting work situation. Being away from work at home all day was described by many ulcer patients as being a boring experience, however, with the result that they returned to work as quickly as possible. There were those, on the other hand, who accepted the sick role and the possibility of applying for a Government disability grant. This was particularly evident in cases who had undergone surgery.

Medical interventions were supportive and also legitamised the sick role. Symptoms were relieved by medication and compliance with the doctor's advice about reducing liquor consumption. It was doubtful, however, whether this reduced alcohol consumption was maintained. In spite of treatment, most patients, even those in the healed ulcer stage, regarded their illness as one of the greatest stressors in their lives. Black

patients, as already shown in the discussion of clinic attendance, discontinued contact earlier than Indian patients and a follow-up study was not successful in renewing contact with most patients. It appeared as if the post-ulcer phase either resulted in a return to work with maintenance of healing, or an induction into a chronic sick role.

Social intervention was offered on a very brief and time-limited basis because of the lack of Black social work staff.

6.10.3 Comparison of a systems model of duodenal ulcer disease and the controls

This present study has been a comparison of duodenal ulcer patients and the control groups. It is, therefore, necessary in this final summing-up not only to link together the significant variables in a systemic model of duodenal ulcer disease, as has been done, but also to undertake a systems summary of the life situations of the control patients.

Throughout the analysis and discussion of the research findings there has been a problem in interpreting the results because of the obvious fact that stress and anxiety were present, not only for the duodenal ulcer patients, but also for the control patients. The choice of the orthopaedic group, on the premise of this being a non-psychosomatic group, did not exclude them from being a highly stressed group. Research into the accident or injury prone syndrome, such as that undertaken by Stagoll (1982) of migrant workers in the Australian rubber industry, has demonstrated the part played in the "accident victim syndrome" by pre-injury life stress. Stagoll has also described the way in which the injury inducts the worker into a chronic sick role. As has been shown earlier in this chapter, these possibilities also exist for the control group in the present study.

Certainly for the control patients, anxiety and stress about their ability to retain their employment in view of the long period of hospitalisation and the effect of injury on a manual worker, were dominant themes for both Indian and Black patients. Unlike the duodenal ulcer patients, the control patients did not report any degree of family stress.

6.11 SUMMARY

The factors which have emerged most significantly in the final assessment of the differences in the life situations of the duodenal ulcer and the control patients, are family dysfunction in interaction with work stress. The duodenal ulcer patient is a vulnerable person, both physiologically and psychologically. He often perceives of the demands made upon him as being beyond his coping capacity. He may counteract these feelings by over-extending himself and taking on the problems of the family and even those of the wider world. It is the realisation of the imbalance between demands and capabilities that leads to frustration or sometimes conflict and resultant stress. At the individual level the response to stress is psychophysiological resulting in ulcer symptomatology. Within the family the symptom maintains the family in equilibrium because conflict is masked and replaced by care and concern. The work system reduces work demands and medical and social treatment systems give support and therapy. The consequences of the response may result in healing of the ulcer with the possibility of further somatic symptoms at a later stressful stage, or induction into a chronic sick role. Throughout there is a circularity of transactions and feed-back between the different systems and the symptom. This often results in a merging of the different phases of illness and health in periodic cycles.

As has already been stated, the lack of Black social work personnel and the difficulty of tracing Black patients after a period of time, resulted in social work services and the follow-up study being confined to Indian duodenal ulcer patients. The following two chapters, therefore, describe social work intervention at the Gastro-Intestinal Unit mainly in terms of Indian patients and the follow-up study is in respect of Indian duodenal ulcer patients only.

CHAPTER 7
MEDICAL SOCIAL WORK

7.1 THE HISTORY OF MEDICAL SOCIAL WORK

The antecedents of medical social work are to be found in antiquity. For many centuries the care of the sick and poor had been undertaken both in formalised and informal ways depending on the culture of the people concerned. The structure and method of care of the sick has not been well documented, however, which makes it difficult to find records of what has been done in the past. It is only possible to discern broad trends, which have coincided with different historical periods and events, and have led to the establishment of the health care services of the present era.

Margaret Brock (1969), writing about social work in the hospital organization, sketches a background to the development of hospital social work. She refers to the Golden Age of Greece where hospitals were provided for the care of the sick and refuge given to the troubled. In the Temple of Aesculapius the sick were ministered to in soul and body. These aesculapia were similar to modern day spas, and some provided a service comparable to our present day hospital out-patients' departments. The influence of Hippocrates was evident in Greece, and there was recognition of the need for treatment to be for both the physical body and the mind. The Roman Empire also provided resources for the treatment of physical disease, especially for the fighting forces of the Empire (Brock, 1969 pp. 8-11).

The influence of the teaching of Christ was seen in the provision of hospitals for the care of the sick and the poor. These were provided as a charitable endeavour and were established throughout the early Christian World. Monasteries also provided shelter and care for the sick. During the Middle Ages the provision of care deteriorated, although this was the period when xenodochia (inns for travellers) were established during the Wars of the Crusaders, 1066 - 1270, to care primarily for wounded and sick Crusaders.

The Renaissance brought about a re-establishment of institutional care. It was during this period of the 12th Century that notable hospitals, which still operate today, were first established, for example, St. Bartholomew's in London. The English Poor Law of 1601, designed to abolish pauperism, introduced the concept of State responsibility for the poor and sick (de Schweinitz, 1972). The Poor House was established in terms of the Poor Law, but these institutions soon became the repository for the sick and dying.

In the wake of the Industrial Revolution in Britain, slum conditions, overcrowding and disease were rife. Conditions in hospitals, for those not sent to the Poor House, were crude and unhygienic. The influence of Florence Nightingale led to improvements in hospital conditions. English social reformers such as Edwin Chadwick and Dr. Southwood Smith campaigned for the repeal of the Poor Law and for the State to assume responsibility in an enlightened manner for the sick and needy. As a result of the growing disenchantment with the Poor Law, amendments were introduced in 1834 and the reformers were instrumental in introducing the first Public Health Acts of 1848 and 1875 aimed at improving living conditions and controlling disease in the cities. The Poor Law was eventually abolished in the early 20th Century and was replaced by Social Security measures and National Health Services introduced at the close of World War II (de Schweinitz, 1972).

7.2 THE DEVELOPMENT OF MODERN MEDICAL SOCIAL WORK

The origins of modern medical social work, similarly to modern casework, are linked to the activities of the Charity Organization Societies (C.O.S), founded in the late 19th Century in Britain and America (Woodroffe, 1968 pp. 25 - 55). Brock (1969) describes the precursors of medical social work as being the home visiting programmes established under the aegis of the Children's Hospital in San Francisco in 1886, and the New York Babies Hospital in 1894. These were followed by similar programmes in Boston and in other hospitals in New York.

In 1872 Sir Charles Loch, the Secretary of the British Charity Organisation Society decided to assist families in need of financial assistance because of hospitalisation of the bread-winner. He seconded a member of his staff, Mary Stewart, to the Royal Free Hospital for three months with the title "Almoner". Her duties were a) to prevent abuse of the hospital by persons able to pay for medical treatment; b) to refer patients already in receipt of parish relief to the Poor Law authorities; and c) to recommend suitable persons to join Provident Dispensaries. There seems to have been an emphasis on saving the hospital's funds in this programme, although Brock (1969) is of the opinion that Loch's concern was more for the social well-being of patients than possible cheating of the hospital coffers.

After Mary Stewart's three month period at the hospital was over, her secondment to the hospital was not renewed. Instead, further negotiations resulted in her employment as a member of the Hospital's staff. Mary Stewart introduced a broader perspective to her functions by emphasizing the broad issues of illness and the need for social treatment for the problems causing illness and preventing patients from remaining well after discharge from hospital. As her work became better known, other hospitals followed suit and employed their own almoners. The term "almoner" persisted in Britain with the dual function of preventing abuse of the hospital funds and attending to the psycho-social well-being of the patients. In America, however, the title "medical social worker" was preferred, and the prevention of abuse of hospital funding was not one of the functions of the social worker. In South Africa this latter practice has also been followed.

Medical Social Work was firmly established in America during the late 19th and early 20th Century by Mary Richmond, working in conjunction with several physicians. At the Massachusetts General Hospital in Boston, the introduction of medical social workers received enthusiastic encouragement from Dr. Richard Cabot. He recognised the need to understand more about the social factors relating to illness and its treatment, and to utilise social and community resources in comprehensive patient care (Skidmore

and Thackeray, 1964, p.72). Other hospitals and doctors followed his example. Dr. Samuel Breck used social workers for follow-up work at the Berkeley Infirmary and worked closely with the Boston Children's Aid Society. He saw the need for an additional service outside the health field to help the patient use medical care more effectively. Dr. Adolph Meyer at the John Hopkins Hospital used social workers to gather facts about the patient while in hospital, and to prepare patients for returning home by ensuring that home conditions were healthy. He also encouraged after-care for patients in their homes by visiting social workers (Fink, et al., 1963, pp. 288 - 298).

As early as 1918 the American medical social workers formed the American Association of Medical Social Workers. In 1955 this body joined with the other social worker's organizations to form the National Association of Social Workers. The Medical Social Workers retained their identity as a medical social work section in the Association (Skidmore and Thackeray, 1964, p.73).

Ida Cannon has written informatively of hospital social work in the early days in America (Cannon, 1923). In 1952 she recounts the growth of this service and describes Medical Social Work in the following way :

"Medical Social Service is not only for the poor alone, but for any patient in whose case a social problem exists. Medical Social Service is just what its name implies. It is a service, not a charity. Its service embraces a skill which enables the effective carrying out in our complex society of the medical treatment that the doctor of medicine prescribes" (Cannon, 1952, p.18 quoted by Brock, 1969, p.22).

This view of medical social work as complementary or secondary in the medical field is being challenged by some medical social workers today. They claim that the social worker recognising and treating the social component of illness is in the same primary position as the doctor. These social workers do not subscribe, therefore, to the concept of medical social

work as being in a secondary position in the medical or health team. There is undoubtedly the need for the medical social worker to be presenting her role in a more assertive manner. Change will also need to be implemented in the training for team work of the members of an interdisciplinary team if medical social work is to be accepted as having a role which is not entirely dependent upon the medical profession.

7.3 THE DEVELOPMENT OF MEDICAL SOCIAL WORK IN SOUTH AFRICA

The commencement of formal social work in South Africa is usually described as being initiated by the report of the Carnegie Commission on the "Poor White Question" followed by the "Volkskongres" in Kimberley in 1934. As an outcome of the Carnegie Commission, the first Department of Social Welfare was established in 1937, and University training for social work which was established in 1929 was extended further. The Du Plessis Report of 1954 provided a blue-print for social welfare and firmly established the principle of joint partnership between the State and private initiative (Theron and Stulting, 1961).

Private and voluntary organisations were established to cater for different categories of physically handicapped persons, for example, the blind, the deaf, the cripple, the epileptic and the cerebral palsied. Mental Health Societies catered for the mentally disturbed and defective. Social workers employed in these organisations undertook specialised forms of medical or psychiatric social work in providing for the psycho-social needs of individuals. Apart from these social workers in voluntary organisations, the main thrust of medical social work has developed through the complicated structure of health services which has historically been divided between the three levels of Government, Central Government, Provincial Government and Local Authority.

In 1909 with the passing of the South African Act, the Provincial Councils were given the responsibility for all hospitals providing treatment for patients with non-infectious diseases. In 1919 the Public Health Act No.36

was passed providing for the establishment of the first separate Department of Health. The need for a link between the Provincial Councils and the Central Government was recognised by the establishment of a National Health Council. The Central Health Services and the Hospitals Co-ordinating Council were established in 1947. In 1942 the National Health Services Commission was appointed under the chairmanship of Dr. Henry Gluckman. The Commission after extensive investigation recommended the establishment of a National Health Service. This was never implemented. The Tomlinson Commission of 1951 urged further extension of health services for Blacks, because of the scarcity of health services for this population group. The situation has never been remedied and the establishment of the "homelands governments" and the "national states" has meant that other Government Departments have taken over jurisdiction in health matters within their borders. This has resulted in the introduction of yet another dimension into an already complicated and often uncoordinated service. In several "home-lands" and "national states" for example Kwa-Zulu and Bophuthatswana, the old three-tier level of health services in use in the Republic of South Africa has been superseded by a modern comprehensive system of care which emphasises de-centralisation and the use of a net-work of clinics and mobile facilities. These services are still hampered by lack of funding and trained personnel. Within the South African health structure, the Central Government is responsible for social workers in mental hospitals and psychiatric departments, the Province is responsible for social work in Provincial Hospitals, and the Local Authority employs social workers as Community Liaison Officers in Municipal Health Departments who are precluded from undertaking individual case work services. This control by different departments at different levels results in an uncoordinated and sometimes overlapping social work service.

The older hospitals serving white and coloured populations have well established social work departments. The General Hospital in Cape Town and the Johannesburg General Hospital both employed almoners in the



British tradition prior to 1941. Trained social workers were introduced after 1941 to these hospitals. The Karl Bremer Hospital at Belville introduced social work into the hospital in 1956, and when the hospital was replaced by the Tygerberg Hospital in 1974, the social work services continued. In 1979 the old Johannesburg General Hospital became the Hillbrow Hospital, catering for Black patients and employing 7 Black Social Workers and 1 senior social worker. The new General Hospital retained the white social work staff. Social workers are also employed at the Southern Rand and Strydom Hospitals in Johannesburg.

Other hospitals in the Cape Province employ one or two social workers each. These include the Day Hospitals, Paarl, Worcester, Oudtshoorn, George, Uitenhage and Port Elizabeth Hospitals, Livingstone Hospital - Port Elizabeth, Frere Hospital - East London and the Kimberley Hospital. In the N. Transvaal, social work was introduced at H.F. Verwoerd Hospital in 1946. The National Hospital, Bloemfontein employed its first social worker in 1953.¹

Karl Bremer Hospital, subsequently Tygerberg Hospital, provided the field training for medical social workers undertaking the Medical Social Work Honours degree at Stellenbosch University, first introduced in 1969. Other specialised courses are presently being offered by several Universities. These include the Master's degree in Medical or Psychiatric Social Work offered by the University of Cape Town, the Master's degree in Mental Health offered by the University of South Africa, and the degree of Master of Medical Science (Social Work) introduced in 1980 by the University of Durban-Westville.

In contrast to the development of medical social work in the Transvaal and Cape Provinces, social work in Natal hospitals has developed slowly.²

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1. Personal communication from Senior Social Workers at Groote Schuur Hospital; Tygerberg Hospital and General Hospital, Johannesburg.
 2. Personal communication from senior social worker of Addington Hospital.

The reasons for this are unclear. Addington Hospital in Durban and Grey's Hospital in Pietermaritzburg were the first Natal Provincial Hospitals to employ social workers. O'Reagain (1970, p.104) reports that there were only four social work posts in Natal in 1970. Non-white hospitals have fared even worse. King Edward VIII Hospital in Durban had only unqualified welfare workers until 1980, when posts were established for qualified social workers. At present 1 senior social worker and 6 Black social workers are employed at King Edward VIII Hospital, but no Indian Social Workers are employed by the Hospital Administration. The only Indian Social Workers are employed at R.K. Khan Hospital, Chatsworth (2), and Northdale Hospital, Pietermaritzburg (1). It is significant that the organisation chart of R.K. Khan Hospital does not include any reference to social workers on the staff although para-medical staff such as physiotherapists, speech-therapists and occupational therapists are included. O'Reagain (1970) established that Natal should be employing 28 white and 104 non-white medical social workers in 1970.³ The present medical social work staff complement in Natal hospitals is totally inadequate, seen in terms of this recommendation.

7.4 A SURVEY OF THE NEED FOR MEDICAL SOCIAL WORK AT THE KING EDWARD VIII HOSPITAL 1977-1978.

Many medical staff at King Edward VIII Hospital, which is a teaching hospital for the Medical Faculty at the University of Natal, have complained over the years of the lack of social work staff. In 1977 the Dean of the Medical Faculty instituted a survey to investigate the need for social work staff as perceived by the doctors at the Hospital.⁴ Twenty-one senior doctors participated in the survey. The overwhelming response was that there was a desperate need for social work services in the Hospital. Many of the respondents stated they had been accustomed to working with social workers at other Hospitals, and they deplored the virtual non-existence of social

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3. O'Reagain (1970) used a recommended ratio of 1 medical social worker to every 75 beds, proposed by the Department of Sociology and Social Work, University of Natal, in a memorandum to the Commission of Inquiry into Nursing Services in South Africa, June, 1965.
 4. The Department of Social Work, University of Durban-Westville, was given access to the questionnaire by Dr. R. Green-Thompson

workers at King Edward VIII Hospital. Professor M. Moshal, the Head of the Gastro-Intestinal Unit was one of the few Heads who took matters into his own hands and raised private money to fund a social worker.

All the respondents were of the opinion that they needed social workers attached to their own Departments rather than being part of a general pool of social work personnel on which they could draw. This was contrary to the policy of the Provincial Administrations of appointing social work staff to the Social Work Departments, and permitting the deployment of staff by the Senior Social Worker according to the needs of the total Hospital. The centralising of social workers in a department of social work in the hospital is regarded as important for assuring standards of practice and accountability (Grossman et al., 1979, pp.411-415). This was obviously not taken into consideration in the recommendation by the medical Heads of Departments. The majority of the respondents favoured female social workers with a generic social work training, but with a specialisation in medical social work.

The responses of the doctors to the question about the functions of social workers were diverse. They may be fitted into the three functions described by Brock (1969, p.40) in her description of Hospital Social Work. These are (1) functions directed to the patient; (2) functions related to the hospital organization; and (3) functions outside the hospital.

7.4.1 Social Work with the Patient

The following functions related to the patient were suggested in the questionnaires :

- to obtain details of the social background to the patient's illness, and to become aware of family issues;
- to help in-patients with the social problems in their lives;
- attendance at out-patient clinics to assist with patient's social problems;

- advice to mothers on child-care, nutrition and immunization (response from the paediatricians);²
- interviewing, group and family therapy - mentioned by the psychiatrist who had a social work student placed in his Department;
- co-ordination with welfare resources on behalf of the patient; and
- preparation of patients to return home, investigation of home circumstances and making alternative arrangements where necessary.

7.4.2 Social Work within the Hospital

The following functions were suggested :

- the humanising of the practice of medicine - which was a revealingly honest comment by one of the medical practitioners, albeit a tough assignment for any social worker;
- to disseminate knowledge about the affect of environmental factors on disease - education of other staff;
- to participate as a team-member, attend case conferences and ward rounds (also contributed by the Department of Psychiatry).

7.4.3 Social Work outside the Hospital

There were many suggestions which have been included in this category. The number of responses may be taken as an indication that from the doctors' view-point, hospital social workers should play a major role outside the hospital, as well as within. This conflicts with the policy of most hospital administrations in South Africa where the hospital social worker is "hospital-bound", and is required to refer patients in need of outside care to an appropriate community agency. Many of the functions that were suggested reflect the specialist areas of concern of the different departments within a hospital. For example, the Renal Unit recommended the following :

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2. King Edward VI11 Hospital has a wide catchment area which includes rural Kwazulu. Many mothers from the country lack basic knowledge of hygiene and child care according to the staff.

- undertaking home dialysis for kidney patients;
- giving explanations to the patients and relatives in cases of renal failure;
- obtaining donor kidneys from relatives;
- co-ordinating with kidney transplant patients.

Although the social worker might question the nursing or medical role allocated to social work by this physician, nevertheless, one cannot fail to be impressed by the wide scope that the doctor envisages for the social worker in counselling of patients and donors. Articles by Whatley (1972) and Hickby (1972), have drawn attention to the need for social workers to be involved with counselling of donors and assisting with the problems of dialysis patients.

In addition to the specific functions suggested by the head of the Renal Unit, many doctors emphasised the need for follow-up of disabled patients and out-patients who failed to return for treatment. In the case of hypertensive patients, the doctor saw the need for follow-up to ensure therapeutic compliance by patients.

The many proposals are summed-up in a succinct statement by one Departmental Head, who stated :

"Comprehensive patient care requires attention to other needs besides the obvious medical ones, and can best be carried out with the assistance of social workers who are members of the team. Comprehensive patient care will reduce the need for hospitalisation in the future".

This doctor's view of the social worker's role is supported by social workers themselves. Myra Gladjan (1982, p.39) writing for *Maatskaplike Werk/Social Work on team-work in a South African hospital* points out :

"This is the rationale for the multi-disciplinary team in the hospital setting - aiming to provide comprehensive

service and viewing the patient as a total human being, rather than a disease entity".

7.5 THE ROLE OF THE HOSPITAL SOCIAL WORKER

It is apparent that on a world-wide scale, most hospitals do not have enough social workers to meet the social service needs of the patients and their families. Hallowitz (1972) asks "which needs do social workers in hospitals try to meet?" The usual policy is for the hospital administrators or physicians to determine this, rather than the social work department. Such an example is provided by the study of the need for social workers at the King Edward VIII Hospital which was undertaken by the physicians. This survey may have contributed to the establishment of posts for social workers at the Hospital. Nevertheless the setting of objectives for medical social work by the medical staff may result in attempting to provide too many services with limited staffing. The social worker may end up rushing from one crisis situation to the next, often at the insistence of the physicians rather than as a result of careful assessment of needs and the best way to provide a service.

Hallowitz (1972) criticises the social worker's tendency to resist institutional change that would be inherent in the social work profession adopting a change-agent role not only with patients but in relation to the hospital or medical system. She points out that a social work department should be contributing to the development of new knowledge and skills through study and research. These functions are not often undertaken by social work departments, and such roles are not usually envisaged by doctors as shown by the King Edward VIII Hospital study.

7.6 THE CHANGING ROLE OF MEDICAL SOCIAL WORK

Bartlett (1961) discusses social work methods used in the hospital and medical and health fields. She describes the social worker's objective as influencing, modifying or changing problems and situations within the scope of the medical and health fields (Bartlett, 1961, p.174). Intervention should be based on a professional assessment which aims at identifying the problem and arriving at a judgement as to whether it falls

within the scope of social work and, if so, what should be done about it.

Social work has now moved beyond the study of the social problems of ill patients as defined by Cannon (1952). It is concerned instead, according to Bartlett (1961, p.175), with "identifying subtle interactions in a constellation of organic, psychic, social and cultural factors". It is concerned with the enhancement of coping behaviours and the adaptive strategies of clients who face situations that threaten their health and even, sometimes, their lives.

After reviewing more than fifty fully recorded cases in medical social work practice, Bartlett constructed a chart indicating the elements that were taken into account in arriving at an adequate assessment of the medical social situation. The chart is shown in Figure 17.

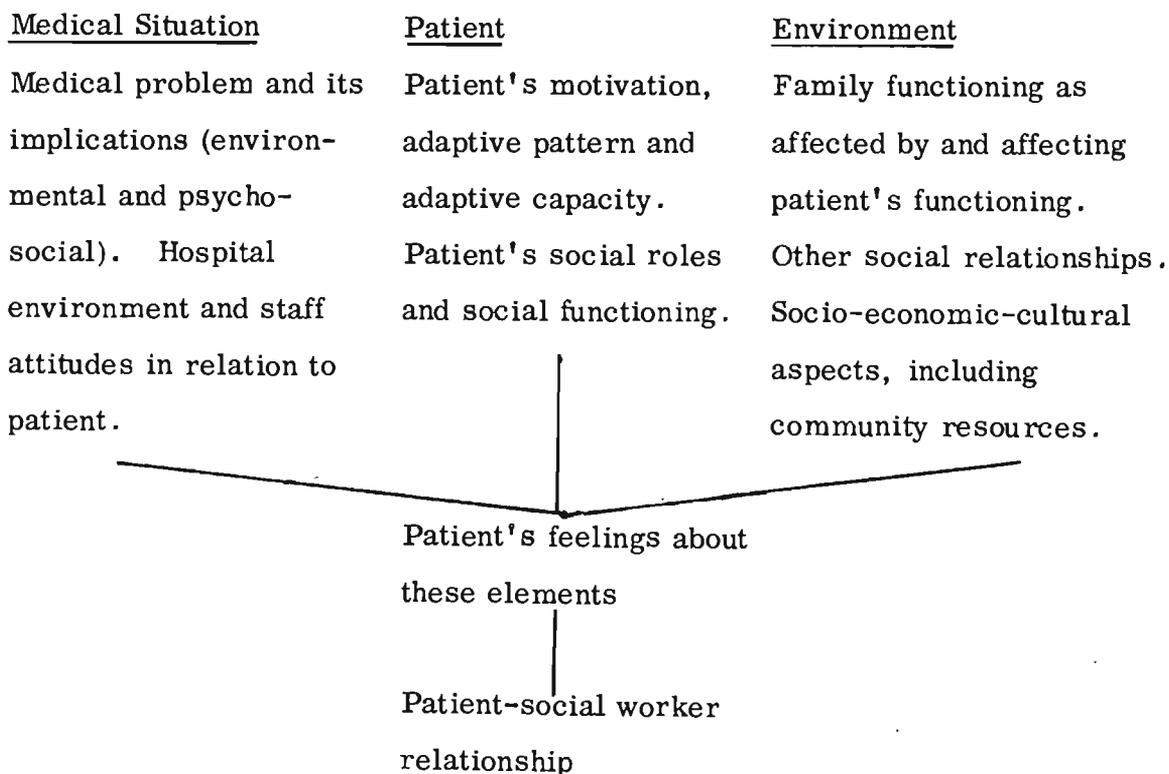


Fig. 17. Constant Elements in Assessment of a Medical-Social Situation (Bartlett, 1961, p.179).

The social worker, as shown in Bartlett's chart is not only interested in knowing the facts of the situation, but also the patient's feelings about these elements. A more modern viewpoint would include the understanding of cognitive features - the person's thinking about his situation and the characteristic problem solving methods used by the individual (Fischer, 1978, pp. 173-188). It is proposed that through the use of a contract, the client and social worker jointly define problem areas, choose aspects to work on, and set the goals for the change process.

The value of Bartlett's paradigm is that it allows for any one of the elements or a combination of them to dominate in a particular situation. It encompasses the full gamut of medical social situations from one where the medical problem may be overwhelming for the patient, to others where psychosocial problems may predominate. At times the patient's emotional needs may be the focus while at other times the environmental realities may be predominant. There is a constant need to mesh the interventions of the social worker with the treatment by medical and para-medical personnel.

Bartlett also draws attention to the hospital environment and staff attitudes in relation to the patient. The import of these factors upon the patient's illness and recovery have been discussed in the previous chapter dealing with the research findings on patients and the medical system (Chapter 6). In a study of social work in health care, Caputi (1982, p.104) proposes that the level of co-ordination among the disciplines involved in treatment is an index of the quality of care provided. Where there is good co-ordination of professional interventions, the quality of care will be high.

Bartlett (1961) has also found that the degree of support and understanding offered the patient by the hospital influences the shaping of the social work role. Germain (1973) points to the need for interventions to be directed towards the interaction between the individual and the environment. In order to manage the stresses of illness and disability, the patient needs environmental conditions which will provide him/her with :



- (a) opportunities for taking action, exercising judgement and making decisions to the degree allowed by the nature of the illness;
- (b) supportive staff and services that enhance the patient's self-esteem and reward coping efforts;
- (c) organizational procedures and policies that respect the patient's life-style, cultural values and social supports;
- (d) information about his/her condition in the appropriate amount at the appropriate time.

In turn the patient has tasks to perform. He must make adjustments to pain and tiredness; deal appropriately with hospital or clinic environments and special treatment procedures and develop adequate relationships with health professionals (Caputi, 1982, p.104). At this interface of the patient and the environment the social worker has the task of being involved in bringing about change in the hospital or clinic, which will allow for the maximum development of such conditions. Change must be initiated at the level of planning and policy making. It requires social workers to be involved in educating for change, and themselves accepting the challenge to be catalysts for and enablers of change. These are the functions for present and future medical social workers which are being highlighted today by authors who describe transactional, ecological or systems approaches to medical social work.

7.7 A SYSTEMS MODEL FOR MEDICAL SOCIAL WORK

Throughout the previous chapters a transactional systems approach has been proposed as an alternative to the linear model, which is the usual medical model which looks for cause and effect. The systems model has the advantage of allowing for the incorporation of the many different systems involved in disease, whether these be physiological, psychological, socio-cultural, medical, family or work systems. It takes cognisance of the interactions between the different systemic levels. It also allows for a choice of intervention at one particular level or several levels

simultaneously. Because of the many systems involved, there is much benefit to be obtained from viewing social work in a medical setting in a systemic framework.

As pointed out in Chapters 2 and 3, a systems approach to psychosomatic medicine was proposed by Cannon, (1932) and Grinker (1953). With the development of General Systems Theory by von Bertalanffy (1968) there was a call to re-examine current knowledge of human behaviour within a holistic model. Auerswald (1968) proposed an "ecological systems approach" as being more appropriate terminology than "the systems approach". There continues to be reference to both the ecological approach (Germain, 1973) and the systems approach in social work literature (Janchill, 1969 and Hartman, 1970). Auerswald (1968) in the article already quoted discusses the difference between the systems and the interdisciplinary approaches. He points out that the difference is to be found in the second step in the sequence of research, when, after data has been collected it is ordered within a selected framework. He considers that the interdisciplinary approach maintains the vantage points of individual contributors within their own disciplines, who largely ignore the interfaces between the various areas. At its best, according to Auerswald, the product of interdisciplinary research can only be a summation of different variables. A systems approach changes the vantage point of the data collector by focusing on interfaces and communication processes. In relation to social work, many practitioners are experimenting with the application of general systems theory.

Lilienfeld (1978) accuses social workers, psychiatrists and family therapists of having adopted the tenets of general systems theory in an uncritical manner. This author implies that these professionals have not understood the ideological basis of general systems theory which replaces concern with man with a focus on system or organization. It is possible that many practitioners who describe their work as based on systems theory do not accept the implication suggested by Lilienfeld, that general systems theory is an ideology. Without being involved in a philosophical argument it is apparent, however, that

many social workers have recognised that they are working with many different systems and the interfaces of these systems. This is particularly true of medical social work. The approach has been found to be congruent with the social work view of the person-situation as a transactional event. As Germain (1973, pp.323-330) points out, the distinctive domain of social work lies at the interface between two systems - the person and the environment. Bartlett has also recognised this in her chart of the elements of medical social work practice. Janchill (1969) has described the characteristics of systems in relation to social work practice. Hartman (1970, pp.467-474) in a provocative article, describes systems theory as "a tool to think about the unthinkable". Pincus and Minahan (1973, pp.53-68) apply systems principles to their model of social work practice proposing four basic systems, namely, the change agent system, the client system, the target system and the action system. Goldstein (1973, pp. 120-153) refers to the development of a social work client relationship involving the creation of the new "change system". Fischer (1978, p. 37) suggests "system-centred" operations as an alternative to traditional case-work intervention. He proposes a continuum ranging from intervention at the microsystem level of the individual, the family or small group, for example, peer group, to the mezzosystem of school, social service agency to the macrosystem of society-at-large. Fischer (1978, p.16) points out that systems not only interact but that interventions at one level may have important effects on other levels or systems. Tomm (1982) proposes that intervening at a lower level, for example, with the individual and his symptom may bring about change, but there is a need to work upwards to higher levels of family or community systems. Change may be brought about more expeditiously by choosing to intervene first at the higher level, for example, the family system.

The literature stresses the need for appropriate assessment of the level or system at which to intervene, taking all systems into account. Unfortunately in the interdisciplinary approach in a hospital setting, decisions are made to intervene at the level most favoured by the most powerful practitioners, often the medical staff, without due consideration being given to a total

assessment of the systemic field. From the social workers' point of view implementing the systems model in practice should lead to more effective assessment and treatment and a truer integration of the various theoretical approaches used by different disciplines. The system's model which was used as the theoretical basis for developing the social work programme at the Gastro-Intestinal Unit will be discussed in the following chapter.

CHAPTER 8

SOCIAL WORK AT THE GASTRO-INTESTINAL UNIT, KING EDWARD VIII HOSPITAL, 1975-1983

8.1 A GENERAL SYSTEMS APPROACH

Hearn (1969 and 1974, p.351 -353) has drawn attention to the need in social work for theory and practice to be interlinked in a systemic fashion. He has used the generally accepted steps in research showing how theory building consists of a repeating cycle of the pursuit of knowledge and refinement of practice. His model was found to be appropriate as a framework for implementing social work practice at the Gastro-Intestinal Unit because of the emphasis on research as well as practice. Hearn describes three phases in theory building which are continuous repeating cycles, as shown in Figure 18 :

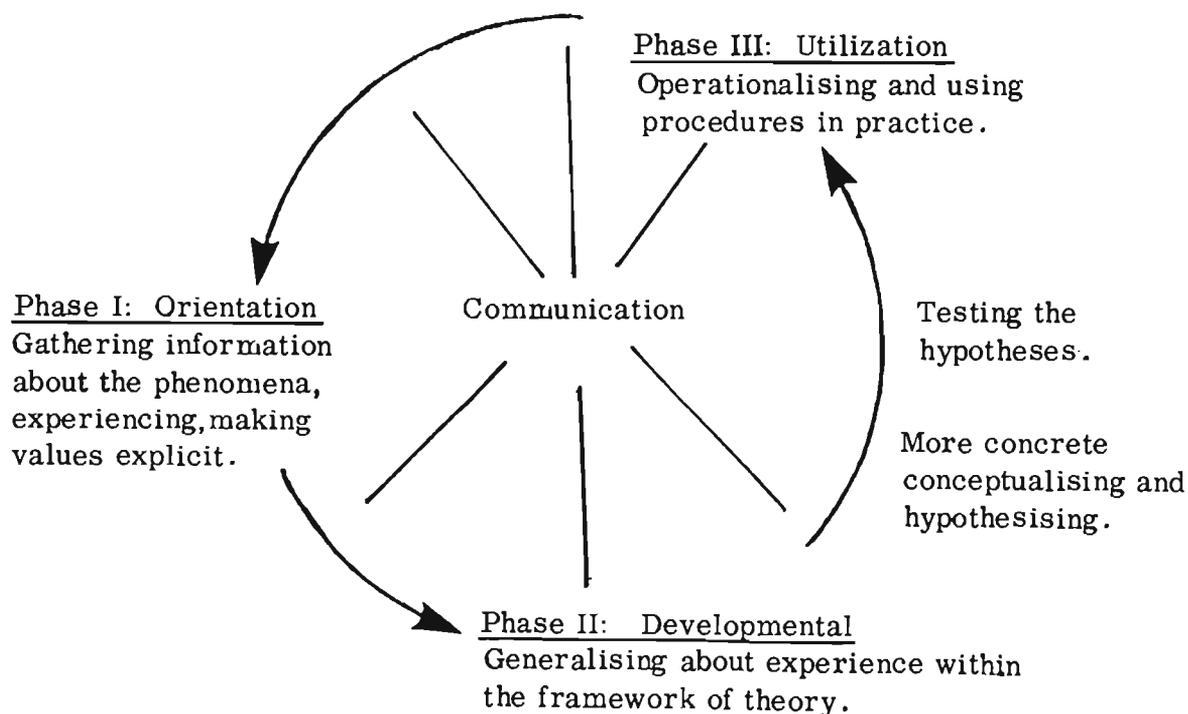


Fig. 18 :

The repeating cycle of theory-building

Using Hearn's systems model, as shown in Fig. 18, the three phases of orientation, development and utilization, were applied in developing a social work programme at the Gastro-Intestinal Unit. A full cycle of the three phases has now been completed, and a new cycle has commenced using the knowledge and expertise gained from the initial three phases.

The different activities during the three phases are set out in the summary in the following pages.

1975-1983

<u>DATE</u>	<u>ACTIVITY</u>	<u>SYSTEMS PARADIGM</u>
<u>1975</u>		
June	Prof. M. Moshal requested assistance in obtaining Indian social worker to assist with psycho-social problems of G.I. patients.	<u>Phase I - Orientation:</u> Social workers (supervisor and student) join the G.I. staff. Gathered information about the phenomenon of G.I. illness, in particular duodenal ulcer disease. Participated in research studies, studied literature about psychosomatic illness and stress. Made social work values explicit, e.g. the need to respect the dignity or integrity of the person in research. Identified gaps and inconsistencies in theory and practice, e.g. need for stress-management and problem-solving in addition to medical treatment. Experienced stressful life situations of patients through face-to-face contact at clinic, work place and home.
August	First social work student placed at G.I. Unit for practical training for 1½ days per week, under supervision of Mrs. J.B. Mason (U.D.W.) as no registered social worker available.	
November	Student dealt with 30 patients through hospital interviews and home visits. Recommendations made for future placements.	
<u>1976</u>		
March	Second student placement extended to 3 days per week. Role more clearly defined as predominantly casework and research. Student familiarised herself with psychosomatic theories of duodenal ulcer disease.	
November	Undertook home-visits for follow-up to Indian post-surgical patients and drug trial patients. Undertook family background reports, format devised and implemented. Student co-operated in research study of illness patterns of patients requiring surgery. Psycho-social problems of G.I. patients identified viz. financial stress, domestic discord, family problems, fears about the illness. Preliminary investigation undertaken of need for and feasibility of using groupwork.	
<hr/>		
<u>1977</u>		
March	3rd student placement for 3 days per week. Social work student informed patients and staff of role of social workers, as this was a new service at the G.I. Unit. Continuation of follow-up through home visits, or visits to the work place of drug-trial patients as part of research study. Appropriate social work services rendered to patients. Pilot study undertaken of 10 post-surgical duodenal ulcer patients focusing on post-operative adjustment. This study indicated need for pre-surgical report on duodenal ulcer patients focusing on prognosis for post-operative adjustment and need for pre-surgical patient counselling. Patients and their families viewed surgery, whether elective or emergency as a crisis. Their expectation of surgery was predominantly negative and it was viewed as confirming chronic disease and not for purposes of restoration to health. Continuation of educational programme with staff and patients on the role of the social worker.	<u>Phase II - Development:</u> Began to generalise about experiences based on theoretical framework. The psychosomatic model was selected as appropriate because it encompasses physiological disposition to duodenal ulcer disease, psychological vulnerability and anxiety resulting from patients' perception of stress in their lives. Tentative hypotheses formulated about role of stress in increased incidence of duodenal ulcer disease in Indian and Black people. Hypothesised on overload of stress which pushes people beyond their coping abilities and results in duodenal ulcer

<u>DATE</u>	<u>ACTIVITY</u>	<u>SYSTEMS PARADIGM</u>
	Patients not highly motivated to seek social work assistance as they viewed their illness as physical and viewed social workers as a possible intrusion in their personal lives. The hypothesis was suggested that patients with G.I. illnesses have a need to appear as coping and independent. This is confirmed in much of the duodenal ulcer literature (Chapters 2 & 3). Social work student drew attention to need for skilful and sensitive synchronisation of different interventions with patients (social work with medical) emphasised value of encouraging independence and self-management. Need for regular staff meetings and open communication between staff. Beginning made to initiate groups for pre-surgery patients with aim at giving information about treatment procedures, diet and providing a psychologically safe medium to ventilate feelings about treatment received.	disease. Social work intervention aimed at problem-solving, information giving about illness and reduction of stress. Formal research group was established and various research methods were tested in a pilot study.
August	Symposium on socially related stress-producing factors in duodenal ulcer disease at University of Natal, Medical School.	
November	First block placement for 1 month to orient the student into total hospital environment prior to concurrent placement of 3 days per week during 1978.	
<u>1978</u>		
January	Socio-psychological Research Project established as part of RAID (Research into African and Indian Duodenum). A pilot study was commenced with duodenal ulcer patients using unstructured psycho-social interviews. From this pilot study, two questionnaires were devised - a Stress Battery, drawn up by Prof. L. Schlemmer, and the Focused Social Questionnaire, devised by the present author, both in conjunction with the research workers and students. The population to be studied over a 5 year period consisted of Indian and Black duodenal ulcer patients of both sexes, to be compared with a control group of hospital patients with broken limbs and other gastrointestinal complaints, such as pancreatitis, irritable colon and oesophageal reflux. The director would be responsible for the systematic selection of the sample for the study.	Phase III - Utilization: Psycho-social research was operationalised. Methods of collecting data were revised when shown to be necessary. Communication was maintained although problems arising from interdisciplinary misunderstanding and rivalry were experienced and had to be worked through. A wider repertoire of social work interventions was used including individual work, work with marital dyads and the whole family. Group therapy was also introduced and patients' needs were identified, e.g. for better understanding of their illness; for assertive training; learning of management of anxiety through relaxation and systematic desensitization. Social workers became more involved in interpersonal staff relationships. Used both formal and informal opportunities to emphasise the psycho-social aspects of illness. Two further research projects initiated. (1) Effect of stress on healing of ulcers and (2) study of effectiveness of social work intervention in reducing perceived stress. Both studies indicated the need for family therapy and treatment of sexual dysfunctioning.
April	Research study commenced using a battery of tests viz., the Stress Battery, the Focused Social Questionnaire, the Taylor Manifest	

- * March Report of RAID (Unpublished)
Working members of the group included Prof. M.G. Moshal (Director); Dr. J. Robbs (Surgeon); Dr. J.M. Spitaels (Physician); Social Workers, Mrs. J. Mason (Supervisor) and Miss V. Naidoo (Student), University of Durban-Westville; Prof. L. Schlemmer (Sociologist) (Centre for Applied Social Sciences); Dr. P. Clark (Research Psychologist, University of Natal); Dr. L. Schiebush (Clinical Psychologist, Addington Hospital); Dr. A. Levine (Psychiatrist, Addington Hospital); Dr. I. Goolam-Hoosen (Dept. of Psychiatry, University of Natal); Miss N. Naidoo and Mr. D. Vilakazi (Research Workers) and Technician, Mr. M. Naicker.

DATE	ACTIVITY	SYSTEMS PARADIGM
	<p>Anxiety Scale and Spielberger State and Trait Anxiety Measures (adapted for use with this population), Projective Tests (S.O.R.T & T.A.T.), I.Q. test (Raven's Progressive Matrices) and Beck's Depression Inventory. The MMPI was investigated but found unsuitable for use with this population. Psychiatric interviews were conducted with a smaller sample of the population. Psycho-physiological studies, viz., electro-encephalogram (ECG), electro-gastrogram (EEG), psychogalvanic skin resistance (PGR), electromyography (EMG) were commenced but then discontinued because of practical difficulties. Gastric acid studies and endoscopies were conducted routinely.</p> <p>First formal meeting of Medical Superintendent, social work supervisor and student to structure social worker's role at C.I. Unit in terms of the whole hospital. At this stage, vacancies existed at the Hospital for Black social workers.</p>	<p>Type of intervention was therefore extended as a result of these studies. Tensions between interdisciplinary team members highlighted the difference between "an interdisciplinary approach" and "an ecological systems approach" (Awerswald, 1968, p.112). Members of different professions retained their own individual vantage points and the interfaces between the various areas were ignored, e.g. lack of communication between different professionals resulting in failure to implement changes in research procedure or to increase intake of patients into research study. The interdisciplinary system was affected by the Director's death and moving away of team members. A period of disequilibrium ensued resulting in restructuring of research team and at the end of the third phase the social workers assumed responsibility for the research into psycho-social aspects. The cycle had completed a full circle and was now beginning a new phase with a different system having been formed and beginning a fresh cycle of experiencing, developing and implementing. Social workers' roles expanding into areas of policy-making affecting patients' well-being at the Clinic. Also involvement in opening up communication between staff members. Follow-up study of Indian duodenal ulcer patients showed sustained improvement in functioning of some clients. Indicated need for longitudinal study to continue. Also need for closer dovetailing of medical and social treatment for patients attending the Clinic.</p>
December	<p>"Pooling of information" meeting of team members. Discussion of patients in study in terms of data collected independently by social workers, psychiatrist and psychologist. High degree of agreement between independent studies.</p>	
<u>1979</u>		
January	<p>RAAD Committee noted need to increase numbers in study for comparative purposes rather than undertaking exhaustive study on small numbers. Not enough numbers at this stage for statistical analysis. Stress Battery and Focused Social Questionnaire amended slightly.</p>	
December	<p>Appointment of full-time social worker (previous year's student) financed through special fund established by Prof. Moshal. Social Worker's role expanding. Casework integrated with research. Initial interviews spread over two days. Research questionnaires - Stress Battery, Focused Social Questionnaire and Anxiety Scales used to structure first contact between patient and social worker. Problems explored and joint decisions taken by patient and social worker, regarding need for social work intervention. Research report written by Profs. Moshal and Schlemmer with collaboration from present author and research workers on the occupational status, responsibility and authority of duodenal ulcer patients and controls (Moshal et al., 1979).</p>	
<u>1980</u>		
January	<p>Student social work placement continued. Social worker initiate increasing use of group therapy. Goals of group therapy to</p>	
November	<p>facilitate constructive release of feeling in group, to strengthen members' self-esteem; to encourage problem-solving; to</p>	



<u>DATE</u>	<u>ACTIVITY</u>	<u>SYSTEMS PARADIGM</u>
	recognise and resolve conflicts; to cope with problems arising from illness; to study social stress prior to illness. Research with control patients indicated extremely stressful situations of orthopaedic patients (broken limbs). Limited social work intervention with orthopaedic patients and referral to community resources was undertaken and consultation given to Black nursing staff so that they could assist Black patients more realistically. More intensive social work including family therapy carried out with a number of Indian patients. Social work with post-operative patients continued.	
August	Work programme affected by resignation of social worker half-way through the year. Reduced research and casework interventions as the student social worker tried to cope for the remainder of the year with increased in-put from social work supervisor. Other changes in multi-disciplinary team as some moved away from Durban and were not replaced. Publication of psychiatric and psychological group of results of their findings (Levin et al., 1980 and Levin et al., 1981).	
<u>1981</u>		
January to November	Difficulty experienced in obtaining full-time social worker. Social work student again awarded a bursary by the G.I. Unit. Social work in-put from student and supervisor. Study undertaken of the effect of stressful life situations on the healing of duodenal ulceration which showed a statistically significant relationship between stress and difficult healing (Mason et al., 1981). Focused on need to treat family stress. Commencement of coding and analysis by computer of data on stressful life situations. Intervention with duodenal ulcer patients in reducing stress as perceived by patients. Commenced a follow-up study of patients in the stressful life situations study. Unsuccessful follow-up of most Black patients. The Director, Prof. M. Moshal, became ill and died in late 1981. This had its repercussions on the social work programme as well as the total functioning of the G.I. Unit.	
<u>1982</u>		
January to December	Appointment of experienced part-time social worker (Mrs. J. van Niekerk) who undertook the study of effectiveness of social work intervention, in addition to social work with patients and supervision of student placement. As a result of the Director's death, there were changes in the G.I. Unit and an interruption in the continuity of the social work programme which had existed since 1977. The part-time social worker had the task of re-establishing the social work programme as an integral part of the G.I. Unit. This was assisted by a very successful student placement during this year.	

<u>DATE</u>	<u>ACTIVITY</u>	<u>SYSTEMS PARADIGM</u>
	The follow-up of the Indian patients in the stressful life situations study was completed early in 1983. Symposium at R.K. Khan Hospital on "Duodenal Ulcer disease" in which the present author participated and discussed the social worker's role.	<p><u>A new cycle</u></p> <p>A new cycle has now commenced.</p> <p>The social work system has achieved greater acceptance and has proved itself as part of the comprehensive programme of patient care. Continuation of social work with introduction of social work in-put into new areas.</p>
<u>1983</u>	Appointment of Indian social worker (previous year's student) and placement of new student. Group work extended to groups with pre-endoscopy patients to allay fears of the procedure and provide information. Physicians collaborated in this group work.	Continuation of social work with introduction of social work in-put into new areas.
January	Increased use made of couples therapy, including treatment of sexual dysfunctioning. Social workers now involved in groups for patients with pancreatitis and working closely with the physicians in the treatment of irritable bowel syndrome. The social workers have spent time in both formal and informal staff groups, clarifying their role and objectives. There has been increasing emphasis on the psychosocial factors in the various illnesses treated at the G.I. Unit. The results of the study on the effectiveness of social work intervention highlighted the need for physicians and surgeons to consider psychosocial factors and to utilise the social worker in the assessment and treatment of stressed patients and their families.	Social workers accommodated in a new office in the new G.I. Clinic which establishes a physical and psychological boundary.
December		Emphasis in new phase on clinical work with patients using family and marital therapy more extensively in view of the high level of stress in marital and family areas. (Result of research findings). Careful assessment needed of the function played by the symptom in the total life situation of the patient in order to determine treatment foci.

The summary of the development of the social work programme indicates the extent to which the social work programme has been influenced by different inputs and has, itself, influenced the treatment of duodenal ulcer patients at the G.I. Unit. The development of the programme may also be analysed in terms of the main principles of general systems theory, as identified by von Bertalanffy and applied to social work by Hearn (1969 and 1974, pp. 345-349); Fordor (1979, pp. 97-110) and Janchill (1969, pp.74-82).

8.3 APPLICATION OF PRINCIPLES OF GENERAL SYSTEMS THEORY TO SOCIAL WORK PROGRAMME

8.3.1 Open Systems.

The systems with which social work is concerned are open human systems, whether they be client or staff systems, or the "change systems" identified by Goldstein (1973). Even an open system may vary from time to time in its degree of openness and closedness. The client system, i.e. patients at the Gastro-Intestinal Unit, are open to and maintained by a constant flow of input and output. The medical and social work staff are examples of input for the client system. In terms of systems theory, the social work function is restoration of the patient's equilibrium or establishing a new equilibrium through treatment. This may be in contrast to the medical function of elimination of symptoms.

8.3.2 The dynamic steady state.

Systems theorists have struggled to find a term which takes cognisance of the paradox of change (morphostasis) and homeostasis. Dell (1982, p.27) describes homeostasis as the tendency of a system to seek a steady state when it has been perturbed. The steady state which results is always slightly different from the preceding steady state. In other words, homeostasis is a process which results in evolutionary change. For example, a patient with a duodenal ulcer experiences "perturbations" in his physiological systems which, in turn, has repercussions on work and family systems, which in turn effect him. He will seek a new steady state by seeking and receiving medical treatment, adopting a changed life-style, reduction of stress, change in eating, smoking and drinking

habits, as demonstrated in the research findings. Return to the steady state will result from successful treatment, but this equilibrium may be perturbed again at a future stage, when disequilibrium and return of ulcer symptoms may follow.

Staff and research systems also restructure as a result of perturbations in the system. For example, loss and change of staff members requires reallocation of roles and duties to enable a steady state to be established once again.

8.3.3 Goal-directed systems.

Some degree of tension is always present and as one goal is reached, new goals will be specified. The goals of the social work programme which were initially aimed at providing a viable service at the G.I. Unit have been reached. New goals are now being specified such as closer co-ordination of the different treatment systems and refinement of the social work input to provide clinical treatment of individual and family systems, taking into account the symptom's function within these systems. Other goals at present being realised are the provision of more adequate information to patients about their condition, through closer co-ordination of medical and social interviews, and the examining of the provision of social work services in the total hospital structure. For each patient, the goal is restoration of equilibrium, physiological, psychological and social. Treatment is terminated when equilibrium is established, but there is always the possibility of further stress reactivating ulcer symptoms. There must therefore always be "an open-door policy" so that patients may seek social work assistance if the need arises.

8.3.4 Equifinality.

This refers to the principle that the same goal may be achieved from different initial conditions. The patient's anxiety may be reduced by an opportunity to discuss problems with the nurse or doctor or by active intervention in the home situation by the social worker. Different methods may achieve the same result and even the completion of a research

questionnaire has served to allay anxiety for some patients and to assist their own problem-solving efforts. It has been found that the structured research questionnaire provides patients with an opportunity to reflect on their own lives and to think of ways of ameliorating their own condition. This may be likened to Hollis's (1966, 1970) description of reflection on the person-situation configuration as one of the processes of social case-work. There were many examples of patients at the end of the research interviews expressing relief at "talking out their problems". For some, one extensive research interview was sufficient to strengthen coping capacities while others required longer term psychosocial treatment.

8.3.5 Negative entropy.

There is a tendency towards increasing elaboration of organization which in living systems is described as negative entropy. Where the system moves towards disintegration as happened with the research project at a certain period, import of new energy in the form of new staff or a decision to restructure staff involvement counteracted deterioration or entropy. This enabled new growth and development to take place. At the individual patient level, the effect of the disease requires the input of medical and social service to counteract the illness.

8.3.6 Feed-back.

A pre-requisite of goal-directed behaviour is some means of gaining information or feed-back about changes in the system and its environment, with a capacity to modify behaviour as a result. The system will select from a variety of patterns of behaviour in terms of feed-back. Dell (1982, p.28) posits that this will be in conformance with, what he has termed, its "own organised coherence". The duodenal ulcer patient, for example, may use information about the need to communicate rather than to bottle-up his feelings of stress which will alter his previous behaviour. Within the larger G.I. Unit System it is essential to have feed-back from the different components in order to bring about change in the systems operations.



8.3.7 Sub-systems.

All systems, but the largest, are themselves sub-systems of other systems and all systems, but the smallest, are environments for other systems.

Human beings are both cells and hormones and organs and sub-systems of families and communities. The duodenal ulcer system can be studied from the point of view of the ulcer crater or the disturbed family relationship.

This was demonstrated in Figures 15 and 16 (Chapter 6.9).

showing the systemic nature of duodenal ulcer diseases. This indicates that a practitioner or several practitioners may be involved in one or more of many different systems, but should take cognisance of the effect of other systemic transactions on the system with which he may be preoccupied.

This highlights the need for openness and feed-back between the members of the interdisciplinary team.

8.3.8 The complexity of systemic interaction.

This makes possible a wider range of targets for intervention. As already pointed out, the principle of equifinality operates to produce healing or conversely the exacerbation of ulcer symptoms from many different initial conditions and interventions.

8.3.9 Boundaries.

These are important attributes of systems. They distinguish the system or sub-system from its environment and other systems. Social work is described by Hearn (1974, pp 364-366) and others as boundary work, meaning that it is involved at the boundaries or interface between the system and its environment or between one system and another, or at the boundaries of sub-systems. The social worker functions to help the system locate the boundary, or to define it, if it is not perceived, or to reconcile the system's perception of its boundary with the way others see it. The social worker may regulate the degree of openness and closedness of the systems and help regulate what comes in to the system and what goes out. A clear picture of boundary work with a patient emerges from the case-study of Arnand, described later in this chapter. Boundary work may also involve the loosening of rigid boundaries between social work and medical staff, so that a more comprehensive

or holistic approach is used in patient care. In order to offer high quality care there must be an openness of boundaries to allow for free interchange of ideas and opinions.

8.4 PATIENTS' PERCEPTION OF SOCIAL WORK SERVICES.

One of the sections of the Focused Social Questionnaire posed questions about the knowledge and use of social work services by patients. Only twenty per cent of the Indian duodenal ulcer patients had any previous contact with a social worker or social work agency. Of these patients, half had knowledge of the Child Welfare Society, and the other half had been in contact with the Pension and Welfare Section of the Department of Internal Affairs. One of these patients had also received assistance from NICRO¹ when a family member was imprisoned. The lack of contact with a social worker was surprising in view of the high levels of stress reported by patients. It seems obvious that the social worker was not regarded by the majority of these patients as a resource to be used in stressful situations. The Indian patients in the control group reported even less contact with social workers than the duodenal ulcer group. Black patients had very little knowledge of or previous contact with social work (11 per cent of duodenal ulcer patients and 13 per cent of the controls).

Table 48 indicates the patients' perceptions of ways to use social workers. Details are given of all the patients in the study. The comparative figures indicate the better understanding of Social Work Services by the Indian group of duodenal ulcer patients.

1. NICRO is the National Institute for Crime Prevention and Rehabilitation of the Offender, a voluntary welfare organisation.

TABLE 48. PATIENTS' PERCEPTIONS OF WAYS TO USE SOCIAL WORKERS BY RACE AND DIAGNOSIS (in percentages)

Use of Social Worker	Indian		Black	
	DU N 50	NON N 43	DU N 37	NON N 32
Would use a social worker, but purpose not specified	58	35	51	47
For Marital Counselling with self or family member	34	9	5	13
Help in work situation or obtaining work	18	9	0	6
For advice or information about a variety of subjects	14	12	0	0
Assistance with problems arising from illness or disability	12	9	3	0
Material help such as obtaining a grant, or accommodation	6	16	8	28
TOTAL	142	90	67	94

Table 48 shows that over half of the Indian duodenal ulcer patients indicated that they would use a social worker if necessary, although they were unsure of the function of the social worker. Overall, more Indian and Black duodenal ulcer patients than controls stated they would make use of a social worker without specifying the purpose. A much higher percentage of Indian duodenal ulcer patients than other groups indicated that they would make use of marital counselling if necessary, reflecting the high reporting of marital and family stress by this group (Chapter 4.7.3 - 4.7.4). Other ways of using social work services were described as obtaining help in work seeking, or in bringing about changes in the work situation; obtaining information or advice about a variety of subjects and material assistance.

Black controls specified material assistance more frequently than the other groups indicating their problems arising from loss of income as a result of injury. In spite of the fact that the research was conducted in a medical setting, only a small number of patients, mainly Indian duodenal ulcer and control patients recognised the possibility of receiving help from the social worker with problems arising from illness.

Looking at the limited scope assigned to the social work profession by the patients in this study, difficulties were anticipated in gaining acceptance of the social worker's role in the interdisciplinary team at the G.I. Unit, from the point of view of the patients.² In the early days of the social work placement at the hospital, the patients' standard response to the possibility of referral to the social worker was that they had no problems. The use of denial by duodenal ulcer patients has been shown and this obviously was also a factor in the non-recognition of the role of the social worker. From a systems point of view, change was being introduced into the medical treatment system, and this was a disturbance of the equilibrium which had existed in the past. The steady pattern of relationships between medical and nursing staff and patients was disturbed by the introduction of social work staff.

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2. In an interesting piece of research conducted with patients who were part of a prepaid medical group plan, Friedson (1966, pp. 447-458) reports that the introduction of a public health nurse and a psychiatric social worker resulted in patients choosing in preference to consult the public health nurse rather than the social worker. Friedson concludes that this was because the public health service was compatible with prevailing client conceptions of the nature of their problems as being "everyday" problems, whilst the social work service was not compatible with client conceptions of the nature of their problems. Social workers were rather seen as a late source of consultation for "special" or "serious" problems. In a similar fashion, patients at the G.I. Unit would consult a social worker for "serious" problems, if these arose.

The change had been introduced as a result of feed-back indicating that patients' recovery was being retarded by stress in their life situations. Acceptance of the need for intervention at the person situation interface was not sufficient, however, to enable change to take place within the system. It also required education of patients and staff about the value of stress intervention and a demonstration of the effectiveness of a more comprehensive pattern of patient care. This required time and persistent effort by the social work staff to gain acceptance at many different levels. It was achieved through many informal ways, such as timely discussion with medical and nursing staff of patients' problems over a cup of tea during the tea-break. Talking, in an informal manner, to patients waiting in the queue for medical attention and offering a service for a particular social problem was often a good method of case-finding. More formal gatherings such as the monthly staff or research meetings were also useful in bringing about an awareness of the social workers' role. Contributing papers at interdisciplinary symposia on gastro-intestinal disease was also a useful method not only of elucidating the social worker's role, but also of emphasising the psychosocial components of illness which tended to be overlooked in the immediate concern with relief of physical symptoms.

The commencement of the research into patients' stressful life situations heralded a new era for the social worker because the use of structured questionnaires in the research focused on stressful situations and ways of managing stress were discussed as a follow-up to the research interviews. During the interviews a casework approach was combined with the administering of the Focused Social Questionnaire. Thus support and encouragement was given; patients were provided with an opportunity for catharsis or ventilation, and there was an opportunity to explore and discuss both practical and emotional problems and the use of problem-solving techniques. The patients were offered further casework services at the end of the research interviews and group therapy was also provided. Most patients described themselves as helped by this short-term contact with the social worker. They said that the time spent describing and assessing themselves and their

situations resulted in a better understanding of their disease, both in terms of the stressful factors which preceded the attacks of ulcer pain and the way in which their own situations were exacerbating or maintaining the illness.

8.5 METHODS OF SOCIAL WORK INTERVENTION

Brock's (1969) division of hospital social work into three categories, namely 1) social work with the individual patient and his family; 2) social work within the hospital, and 3) outside the hospital, is used to describe types of social work intervention at the G.I. Unit.

8.5.1 Social Work with the Patient and his Family

(a) Case-work

This consisted of short-term counselling as already described following the research interviews and longer-term therapy using the most appropriate intervention in terms of the client's needs. Case work, including family and couples therapy, behaviour modification, cognitive restructuring, and problem-solving was used, together with various types of group work either concurrently or sequentially. Patients who recognised their need for social work intervention in terms of their perception of their stressful life situations entered into a contract with the social worker which specified problem areas and goals and methods of treatment. Weed's Problem Oriented Recording (P.O.R.) was adapted for use as a recording method. (Weed, 1968 and 1969). As much as possible, patients were interviewed by the social worker after they had attended the Clinic for medical assessment or treatment to reduce the necessity of taking time off work. Good working relationships with industrial and commercial firms facilitated the granting of paid time off work to attend Clinics. It was necessary for medical and social work staff to collaborate and consult about treatment of individual patients, and this was not easily achieved; social work staff were either part-time or doing student placements for most of the period under review. They were not always available when patients attended the Clinic. Clinic procedures were geared to attending to as large a number of patients as possible. Medical consultants and

and registrars each had a Clinic slate which was booked ahead and patients passed through the hands of the doctors at a quicker rate than it took for their social work interviews. Thus the logistics of dove-tailing medical and social treatment needed constant attention. A carefully worked-out system was easily disrupted by urgent cases needing medical attention and by staff changes or absence. These matters fall into the category of social work with the hospital system and will be discussed again, later.

The average number of contacts with patients receiving extended psychosocial therapy was six interviews after the initial study phase, usually including two home visits and couples and family therapy where indicated. This is illustrated in the case study of Arnand that follows. Thirty six per cent of the Indian males included in the study of stressful life situations received extended social work treatment. The outcome of treatment is reported in the follow-up study in Chapter 9. Social work intervention, as is the case in most hospital social service departments, was crisis intervention, given at the time when the patient's ulcer was diagnosed and most active. Stress was usually high at this point, but even under these circumstances as already pointed out, patient's expectations were predominantly in favour of medical rather than social treatment. Patients in this study were either at an active or healing stage of their ulcer disease. Those with the ulcer at the most active stage were found to recognise a link with stress more readily, and so to accept social work referral more readily than those with healed ulcers who were still attending Clinic for medical treatment. A study of the effectiveness of social work treatment with patients with healed ulcers will be discussed in the next chapter.

Apart from the patients in the present study, referrals were made by medical and nursing staff of patients in the wards or attending clinics. These were mainly gastro-intestinal patients with irritable bowel syndrome, oesophagitis, pancreatitis, cancer of the stomach and bowel and gastric ulcers. Both male and female patients received social work treatment. The female duodenal ulcer patients were a particularly stressed group who often required extended psychosocial intervention. As a group they are not included in the

present research because of the small number involved, compared to the males.

(b) Choice of intervention methods

The social worker must select from a repertoire of intervention techniques those which will be best suited to the client's need. Behaviour modification and cognitive restructuring may need to be blended in an expanded repertoire of intervention options.

✓ Behaviour modification is defined as "the planned systematic application of experientially established principles of learning to the modification of maladaptive behaviour, specifically to decreasing undesired behaviours and increasing desired behaviours" (Fischer, 1978, p.157). It involves a parsimonious approach which because of the element of time-saving lends itself to implementation in the busy hospital clinic. Behaviour modification also involves self-change for the patient rather than continued dependence upon medical attention. Assertive training, systematic desensitization and relaxation procedures are applicable in the case of many duodenal ulcer patients who experience problems involving shyness, anxiety and lack of assertion. This can be achieved through individual treatment, or through a group approach as described in the account of group work that follows.

✓ Cognitive restructuring, that is changing people's patterns of thinking and the self-defeating behaviours based on unreasonable attitudes, should form a necessary component of social work with duodenal ulcer patients. Many of the patients have formed a stable pattern of under-functioning which is accepted at home and work because of their ill-health. With the medical treatment of their symptom there is also a need to alter specific behaviours, thoughts and feelings in order to promote more adequate family and social functioning. As mentioned in previous chapters, many patients had faulty ideas about the extent of their disability, and had been inducted into a chronic sick role. The social worker in conjunction with the doctor needs to identify these misconceptions and to modify them in order to facilitate improved functioning. Many Indian patients expressed an attitude that their misfortunes were all externally caused by outside events and people

rather than by their own view and the effect of their own actions on these conditions. Cognitive restructuring may also be included in a group programme as is reported in the section dealing with group work. Social work either with individuals or in the group aims at restructuring clients' cognitions in the direction of more rational ideas and beliefs which involve the person in finding ways of coping with problems rather than becoming overwhelmed by them (Fischer, 1978).

✓ Crisis Intervention

Crisis intervention is often the main treatment modality used by hospital social work departments. Referrals are made by other hospital staff when patients are seen to be in crisis, often in situations where material necessities are in short supply. The call at point of need is often for immediate material assistance of one kind or the other. Another type of crisis is that faced by patients and family members when surgery or death is imminent. Whatever the nature of the crisis, the social worker is called upon to give immediate assistance which is geared to the presenting problem. This type of crisis was sometimes experienced by the social worker at the G.I. Unit, but the more usual type of intervention could be described as intervention during an acute stage of illness. The patient with the newly diagnosed active duodenal ulcer, for example, experiences some of the phases referred to by Lindemann (1944), Rapoport (197) and others. Social work offered at this acute stage finds the person at his most receptive to the idea of introducing change into his life style. Social work intervention is therefore often delivered as a form of short-term treatment which capitalises on the feeling of urgency which the patient experiences at the acute stage of illness. The frequent expressions of relief by patients after interviews at this acute stage indicate the need to focus on social work at this phase of illness.

✓ (c) Social group work

The group in social work is described by Glasser et al., (1974), as both a means of treatment and a context for treatment. As a means, it affords a vehicle through which the interactions and the influences within the group

may be used to bring about change in the participants' behaviour. As a context, it provides for social worker-member interaction which is relevant to the symptom, in this case, duodenal ulcer disease and the stress in the lives of patients.

Group work was introduced on this basis in 1980, initially for a group of seven Indian males with duodenal ulcers. The patients received no medical treatment for the twelve week period during which the sessions were held on a weekly basis. Wives of patients were also invited to participate.³

A programme and a contract between the social worker and the group members were drawn up at the initial meeting. The goals of the group were specified as follows:

/ (i) Goals of group work

- to facilitate constructive release of feelings by members;
- to strengthen members' self-esteem;
- to encourage members to face problems and discuss ways of resolving their problems;
- to improve members' skills for recognising and resolving inter-personal and intra-personal conflicts;
- to help members cope with problems arising from illness;
- to study social stress prior to illness;
- to help members cope with problems in the future.

It was planned to evaluate the effect of social group work by assessing the group members' state of health and stress levels at the termination of the group work. Objective assessment in terms of a controlled group experiment was not possible because of the problems of assembling a control group. Instead, members were requested to complete evaluation forms at the end of each group session using a ten-point rating

3. The author is indebted to the Social Worker, Miss Vishanthi Naidoo, for her detailed report on the group work, which is quoted extensively.

scale. At a final evaluation session, the patients wrote up an evaluation of the total sessions in terms of the extent to which stated goals had been achieved. The evaluations of the group members were enthusiastically positive.

At the termination of the group work, the seven patients were endoscopically assessed.⁴ Two of the seven still had duodenal ulcers, although the one patient, a 57 year old with diabetes also, was no longer having ulcer symptoms. Both of these patients were still experiencing stress and were receiving individual and marital treatment whilst attending the group sessions. The other five patients received no other form of treatment but group therapy. The outcome was, therefore, seventy-one per cent of the patients showing no sign of ulcers at the following endoscopy.

(ii) Supportive therapy, ventilation and problem-solving in the group.

Problems of patients were given priority and patients were provided with the opportunity for catharsis within a very supportive group environment. During the second session, one member spoke of his extra-marital affair which made him feel conflicted and guilty. Group members responded by discussing the "pros and cons" of such a relationship, for example, that his girl-friend would later want security and become more demanding; that it would be emotionally taxing for him to satisfy both wife and girl-friend; that he would incur extra financial expenses. The morality of the relationship was also discussed with patients disagreeing in terms of their own moral principles. During two subsequent sessions, the group members teasingly asked the patient "how's your girl-friend getting on"? The patient, who was obviously embarrassed, evaded the question. Three weeks later the patient reported that he had given up the relationship. His wife later

4. They all had endoscopically confirmed ulcers at commencement of group work and had received medical treatment which was discontinued during the period of group therapy.

participated in the group and in her evaluation wrote, "In all we have gained by coming to this group and between my husband and me, we have learnt a lot of understanding. This group has brought happiness and harmony amongst members of families". Problems about illness, diet, possible side-effects of medication were shared in the group.

(iii) Behaviour Modification:

Role-playing and Communication in the Group.

Role-playing and communication games (Satir, 1972, pp.80-95) were used to improve social skills and to introduce more appropriate behaviour patterns at work and home. Attention was given to alternative ways of expressing hostility and aggression. Group members were helped to become more aware of physical reactions to the individuals around them and the way in which they "turned-off" their hostile feelings and later experienced physical symptoms.

(iv) Educational talks and demonstrations.

The group asked for information on various topics and different speakers were invited to address the group. One of the speakers was an industrial psychologist, who discussed ways of dealing with conflict in the work situation and how to achieve self-actualization. A gastroenterologist demonstrated the nature of duodenal ulcer disease and the use of the endoscope in diagnosis. A film on the use of the endoscope was shown and succeeded in allaying some of the fears which these patients experienced in relation to endoscopic procedures. This method of diagnosis plays an important continuing role in the assessment of the ulcer condition, but is misunderstood by most patients. The apprehension felt by patients is not always appreciated by the physician. This joint discussion between patients and their doctor was helpful in clearing away many misunderstandings. The inclusion of this session in the group work was a precursor of the pre-endoscope groups which were formed at a later stage for other patients.

(v) Relaxation theory

Based on the studies that have indicated the effectiveness of group training in relaxation, this was arranged as part of the group therapy by one of the psychologists at the Medical School. Unfortunately the final evaluation revealed that only two of the seven patients continued relaxation exercises on their own. This should therefore be incorporated into the treatment programme for patients over an extended period.

(vi) Sensitivity and assertive training

This was conducted over three sessions, twice by the psychiatrist and once by the social worker. The psychiatrist demonstrated the "fight or flight" theory as related to stress and the danger of an immobilising situation resulting in psychic tension which could precipitate ulcer disease (Levin et al., 1981).

The need for assertive training was emphasised and the group discussed personal failure to behave assertively because, firstly, such behaviour had never been learnt, or alternatively because of a deep-seated fear of rejection. Ways of coping were discussed and used in role-plays.

(vii) Comments

The use of group work was demonstrated to be effective in helping members to cope with their life situations and to develop greater self-awareness and to build up self-esteem. The members of the group were similar in their feelings of inadequacy, low self-esteem and lack of social skills. They benefitted from realising that others shared their feelings. It was clearly demonstrated that a group context was effective for dealing with the stress experienced by all the members. It is unfortunate that there are many practical difficulties to be overcome in establishing and maintaining a group like this. The group meetings were held late on a Saturday afternoon, but even then many patients could not attend. Persistence and effort was needed to establish the group but there is a need for administrative changes to be made to facilitate the use of group work.

(d) Family and Marital Therapy.

Family therapy is a treatment modality which involves the family as a whole and requires the therapist to join the family system to bring about change. The rationale for family therapy at the G.I. Unit, including couples or marital therapy, was based on the assumption that the symptom, whether it be an ulcer or any other symptom, was maintained by the family's stress and that the symptom had a function in communicating stress, or sometimes was used to detour or de-escalate stress. This has already been discussed in a theoretical perspective in terms of family dysfunctioning (Chapter 3.3) and arising from the research findings of significant family stress. Treatment of the patient and his family was based on Minuchin's model (1974 and 1978) of structural family therapy. This aims at restructuring the family system in order to bring about family and individual homeostasis. Another guiding theory was provided by Elkaïm's (1982) description of the use of family fluctuations or perturbations, which appear at a critical point and may be amplified by the therapist to drive the family system to a new state of equilibrium. Elkaïm points out that at the point of instability it is not known which fluctuations will respond to amplification by the therapist, as chance influences may intervene.

The social worker, when treating the families of duodenal ulcer patients entered the family system at a point of instability caused by the patient's acute ulcer symptoms. The therapist then focused on different solutions which the family members suggested. Elkaïm (1982) emphasises the 'singularities' (heterogeneity) of families which the therapist needs to acknowledge in terms of looking for solutions to their problems. Working with the families of duodenal ulcer patients, there was testing through trial and error, of different ways of changing the family system which would be congruent with their particular singularity. The families needed to find ways of responding to the stress which was often related to the patient's inadequacy in the family system by changing family interaction rather than using the father's or husband's symptom to excuse his under-functioning. In one family, stress always developed when the patient made decisions for the

family in preference to using open discussion and negotiation. Only when the wife revealed her desire for her husband to express his wishes openly rather than using his illness as an excuse to withdraw from a quarrel, did the family begin to see possibilities of solutions to their problems.

The successful implementation of family therapy depends on careful assessment of the role of the ulcer symptom in maintaining family functioning.

It is only in terms of this assessment that the family can be assisted to restructure and to move towards change in their family system.

Similarly to the situation found in organising group work, there were many practical difficulties to be tackled in arranging family therapy at the Hospital. These will be discussed further in the next section and in the final chapter.

(e) Link Therapy

There were instances when family therapy was not suitable because of the attitude of members of the extended family. Senior family members would regard the patients presenting physical symptom of ulcer disease as requiring medical treatment only. In terms of the traditional role of the senior member of the extended family in dealing with family problems, their refusal to participate in family therapy was predictable.

An alternative method, that of "link-therapy", was used with several patients (Landau et al, 1982). In these instances, the patient who was a transitional member in the traditional family, desired to move away from the traditional system towards a nuclear family system. The patient was coached by the social worker to bring about the desired changes within his own family system. In this way he acted as the social worker's "co-therapist", to bring about change, without direct intervention by the social worker in his family system. This proved to be an acceptable alternative to family therapy with some patients.

Many of the principles of systems-centred social work, including different methods of treatment are illustrated in the case-study of Arnand, Case No.

143, which follows:

(f) A Case-Study of Arnand

Case No.143: Symptomatic and Family Details from First Interview.

Arnand, a single male of 20 years of age attended the G.I. Clinic with typical duodenal ulcer symptoms which were confirmed by endoscopy. He was recruited for the psycho-social duodenal ulcer research and agreed to participate readily because of his own perception of himself as being "under tremendous stress". During the administration of the Focused Social Questionnaire by the social worker, he related a story of multi-stress. His father had a long-standing drinking problem, which resulted in his spending most of his weekly wages on alcohol. He did not provide the wherewithal for his wife to run the house and provide for Arnand's five younger siblings. As a result Arnand paid in a large proportion of his salary to support the family. Arnand's mother had been ill for several months but had not obtained medical attention because of lack of funds. These situations worried Arnand to a great extent but he had failed to persuade his mother to see a doctor, or his father to reduce his drinking and contribute to the household coffers.

The family, which consisted of parents, Arnand and his five school-going siblings, lived in a modest home, which they were buying through a City Council home-ownership scheme. The house had become crowded when Arnand's mother offered accommodation to her sister and her sister's disabled husband, and to another sister with four small children who had been deserted by her husband. The family had obtained a lawyer's loan to enable them to extend the house, however, Arnand's father had used the money for drink and gambling and the extension had never been undertaken. Nevertheless the interest on the loan had to be paid monthly and Arnand had accepted this additional responsibility. With all these burdens, Arnand was also being nagged by his girl-friend to get married. He was too embarrassed by the crowding at home and by his father's drinking to take either his girl-

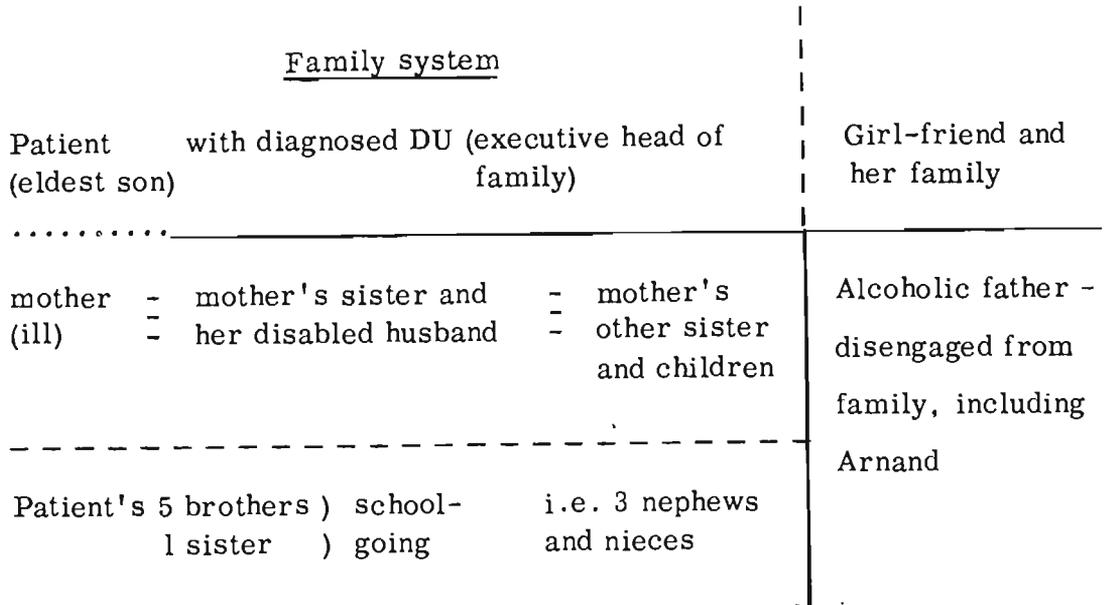
friend or her parents to his home. He spent all his free time at her home instead, all the while trying to evade the issue of marriage. He said that he felt "sick in his stomach" with worry and felt his burdens were more than a human being could bear.

The Function of the Symptom.

Arnand may be seen to be in a situation, as described by Keeney (1979), in which a symptomatic person represents "the apex of a particular relationship system". The symptoms, in this case the duodenal ulcer symptoms, can no longer be contained within the individual's body, but become part of a larger social context. The symptom, the duodenal ulcer, provides communication about the eco-system of the individual. Keeney describes therapy as consisting of redefining the symptom in terms of relationships between the different systems. Arnand was himself quite able to describe the relationship systems of which he was a part, - the family, the extended family, the wider world of money-making and money-lending; the sub-system of mother and eldest son, of disengaged father and of the extended family over-loading an already stressed family system. He recounted how his pleas to mother and father to change their ways had gone unheeded. He recognised that his symptoms were communicating the over-load of stress in the family and the changes needed to be made within the family system. Although symptomatic relief would probably result from the use of medication or antacids as prescribed by the physician, there would still remain the possibility of symptomatic expression in other parts of the system. This is a case, therefore, where intervention at the higher level of the family proved to be more productive than intervention at the level of the individual symptom.

Family System Assessment.

A family assessment was undertaken by the writer as a first step in intervention. This is shown in the form of a family structural map, using Minuchin's method of mapping (Minuchin, 1968).



Legend

- - - normal boundary
- diffuse boundary
- _____ rigid boundary, disengaged system
- = over-involved

Fig. 19: A structural map of Arnand and his family system.

The family map shows Arnand in his role of executive head of the family, whilst father was disengaged from the family (non-support, frequent absence from home). Arnand was enmeshed with his mother (indicated by a diffuse boundary between the two). Boundary between relatives and Arnand was shown as rigid, because he wanted to have nothing more to do with them, wanting them to leave. His mother, on the other hand, was over-involved with her relatives and this was a source of conflict between Arnand and his mother and also between mother and father. There was a fairly normal boundary between Arnand and the other siblings. Although he made major decisions in the family, such as accepting responsibility for repayment of the loan on the house, his mother was the person who controlled the children. Arnand's girl-friend was on the periphery of the family system. She was involved in a more or less appropriate way with Arnand in terms of their phase of courtship, but he excluded her from his family and had also been

secretive about his illness. She was, therefore, not playing as supportive a role as she could have done in his stressful situation.

Treatment: Goals and Methods (as identified by the writer in conjunction with Arnand in the form of a contract).

<u>Goals</u>	<u>Methods</u>
1. Relief of symptoms	<ul style="list-style-type: none"> (a) Treatment by medical staff of ulcer; (b) intervention by social worker using family therapy to reduce family stress; (c) individual assistance - coaching Arnand to be more self-assertive and instructing him in relaxation techniques.
2. Family problem-solving	<ul style="list-style-type: none"> (a) Use of family interviews to arrange for relatives to move out of crowded house; (b) to refer father for treatment for alcoholism to either SANCA or A.A.; (c) to arrange medical treatment for mother.
3. Family restructuring	<ul style="list-style-type: none"> (a) Family structure to be more clearly defined by excluding relatives whose demands overload the family system; (b) Mother and father to resume some of the responsibilities which Arnand has taken over; (c) Other siblings to assume some responsibilities.
4. Affirming and demarcating sub-system boundaries (boundary work)	<ul style="list-style-type: none"> (a) Gradual re-inclusion of father into family system; (b) Strengthening husband-wife relationship. This was seen by Arnand as an ultimate although relatively unattainable goal.
5. Loosening enmeshed sub-system of Arnand and mother	<ul style="list-style-type: none"> (a) Arnand to begin to separate from mother in preparation for his own marriage; (b) Mother to reduce her demands on Arnand and he to refrain from taking on her responsibilities.

6. Improving communication
- (a) Between Arnand and his girl-friend so that he is able to share his problems with her rather than bottling them up;
 - (b) between family members, so that others will realise the effect of stress in producing symptoms, e.g. ulcer.

These different goals intermeshed and blended into one another in a systemic framework. Methods of intervention were also blended. For example, Arnand received medical attention, instruction on relaxation and assertiveness - training concurrently with family therapy and couple counselling. Regular treatment contacts were terminated when the duodenal ulcer healed and remained healed for six weeks.⁵ Arnand saw the social worker when he came in for an endoscopy at three monthly intervals.

Outcome of Systems Treatment.

In terms of the treatment goals, all were successfully reached within the intensive treatment period, except for the goal of successfully referring Arnand's father to either SANCA or A.A. and strengthening the marital relationship between Arnand's mother and father. Father initially accepted the assessment by the family and the social worker (the family plus social worker equals the change-agent system) of his need for treatment of alcoholism. He frustrated all attempts to link him with either organisation, however, continued to drink heavily but contributed a weekly amount to the household income. Arnand and the other family members considered that the father's contribution to family stress had lessened and they were satisfied with this improvement. Other matters, such as the relatives' moving out, mother receiving medical treatment and the children being more helpful in the home, were tackled successfully. In terms of relationships, Arnand opened up to his fiancée and her understanding encouraged him in his own self-development. She had been puzzled and anxious about his behaviour and was considerably relieved to know that his illness was not terminal. (She had expected the worst because of his secretiveness). She began to visit his home and there was a relaxation of rigid boundaries between the two families.

5. This was confirmed by endoscopy.

As Arnand became more communicative with his fiancée, his close enmeshment with his mother decreased. Mother, in turn, because of improved physical health and the absence of demands from her relatives, spent more time with the other children, especially her youngest, who was the only daughter in the family.

Arnand's evaluation of the situation at termination of intensive treatment was that he could capably meet the demands made upon him and was, therefore, coping. A state of "healed ulcer" was confirmed by regular endoscopy.

Follow-up Interview (Case No.143 in Follow-up Study)

At the follow-up interview conducted at Arnand's home three years later, he reported no return of symptoms during the three year period.⁶ He had been married for two years and had a child of one year. He and his wife and child were living in his parents' home and had no immediate plans for moving away on their own. This was culturally in coherence with traditional norms of Indian family life. Mother and daughter-in-law were sharing duties in the home and both reported no problems arising from this sharing. Arnand's eldest brother was now working and the next in line was working part-time after school and in the holidays. Financially the family were managing satisfactorily. Father was still drinking excessively, but family members accepted this as he did not disrupt the family life. Arnand had been promoted at work and felt satisfied with his job situation. Family interaction was warm and free at the family interview.

Comments.

There remained considerable potential for stress points in this family, as in fact in all families. Further illness of the ex-patient or his family members, escalation of conflict over father's drinking, surfacing of tension between mother and daughter-in-law in crowded home conditions could amplify and drive the systems into disequilibrium with a recurrence of

6. He did not respond to a request to confirm his ulcer-free state by endoscopy. This was similar to the response from other asymptomatic patients at follow-up. It seemed as if having remained well they did not wish to re-enter "the illness system".

duodenal ulcer symptoms in Arnand, or symptom production in other family members. Nevertheless, the family were coping within a pattern of their own "coherence" (Dell, 1982). They saw themselves as a normal family with no serious problems. Arnand had developed more self-esteem and was flourishing in a benign atmosphere created by a dutiful wife and caring mother. In this particular case, the comprehensive patient care which had been extended to other systems had resulted in the ex-patient remaining healthy over an extended period.

In addition to the social worker's function in terms of the individual patient and his family, there are also other functions within the wider hospital which are not specifically related to an individual patient.

8.5.2 Social Work within the Hospital.

(a) The administration of the Social Work Programme.

In the particular situation at the G.I. Unit, the social workers take responsibility for the development of the social work programme. Innovations are discussed with the Head of the Department and new procedures are introduced to other staff members at the regular staff meetings.

In the beginning phase a separate record system for social work clients was introduced. This has remained as a separate system from the main G.I. Unit files. The P.O.R. (Problem Oriented Record) has been adapted and is used in conjunction with an initial summary of biographical details and on-going case notes.

An important aspect of the administration of the social work service is the provision of funding. The social work post is privately funded and it is the responsibility of the social worker to provide the motivations and annual reports for organisations providing funds for the social work salaries.

Careful selection of social work students is another task performed by the social worker in conjunction with the University. It has always been

stressed that the social work student must be able to prove her competence at the G.I. Unit as this is a new service which is still involved in proving its utility.

(b) Education activities.

(i) Social work student training.

The practical training and supervision of social work students is an important aspect of the social worker's task. The social workers at the G.I. Unit have been appointed from those students who have undertaken their fourth year placement at the Unit. Thus the student placement has served as an internship for future practice at the Hospital. Lectures to social work students have also been part of the social worker's task.

(ii) Education of other staff members.

This may be achieved in both formal and informal ways. Formal education has consisted of lectures and addresses given to medical and nursing staff where the psychosocial and cultural factors in illness have been emphasised. In a more informal manner, there are many opportunities to give information about the meaning and implications of illness for the patient and his family. This has been done in the common room, over a cup of tea, or even during discussions outside the doctor's consulting room. The social worker has needed to emphasise the implication of the sick role for the patient and his family. The tendency of health professionals to induce dependency in patients has also been discussed. This was referred to earlier in relation to the way patients assume a disabled role after surgery (Chapter 6.6).

(c) Research.

Unlike many medical social workers, the social worker at the G.I. Unit has from the inception, had a primary research role. As has already been shown, the research function was emphasised together with service to the individual client. Research has been undertaken as part of an inter -

disciplinary team, as in the case of the study of psychosocial factors in duodenal ulcer disease. Social workers, in addition to their involvement in the main interdisciplinary research, have also undertaken smaller research projects in conjunction with other staff members, such as the study of the effects of stress on the healing of duodenal ulcers (Mason et al., 1981) and the research into the effectiveness of social work intervention with duodenal ulcer patients⁷ (Chapter 9.3).

It is essential for the social workers to participate in research activity because of the emphasis placed on research in a teaching hospital and the need for theory-building in medical social work. There is a need for the social workers to continually emphasise the ecological or systems approach in order to counteract the more narrow and confined approach of much of the other research.

It is also in the area of research activity that the rights and dignity of the individual are so easily overlooked. The social worker has the role, therefore, of making values explicit and safe-guarding the client's confidentiality. She acts as an advocate for her client in this respect.

(d) Consultation.

Consultation is concerned with any of the activities already mentioned. In the role of consultant, the social worker does not offer a direct service to the patient, but provides information or an opinion which other staff members use in diagnosis and treatment. At the G.I. Unit most consultation is given in informal situations, but this should not detract from the value of the social worker's contribution. Formal consultation takes place at ad-hoc case conferences, but these need to be established on a regular basis, if they are to function satisfactorily in enhancing patient care. Unfortunately, whereas

7. This research is reported in an unpublished Master's dissertation by Mrs. J. van Niekerk, 1983. It is discussed in the following chapter.

social workers give full recognition to the value of case discussions, doctors do not usually give them priority. They prefer to use informal case discussions as the need arises. Often social workers wish to discuss patients with the doctors, but find them not available when they need to consult.

(e) Planning new services.

It is in the role of planning and policy-making that there is agreement in medical social work circles, that social workers need to play a greater role. To some extent the social workers at the G.I. Unit have been involved in changing practices which do not serve the patients' best interests. An example of this has been the introduction of a pre-endoscopy service for patients, whereby they are provided with information about the procedures and given the opportunity to express their fears and anxieties in a group context. It is obvious that medical and nursing staff had been unaware of the extent of patient anxiety and the long-term effect on patient compliance and return to the G.I. Unit.

(f) Plans for extending existing services.

As a result of the research, the function of the duodenal ulcer symptom has emerged as having a significant meaning in terms of the individual, family and work systems. Thus in planning to extend services there is a need for careful assessment to decide on the most effective way of providing both social and medical services. If, as has been posited, the ulcer symptom has a function within the patient's family system as a conflict-detourer, or if the symptom gains respite for the patient from an overload of work or family responsibilities, this must be taken into account in medical treatment, which at present focuses on symptom reduction or removal. Without the duodenal ulcer symptom the patient may need to find another way of maintaining a steady state. Treatment must, therefore, include a greater use of family therapy, cognitive restructuring and behaviour modification on a regular basis. Formal assessment procedures such as a modification of the Focused Social Questionnaire, which has proved useful in client-induction and assessment, should be introduced on a routine basis with all patients



as a way of engaging the client's interest in tackling his problems in a different manner.

These intervention procedures emphasise self-management - ways in which patients may help themselves rather than relying on medical attention. It is obvious that for such procedures to be successfully implemented by social workers, the co-operation of medical and nursing staff must be obtained.

There is also a need for policy changes within the hospital in order to facilitate group programmes and family therapy. The social workers need to gain the support of the medical staff and the administrators in order to campaign effectively for a structure which facilitates the use of flexi-time and provides physical facilities to accommodate group and family work. The assessment of the way in which the family system maintains the duodenal ulcer symptom is facilitated by the use of a video-recording. Valuable research in other centres into psychosomatic symptomatology and the family system, had made use of audio and video records for research study (Minuchin, 1978). Thus, in addition to adequate accommodation for family therapy, suitable equipment is also required at the Hospital for video-recording and observation of live interviews using a one-way mirror.

The introduction and extension of social work intervention requires assertive action on the part of the social worker in order to gain funds and organisational support for the services which are proposed.

(g) Team-work, or the Interdisciplinary Approach.

The various aspects of social work within the hospital as already discussed, depend on the "degree of fit" between social work values and purpose and the function of the hospital services. Social workers are often in a position in the hospital, and this was true of the G.I. Unit, where they continually need to make social work values explicit and to educate other staff about the social work role. In order to work effectively as a social worker

within the hospital team, the individual social worker must be able to articulate her role clearly and to continually emphasise the psychosocial components of illness. She is called upon to make choices about the nature of the service she is to offer, especially when social workers are in short supply and perhaps working as a one-member social work department, as was the case at the G.I. Unit for most of the time. The urgency of the need for crisis intervention may result in insufficient attention being given to other roles, such as the need to open up communication between the different treatment systems in order to facilitate the most effective treatment for the individual patient. It is obvious that the social worker should have sufficient knowledge and understanding of the specialised field within which she is operating to be able to communicate freely using the particular terminology of a medical specialisation. In turn, the social worker will need to educate the other staff members into the use of her social work "jargon". A middle road must be sought where there is understanding on the part of all team members of how their roles may be intermeshed for the benefit of the patient. This is again "the boundary work" described earlier, consisting of working at the interface of the different professional boundaries between different team members and their specialities. The social worker at the G.I. Unit is often consulted about tensions between different sections and must use skills of conciliation, or perhaps even confrontation to bring differences out into the open. The social worker may be called upon to act as "enabler" or "catalyst" at staff meetings called to improve staff relationships. Team work is, of course, not only limited to within the hospital walls but may also involve working outside the hospital.

8.5.3 Social Work outside the Hospital.

This consists of work aimed at (1) the individual patient in the community and (2) the larger community or sub-systems of the community.

(a) On behalf of the patient.

In terms of the individual patient, the hospital social worker needs to link patients to community resources. This was particularly necessary

at the G.I. Unit where some patients came to the hospital from a great distance. The social worker needed to liaise with resources in other areas to provide any after-care service that might be needed. In the case of Black patients, use was made of outside agencies because of the lack of Black social workers at the G.I. Unit. Social workers in hospitals need to undertake home visits to facilitate realistic family assessment and to involve family members in family systems treatment. Fortunately home-visiting is recognised as an essential part of hospital social work practice at the G.I. Unit, although most Hospital administrators do not recognise this as an essential part of hospital social work.

(b) In terms of the community.

There is a need for education of professionals as well as laymen to facilitate prevention of illness. Social workers need to be more aware of their role in promoting stress management. There are also ways that the community can introduce less stressful living and working conditions for citizens, but continual education and publicity needs to be given to these factors. The staff at the G.I. Unit have developed good relationships with many large employers of labour so that employees are referred for treatment by the employer and sympathetic attention is given to the need for time off work for treatment. There needs to be a development of this collaboration into the preventive sphere by initiating meetings to identify needs and goals for hospital-community organizations which will improve community health and functioning. This type of organization should be directed at the whole hospital and would involve different departments of the hospital in closer liaison with each other in order to improve patient care, both within and without the hospital. Collaborating in research studies is a useful way of investigating needs at the community level.

8.6 SUMMARY.

The overview of the development of the social work programme at the G.I. Unit has shown that the initiation of a new social work programme within a

Hospital setting has to overcome problems of non-acceptance by both hospital staff and patients. The social worker is required to prove her usefulness and this is usually seen as providing a service to other staff to facilitate the treatment of patients. There is still a long way to go before social workers in a medical setting are accepted as having a function and role which is not dependent on medicine, but with an equal contribution to make - that of enhancing the patient's social functioning within a comprehensive programme of high quality care. The development of the social work programme is facilitated by a system's approach utilising the principles of General Systems Theory as applied to the patient system, the medical care system and the social system. A systems approach, as outlined earlier, has the advantage of taking into consideration all the interacting systems, communication and integration of services. The systems approach is more holistic than the interdisciplinary approach and, therefore, provides for a truer integration of aims and methods than is found in interdisciplinary team-work.

CHAPTER 9
TWO STUDIES - A FOLLOW-UP STUDY AND A
STUDY OF SOCIAL WORK EFFECTIVENESS

9.1 INTRODUCTION

Two additional studies were undertaken during 1980-1983. The first was a follow-up study of 50 Indian duodenal ulcer patients. The second was a study of the effectiveness of social work intervention with Indian duodenal ulcer patients.

9.2 THE FOLLOW-UP STUDY

At the outset of this description of the results of the follow-up study it is perhaps necessary to reiterate some of the relevant factors which have already been discussed. The follow-up study was planned as part of a longitudinal study of the patients included in the study of stressful life situations of duodenal ulcer patients. The study will continue as a periodic follow-up of patients throughout their life span in order to obtain a historical view of the Indian male duodenal ulcer patient, his life situations and the disease career. The follow-up study reported here was carried out approximately three years after patients were first interviewed for the research. Patients interviewed in 1978 were contacted in 1981 and patients interviewed in 1979 and 1980 were followed-up in 1982 and 1983 respectively.

As explained in Chapter 1, it was possible to contact forty-five of the fifty Indian patients, but the follow-up of Black patients was not successful. Attempts to trace ex-patients through employers also met with minimal success. There were problems in obtaining suitable Black staff who would undertake home-visits to townships. Five Black patients were seen when they attended the Clinic because of reappearance of ulcer symptoms. The problems of tracing other patients proved too daunting and the follow-up was reluctantly abandoned. More will be said of the need for further in-depth research of Black duodenal ulcer patients in the concluding chapter.

The Indian follow-up study on the other hand proved very fruitful. Sixty per cent of patients and their families were visited at home and in addition

some were also seen again at the G.I. Unit. Twenty-eight per cent of the patients who could not be visited at home came into the G.I. Unit for an interview. The follow-up interview was undertaken by the author, whereas the initial interview and the social work intervention was mainly undertaken by the social worker at the G.I. Unit, under supervision or in consultation with the author.¹ The gathering of data in the follow-up study was based on information from the first study.² The stress assessment at the beginning phase was used as a base-line with which to compare stress assessment at the follow-up. Table 49 gives details of individual patients - by age; types of stressful situations; other illnesses in addition to duodenal ulcer disease; number of stress areas at the beginning and follow-up phases of the research. The use of denial and the type of social work intervention - brief or extended is also indicated. The change in stress rating is also shown.

In order to compare the changes that took place during the three year period, both as regards symptoms and stressful life situations, the patient group as shown in Figure 20 was divided into three age categories (1) the under 30 age group; (2) the 30-50 age group, and (3) the over 50 age group. The categories were again sub-divided into asymptomatic and symptomatic.

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1. It was hoped to increase objective rating by having a different person undertake the follow-up study.
 2. Follow-up interview schedule is included in the Appendix.

		INITIAL PHASE			FOLLOW-UP PHASE			
No.	Age Yrs	Situational Stress (S.S.)	No S.S.	Denial	Ext. s.w.k	DU	S.S. Dec. Inc.	Other Illnes
131	+30	Marital, Family, Job, Financial, Alcohol, DU	6		X	Occas.	-1	Appendectom.
132	+30	Marital, Family, Job, Financial, Accommodation, DU, Diabetes	7		X	Occas.	+1	Flebitis and T.
133	+30	Mar. blocked, Family, Job, Alcohol, DU	5			Occas.	-1	
134	-30	Mar. blocked, Family, Mother dominant, Job, DU	5			Nil	-4	
135	+30	Job, Financial, Accommodation, DU	4		X	Occas.	-2	
136	+30	Marital, Family, Children, Low Education, DU	5		X	Occas.	No change	
137	+30	Family, Job, Alcohol, Low Education, DU	5	X		Nil	-4	G.U. surge
138	+30	Family, Father's Drinking, Mother dominant, DU	4		X		Not traced	
140	+30	Job, Financial, Alcohol, DU	4	X			Not traced	
141	+30	Family, Handicap, Children, Mother dominant + DU, Alcohol, DU	5	X	X	Nil	-5	
142	-30	Family, Children, Accommodation, Alcohol, DU	5	X		Occas.	-3	
143	-30	Mar. blocked, Mother dominant, Family, Financial, Father's Drinking, DU	6		X	Nil	-5	
144	+50	Family, Job, Financial, DU	4			Occas.	No change	Arthr
145	-30	Mar. blocked, Mother dominant, Job, Low Education, DU	5			Nil	-4	
146	+50	Marital, Children, Job, DU	4		X	Nil	-2	Cancer TB
147	+30	Marital, Wife's mental illness, Job, Financial, DU	5	X	X	Nil	-4	
148	-30	Family (Father's death), Job, Financial, Accommodation, DU, Surgery at 12 years	5	X		Occas.	-1	
149	-30	Mar. blocked, Mother dominant, Crippled father, Job, Low Education, DU	6			Nil	-5	
150	+30	Job, Financial (Unemployed), DU	3	X	X	Nil	-3	
151	+30	Family, Job, Low Education, DU	4	X		Nil	-4	
152	-30	Mar. Blocked, Mother dominant + DU	5	X		Nil	-3	
153	-30	Family, Parent's death in child, Job, Financial, DU	5	X	X	Nil	-3	
154	+50	Marital (Dominant wife), Children, Accommodation, Wife's illness, DU	5		X	Nil	-5	
155	+50	Family (Parent's death in child), Children, Wife's illness, Job, DU	5			Occas.	-1	
156	+30	Marital (sex), Family, Job, Financial, Alcohol, Accommodation, DU	7		X	Yes	No change	
157	-30	Mar. blocked, Dominant Mother, Job, Alcohol, DU	5		X	Nil	-5	
158	+30	Marital, Family (Wife + parents), Job, DU	4		X	Occas.	-2	
159	+50	Wife's illness + death, Children, Unhappy 2nd marriage, DU	4			Yes	+1	Back
160	+50	Marital (sex), Wife's illness, Job, DU	4			Occas.	No change	
161	-30	Family (Parent's deaths in child), Job, Financial, DU	5		X	Occas.	No change	
162	-30	Mother dominant, Family history of G.I. complaints, Studies, DU	4	X	X	Occas.	No change	
163	+30	Family, Children's illness, Job, Low Education, DU	5			Occas.	-1	Chest back
164	-30	Job, Financial, Low Education, DU	4			Not traced		
165	-30	Family (Death of Father), Job, Financial, Low Education, DU	5			Nil	-5	
166	-30	Family (F + Br. Alcoh.). Mother dominant, Job, Financial, Alcohol + Dagg, DU	6		X	Occas.	No change	
167	+50	Marital, Family, Alcohol, 2nd Marriage, Lifetime stress, Heart complaint, DU	6			Nil	No change	Heart cond.
168	+50	Family, Low Education, "Bewitched", Alcohol, DU	5			Nil	-1 +2	Cancer
169	+50	Family, Job, Financial, DU	4	X		Nil	-2	
170	+30	Marital, Family (Religious Diff.), Job, Financial, Alcohol, DU	6			Nil	-5	Diabe
171	-30	Mar. blocked, Family (Parents illness), Job, Accommodation, DU	5			Nil	-4	
172	+30	Marital, Family, Job, Financial, DU	5			Nil	-4	
173	+50	Family, Children, Job, Alcohol, Financial, DU, Hypertension	7			Nil	No change	Stroke
175	-30	Family, Father's Drinking, Financial, Studies, DU	5			Nil	No change	Dyspe & bac
186	-30	Family, Job, Financial, DU	4			Not traced		
187	+50	Marital, Family, Alcohol, DU, Depression	5			Died		
188	+30	Marital, Family, Parent's death in child, DU	4		X	Not traced		
189	+30	Marital, Religious diff, Job, DU	4			Occas.	No change	
205	-30	Quarrels with girl-friend, Mother Dominant, Family, Father GU, DU	5		X	Nil	No change	
221	-30	Mother dominant, Father's Drinking, Job, Accommodation, DU	5		X	Occas.	No change	
222	-30	Marital, Family, Children, Job, Financial, DU	5		X	Occas.	No change	

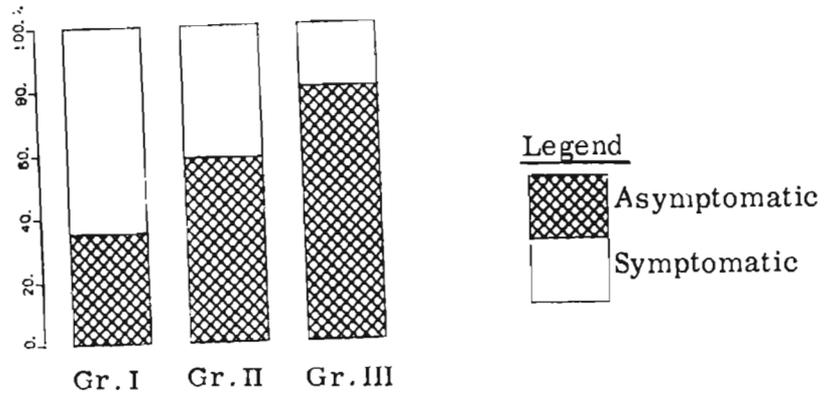


Fig. 20. Symptomatic and Asymptomatic Patients at Follow-up (in percentages).

As shown in Figure 20, more patients under 30 years of age were asymptomatic at follow-up compared with the other two groups. The groups are discussed separately, as follows :

9.2.1 GROUP 1 Under 30 years

This consisted of 11 asymptomatic and 6 symptomatic patients - a total of 17. The asymptomatic group were all single at the initial research interview. Their situational stress was in clusters which included, for most of the group, family conflict over the patient's marriage plans; over-involvement with mother; father often an alcoholic or an invalid and not supporting the family adequately, and patient in a parenting role in the family system. The patient also experienced work stress, considerable financial responsibilities within the family and anxiety over his capability of meeting family demands after marriage.

The majority of these patients were married by the time of the follow-up interview, three years later. Family interviews in the home revealed considerable reduction in family and personal stress. The young couples were all living in the husband's parental home within a joint family system. In each case the patient's mother and wife described themselves as well adjusted in the joint family system. In some cases the wife was working with a consequent improvement in family finances. Where there were children (one or two, in most cases), grandmother was in charge during the day which was in conformity with traditional Indian family life. The case study of Arnand, in the previous chapter, illustrates many of these factors. In all these cases the duodenal ulcer symptom could be seen as initially performing a function in the family system of relieving the patient of overwhelming family responsibilities and serving to de-escalate the family conflict over the intended separation of the patient from the family system. In the conflict over individuation, the patient was caught between his desire for independence and usually his mother's denial of this. It was a dependency conflict at both the personal and family level. The conflict was resolved when the marriage took place, but the couple remained in the joint family system. In this way the conflict was resolved for all parties as confirmed by the reporting of no family conflict at the follow-up interview. This could be predicted in the future, however, when another attempt at separation is made and could be the precursor of fresh duodenal ulcer symptoms.

In two cases, No's 185 and 205, patients had undergone elective surgery and although they had no return of duodenal ulcer symptoms they were still over-sensitive to situational stress. The one patient (No. 185) had developed symptoms of dyspepsia and back-ache as replacement of the duodenal ulcers. The other patient (No. 205) was still unemployed and maintaining a sick-role with the support of his over-concerned mother. Neither of these patients had formed stable heterosexual relationships.

Some patients obviously benefitted from extended social work services which included casework, group work and family therapy. Others again,

had not seen the need for further social work intervention after the social work interview following on the administration of the research questionnaire.

The symptomatic group, under thirty, consisted of 6 patients, 4 of whom were still experiencing ulcer symptoms and considerable situational stress. They were unemployed, using dagga and alcohol to excess and maintaining a sick and deviant role. In these cases, mother was over-protective and the patient's symptom was used to excuse under functioning in the work and family situation. In cases No. 142 and 148, there was some improvement in the work situation, and symptoms were experienced only occasionally. These patients were unassertive and insecure, in the one case this resulted from the parents' deaths in childhood. Symptoms also provided a reason for their under functioning. The prognosis for this group of young men was poor and they predictably would assume a chronic sick and deviant role in the future.

9.2.2 GROUP II over 30 years

This group consisted of 7 asymptomatic and 10 symptomatic patients - 17 in all. The asymptomatic group of 7 reported considerably reduced situational stress. Work opportunities had improved at this period of mid-life with a corresponding improvement in their financial position. Family and marital relationships had also reached a better level of functioning. Three of the 7 men had received extended social work services and reported that they were better able to cope because of the help received from the social worker. The psychosocial intervention had included assertive training, relaxation techniques, improving communication skills within the family and in the work situation. In two cases other symptomatology had developed. One of the patients (No. 137) had undergone gastric ulcer surgery and the other complained of symptoms of diabetes (No. 170). In both these cases the patients were inclined to deny stress and the new symptom was substituted as a reason for under-functioning.

The 10 patients who reported frequent or occasional ulcer symptoms had settled into a stable pattern which was developing into chronic illness.

There was still clustering of stress in many areas, although some stress reduction had occurred mainly in the work situation. There was a pattern of under-functioning in most cases, with several of the men being described by their wives as sickly. "My husband is a sickly man, therefore I must do everything for my family", or "I must go to work because my husband is sickly and cannot support us properly", were recurrent statements from the wives. Often the wife's taking over of part of the role of bread-winner gave these husbands an opportunity to work less regularly. They also relinquished family responsibilities leaving the disciplining of the children entirely to their wives. They could be seen as disengaging from the family and becoming more peripheral or distant in the family system. Marital relationships were also characterised by distancing from the dominant wife.

Alcohol was often used by the patient to reduce stress and this in turn became a source of conflict in the family while exacerbating ulcer pain. A single man, Case No. 133 seen at home after a week-end of heavy drinking with his friends described alcohol as his only relief from the responsibilities of a widowed mother and siblings. After such a week-end he would be absent from work for several days complaining of ulcer pain.

Another patient, Case No. 158 who had experienced conflict with his wife and mother throughout his married life reported some reduction of stress and symptoms after the death of his mother and the removal of that source of conflict. Thus what was quoted as a source of stress for some, the death of a parent, was a relief from stress for another.

The following is an extract from a case study of Perumal and his family (Case No. 156) which illustrates multi-stress with continuation of duodenal ulcer symptoms. Perumal, aged 45 years, is the father of three children, two sons and a daughter. He is a sweet-maker, who was trained by the firm for whom he has worked for many years. He has found his work stressful and demanding, mainly because he is in a mid-position between the workers and several supervisors. He complains of receiving conflicting orders and being unable to satisfy many bosses. He has found a solution to his problem

by working on night-shift permanently. He describes it as being "quiet at work at night, with only one supervisor and a person can work on their own". He feels less anxious, and his ulcer does not give him as much pain while he is on night-shift.

The patient is a product of a deprived childhood. He was brought up by foster-parents and had to fend for himself from an early age. He worked in a shop and eventually married the shop-keeper's daughter. His wife, June, had refused several suitors before him, and she feels she was pushed into marriage by her aging parents. From the beginning of the marriage, there was insufficient money, and the wife felt her husband was lacking in initiative and a desire to improve his situation. She gradually assumed more and more control in the family and went out to work in an effort to improve their standard of living. June has high expectations which have never been met. She blames her husband for the fact that the family are always short of money. She thinks he could get a better job, but Perumal has no confidence in bettering his position at his time of life.

Perumal was first referred to the Gastro-Intestinal Unit with acute ulcer disease which, at that time, was linked with his work stress. He was given time off work for treatment and later went on night-shift which appeared to reduce stress, so that he maintained a fair state of health for a period. The next onset of acute ulcer symptoms followed after additions were made to their home at June's insistence. She wanted to provide accommodation for family members who would pay rent for this. The addition was more costly than expected and the family members failed to contribute adequately. Perumal believes that his relapse was a result of this stressful period.

June complains that Perumal drinks himself into oblivion periodically, but Perumal denies having anything more than an occasional beer. Physical signs, blood-shot eyes and shaking hands, belie this, as do reports from the firm's industrial nurse. June has tried to get Perumal to join Alcoholics Anonymous, without success.

At the time of the follow-up interview the family gave permission to use their family in a pilot study of family assessment, which consisted of setting family tasks to complete without the intervention of the social worker. These discussions were video-taped and then analysed carefully.³ An edited excerpt from the family task - discussing an argument - is presented to demonstrate the place that father's symptom has in family functioning. The family were asked to discuss an argument, but instead, Perumal stated firmly, "we'll fight now".

Perumal to June

Comments

What I want to know is why are the children so naughty? Why don't you see that they do their home-work instead of playing all the time?

Perumal opens discussion with attack on wife and children.

June The trouble is that you are never at home, you are always working nightshift. Now the children are big they need a father to control them, but you are never at home.

June responds with counter-accusations.

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3. The family task method was adopted from Mimuchin and associates (1978). It is useful as both a research and assessment tool. For the purpose of the pilot study, which was conducted with three duodenal ulcer patients and their families, Tomm's (1982) method of Circular Pattern Diagramming (CPD) was also used to analyse the family communication and family boundaries. The family tasks include discussing a menu, discussing an argument and describing what the family likes and does not like about their family. The method is time consuming, but provides additional insights into family functioning. It is suitable for clinical studies of a qualitative nature and is also useful for training students in family intervention.

Reggie (eldest son) to mother

Why don't you stay at home to take care of us?

June I can't stay at home. I have to go out to work to support you all. Your father earns little money and if I don't work, you can't have the things you always want. I only want you to go to school so that when you grow up you will be something. You will be able to earn a good living and your wife won't suffer like me.

Son intervenes in marital conflict, protecting father and attacking mother.

Mother defends and blames family problems on husband's ill-health. Throughout this bitter complaint, Perumal sits withdrawn and unresponsive. His symptom permits his withdrawal from family responsibility. He appears on the periphery of the family system and mother and son are the chief actors in the family drama. When June introduces her suffering, he retaliates with force, as the centrality of his symptoms are challenged.

Perumal

Who is suffering? What you mean, suffer? I am the one who suffers with my ulcer, not you.

He re-establishes himself as the only sick member of the family.

June (replies)

I suffer because you are a sickly man. I must do everything. You should do something, you are the father.

June confirms his illness and accepts the responsibility placed on her because of his symptoms.

Reggie (re-enters the discussion, attacking his mother)

Why don't you leave work? Why don't you stay at home? You are always out visiting other people, going to the hospital to visit sick friends, but not caring for us.

Reggie once again reaffirms the legitimacy of father's under-functioning by attacking and blaming mother for her failure to stay at home.

Perumal (joins Reggie in attacking June)

You must see the children do their home-work.

Perumal supported by his son places all the onus on June.

June

How can I do this when they won't
listen?

Perumal

You must whack them.

June

<p>But they are too old for that now. Reggie is in Standard 8 - he is a ring- leader, how can I whack him? You are the father, you must do that.</p>	<p>Perumal insists on a paternal role for June, which she rejects. Perumal withdraws again and June sums up.</p>
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June

I only want you children to have a
better life than me. I always suffer
because your father is a sickly man.

There is no resolution of conflict in this family argument, instead father's illness is invoked to excuse his inadequate behaviour. His disengagement from his wife and family is complete. He achieves distance in his marital relationship by working at night - he leaves for work as his wife returns home. His refusal to be drawn into solving the family's problems is justified in terms of having to work night-shift because this causes less stress and his ulcer does not worry him.

Up to a certain stage, Reggie had helped his mother in her parenting role, but now he is seeking independence and individuation from the family and his mother. His rebellious behaviour (from mother's viewpoint) has been expressed in school truancy and coming home at late hours. Perumal has been forced to exercise some control in the situation - he has been to the school each week to check that Reggie has not played truant. Thus for once the family have effectively obtained father's involvement. Perumal is now withdrawing again and the illness is used as a powerful reason for his inadequate functioning. It enables mother to retain control, while Perumal still has some power to manipulate the family. The steady state of the family's functioning has revolved around Perumal's illness for many years,

but at this stage in the family's life-cycle there is the push for independence coming from Reggie which is disequilibrating the family system and requiring that some changes be negotiated.

In such a case, the family assessment is used as a basis for on-going family therapy, which is the preferred model of treatment when the patient's symptom is used to maintain family homeostasis. The therapist is faced with patterns of interaction which are resistant to change because they have become rigid over many years. Reggie's truancy now provides a reason for entering the family system at a period of crisis. This may be the most effective point at which to commence family therapy. In the past, Perumal has often failed to keep appointments with the social worker and has been difficult to contact. He has established good rapport with one of the nursing staff and had gone to her, in preference, to discuss his problems. The family assessment at follow-up has indicated the need to intervene at the level of the family rather than at the individual level, if there is to be change allowing for the symptom to be relinquished in favour of more satisfying individual and family functioning.

9.2.3 Group III over 50 years

This consisted of 2 asymptomatic patients only, the remaining 8 were symptomatic at follow-up. One of the asymptomatic patients, Case No. 154 spoke very optimistically about the way in which he had learnt to cope with stress as a result of the social work programme. He was using relaxation instead of medication and his situational stress had reduced. Sexual problems which had arisen after his wife's hysterectomy had been overcome, he had completed house building and visited a daughter overseas. The other elderly patient, Case No. 169 was not working, but was supported by his son. The family had no financial problems and presented a picture of trouble-free family and personal functioning, which was not entirely realistic. There seemed to be no other explanation for improved functioning except in general stress reduction.

In the symptomatic group of 8 patients there was multi-stress and multi-illness.

Most patients had retired after a life-time of stress at work, financially and within the family system. They were functioning in a sick role, with hypertension, heart disease, cancer and tuberculosis being reported in addition to the ulcer symptoms. They could be seen as having developed from the occasional symptomatology described by the middle-aged group to chronic multi-illness in advancing age.

The follow-up study has demonstrated the developmental nature of the "illness career". The young patient, as seen from Group I is the most likely to respond to intervention aimed at stress reduction and stress management. Intervention at this level is preventive as well as rehabilitative, because of the possibility of preventing a chronic stress situation developing which supports the sick role. This is an obvious group to whom to offer psychosocial services with the most hope of response.

9.3 THE STUDY OF THE EFFECTIVENESS OF SOCIAL WORK INTERVENTION

The monitoring of the effectiveness of social work intervention in the reduction of stress became an important issue for the social work team during the implementation of the social work programme. As has been seen, some of the patients whose life situations were reassessed after a three year period showed a reduction in stress and sustained absence of symptoms, while others did not. The medical staff frequently asked the question as to the overall effectiveness of social work services and whether these succeeded in sustaining patient recovery.

In order to test the effectiveness of social work treatment, a study was designed using an experimental group who received social work intervention and control groups who were not offered this or who did not wish to receive social work services, in other words, who did not recognise the possibility of social work intervention. Fifty-one patients were included in this study population, all of whom had been attending the G.I. Unit but were not involved in the larger study of stressful life situations. At the time of recruitment for the study these patients had endoscopically proven healed ulcers and were no longer receiving drug therapy. The study was based on the patients'



perception of stress in their lives, as was the case with the first study. The Focused Social Questionnaire was used again, but was amended by the inclusion of stress ratings completed by the patients. The modified Spielberger Anxiety Inventories were also used to compare the different anxiety scores of the different research groups.³

During the administration of the Focused Social Questionnaire, the researcher did not offer any therapeutic interventions and responses were noted without comment. As with the earlier research, there was use of denial by some patients. Stress ratings were from 0-5 (no stress to a great deal of stress) in eight life areas - job, financial, marital, worries about children, individual problems (apart from duodenal ulcer disease), accommodation problems, alcohol abuse, worry over family members (Question 178 of the FSQ). In addition, patients were asked whether they considered that a social worker could help with their problems (Question 176 of the FSQ).

9.3.1 The experimental and three control groups

Patients either rated themselves as stressed (3-5 rating) and recognised the possibility of social work intervention, or they did not recognise the possibility of social work intervention in spite of a stress rating of 3-5, or they denied stress altogether. On the basis of these responses patients were allocated to one of four groups as follows :

- patients who made a stress rating from 3-5 and recognised the possibility of social work intervention were allocated randomly to either the experimental or first control group. Eleven patients were allocated to the experimental group and 13 to the first control group.

3. The study was designed by the present author in conjunction with Professor M. Moshal, the Director, and with useful advice and comments from Dr. I.M. Samloff, Los Angeles, U.S.A., who was visiting the G.I. Unit at this time. The programme was conducted by Mrs. J. van Niekerk.

- fifteen patients were allocated to a 2nd control group on the basis of a stress rating of 3-5 but with no recognition of the possibility of social work intervention.
- the third control group of twelve patients consisted of those who did not perceive of themselves as stressed (0-2 rating) and did not recognise the possibility of social work intervention.

The experimental group was the only group offered social work services. The withholding of social work assistance from a control group has always been an ethical issue in social work research which has often prevented the use of controlled group studies of effectiveness of social intervention. Variations of a treatment-non-treatment method have been used in other research studies.

In this present study, patients had already received medical treatment for the duodenal ulcer which had healed. The social work service was therefore of a complementary or preventive nature i.e. to reduce stressful life situations in order to prevent further return of the symptom in response to stress. It was offered as a supplementary service to one group of patients who recognised the possibility of social work intervention, but not offered to the one control group who nevertheless had recognised the possibility of receiving help with their problems. Arrangements were made to provide a service at a later stage if this was still desired or for referral to an outside community based agency if the problem was critical for the patient. In spite of these precautions, the social workers involved in the programme retained ethical doubts about the research. This issue will be raised again in the concluding chapter.

Social treatment procedures were based on a contract between social worker and client, consisting of a multi-modal treatment plan depending on the individual's needs. Case work, marital and family therapy, group work and linkage to other resources were all used. There was a preponderance of sexual problems in the group, and sex therapy was used in

conjunction with other techniques in working with couples.⁴ Assertive training, relaxation techniques and cognitive restructuring were also used frequently. The treatment programme for each of the 11 patients extended over six months, with approximately 8 contacts. At termination, patients were again endoscoped to determine the presence or absence of duodenal ulcers, and they rated themselves again in the eight areas, as at the initial interview. The other patients in control groups 1, 2 and 3 were also reassessed medically and in terms of stressful life situations at the end of the six month period.

9.3.2 Results of the study

The duodenal ulcer patients in the experimental group experienced a marked overall reduction of subjectively perceived stress in each life area during the period of social work intervention. The total mean stress rating across the eight areas at follow-up, was 5,46, a reduction of 8,45 in the total stress rating.

The first control group, who were not offered social work treatment, experienced a small overall increase in perceived stress during the period, but this was not consistent over the eight stressful life areas. Job difficulties, alcohol abuse and family and marital stresses increased, but financial, accommodation and individual stresses decreased. The total mean rating for this group at follow-up was 11,81, an increase in 0,59 in the total stress rating.

In the second control group, those who perceived stress but not the possibility of helpful social work intervention, a higher overall increase in stress was noted compared with the experimental and first control group.

4. The social worker was an experienced sex therapist and for this reason she may have been more prepared and competent to work on issues of sexual dysfunctioning than others with less specialised training. This may have biased the finding of a preponderance of sexual problems which was not the case in the larger study.

This group experienced an increase in accommodation and individual problems, job difficulties, family and marital stress, but a decrease in alcohol abuse, children's problems and financial difficulties. The total mean rating was 9,6, an increase of 1,6 in the total stress rating.

The third control group, who did not perceive significant stress during the initial interview, experienced a relatively large increase in stress which was consistent over each of the eight areas. The total mean rating for this group was 4,67 at the follow-up, which was an increase of 3,42 in the total stress rating.

It was concluded that social work intervention was effective in reducing the patient's perceived stress in the eight areas of life which were rated before and after social treatment. The total mean stress rating of the experimental group was less than the ratings of the three control groups after the period of social work intervention.

Relapse of duodenal ulcer disease was not necessarily prevented by the social work programme over this short period of six months. A very similar percentage of between a half and two-thirds in all groups relapsed during the period. It is possible that the percentage of patients who remained healed might have been higher over a longer period of comprehensive medical and psychosocial treatment. Three of the eleven patients in the experimental group were under thirty years of age, so that less than half of the patients were in the young age group where a better prognosis could be expected. In addition, there was less of a tendency shown in the experimental group to develop other gastro-intestinal symptoms than in the first and second control groups (where stress was acknowledged).

There were several limitations to this study, including the small size of the sample and the problems encountered in implementing an experimental-control design. Nevertheless, as a pilot study it has pointed the way to the possibility of monitoring the effectiveness of social work intervention in

the reduction of perceived stress in duodenal ulcer disease. The study emphasised the value of a structured questionnaire at the initial interview and the rating of stress by the client. This was found to be a useful method of maximising client interest in self-recognition of stressful situations and appropriate management of personal and family stress.

9.4 SUMMARY

The follow-up study and the study of the effectiveness of social intervention with duodenal ulcer patients, both high-light the developmental nature of the "illness career" and its effects on personal and family life. The chronicity and periodicity of the disease is shown in the longitudinal study, while the monitoring of social work effectiveness demonstrates the role of the social worker in stress reduction and management. The studies emphasise the need to concentrate resources, when they are scarce, on the younger group, in terms of preventive social work. Treatment of the older patients is less likely to succeed in reducing stress and recurrence of duodenal ulcer disease, so that social work at this level may be rehabilitative but seldom preventive. Further conclusions and recommendations about the social worker's role will be discussed in the final chapter.

Both studies demonstrate individual differences in the psychosocial and physiological handling of stressful life events, which do not emerge as clearly in the earlier quantitative study. The question of the most appropriate type of research for a psychosocial investigation of duodenal ulcer disease, will be discussed in the final chapter.

CHAPTER 10

CONCLUSIONS AND RECOMMENDATIONS

10.1 INTRODUCTION

The findings deal with, first, the empirical research of duodenal ulcer patients and controls, followed by recommendations on the role of the social worker; and finally, suggestions for future research.

10.2 EMPIRICAL STUDY OF DUODENAL ULCER PATIENTS AND CONTROLS

The results of the empirical study of duodenal ulcer patients and controls have high-lighted some significant differences between duodenal ulcer patients and controls, while with other variables no significant differences have been demonstrated between the two patient groups. The results have been evaluated in terms of the research literature, in particular, research which has treated duodenal ulcer illness as a psychosomatic or psychophysiological disease and which gives due consideration to sociocultural factors.

Many of the conflicting reports which have been noted in previous research have resulted from the application of different research methodologies. The research in the 1950's by Alexander and his colleagues was clinical in nature and concerned with small series of patients. From this source the "dependency conflict theory" of duodenal ulcer disease developed and dominated much of the psychosomatic research of this period. Later, criticism was levelled at research which drew conclusions from small numbers of patients and did not employ control studies or statistical analysis (Fordtran, 1973; Weiner, 1973).

Research using larger numbers and control groups often failed to reveal the same findings of duodenal ulcer disease associated with dependent personalities and unhappy home lives (Kellock, 1951; Fordtran, 1973; Weiner, 1973). More recent epidemiological research has looked for stable trends across different population groups at different periods of time. From this type of research, theories have been suggested of duodenal ulcer

disease being a disease of adaptation which has been a response to the increased stress of urbanisation and industrialisation (Susser, 1967).

There has been no comprehensive research on duodenal ulcer disease which weaves together the many different theories which have been proposed by different researchers, although certain authors have examined research findings in relation to different theories (Fordtran, 1973; Susser, 1967; Pflanz, 1971; and Wormsley 1979, Vol. I and II). Much of the study of duodenal ulcer disease of the past twenty-five years has been specialistic and reductionistic with the exception of research by Mirsky (1958) and Weiner (1973) in their psychophysiological prospective study of army trainees. These authors have called for integrative research which, while assessing psychosocial factors, also takes into account the most recent advances in physiological knowledge about the regulation of gastric functioning by the nervous system.

In the present research there has been either support for many of the different theories which have been mooted over the years, or at least there has been the possibility that these theories also apply to the present findings. Before examining the findings, which give support to the various theories of duodenal ulcer disease, in particular the implications of stressful life situations on duodenal ulcer illness, the results which have not been significantly associated with duodenal ulcer disease in the present study will be discussed.

The analysis of the data was separated into Indian and Black groups but combined results are discussed when trends across the race groups were found to be similar. Inconsistent trends across the two racial groups were often noted. This concurs with other research findings using these two populations (Moshal et al., 1979 and Mason et al., 1981). Black populations tended to be more reticent about their feelings and overall, reported less stressful situations than Indian patients. This should not necessarily be interpreted as Black patients having less stressful situations to face or being less sensitive to stress than Indian patients. The study used the

reporting by patients of their own perception of stress in their life situations. Black patients, who were predominantly Zulu, may have been less inclined to report on their intimate feelings than Indian patients. The Zulus have a history as a proud warrior race and emotions are not readily expressed verbally by males. Zulu patients also retained traditional beliefs about supernatural causes of illness and misfortune and often did not perceive a link between stress and disease.

10.2.1 Findings which were not statistically significant

(a) Age, language and religious groups

The control group of 43 Indian and 32 Black males was matched with the experimental group of 50 Indian and 37 Black males according to age categories. There was thus no significant differences in age with more than half the number of patients falling into the over 30 years group. Language and religious categories were also similar within the Indian and Black groups. The majority of Indian patients were Tamil-speaking and followed the Hindu religion, while the majority of Blacks were Zulus belonging to Protestant Christian faiths. Within the two racial groups neither a particular language nor religion was associated with duodenal ulcer disease.

(b) Education and occupation

Approximately half of all Indian patients and the majority of Black patients had not attained more than a Standard 6 education. The majority of Indian patients, both duodenal ulcer and control patients were routine non-manual and semi-skilled manual workers. The Black patients were similar with the addition of more unskilled manual workers in this group. There was no evidence of significant change in intergenerational prestige in occupations which might have generated stress and thus been associated with duodenal ulcers.

Other findings on the association of duodenal ulcer disease with particular occupations have produced conflicting results. Some research has found executives, managers and foremen in industry to have high liability to duodenal ulcers (Doll et al., 1951), while other research (Dunn and Cobb, 1962) has found high rates of duodenal ulcer disease amongst foremen and

not executives. Nevertheless the latter researchers quote other studies which contradict their own findings (Chapter 3.1.5).

Many of the conflicting reports have arisen because of a failure to distinguish between duodenal and gastric ulcers, in spite of their different manifestations. In the present study the predominance of the lower occupational groups was an anticipated finding because the study population was drawn from a lower socio-economic group who patronise a State Hospital. The findings of no significant occupational differences between the duodenal ulcer and control groups emphasise that duodenal ulcer disease is not only a disease of executives and management.

Some occupational studies have implicated long hours of work and overtime causing fatigue and leading to duodenal ulcer disease. In the present study, however, there was no significant difference in the amount of overtime or shift-work undertaken by duodenal ulcer patients and controls. Neither was there a difference in the length of time spent travelling, the mode of travel or the time leaving for or returning from work which could have engendered stress. It was apparent that these factors were not perceived as the reason for stress by significantly more duodenal ulcer than control patients.

Workers in both duodenal ulcer and control groups were characterised by stable work history with comparatively few job changes reported. There was not much evidence of upward mobility, contrary to findings reported by Segal et al., (1978) of Black male duodenal ulcer patients in Johannesburg.

(c) Family and marital factors

There were many similar findings across the patient groups regarding family size and pattern. Most families were large and there was no significant difference between duodenal ulcer and control groups as regards size of patient's family of origin or procreation or birth position of the patient within the family. This was similar to the findings of Kellock (1951), who also studied a hospital population and Monson (1970) in his

study of physicians with duodenal ulcer disease .

The majority of patients described a stable pattern of marriage lasting for more than ten years in the older age groups . About one third of the patients (the younger age group) were single at the first research interview . Most marriages had been in terms of the patient's own choice of partner . The finding of no significant difference in marital status or marital break-down between duodenal ulcer and control groups was also found in research by Hamilton (1950); Kellock (1957); Monson (1970) and Pfeiffer et al., (1972) . This shows that the stress of separation or divorce is not significantly associated with duodenal ulcer disease .

In the present study, as in the case of other research, there was some exploration of problems in sexual functioning . There was no significant difference in the reporting of sexual dysfunction or sexual satisfaction/dissatisfaction between the patient groups . This is obviously an area of personal life where there may be reticence or under-reporting by people in the particular cultures that were under study . Other researchers, namely Davies and Wilson (1937) also reported reticence in this area . On the other hand, Mittelman et al., (1942) in a detailed uncontrolled study of a small series of patients found a high incidence of sexual problems . Although the present study found no statistical difference between the patient groups, a considerable number of duodenal ulcer patients requested assistance with sexual problems in the social intervention programmes (Chapters 8 and 9) . The results of the study therefore, may have not been entirely reliable .

The death of a close family member precipitating stress and therefore the onset of duodenal ulcer disease was cited in early studies already quoted . In the later research, however, using improved methodology, no significant differences were noted between duodenal ulcer patients and controls . In this present study also, the reporting of deaths of family members or stress arising from these deaths was not found to be significantly associated with duodenal ulcer disease .

(d) Childhood experiences

There has been a plethora of studies of the effects of childhood experiences on the development of duodenal ulcer disease (Chapter 3.3). These findings are often conflicting and the research methodologies are very varied. Many of the studies were conducted in an attempt to prove the "dependency conflict" hypothesis. In the present study, similarly to most of other reported research, the information on childhood experiences was retrospective, therefore there is the possibility of faulty recall. The findings of this study as regards Indians and Blacks in both patient groups were that the majority recalled their childhood as happy with both parents living in the home. There was a higher incidence of reporting of unhappiness in childhood by Indian duodenal ulcer patients, but the numbers involved were small. These patients gave the death of one or both parents; alcoholism of father or being reared by relatives as reasons for their unhappiness. Again no significant differences have been demonstrated which would serve to confirm an association of an unhappy childhood with duodenal ulcer disease in the populations studied.

(e) Miscellaneous findings

Some of the other results which showed no significant differences between patient groups were as regards diet, alcohol use and smoking. A tentative dietary hypothesis has been advanced for the aetiology of duodenal ulcer disease by several authors, but Susser (1967) and Tovey and Tunstall (1975) report little evidence to incriminate either particular diets or elements of diet, such as caffeine and spices, in the development of duodenal ulcer disease. The results of this present study concur with the views expressed by the above authors.

Research into alcohol use by Hagnell and Wretmark (1957) and Gosling (1957) was based on figures for peptic ulcers rather than duodenal ulcer per se, so that caution must be used in interpreting their findings that alcohol abuse precipitated and exacerbated the illness. In the present study no significant difference emerged in the use of alcohol by either Indian or Black duodenal ulcer patients in the past, but more duodenal ulcer patients reported reduced

alcohol consumption because of their illness. It was difficult however, to separate accurately the use of alcohol before and after onset of disease. A report of reduced use of alcohol might have been given in order to satisfy the medical staff, so that these findings must be treated cautiously. In another study (Mason et al., 1981) on the effects of stress on the healing of ulcers, alcohol abuse was implicated. There was minimal reporting of other substance abuse.

The present study found no significant difference in the use of cigarettes by duodenal ulcer and control groups, although once again there was a reported change in the smoking habits of some duodenal ulcer patients because of doctor's warnings. Again previous studies have not always distinguished between duodenal and gastric ulcers (Monson, 1970 and Dutta and Dutta, 1975). Where there has been this distinction, as in the studies by Gillies and Skyring (1968 and 1969), no significant association has been established with duodenal ulcer disease, which concurs with the present study.

The finding that numerous variables that were tested showed no significant difference in incidence between duodenal ulcer and control groups were in most cases in agreement with controlled studies carried out in other countries. The variables that were not particularly associated with duodenal ulcer disease were language, religion, education, occupation, some aspects of working life, type of marriage, duration of marriage, family size, position of patient in family, deaths of family members, unhappy childhood experiences, diet, smoking and use of alcohol. Significant differences are now discussed in terms of the family, work and illness systems.

10.2.2 Findings of statistical significance

(a) The family system

Particularly within the Indian duodenal ulcer group there was considerable reporting of problems and conflict arising at the time of marriage. Frustration of marriage plans occurred amongst young patients because of the difficulty of separating from the family of origin. Difficulties were manifested as concern over having to support members of the joint family

system in addition to a wife and family of their own, or problems centering around religious and language differences. Older patients also reported similar problems that had occurred at the time of marriage, often associated with severe epigastric pain. An explanation for these difficulties may lie in the dependency conflict theory or in the theory proposed by Minuchin et al., (1978) who found that difficulty of separation arose in enmeshed family situations which supported and maintained a psychosomatic syndrome. Minuchin described the symptom of the sick family member as functioning to maintain family homeostasis while, at the same time, the symptom was maintained by over-protectiveness of family members. Goldberg (1958) also found that the families of young duodenal ulcer patients were characterised by a tight form of family relationships. Mother was dominant and there was a conflict between dependence on the powerful mother and the young man's need to be free.

The families of the Indian duodenal ulcer patients in the present study were often enmeshed, over protective and rigidly traditional. The family showed rigidity by not allowing for growth and development of the member making a bid for independence. The mother was most often involved in the prevention of plans for marriage and independence hoping rather to maintain the status quo. Open conflict was often avoided by the need to show protective concern for the person who developed the duodenal ulcer symptom. The mother's bid for control over the patient was manifest in his separation stress.

These findings were confirmed in the follow-up study which showed that the young men who were no longer symptomatic and who reported reduction in stress, had successfully resolved the problems over separation by marrying, whilst still remaining in the joint family system. Family members had successfully adapted to changes in the family structure and there was a general lessening in the family stress load. In cases where the young patient was symptomatic at follow-up there was still evidence of an enmeshed relationship with the mother. She supported him in a sick-role and shielded him from the consequences of unemployment and deviant

behaviour. As the father was often inadequate, mother was permitted to be all-powerful and controlling.

In the follow-up study it became evident that many of the men in mid-life, who were still symptomatic, were showing signs of disengagement from their families and had settled into a stable pattern of under-functioning. Their wives had taken over the controlling and dominant role formerly held by the mother. Even in the economic sphere the wife was taking over part of the role of supporting the family. The patient had withdrawn from many responsibilities and sons had taken over the parenting role. The pattern became progressively more apparent with advancing years, which were characterised by multi-illness with other complaints such as cancer or heart disease becoming a more serious threat to the quality of life than the duodenal ulcer illness.

One of the significant findings of the study was that more Indian duodenal ulcer patients than controls were living in crowded conditions as judged by the researcher. This crowding was not necessarily perceived or admitted by the patients. Their attitude of acceptance of crowded conditions appeared linked to a desire to offer a home to relatives in need. There seemed to be a projection of themselves as able and willing to assist others and to provide for them. This was also apparent in the use of personal income. Significantly more duodenal ulcer patients than controls had a very low personal income of R100-R200 per month. In spite of this they were often helping to support other family members. Not surprisingly under these circumstances, a significantly higher number of Indian duodenal ulcer patients than controls reported that the household income was insufficient and that this was a main source of worry in their lives.

One of the main findings of the study was that significantly more of the Black duodenal ulcer patients than the controls were migrant workers.¹¹

1. A recent article by Blumberg (1983) suggests that Stonequist's theory of "the marginal man" may be applicable to the upwardly mobile, urbanised Black with duodenal ulcer disease. It may also, of course be applicable to the migrant worker, but this needs to be explored further.

living singly in men's hostels or in families characterised by split family living arrangements. Another significant difference was that at the time of the first interview significantly more Black duodenal ulcer patients than controls were living in the urban area. The pattern of family life for the Black duodenal ulcer patients differed according to the age group of the patient. In the under 30 years age group, half of the patients were still living with their family of origin or part of the family in a house in a township. They were similar to the group of young Indian patients in that they were oppressed by the responsibilities of supporting a mother and siblings. Plans for marriage or independence were hampered by this. The remainder of the young age group had already separated from their families in order to work in town and were living singly in men's hostels or housed on the employer's property. The group of men in mid-life were all living either singly or with part of the family, while the rest of the family were in the country. Their family life was either non-existent or characterised by split family living. A significant majority visited home on a monthly basis, maintaining a regular but distant contact with the family.

The effect of this disengagement on the patient was not adequately explored in the study. Unfortunately the Focused Social Questionnaire was not structured in such a way that it elicited specific information from Black patients about their feelings of continued separation from their families. It is presumed, however, that the stress of living as a migrant worker in an urban area without the buffer of a home and some form of family life produced stress which was associated with the development of duodenal ulcer disease. This concurred with findings from a German study, that foreign migrant workers had severe psychosocial stresses resulting in duodenal ulcer disease (Wormsley, 1979b, p.27).

Illness, for the Black patient provided an opportunity to withdraw, even if only temporarily, from urban life and the working situation. Patients returned home to their families in the country areas and often attempted

to obtain a Disability Grant on the grounds of duodenal ulcer illness.

Urbanisation has been proposed as the reason for the increase in duodenal ulcer disease in Western countries in the early 20th century (Susser, 1967 and Susser and Stein, 1972). It has also been shown by Tovey and Tunstall (1975) that duodenal ulcer disease is on the increase in rapidly urbanising areas of Africa, and amongst Black Americans mainly in urban areas. Reports from other centres in South Africa support the theory that the incidence of duodenal ulcer disease increases with urbanisation in Black communities (Segal et al., 1978; Bremner, 1971; Robbs and Moshal, 1979). Among the Black duodenal ulcer patients in the present study, it may be presumed that recent introduction into the urban scene creates the psychosocial stresses which lead to the development of duodenal ulcer disease. There is also the Zulu's view of environmental change leading to illness as discussed in Chapter 6. On the other hand, Indian duodenal ulcer patients, who had for the most part been living all their lives in settled urban communities, did not experience urbanisation per se as a stress factor. Stress in these patients was more likely to have arisen from the transitional stress experienced by many South African Indian families, where modern trends in family life were challenging traditional customs. The threat of transition was evident in the family's resistance manifested in the psychosomatic illness of one or more family members.

(b) Other support systems

In addition to the family, Indian duodenal ulcer patients relied heavily on friendship networks, both for personal support during periods of transition or perhaps in some cases to counteract dependency cravings by taking on the responsibilities of others as suggested by Alexander (1950). Indian duodenal ulcer patients visited friends on a regular basis to a significantly greater extent than the control group. This indicated that they were not socially isolated or lacking in support systems which had been the hypothesis of an earlier study (Moshal et al., 1979). In terms of the powerful force of traditional customs, it could be expected that, another

significant finding would be that religion played a greater role in the life of Indian duodenal ulcer patients than controls. It was found, as expected, that these patients performed religious practices and attended religious gatherings more frequently than the controls. A significantly greater number of Indian duodenal ulcer patients believed they had been bewitched and that their illness had a supernatural cause. They attended religious services and sought the help of priests and religious healers to combat their illness. There were no significant differences in the religious observances reported by Black duodenal ulcer patients and controls with both groups of Black patients ascribing importance to supernatural causes for their illness or disability.

(c) The work system

In the present study, as in the earlier study of a larger population (Moshal et al., 1979) it was found that a significantly higher number of Indian and Black duodenal ulcer patients than controls had responsibilities in the work situation without the backing of a concomitant degree of authority. In addition, a significantly greater number of duodenal ulcer patients in both racial groups described themselves as stressed by the heavy responsibilities of their occupations and linked the onset of epigastric pain to stressful periods at work.

Other negative aspects of the work situation were reported significantly more frequently by Indian duodenal ulcer patients than controls, but not by more Black duodenal ulcer patients than controls. For example, Indian duodenal ulcer patients expressed more dissatisfaction with their bosses and other interpersonal relationships at work. They complained about poor working conditions and having too much work to complete in a given time. Both Indian and Black duodenal ulcer patients complained about low wages. Apart from the complaints about working conditions, duodenal ulcer patients were generally more concerned about performing well in the work situation. Their desire to appear competent may have resulted in their taking on more responsibilities than could be handled, with resultant stress. This would concur with Alexander's (1950) findings that duodenal

ulcer patients over-compensate by being ambitious and striving in many work situations. The present study serves to confirm other findings (Moshal et al., 1979) that powerlessness in the work situation, i.e. lack of authority or control combined with an expected degree of responsibility appeared to be a crucial stress factor associated with duodenal ulcer disease. The status of the migrant worker was another factor leading to stress, particularly in Black duodenal ulcer patients.

(d) The illness system

Duodenal ulcer patients of both racial groups felt stressed by their illness, to a significantly greater extent than the controls. They reported feeling tired and weak, and symptoms of debilitation interfered with their work potential. Many duodenal ulcer patients altered their life styles as a result of their illness, changing their dietary, smoking and drinking habits. The continued presence of symptoms in nearly three-quarters of the Indian patients and over half of the Black group,¹ resulted in a stable pattern of underfunctioning emerging which provided a reason for reduced work output and a withdrawal from family responsibilities, which has also been described by Grolnick (1981).

In the family, in particular, the symptom maintained family equilibrium by replacing the possibility of open family conflict with acceptance of the ulcer condition as a reason for under-functioning. The symptom may have had a counter-controlling function for the patient who felt weak in the family relationship system. The illness provided a way of asking for love (nurturance) or was used in a manipulative way to evade responsibilities. Other family members would take on responsibilities for the patient and in turn, this served to maintain the patient in his sick role. Thus the chronic nature of the illness became reinforced by family attitudes.

The medical system also served to reinforce the chronic nature of the illness. Patients who were asked to return for regular check-ups regarded this as a confirmation of their chronic illness.

1. The figure for relapse rates in Black patients may not be accurate, because attendance of Black patients at the G.I. Unit fell-off sharply after the initial treatment period and the present state of the illness was not confirmed because of problems of follow-up.

Support of the staff at the Gastro-Intestinal Unit was welcomed by patients with unmet dependency needs as described by Alexander and colleagues (1950). The patient's lack of understanding of the nature of their illness and the mystique surrounding endoscopic and other procedures, which were used regularly at the Gastro-Intestinal Unit, were also powerful agents in persuading patients of the severity of their illness, which worked against maintenance of recovery.

The powerful position of the medical staff and their role in decision making on behalf of the patient, as regards surgery or applications for Disability Grants, resulted in patient's feelings of dependency on the medical staff, in matters of their own welfare. This is contrary to the need for self-management of stress which is presently emphasised. This aspect needs further attention and will be discussed later, in terms of the social worker's role.

(e) Anxiety

The comparison of anxiety scores of the different patient groups, obtained from using modified Spielberger Anxiety Inventories, indicated a significantly higher trait (characterological) anxiety in the Indian duodenal ulcer group and a tendency to a slightly higher state or situational anxiety. Although the state anxiety measures were not statistically significant they were in the expected direction. The higher characterological measure of anxiety in Indian duodenal ulcer patients gave support to the supposition of anxiety proneness in some individuals with duodenal ulcer disease.

The mean scores for Blacks on the trait anxiety measure were not statistically significant. The mean scores for Blacks on the state anxiety measures indicated a trend towards significantly higher scores for the control group. The unexpected tendency towards higher state anxiety scores in Black controls and no significant difference in scores of Indian duodenal and control groups may be explained by the situational stress arising from injury, hospitalisation and fears for the future, which were most prevalent amongst the control group.

The anxiety measures must be treated cautiously for reasons discussed earlier (Chapter 6. 8.4). Nevertheless, taken in conjunction with the other research findings, they serve to confirm the anxiety-proneness of the duodenal ulcer patients. Greater situational stress in the areas of work and income accounted for the higher state anxiety scores in the non-ulcer group.

(f) A perceived high stress load

Overall the research findings supported a conclusion of significantly higher perceived stress for duodenal ulcer patients than controls. Multi-stress for Indian patients arose from an interaction of stress of illness, family conflict and transition, and concern over family problems, compounded by work stress. In the case of Black duodenal ulcer patients, multi-stress arose from an interaction of illness, urban living, work stress and separation from family life. The illness was a response, in a vulnerable person, to stresses in the environment, and in turn the illness was perceived as a further source of stress by the patient. On the other hand, the symptoms of the illness could be seen as performing a function for the patient and his family. They permitted the patient to receive care and support and allowed for reduced responsibility. In the chronic state of duodenal ulcer illness, this became a stable pattern of under functioning permitted because of the physical symptoms. At the same time, the illness was aggravated by frequent and prolonged stress. These patterns of illness have import when planning and executing the social worker's role in relation to patients with duodenal ulcer disease.

The general trend of the significant findings support the theory of urbanisation, transition and change being associated with the development of duodenal ulcer disease in Indian and Black patients who are vulnerable to these stresses. Vulnerability results from genetic-constitutional predispositions; physiological changes, and the use of certain psychological mechanisms shaped by personality disposition and coping habits. The structure and dynamics of family life (enmeshed or disengaged) exacerbate these dispositions. In the work situation, feelings of powerlessness

are often reinforced by feelings of inadequacy in the family situation. When the stresses increase to the point when psychosomatic illness develops, the illness, in itself, becomes a way of release or adaptation to stress, and many needs are met through the patient role.

The results of the research indicate that the duodenal ulcer patients perceived of themselves as being more stressed by life in general, and at work, and in the family system in particular, to a greater extent than control patients. The situational stresses experienced by patients were multiple and in interaction with each other resulted in a high stress load.

The fact that some persons were more highly sensitive or vulnerable to stress is related to characterological and personality factors, which were not the focus of this aspect of the study, but must nevertheless be acknowledged. Once again, it is the person's perception of stress that is the crucial factor. Some family systems were obviously more sensitive to situational stress than others and the stage of reaching independence was a particularly stressful period for many of the families with young duodenal ulcer patients.

While some families coped with the stress of transition, the families of Indian duodenal ulcer patients, in particular, reacted by increasing rigidity or disengagement of family members and the physical symptom was used to detour conflict and to reinstate family homeostasis. The experience of working with duodenal ulcer patients, in their stressed situations, has provided data which forms a basis for recommendations about the role of the social worker in an interdisciplinary treatment programme.

10.3 THE ROLE OF THE MEDICAL SOCIAL WORKER

The function of the medical social worker has been researched and discussed in terms of the larger systems of the hospital and the community and the smaller systems of the individual patient and his family. Although the research was conducted at King Edward VIII Hospital, the conclusions are generally applicable to all medical social work in hospital settings. Recommendations are made, therefore, for social work in a hospital setting using the present research at the King Edward VIII Hospital as a basis. The discussion is divided as in previous chapters into social work within the hospital - with the hospital system per se and with the patient and his family. The role of the social worker in the wider community is referred to in brief.

The historical review of medical social work has shown that social work was introduced into hospitals in the late 19th and early 20th centuries in Britain and the United States of America. In South Africa, social work in hospitals has only achieved an acceptable position in the second half of this century. In Natal, in particular, hospital social work has grown slowly e.g. Addington Hospital (Chapter 7.3). At King Edward VIII Hospital, where the research was conducted, professional social workers were only introduced into the hospital team a few years ago. Social work in Natal Hospitals is therefore a relatively new profession. Its development is now being hampered by the underprovision of social work staff. The conservative estimate used by O'Reagan (1970) of 1 social worker per 100 beds, falls far short in the present situation in hospitals in Natal. In the present project, private funding was obtained in order to finance the social worker's salary. While this has been a useful demonstration project, it can only be seen as an interim measure. There will have to be a commitment on the part of the Natal Provincial Administration to provide adequate social work staff in hospitals in Natal, if truly comprehensive patient care is to be achieved.

10.3.1 Social work within the hospital

(a) An application of General Systems Theory

The application of General Systems Theory to social work, if only in an expository manner, has provided fresh insights into the role of the medical social worker. General Systems Theory provides for the possibility of integrating information about the different systems, from the single cell to the complex hospital environment. It also provides a useful way of viewing the development of social work as a specialised sub-system within the larger system of the hospital. At the Gastro-Intestinal Unit, King Edward VIII Hospital a study of the main systems which impinge on the social work system was undertaken initially in order to plan the introduction and implementation of the social work programme.

From the experience at the Gastro-Intestinal Unit it is apparent that Hearn's (1974) model of three phases of theory building and practice, viz. orientation, development and utilisation, may be usefully followed in establishing and developing a medical social work service. The model of practice which is introduced as a result of orientation and development may be remodelled after a trial period. Continuous feed-back provides for corrective action and development of new resources. The systems approach keeps social workers aware of the different systems which directly or indirectly affect social work output.

The medical social worker performed many roles at the Gastro-Intestinal Unit which have been well developed in most hospital social work departments. These roles included team-member, educator, supervisor and consultant, co-ordinator, resource agent, change agent, clinician/therapist. Some roles, for example, the role of researcher, or advocate, or social activist are not usually as well developed in hospital social work. The following discussion relates some conclusions and observations about the social worker's role.

(b) Member of the interdisciplinary team

The research has confirmed the need for social workers to form part of the interdisciplinary team dealing with illnesses and hospitalisation specifically linked with stress, such as duodenal ulcer disease.

or orthopaedic injury.

The experience of initially introducing a social worker into a specialised Hospital Department e.g. the Gastro-Intestinal Unit, indicated that the success of the integration into the interdisciplinary team depended on active support from the medical Head of the Department. This concurred with the findings of Hallowitz (1972) reporting on the factors influencing the successful establishment of the medical worker's role.

It is essential to the proper functioning of the psychosocial programme to establish a routine method of co-ordination and consultation between medical, nursing and social work staff. Regular meetings, in the nature of case conferences, should be planned to examine the implications of psychosocial factors for individual patients and for policy making. The consultation that takes place at a ward round often focuses on the medical aspects of the patient's condition with insufficient input about psychosocial factors. The experience at the Gastro-Intestinal Unit showed that doctors attending the Unit in a consultant capacity did not have time to spend on case discussions, unless a special meeting was scheduled for this purpose. It was found that proposed changes in policy or suggestions about individual patient care were more likely to be implemented if discussed at a formal departmental meeting.

The practice of social workers being attached to a particular department rather than being part of a central Social Work Department in the hospital was requested by medical heads of departments at King Edward VIII Hospital in 1977/1978 (Chapter 7.4.1). This policy was followed at the Gastro-Intestinal Unit, where, as already mentioned, private funding was provided. This situation was fairly unique in the total hospital situation. Close physical proximity, an office within the Gastro-Intestinal Unit and quick referral of patients back and forth between medical and social work staff meant that there was easy and often unstructured co-ordination of services. The successful introduction of the social work service into this one department made other hospital departments more aware of the utility of social

work services. They, in turn, have begun to press more actively for a social worker. In the orthopaedic wards, for example, where research with the control group was carried out, patients became aware of the help which could be expected from a social worker. Patients then requested referral to social workers, and as a result the Social Work Department offered a service to these patients, which had not been available prior to the research project. This is an example of change in one part of a system bringing about demands for change in other parts of the system.

In spite of the advantages in a social worker being physically located in a specialised department, there are obvious advantages for overall planning and staffing of services when the social work department is centralised. The department becomes more of a resource centre with more power to initiate change, than is the case when a social worker is practising within a specialised department. It seems that a system which has a centralised social work department within the hospital with social workers from the department attached to specialised units, combines the advantages of both arrangements. Hospital social work is obviously moving in this direction.

Treatment of the patient depends on successful interweaving of the many different strands of the different disciplines involved and is largely dependent on successful communication between the different systems. The social worker's role is often that of a facilitator of communication and a co-ordinator of professional interventions.

(c) Change-agent

As pointed out earlier, the social worker's role must embody the functions of change-agent within the hospital system. For example, a successful development at the Gastro-Intestinal unit was the establishment of patient groups where medical staff supplied information about duodenal ulcer disease and the medical procedures followed at the Hospital. Pre-endoscopic patient groups were established as a result of the social worker sensitising the doctors to patients' anxiety about endoscopy procedures. Research has

been instigated, to examine the most appropriate time and manner to supply information about illness. On-going research is needed into the effect of surgical procedures on Black and Indian patients, especially in view of traditional and religious views of illness. Where, as in the examples quoted, social workers have accepted a role as change-agents, they have been successful in bringing about a new direction in planning and provision of services. This is an example of change being introduced into one system, in this case the Gastro-Intestinal Unit, which is now gathering momentum "increasing perturbations," in systems terminology. Other heads of departments have become interested in the possibility of group work with their patients.

10.3.2 Social work with the patient and his family

Role of clinician/therapist

The experience of social work with patients at the Gastro-Intestinal Unit was essentially an example of working with a psychosomatic patient group, whose stress had physiological as well as psychosocial components. This experience is applicable to the wider class of psychosomatic or psychophysiological illness.

The patients at the Gastro-Intestinal Unit did not anticipate social intervention as part of hospital care. At the commencement of the social work programme, most patients would only accept referral to a social worker in acute crisis. They did not view social workers as part of the hospital team and they had to be convinced of the value of psychosocial intervention in their particular situation (Chapter 8.4). The most successful way of establishing the social worker's role was by demonstrating a helpful and effective service. This appears to be a common experience wherever social work is introduced into a medical setting. It has been reported by many practising social workers and in research conducted by Friedson (1966).

There was also denial of stress which appeared, in some cases, to be part of the duodenal ulcer syndrome. It may also be encountered in working with Black and Indian cultural groups as explicated by Jithoo and Landau (1983).

Some patients coped with stress by defensive reappraisals which, consciously or unconsciously, enabled them to adapt to stressful situations. Evaluation of the adaptiveness or maladaptiveness of a coping process which involves denial is a difficult issue and involves careful assessment of the short and long-term consequences of this coping mechanism. It needs careful consideration when working with clients with a psychosomatic illness, such as duodenal ulcer disease.

Generally speaking it was found that when clients were engaged in an exploration of their own situation, they either were sensitised to the possible role of stress in their illness or continued to use denial. In the latter case, after appraising short and long-term consequences, the social worker may accept the client's use of this defence mechanism and only deal with matters which the client presents as problematic. Consultation with a clinical psychologist was helpful at this stage. Those who recognised stress were encouraged to explore the possibilities of self-management of stress through reflective discussion of the person-situation configuration as described by Hollis (1966, pp 100-116).

At the initial interview the use of structured questionnaires, which were first introduced as research tools, were found to be effective in engaging the patient in exploration of the person-situation configuration. Ratings of stress and the use of anxiety inventories, assisted further in self-exploration for patients with sufficient education to undertake these tasks. This was most successfully implemented with the Indian patients. There remains the task of adapting these techniques for use with poorly educated or illiterate Black patients.

The questionnaires provided base-line data from which to monitor the effects of social work intervention, as described in the study of effectiveness of social work intervention (Chapter 9.3.1). A contract was useful in clarifying expectations and structuring the programme to individual needs. The Problem-oriented Record was used with minor adaptations to record on-going treatment. (Weed, 1969). This is a useful recording tool in

medical social work which could be applied and adapted by more medical social workers.

In most hospital settings, the nature of medical treatment determines that social work intervention is brief and time-limited. This proved effective with the large majority of duodenal ulcer patients. Patients described themselves as gaining a better understanding of themselves and their reaction to situational stress and ways in which they could cope in the future, even within one or two interviews. Further confirmation of this was received in the follow-up study.

Where longer term treatment was indicated, this included education in self-management techniques to foster independence and self-esteem, which patients often lacked. Behaviour modification, including assertive training; systematic desensitization, in order to deal with anxiety; relaxation and exercise, and in the case of Indian patients yoga and meditation, were recommended as ways of handling stress. Vattano (1978) also discusses these methods as part of the social workers' armamentarium in stress treatment.

Cognitive restructuring was used to assist patients to alter negative habitual ways of thinking about themselves and their situations. The research confirmed Fischer's proposal that use of structure, behaviour modification and cognitive restructuring enhance the social worker's role. These methods were found to be of particular utility in the medical setting.

Group work was found to be a most effective medium for teaching social and relaxation skills, and embodied many of the above techniques. Groups were often difficult to arrange, however, because of lack of adequate accommodation and space for group activities within the hospital. This highlights the need for physical planning for hospitals to include space for group therapy.

(a) Family therapy

Whenever the illness symptoms have a function in maintaining personal and family equilibrium, or where the patient is being maintained in a sick role

by the family system, as was shown to occur in many cases of duodenal ulcer disease, the family should also be involved in treatment. There needs to be a careful assessment of the level at which intervention should take place, whether at the level of the individual system, the family system or the wider community. Family assessments, as discussed in Chapter 9, using family tasks to facilitate open discussion are useful, not only diagnostically, but also to promote family involvement in problem solving.

(b) The patient's role in self-management

As has been shown, much of the treatment system within the hospital, re-inforces dependency in patients. This was found in the case of duodenal ulcer patients, but applies also to most patients in the hospital setting. This is often at variance with social work values which focus on self-actualisation and self-management. The problem is temporary, where the patient's assumption of the sick-role is time-limited and where speedy recovery follows on medical treatment. Where the patient tends to assume a more chronic sick-role, however, as shown in the present research, there needs to be a maximisation of independent action by the patient. There is a need to provide patients with opportunities for taking action on their own behalf, for exercising their own judgement and making their own decisions.

The population included in the present research, which was made up of predominantly semi-skilled and manual workers, needed assistance in self-management rather than increasing dependency on the medical system.

The younger group of duodenal ulcer patients were found to be most receptive to intervention aimed at stress reduction and stress management. If social work resources are scarce, as is usually the case, the younger group of patients with medical conditions which become progressively chronic, should receive priority attention. Treatment is then both restorative and preventive.

(b) Role of Researcher

Of particular interest is the interlocking of the social work methods of casework, groupwork, family therapy with research, in the duodenal ulcer project. The incorporation of the research component facilitated the

structuring of social work intervention. The use of the particular research formats increased client involvement and provided for reciprocity between the client and the treatment systems. Clients were not only recipients of treatment, but also providers of important research material. This, in itself, was a valuable exercise in increasing self-esteem.

The findings of the present research demonstrate the interlocking cycle of research, theory-building and practice described by Hearn (1974). It has been shown that social work research in the hospital setting may be integrated into the total social work programme and need not be treated as something different from the daily activity of social workers. As has been shown by the present study, research promotes better understanding of the nature and manifestations of the illness. This assists in the development of an intervention programme geared to the special needs of the client group being served.

10.3.3 Social Work outside the Hospital

(a) The role of advocate and social activist

The extremely low level of income of many of the duodenal ulcer patients points to the place of poverty in exacerbating the stress which leads to duodenal ulcer disease. Duodenal ulcer disease emerges from the present study as yet another disease, which, in South Africa is related to poverty. Whatever the social work interventions at individual or family level, which are directed at improvement of psychosocial functioning, there remains the need to improve the standard of living for the populations in South Africa as a primary prevention of disease, including duodenal ulcer disease. The medical social worker has a role to perform in the wider community as a communicator of need, as an advocate for the underprivileged and a catalyst for change. These roles are often overlooked in the more present pragmatic needs of the moment.

APPENDIX OF TABLES

Tables of Non-significant Differences between Duodenal Ulcer (DU),
and Non-Ulcer (NON-DU) Control Patients.*

Table 1. Race and Age Distribution (in percentages)

Age	Indian		Black	
	DU	NON-DU	DU	NON-DU
18-29 years	42	40	46	37
30-39 years	22	19	26	31
40-49 years	16	19	15	16
50+ years	20	22	13	15
TOTAL	100	100	100	99

No significant differences

Table 2. Language Group of Indian Patients (in percentages)

Language	DU	NON-DU
Tamil	50	47
Hindi	26	16
Telegu	16	14
Gujerati	2	9
Urdu	6	9
English only	0	5
TOTAL	100	100

No significant differences

* All percentages in tables are in round figures.

There is a need for a comparative study of individual response to stress as manifest in the different types of stress disease currently being experienced. This, again, would require extensive resources of staff and funding.

A longitudinal study can be carried out with less financial resources, which may therefore be a more feasible research design. It is intended that the forty-five Indian duodenal ulcer patients will be followed-up at regular intervals throughout their life span. It is suggested that any future research be established in terms of including a longitudinal study.

10.5 CONCLUSION

In the present research, the aim has not been to indicate whether it is the multiplicity of situational stresses, or personality traits, or physiological disposition, that is the prepotent factor in duodenal ulcer disease. Rather, the study has been concerned with the situational stresses which contribute to the illness syndrome. The illness has been described in terms of a transactional model which permits the inclusion of the many different systems and factors which are involved in the aetiology and treatment of the disease.

The original hypothesis, that there would be more life situations which were perceived of as stressful by duodenal ulcer patients compared with the control group, was confirmed by the study. Aggravation of the illness symptoms occurred as a result of frequent and prolonged stressful life situations. The symptom, in turn, often functioned to maintain individual and family hoemostasis. The social worker's role lies in enabling the person to find ways of managing individual, family and work-related stress.

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Urdu	6	9
English only	0	5
TOTAL	100	100

No significant differences

* All percentages in tables are in round figures.

Table 4. Family Structure in Childhood by Race and Diagnosis
(in percentages).

Family Structure	Indian		Black	
	DU	NON-DU	DU	NON-DU
Both parents in the home	78	81	68	56
Single parent family	10	14	13	28
Lived with relatives	12	5	19	16
TOTAL	100	100	100	100

No significant differences

Table 6. Educational Standard by Race and Diagnosis (in percentages)

Educational Standard	Indian		Black	
	DU	NON-DU	DU	NON-DU
Below Std. 3	10	12	40	35
Std. 3 - 6	45	42	27	41
Std. 7 +	37	34	26	17
Post matriculation	8	12	7	7
TOTAL	100	100	100	100

No significant differences

Table 7. Marital Status and Duration of Marriage by Race and Diagnosis (in percentages)

Marital Status	Indian		Black	
	DU	NON-DU	DU	NON-DU
*Married for less than 10 years	23	21	27	24
*Married for 10 years and more	47	46	35	45
Single (never married)	30	33	38	31
TOTAL	100	100	100	100

No significant differences

*Includes permanent living-together without marriage.

Table 8. Patient's Position in Family by Race and Diagnosis (in percentages)

Position in Family	Indian		Black	
	DU	NON-DU	DU	NON-DU
Youngest child	12	20	30	31
Middle child	54	44	29	28
Eldest child	30	33	35	29
Only child	4	3	6	12
TOTAL	100	100	100	100

No significant differences

Table 10. Family Decision Making by Race and Diagnosis
(in percentages)

Family Decisions made by:	Indian		Black	
	DU	NON-DU	DU	NON-DU
Patient (male head)	49	64	33	43
Both spouses	43	28	67	48
Not applicable	8	8	0	9
TOTAL	100	100	100	100

No significant differences

Table 11. Reporting of Sexual Satisfaction by Race and
Diagnosis (in percentages)

Attitude to sex-life	Indian		Black	
	DU	NON-DU	DU	NON-DU
Unsatisfactory	20	14	0	0
Sometimes satisfactory	18	9	0	0
Usually satisfactory	54	72	81	92
Not applicable	8	5	19	8
TOTAL	100	100	100	100
*Worried about unsatisfactory sex-life	24	5	0	0

*No significant differences, although obvious differences in worry about sex-life.

Table 12. Deaths of family members and friends by sex and diagnosis (in percentages)

Stressed by death of:	Indian		Black	
	DU	NON-DU	DU	NON-DU
A close relative during previous 5 years	32	47	62	69
Death of relative, but no stress reported	6	23	5	25
A close relative over 5 years ago	42	28	32	22
Parent(s) death in childhood	18	5	19	5
X TOTAL	98	103	118	121

No significant differences

X Some patients gave responses in more than one category

Table 14. Amount of life spent in urban environment by race and diagnosis (in percentages)

Percentage of life in urban areas	Indian		Black	
	DU	NON-DU	DU	NON-DU
75% - 100%	70	65	24	38
50% - 75%	30	35	0	8
25% - 50% urban	0	0	46	41
Less than 25% urban	0	0	30	13
TOTAL	100	100	100	100

No significant differences in either Indian or Black group

Table 15. Urban-Rural Mobility by Race and Diagnosis
(in percentages)

Urban-Rural Mobility	Indian		Black	
	DU	NON-DU	DU	NON-DU
Moved from rural to urban	30	35	41	22
Of these:				
Re-located in childhood or adolescence	18	21	0	0
Re-located in adulthood	12	14	41	22

Table 16. Moves in past five years by Race and Diagnosis
(in percentages)

Number of Moves	Indian		Black	
	DU	NON-DU	DU	NON-DU
Up to 5	54	42	49	31
Stress as a result of moves	16	9	8	5

Table 17. Use of Leisure by Race and Diagnosis (in percentages)

Type of Activity	Indian		Black	
	DU	NON-DU	DU	NON-DU
Belong to clubs	30	19	41	31
Play sport	36	19	14	28
Watch sport	32	28	35	31
Neither play nor watch sport	32	53	51	41
* TOTAL	130	119	141	131
<u>Hobbies</u>				
Reading	16	30	27	16
Gardening, fishing, carpentry	42	35	19	16
No hobbies	42	35	54	41
No information	0	0	0	27
TOTAL	100	100	100	100

No significant differences

* More than one response in some cases

Tables 18a and 18b. Religious Affiliation (in percentages)

Table 18a.

Table 18b.

Religion	Indian Patients		Religion	Black Patients	
	DU	NON-DU		DU	NON-DU
Hindu	80	72	No Religion	21	19
Christian	14	9	Protestant	57	50
Muslim	6	19	Catholic	11	9
			Other Church	11	22
TOTAL	100	100		100	100

No significant differences

Table 21. Occupational Categories, Group and Prestige Scores by Race and Diagnosis (in percentages)

Category	Prestige score	Occupational Group	Indian		Black	
			DU	NON-DU	DU	NON-DU
1	80-73	1,2 Salaried professional	0	0	0	0
		3,4,5 Semi-professional & lower executive	6	2	8	0
		<u>Category Total</u>	6	2	8	0
2	72-68	6 Managers, Technical Executives	0	0	0	0
		7 Owners & Executives in small	0	2	3	3
		8 Commerce, services				
		9 Salesmen				
		66 10 Senior Clerical	2	2	0	3
		65 11 Less Senior Clerical	2	9	8	6
		64 12 Proprietor small commerce, services	0	2	0	0
		<u>Category Total</u>	4	15	11	12
3	58	13 Small farmers	2	0	0	0
		14 Manual Foremen	16	12	3	3
		15 Skilled Artisan(Manuf.)	8	5	0	6
		16 Skilled Artisan (Constr)	0	5	0	6
		<u>Category Total</u>	26	22	3	15
4	52	17 Routine non-manual	42	51	14	6
		18 Semi-skilled manual	0	0	21	16
		<u>Category Total</u>	42	51	35	22
5	26	19 Unskilled manual	8	5	27	25
		20 Manual & labourer	0	5	11	19
		<u>Category Total</u>	8	10	38	44
6		Student	4	0	0	0
		Unemployed	10	0	5	7
		<u>Category Total</u>	14	0	5	7
		TOTAL	100 100	100 100	100 100	100 100

Table 22. Source of Income by Race and Diagnosis (in percentages)

Main Source of Income	Indian		Black	
	DU	NON-DU	DU	NON-DU
Permanent Employment	74	65	84	72
Pension or Disability Grant	14	19	5	3
Contribution of Family Members	12	16	11	25
TOTAL	100	100	100	100

No significant differences

Table 24. Debts, Hire Purchase and Rent by Race and Diagnosis

Expenditure on Debts, Hire Purchase and Rent	Indian		Black	
	DU	NON-DU	DU	NON-DU
Owe more than R100	24	19	22	9
Hire Purchase Debts	44	40	35	31
Less than $\frac{1}{4}$ of Income spent on rent or loan repayment	80	81	95	97

No significant differences

Table 25. Intergenerational Change in Occupational Prestige by Race and Diagnosis (in percentages)

Comparison of Prestige Scores	Indian		Black	
	DU	NON-DU	DU	NON-DU
Higher scores than father's	53	69	26	44
Similar prestige scores	20	20	74	56
Lower prestige scores	27	11	10	0
TOTAL	100	100	100	100

Table 26. Intergenerational Change in Educational Status by Race and Diagnosis (in percentages)

Comparison of Patient's and Father's Education	Indian		Black	
	DU	NON-DU	DU	NON-DU
Better educated than father	92	88	70	56
Similar education	8	6	21	36
Less education	0	6	9	8
TOTAL	100	100	100	100

No significant differences

Table 29. Working Time, Travelling Time and Type of Transport
by Race and Diagnosis

Working and Travelling Time, Distances and Type of Transport	Indian		Black	
	DU	NON-DU	DU	NON-DU
Less than 9 hours working day	73	86	74	78
Over 9 hours working day	27	14	26	22
Nightshift	16	21	26	13
Overtime	43	46	36	26
Leave home before 6 a.m.	49	39	48	39
Leave home 5 - 6 p.m.	57	43	42	26
Return home after 6 p.m.	35	43	29	70
Up to 1 hour spent travelling to and from work	78	71	68	74
Over 1 hour spent travelling to and from work	22	29	16	17
Less than 10 km distance between home and work	59	68	55	48
More than 10 km distance between home and work	41	32	16	13
Travel by car	38	32	13	17
Travel by bus	30	32	23	57
Travel by train	13	11	36	22
Work or cycle	11	25	16	4

No significant differences

Table 27. Comparison of Patients' and Siblings' Education by Race and Diagnosis (in percentages)

Comparison of Patients' and Siblings' Education	Indian		Black	
	DU	NON-DU	DU	NON-DU
Better educated than siblings	29	50	32	26
Similar education	57	38	23	30
Less education	14	12	45	44
TOTAL	100	100	100	100

Table 28. Comparison of first with present job in terms of prestige, responsibility and authority by race and diagnosis (in percentages)

	Indian		Black	
	DU	Control	DU	Control
More prestige than first job	19	27	22	30
Less prestige than first job	39	52	50	22
Same prestige as first job	42	21	28	48
More responsibility than first job	13	21	17	17
Less responsibility than first job	42	41	28	9
Same responsibility as first job	45	38	55	74
More authority than first job	10	21	5	17
Same authority as first job	28	41	17	17
Less authority than first job	62	38	78	65
Number	31	29	18	23

No significant differences

* Where patient was unemployed, previous job was substituted for present job. Percentages are based on responses as adequate information was not obtainable from all patients.

Table 32a. Period Spent in Employment by 2 Groups in Indian Patients (in percentages)

Period	First Job		Previous Job		Present Job	
	DU	NON-DU	DU	NON-DU	DU	NON-DU
2 yrs or less	36	35	30	40	20	16
3-6 yrs	22	26	12	16	24	21
Over 6 yrs	14	9	14	16	28	26
N.I. or N.A.	28	30	44	28	28	37
TOTAL	100	100	100	100	100	100
Mean period	4 yrs	3 yrs	4 yrs	4 yrs	6 yrs	5 yrs

No significant differences

Table 32b. Period Spent in Employment by 2 Groups of Black Patients (in percentages)

Period	First Job		Previous Job		Present Job	
	DU	NON-DU	DU	NON-DU	DU	NON-DU
2 yrs or less	22	44	16	28	19	19
3-6 yrs	35	19	19	19	19	28
Over 6 yrs	13	6	8	16	40	25
N.I. or N.A.	30	31	57	37	22	28
TOTAL	100	100	100	100	100	100
Mean period	9 yrs	3 yrs	4 yrs	4 yrs	5 yrs	5 yrs

No significant differences

Table 33. Feelings of Security/Insecurity at Work by Race and Diagnosis (in percentages).

Feelings of Security/Insecurity	Indian		Black	
	DU	NON-DU	DU	NON-DU
Not secure	8	10	13	12
Fairly secure	42	35	57	63
Very secure	50	55	30	25
TOTAL	100	100	100	100

No significant differences

Table 34. In a "good job" at present or expecting promotion by Race and Diagnosis (in percentages).

Attitude to promotion and the present job	Indian		Black	
	DU	NON-DU	DU	NON-DU
In a "good job" presently	16	23	25	22
Never had a good job	84	77	75	78
TOTAL	100	100	100	100
Expecting promotion	57	64	13	27
Not expecting promotion	43	36	87	73
TOTAL	100	100	100	100

No significant differences

Table 38. Use of Alcohol by Race and Diagnosis (in percentages)

Use of Alcohol	Indian		Black	
	DU	NON-DU	DU	NON-DU
Non-drinker	52	55	49	41
Daily	10	12	13	15
Week-ends only	14	19	0	0
2-3 x per week	24	14	38	44
TOTAL	100	100	100	100

No significant differences

Table 40. Smoking by Race and Diagnosis (in percentages)

Use of cigarettes	Indian		Black	
	DU	NON-DU	DU	NON-DU
Under 10 per day	48	28	54	31
Over 10 per day	26	46	16	19
Nil	26	26	30	50
Other (pipe)	0	0	0	0
TOTAL	100	100	100	100

No significant differences

Table 46a. Ranking of Past Stress Factors of Indian Duodenal Ulcer
Patients compared with Controls (in percentages)

Stress Factor	DU	Ranking	NON	Ranking	Chi-sq.	significance
Feelings of tiredness*	72	1	44	3	8,33	p < 0,01
Feeling sick and weak*	68	2	35	6	11,12	p < 0,01
Worry about cost of living	68	2	67	1		N.S.
Worry about doing well in job*	66	3	47	2	4,12	p < 0,05
Worry about keeping job	62	4	47	2		N.S.
Not enough time to do things*	58	5	37	5	4,45	p < 0,05
Difficulty sleeping at night	56	6	37	5		N.S.
Too much responsibility at work*	52	7	26	9	7,23	p < 0,01
Worry about children*	50	8	30	7	4,09	p < 0,05
Bored at home all day	50	8	40	4		N.S.
Feeling underpaid at work*	44	9	19	12	7,22	p < 0,01
Too much work to finish on time	44	9	28	8		N.S.
Children who are naughty	42	10	37	5		N.S.
Fear of boss at work	40	11	23	10		N.S.
Feeling lonely	40	11	35	6		N.S.
Worry about job promotion	38	12	26	9		N.S.
Feeling something bad will happen	36	13	28	8		N.S.
Grieved over death of father	34	14	28	8		N.S.
Feel you have enemies	34	14	21	11		N.S.
Worry about being bewitched*	32	15	14	14	4,39	p < 0,05
Angry at family's interference	32	15	28	8		N.S.
Worry about people harming you	32	15	14	14	4,39	p < 0,05
Frustrated with neighbours	32	15	21	11		N.S.
Worry about H.P.	32	15	26	9		N.S.
Bad conditions at work	30	16	14	14		N.S.
Bad living conditions	30	16	19	12		N.S.
Life seems meaningless	30	16	16	13		N.S.
Angry with bosses	30	16	12	15	4,84	p < 0,05
Grieved over mother's death	30	16	19	12		N.S.

*These were significant differences

Table 46a (contd.)

Stress Factor	DU	Ranking	NON	Ranking	Chi-sq. significance
Unsatisfactory sex life	28	17	7	17	Insuff. cell frequency
Bad headaches	28	17	9	16	Insuff. cell frequency
Worried about accommodation	28	17	28	8	N.S.
Pestered by relatives	26	18	14	14	N.S.
Worried by debts	26	18	30	7	N.S.
Uncomfortable with work mates	26	18	12	15	N.S.
Frustrated by work you don't like	26	18	19	12	N.S.
Arguments with relatives	24	19	28	8	N.S.
Bad dreams	24	19	19	12	N.S.
Uncomfortable with friends	22	20	9	16	Insuff. cell frequency
Irritated with wife	22	20	16	13	N.S.
Friends don't like me	20	21	12	15	N.S.
People at work don't listen to me	18	22	7	17	Insuff. cell frequency
Restricted by political situation	16	23	9	16	Insuff. cell frequency
Grieved by death of child	16	23	7	17	Insuff. cell frequency
Angry about political situation	16	23	14	14	N.S.

45 out of the total possible responses of 65, were ranked and tested for significant differences between the duodenal ulcer and non-ulcer groups.

Table 46b Ranking of Present Stress Factors of Indian Duodenal Ulcer
Patients Compared with Controls (in percentages)

Stress Factor	DU	Ranking	Non	Ranking	Chi-sq.	Significance
Feelings of tiredness*	64	1	40	2	6,18	p < 0,03
Worry about cost of living	60	2	63	1		N.S.
Feeling sick and weak*	58	3	35	3	5,46	p < 0,03
Worry about children *	50	4	26	6	6,25	p < 0,03
Worry about doing well in job	48	5	26	6	5,33	p < 0,03
Difficulty sleeping at night	48	5	30	5		N.S.
Bored at home all day	46	6	35	3		N.S.
Worry about keeping my job	44	7	35	3		N.S.
Not enough time to do things	40	8	26	6		N.S.
Restricted by political situation	36	9	19	9		N.S.
Children who are naughty	36	9	21	8		N.S.
Feeling lonely	36	9	31	4		N.S.
Too much work to finish on time*	34	10	14	11	5,25	p < 0,03
Feeling underpaid at work*	30	11	12	12	4,84	p < 0,05
Fear of boss at work	30	11	9	13		Insuff. cell frequency
Feeling something bad will happen	30	11	19	9		N.S.
Frustrated by neighbours	26	12	16	10		N.S.
Unhappy with treatment from wife	24	13	16	10		N.S.
Father doesn't care about me	24	13	5	15		Insuff. cell frequency
Bad treatment from other races	24	13	16	10		N.S.
Have headaches often	24	13	7	14		Insuff. cell frequency
Irritated with wife	22	14	14	11		N.S.
Worry about people who will harm me	22	14	12	12		N.S.
Grieved at death of child	22	14	14	11		N.S.
Feel degraded at work	22	14	7	14		Insuff. cell frequency
No sympathy from father	22	14	5	15		Insuff. cell frequency

Table 46b (contd.)

Stress Factor	DU	Ranking	NON	Ranking	Chi-sq. significance
Worried about accommodation	22	14	23	7	N.S.
Have bad dreams	20	15	12	12	N.S.
Worry about job promotion	20	15	14	11	N.S.
Feel you have too few friends	20	15	9	13	Insuff. cell frequency
Worry about Hire-purchase	18	16	14	11	
Uncomfortable with friends	18	16	9	13	Insuff. cell frequency
Angry at family's interference	18	16	7	14	Insuff. cell frequency
Worry about being bewitched	16	17	11	12	N.S.
Worry about debts	16	17	21	8	N.S.
Angry at bosses at work	16	17	2	16	Insuff. cell frequency
Wife doesn't care	16	17	7	14	Insuff. cell frequency
No sympathy from mother	14	18	5	15	Insuff. cell frequency
Pestered by relatives	12	19	7	14	Insuff. cell frequency
Family doesn't care	12	19	5	15	Insuff. cell frequency
Sex life not satisfying	10	20	7	14	Insuff. cell frequency
Life is meaningless	10	20	12	12	N.S.
Uncomfortable with work mates	10	20	5	15	Insuff. cell frequency
Arguments with relatives	10	20	9	13	Insuff. cell frequency
Worry about arrest by police	8	21	12	12	Insuff. cell frequency

45 out of the total possible responses of 65, were ranked and tested for differences between the duodenal ulcer and non-ulcer groups.

Table 47a

Ranking of Past Stress Factors of BlackDuodenal Ulcer Patients compared with controls(in percentages).

Stress Factor	DU	Ranking	NON	Ranking	Chi-sq. Significance
Worry about cost of living*	88	1	59	2	6,00 p < 0,03
Feeling sick and weak	67	2	50	3	N.S.
Feeling underpaid at work	60	3	69	1	N.S.
Feelings of tiredness	57	4	41	6	N.S.
Have bad dreams	57	4	44	5	N.S.
Not enough time to do things	51	5	31	9	N.S.
Arguments with relatives	49	6	44	5	N.S.
Difficulty sleeping at night	46	7	47	4	N.S.
Worried about children at home	46	7	44	5	N.S.
Bored at home all day	46	7	22	12	4.00 p < 0,05
Worried about keeping a job	43	8	41	6	N.S.
Feeling something bad will happen	43	8	31	9	N.S.
Worried about accommodation	43	8	31	9	N.S.
Too much work to finish on time	41	10	31	9	N.S.
Have headaches often	41	10	28	10	N.S.
Feel lonely	41	10	34	8	N.S.
Too much responsibility at work	38	11	38	7	N.S.
Feel you have enemies	38	11	34	8	N.S.
Feel family doesn't care	38	11	25	11	N.S.
Worry about people harming you	35	12	34	8	N.S.
Worry about demanding girl friend	35	12	28	10	N.S.
Angry about work conditions	35	12	44	5	N.S.
Worry about being bewitched	35	12	31	9	N.S.
Grieved by death of father	32	13	41	6	N.S.
Treated badly by other races	30	14	28	10	N.S.
Feeling friends don't like you	30	14	31	9	N.S.
Angry with bosses	30	14	25	11	N.S.

* Significant differences

Table 47a (contd.)

Stress Factor	DU	Ranking	NON	Ranking	Chi-sq.	Significance
Feel uncomfortable with workmates	30	14	34	8		N.S.
Irritated with wife	30	14	22	12		N.S.
Frustrated by neighbours	30	14	31	9		N.S.
Grieved by children who have died	27	15	34	8		N.S.
Frustrated by work you don't like	27	15	34	8		N.S.
Angry about political situation	27	15	28	10		N.S.
Frustrated at conditions where you live	27	15	34	8		N.S.
Worry about doing well in job	24	16	22	12		N.S.
Worried about H.P. payments	24	16	16	14		N.S.
Feel uncomfortable with friends	24	16	19	13		N.S.
Sex problems	22	17	9	15		N.S.
Pestered by relatives	22	17	22	12		N.S.
People at work don't listen	22	17	28	10		N.S.
Worry about being arrested	19	18	34	8		N.S.
Fear of bosses	19	18	31	9		N.S.
Grieved by mother's death	16	19	16	14		N.S.
Friction with in-laws	16	19	25	11		N.S.
Restricted by political situation	16	19	34	8		N.S.

45 out of the total possible responses of 65, were ranked and tested for differences between the duodenal ulcer and non-ulcer groups.

Table 47b Ranking of Present Stress Factors of Black Duodenal Ulcer
Patients compared with Controls (in percentages)

Stress Factor	DU	Ranking	NON	Ranking	Chi-sq.	Significance
Worry about cost of living	73	1	56	2		N.S.
Feeling sick and weak	54	2	38	4		N.S.
Have bad dreams	51	3	31	6		N.S.
Feeling underpaid at work	49	4	66	1		N.S.
Feelings of tiredness	49	4	31	6		N.S.
Bored at home all day*	43	5	16	2	5,80	p < 0,03
Not enough time to do things	41	6	31	6		N.S.
Worry about children at home	41	6	41	3		N.S.
Have headaches often	38	7	25	10		N.S.
Difficulty sleeping at night	35	8	31	6		N.S.
Worried about keeping a job	35	8	31	6		N.S.
Feel lonely	35	8	30	7		N.S.
Too much work to finish on time	32	9	25	10		N.S.
Restricted by political situation	32	9	31	6		N.S.
Arguments with relatives	30	10	19	12		N.S.
Feel something bad will happen	30	10	29	8		N.S.
Worried about accommodation	30	10	22	11		N.S.
Worried by demanding girlfriend	27	11	13	14	Insufficient cell frequency	
Frustrated by neighbours	27	11	25	10		N.S.
Worry about being bewitched	24	12	28	8		N.S.
Grieved by death of father	24	12	38	4		N.S.
Treated badly by other races	24	12	28	8		N.S.
Feel uncomfortable with work mates	22	13	22	11		N.S.
Angry at family's interference	22	13	19	12		N.S.
Pestered by relatives	19	14	9	15		N.S.
Feeling that friends don't like you	19	14	31	6		N.S.

*significant differences

Table 47b (contd.)

Stress Factor	DU	Ranking	NON	Ranking	Chi-sq. Significance
Sexual problems	19	14	9	15	N.S.
Feel degraded at work	19	14	16	12	N.S.
Irritated with wife	16	15	9	15	Insuff. cell frequency
Worry about people harming you	16	15	28	8	N.S.
Wife doesn't care	16	15	34	5	N.S.
Feel family doesn't care	16	15	19	12	N.S.
Uncomfortable with friends	16	15	19	12	N.S.
Worry over Hire-purchase	16	15	19	12	N.S.
Don't like work conditions	16	15	25	10	N.S.
Too much responsibility at work	14	16	22	11	N.S.
Fear of boss	14	16	22	11	N.S.
Worry re arrest	14	16	28	7	N.S.
Worry about doing job well at work	14	16	6	19	Insuff. cell frequency
Angry about work conditions	11	17	22	11	N.S.
Angry with bosses	11	17	26	9	N.S.
Naughty children	11	17	22	11	N.S.
Debts	8	18	22	11	N.S.
Grieved by mother's death	8	18	13	14	N.S.
Worried about wife	8	18	3	15	N.S.

45 out of the total possible responses of 65, were ranked and tested for differences between the duodenal ulcer and non-ulcer groups.

APPENDIX A
FOCUSED SOCIAL QUESTIONNAIRE
MODULE "A"

Study Number

Date

Patient's Code Number

Name.....

Address.....

Interviewer.....

Time taken for interview.....

INTRODUCTION :

You have already answered questions about the way you feel about your life. Now you will be asked about your home circumstances, your job, your family, etc. Please answer the questions as fully as possible as this will help with the research into the reasons for illness.

1. Sex Male - 0: Female - 1

2. Race 0 - Xhosa/Pondo
 1 - Zulu
 2 - Other African
 3 - Indian
 4 - Coloured
 5 - White
 6 - Other/N.I.

3. Religion 0 - Nil
 1 - Protestant
 2 - Catholic
 3 - Tribal
 4 - Minor Western type sects
 5 - African separatist
 6 - Muslim
 7 - Hindu
 8 - Other

4. For Indians What language is used in your home in addition to English :

0 - Nil
 1 - Tamil
 2 - Telegu
 3 - Hindi
 4 - Gujerati
 5 - Urdu
 6 - Other
 7 - N.A.

Y Y M M D D

5. Birthdate : 0 - N.I.

<u>Age</u> :	1 - Under 20	3 - 30 - 39	5 - 50 - 59
	2 - 20 - 29	4 - 40 - 49	6 - 60 +

6

7

8

	Marital Status Col 11 & 12	Code for each item that applies. How many years have you been Col 13 Col 14 1st Inst. 2nd Inst.	For each item that applies ask : At this time, did you worry or not. 0-No worries : 1-some worries 2-Heavy worries: 3-Heavy worries that make you feel sick 4-N.1.
Not married	0		
Engaged or proposing to marry	1		
Married	2		
Married and widowed	3		
Married and divorced	4		
Married and separated	5		
Married, widowed and remarried	6		
Married, divorced and remarried	7		
Living together	8		
Impermanent Relationship with children	9		
Married, divorced/widowed, living together	10		
Married, separated reconciled	11		
Married, widowed, living with boyfriend	12		

9 Type of marriage :

0-N/A

1- Married by choice, registered

2- Married by arrangement, registered

3- Married by choice - religious only

4- Married by arrangement - religious only

5- Married by choice - registered and religious

6- Married by arrangement - registered and religious

7- Married by arrangement - customary

8- Married by choice - customary

9- N.I.

10 Probe for details of worries and time between experiencing worry and feeling sick or experiencing pain.

See code list

FAMILY DETAILS :

Five following details of family or origin in age order. If subject is either married, divorced, widowed, etc. also complete section - family procreation. Include subject once in correct order and indicate by ringing number :

- Education Code :
- | | | |
|---------------------------|------------------|----------------|
| 0 - None | 1 - Class 1 | 2 - Class 2 |
| 3 - Std. 1 | 4 - Std. 2 | 5 - Std. 3 |
| 6 - Std. 4 | 7 - Std. 5 | 8 - Std. 6 |
| 9 - Std. 7 | 10 - Std. 8 | 11 - Std. 9 |
| 12 - Std. 10 | 13 - Undergrad. | 14 - Postgrad. |
| 15 - Med. Specialist | 16 - Trade Cert. | |
| 17 - Professional Diploma | 18 - Other | |

	Sex	Age last birthday	Level of Education (see list)	Marital Status Use Code	Living with Subj. O-No 1-Yes 2-Dec.	Occupation and Employment. Include type of work and grade
11. Father						
12. Mother						
13. Children 1						
2						
3						
4						
5						
6						
7						
8						

Family of Procreation (if applicable) Otherwise mark N/A

	Sex	Living with Subj. O-No 1-Yes 2-Dec	Age (yrs.)	Marital Status Use "5 Code"	Level of Educat. (see list)	Occupation Employer
14 Spouse						
15 Children 1						
2						
3						
O-Male						
1 - Female						
4						
5						
6						
7						
8						

16 Comments on family living arrangements :

- 17 Total number of people living in subject's household + 10 yrs
- 10 yrs

DEATH OF FAMILY MEMBERS :

- | | 18 | 19 | 20 |
|---|--------------------------------|---|--|
| | Which family members have died | What was your age at this death
Code : O- O-5 :
1-6-10; 2-11-15
3-16-20; 4-21-25:
5-26-30; 6-31-35:
7-36-40; 8-over 40 | Did this death worry you or not.
O-No; 1-Some worries:
2-A great deal:
3-Pain sometime afterwards |
| 0 | No deaths | | |
| 1 | Father | | |
| 2 | Mother | | |
| 3 | Husband/wife | | |
| 4 | Child | | |
| 5 | More than one child | | |
| 6 | Brother/Sister | | |
| 7 | Other close relatives | | |
| 8 | Close friends | | |
| 9 | Other | | |

MARITAL AND SEXUAL RELATIONSHIPS:

- 21 How is your home life at present?
O-Very unhappy; 1-sometimes happy; 2-usually happy. 3-N.1.
- 22 How has your home life been in the past?
O-Very unhappy; 1-sometimes happy; 2-usually happy 3-N.1.
If applicable ask:
- 23 Have you felt ill with worry over your unhappy home life or not? O-Never; 1-In the past; 2-At present some of the time; 3-very often at present; 4-can't say; 5-N/A.
- 24 Is your sex life satisfying? O-never satisfying; 1-satisfying in the past, not now; 2-satisfying some of the time at present; 3-usually satisfying; 4-N/A
If applicable ask:
- 25 Do you worry about an unsatisfactory sex life?
O-Don't worry; 1-used to worry in the past, not now; 2-sometimes worry; 3-worry a great deal; 4-N/A.
- 26 Does your family do things together? O-Never 1-sometimes; 2-often; 3-N/A.
- 27 Have you felt upset by not doing things together?
O-Never; 1-sometimes; 2-often; 3-N/A.
- 28 Who generally makes the decisions? O-Husband; 1-Wife; 2-both; 3-N/A; 4-Eldest Son.
- 29 If you are living apart from your husband/wife, is this by choice - O: forced by law - 1: forced by circumstances. e.g.

- 36 Rate rural/urban adjustment
 O-None - all rural
 1-None - all urban
 2- Adjustment in childhood
 3- Adjustment in adolescence
 4- Adjustment in adulthood, single
 5 - Adjustment in adulthood, family responsibility
 6 - Adjustment in late adulthood 55 years +
 7 - N.I.

MOBILITY :

- 37 How many times have you moved house in the last 5 years ?
 O-O: 1-1: 2-2: 3-3: 4-4: 5-more than 4 times: 6-N/A

Answer Questions 37 - 39 where applicable:

- 38 Were you worried by the moves ?
 O-Not worried: 1-some worries: 2-very worried:
 3-felt sick with worry: 4-felt sick some time later: 5-N/A
- 39 Reasons for Moving : 2 choices
 O-better place or area to live: 1-cheaper: 2-forced to move by Group Areas Act or Urban Influx Control: 3-changed place of work or transferred, changed school, began work: 4-trouble with landlord: 5-changed in marital status: 6-moved from country to town: 7-moved from town to country: 8-death of family members or calamity (e.g. floods): 9-N/A.
- 40 If you are a migrant worker, how often do you return home ?
 O-never: 1-every weekend: 2-once a month: 3-twice a month:
 4-twice a year: 5-once a year: 6-seldom: 7-extended period
 at home: 8-N/A.
- 41 Length of time in present accommodation (in years).
- 42 Occupation of rooms.

	+ 10 years		-10 years	
	M	F	M	F
Bedroom 1				
2				
3				
4				
Living room/bedroom				

- 43 Are you satisfied with the place where you live now?
 O-Not satisfied: 1-fairly well satisfied: 2-well satisfied.
- 44 If dissatisfied, why? (2 choices)
 O-too expensive/financial problems: 1-overcrowded: 2-difficult landlord:
 3-feel insecure: 4-problems with people in the house: 5-problems with
 neighbours: 6-house in bad condition, e.g. damp: 7-lack of privacy:
 8-too much noise, nasty smells, smoke or fumes, not enough air and light
 9-N/A.
- 45 Have you thought of moving? O-No: 1-Yes.

- 46 What prevents you from moving? (2 choices) O-lack of finance:
1-waiting for accommodation in a housing scheme: 2-cannot find
alternate accommodation: 3-family ties and obligations: 4-work:
5-N/A: 6-waiting to purchase home: 7-undecided: 8-afraid to leave.

FINANCIAL CIRCUMSTANCES :

- 47 Sources of income : (3 choices)
O-no income: 1-employment: 2-grant or pension: 3-unemployment ins.
benefit/sick benefits: 4-welfare organisation/charity: 5-contribution
or support from wife/husband: 6-contribution or support from children
or siblings: 7-contribution or support from other family: 8-contribution
or support from other people or rent: 9-N/A.
- 48 Total income of subject per month :
Code : O-R0-50: 1-R51-100: 2-R101-150: 3-151-200: 4-R201-300:
5-R301-400: 6-R401-500: 7-R501-750: 8-R751-1 000: 9-R1 000 +
- 49 Total household income (use Code 47). Total income
- 50 Per capita income (Interviewer to compute $\frac{\text{Total income}}{\text{Total No. in household}}$)
O-Nil: 1-under R15: 2-R16-25: 3-R26-35: 4-R36-55: 5-R56-75:
6-R76-100: 7-R101-150: 8-R151-200: 9-R201+
- 51 How many people do you support, including yourself?
- 52 Have you any debts? O-No: 1-Yes.
- 53 Amount owed (in Rands)
- 54 Do you have H/P instalments to pay monthly? O-No: 1-Yes
- 55 Amount of H/P instalments.
- 56 Amount of monthly rental or instalments.
- 57 Have you worried about money ?
O-Never: 1-in the past: 2-at present: 3-feel ill with worry at present:
4-felt ill with worry in the past.

OCCUPATION

- 59 Are you employed? O-No: 1-Yes: 2-student: 3-housewife: 4-retired.
- 60 O-Fulltime: 1-part time: 2-short time: 3-N/A.
- 61 O-permanent: 1-temporary: 2-casual: 3-migrant: 4-N/A.
- 62 Type of work :
- 63 Grade of work if applicable :
- 64 Describe your work, in detail :
- 65 How many people do you supervise?
- 66 Are you supervised closely or not? O-not at all: 1-quite closely:
2-very closely: 3-N/A.

- 67 Describe your previous job in detail :
- 68 Describe your first permanent job in detail :
- 69 What other jobs have you had (list) :
- 70 Why did you change or leave your previous job ?
- 71 Why did you change or leave your first job?
- 72 How many years did you stay in your first job ?
- 73 How many years were you in your previous job ?
- 74 How many years in present job ?
- 75 Have you ever had a very good job?
O-No: 1-Yes
- 76 For how many years ?
- 77 Why did you change or leave ?
- 78 Number of years not working ?
- 79 If you are not working at present, how do you spend your time ?
O-N.A. 1-Resting and Sleeping: 2-Fully occupied: 3-Handcrafts:
4-Visit friends, bioscope.

PRESENT WORKING CONDITIONS :

- 80 Hours worked daily
- 81 Hours worked on night shift (per week)
- 82 Hours overtime (per week)
- 83 Time leaving for work (in hours)
- 84 Time reaching home after work (in hours)
- 85 Time spent travelling daily (in hours)
- 86 Distance (in kms) to work from home
- 87 Mode of transport of subject :
- | | | |
|---------------|--------------|--------|
| O-private car | 1-shared car | 2-taxi |
| 3-bus | 4-train | 5-walk |
| 6-bicycle | 7-other | 8-N/A |
- 88 Are you satisfied with your working conditions ?
O-No: 1-fairly well: 2-well satisfied: 3-N/A.
- 89 Do you feel secure in your job?
O-No: 1-fairly secure: 2-very secure: 3-N/A.
- 90 Do you expect to be promoted ?
O-No: 1-sometime: 2-Yes: 3-N/A.

- 91 What is there connected with your work that worries you O-nothing or N/A: 1-overtime: 2-night shift: 3-trouble with boss: 4-trouble with workmates: 5-trouble with those under you: 6-time spent travelling: 7-bad working conditions: 8-no credit for experience, little pay: 9-tiring.

OCCUPATION OF PARENTS AND BEST FRIENDS :

Consult Q.11 and Q. 12 for occupation of parents - ask for more detail if necessary and fill in Q.11 and Q.12. Then ask further relevant questions. Indicate N/A or N/1 (no information) where this applies.

- 92 Is your father working or not ? O-not working: 1-full time: 2-part time: 3-casual: 4-N/A: 5-N/1.

93 Describe your father's first job :

94 Describe your father's previous job :

95 Describe your father's present job :

96 If no longer working, why did he leave ?

O-retired: 1-sick: 2-retrenched: 3-firm closed down: 4-don't know: 5-other (specify): 6-N/A.

- 97 Is mother working or not ? O-not working: 1-full time: 2-part time: 3-casual: 4-N/A: 5-N/1.

98 Describe your mother's first job :

99 Describe your mother's previous job :

100 Describe your mother's present job :

101 If no longer working, why did she leave ?

O-retired: 1-sick: 2-retrenched: 3-firm closed down: 4-don't know: 5-other (specify): 6-N/A.

Length of time in first job :

Father

Mother

108 What are the occupations of 2 best friends ?

1.

2.

SOCIAL AND RECREATIONAL :

- 109 Do you belong to an association, club or organisation ?
O-No: 1-Yes: 2-Yes, worries about this.
- 110 If yes : O-N/A: 1-Sports club: 2-Money saving club: 3-Choir, musical club: 4-Religious .
- 113 Do you play or watch any sport regularly ?
- 114 Type of sport : O-None: 1-football: 2-cricket: 3-tennis: 4-swimming: 5-horses: 6-table tennis, darts: 7-athletics .
- 115 If yes, how often: O-never: 1-once a week: 2-once a fortnight: 3-once a month: 4-occasionally .
- 116 Is there anything about the sport that worries you ? O-No: 1-Yes: 2-N/A .
- 118 Do you have any hobbies or spare time occupation ? O-None: 1-gardening: 2-reading: 3-sewing/knitting: 4-carpentry: 5-fishing: 6-karate: 7-stamp and coin collecting: 8-bioscope: 9-music .

RELATIONSHIPS WITH FRIENDS AND FAMILY :

- 120 How often do you visit, or are visited, by friends :
O-never: 1-more than once per week: 2-once per week: 3-once per fortnight: 4-once a month: 5-only occasionally .
- 121 How often do you visit, or are visited by, members of your family :
O-never: 1-more than once per week: 2-once per week: 3-once per fortnight: 4-once a month: 5-only occasionally .
- 122 How many special close friends do you have that you can really trust and turn to in times of trouble and need: O-none: 1-1: 2-2: 3-3: 4-4: 5-many .
- 123 Do/did your friendships cause you worry :
O-no: 1-in the past: 2-at present: 3-N.A .
- 124 How many relatives can you really trust and turn to in times of trouble and need: O-None: 1-1: 2-2: 3-3 4-4: 5-many .

- 125 Which of the following applies to you :
- O-no friends
 - 1-I have a few friends, but don't want any more
 - 2-I have too few friends
 - 3-About the right number
 - 4-Too many friends

If Mother is alive - ask Questions 126 - 127 :

- 126 Do you have contact with your mother ?
O-no contact : 1-fairly frequent contact: 1-very frequent: 3-N/A.
- 127 Is there anything between you and your mother that upsets you?
O-No: 1-Yes: 2-N/A.
- 128 Which of your in-laws do you have the most to do with ?
O-None: 1-mother in law: 2-father in law: 3-brother(s) in law:
4-sister(s) in law: 5-N/A;
- 129 Is there anything between you and these in laws which upsets you ?
O-No: 1-Yes. interfering: 2-Yes, quarrelsome: 3-Yes, demanding:
4-other: 5-N/A.

RELIGION :

- 130 Do you attend any of the following : O-Nil: 1-Church: 2-Temple:
3-Mosque: 4-Other services.
- 131 How often : O-seldom: 1-once a week: 2-once a fortnight: 3-once
a month: 4-on special feast days and ceremonies: 5-once a year:
6-N/A, 7-when ill.
- 132 How important is religion in your life :
O-Not important: 1-quite important: 2-very important: 3-important
when ill.
- 133 Does religion cause you any worry or not :
O-No: 1-Yes, fearful of gods: 2-Yes, religious demands: 3-Yes,
finds it difficult to follow the right way: 4-N/A.
- 134 Have you ever consulted a priest, witch doctor, insangoma, for illness?
O-No: 1-priest: 2-insangoma or witch doctor.
- 135 Do you believe this helped you: O-Not at all: 1-possibly: 2-Yes: 3-N/A.
- 136 Do you ever worry because you feel bewitched or think a spell has been
cast upon you: O-No: 1-Yes at present: 2-in the past: 3-N/A: 4-Yes
but not worried.

DIET

- 138 Do you have coffee daily or not ? O-No: 1-1 per day: 2-2: 3-3: 4-4: 5-many.
- 139 Do you drink coca-cola or similar cold drinks? O-No: 1-sometimes: 2-often: 3-everyday.
- 140 How often do you eat spiced foods ?
O-No: 1-sometimes: 2-often: 3-everyday.
- 141 How often do you drink alcohol ?
O-never: 1-daily: 2-over weekends: 3-two or three times per week: 4-occasionally: 5-in the past, daily: 6-in the past over weekends: 7-in the past, 2/3 times per week: 8-in the past, occasionally.
- 142 Type of alcohol: O-None: 1-Cane/Vodka: 2-Brandy: 3-Whisky: 4-Wine: 5-Juba/home made beer: 6-Beer: 7-Combined Juba/Beer: 8-Combined spirits and beer: 9-Combined wine and beer.
- 143 Amount of alcohol consumed (ml)
- 144 If you no longer drink, why did you give it up :
O-made me feel ill: 1-doctor advised me to stop: 2-realised was not good for me: 3-was causing me trouble: 4-did not like it any more: 5-N/A.
- 145 How many years since you gave it up ?
O-less than 1 year: 1-1: 2-2: 3-3: 4-4: 5-5: 6-6 and over: 7-N/A: 8-not sure.
- 146 Do you smoke ?
O-No: 1-cigarettes: 2-pipe: 3-cigars: 4-dagga: 5-home made cigarettes (Boxer).
- 147 No. per day : O-None: 1-10 or under: 2-11-20: 3-21-30: 4-over 30.
- 150 Which foods upset you ? (3 choices) :
O-None in particular: 1-dried beans: 2-fatty or oily foods: 3-cabbage/cauliflower: 4-spices: 5-canned foods: 6-tomatoes and onions: 7-rice/mealie rice/mealie meal/samp: 8-other.
- 151 How often do you have a meal at present ?
O-irregularly: 2-once per day: 2-twice per day: 3-3 times a day: 4-frequent snacks.
- 152 Use of dagga : O-No: 1-Yes: 2-Previously.

CHILDHOOD EXPERIENCES :

- 153 Whom did you live with during your childhood ?
O-both parents: 1-father only: 2-mother only: 3-relative(s): 4-boarding school or hostel: 5-parents and extended family.
- 154 Who made the rules in your family ?
O-nobody: 1-father: 2-mother: 3-both: 4-other.
- 155 Who punished you ?
O-Not punished: 1-father: 2-mother: 3-both: 4-other.
- 156 Did your father or mother spoil you ?
O-neither: 1-father: 2-mother: 3-N/A: 4-other.

- 157 Which parent was the dominating person in the home ?
O-neither: 1-father: 2-mother: 3-shared: 4-N/A.
- 158 In what way : O-can't say: 1-made decisions: 2-controlled family activities: 3-both parents shared decisions: 4-both parents controlled: 5-punished, but did not look after our needs: 6-N/A: 7-other family members made decisions.
- 159 Who was your favourite parent ?
O-neither: 1-father: 2-mother: 3-both: 4-N/A: 5-other.
- Elaborate : O-Don't know: 1-helpful to me: 2-loved me: 3-supported me: 4-treated me well: 5-spoilt me: 6-only parent.
- 160 Did your mother work away from home during your childhood, either full time or part time ?
O-did not work: 1-yes, full time: 2-yes, part time: 3-N/A.
- 161 Did you ever get sick as a child because you didn't have enough to eat ?
O-No: 1-Yes: 2-don't know.
- 162 How did you get on with your brothers and sisters ?
O-did not get on: 1-fairly well: 2-very well: 3-N/A.
- 163 How sure were you that your parents loved you ?
O-not sure: 1-fairly sure: 2-very sure.
- 164 On the whole was your childhood happy ?
O-unhappy: 1-sometimes happy: 2-very happy.
- 165 If unhappy, why ?
O-lack of parent(s): 1-financial problems: 2-had to do without things: 3-parental conflict: 4-father's drinking: 5-insufficient love and attention: 6-financial and father's drinking: 7-N/A: 8-overstrict parents.

LIFE IN GENERAL :

- 166 What makes you happy ? (3 choices)
- 167 What worries you ? (explore problems noted in Q.33 and others that are now indicated) (3 choices).
- 168 What are your plans for the future ? (3 choices).
- 169 Do you feel you will get better ? 1-Yes: 2-Uncertain.
- 170 Are you hopeful about the future ?
O-No: 1-Yes: 2-Never thought about it: 3-Uncertain.
- 171 What disappointments have you had? - specify (2 choices).

- 172 How has your illness affected your life ?
 O-Not affected: 1-can't work as well as I used to: 2-not as strong as before:
 3-get tired quickly: 4-don't sleep well: 5-other (specify): 6-N/A.
- 174 Have you ever had contact with a Social Worker ?
 O-No: 1-Yes.
- 175 Specify :
- 176 Do you think a Social Worker could help you with your problems or not ?
 O-No: 1-Yes: 2-Maybe.
- 177 If Yes, how could a Social Worker assist with your problems ?
- 178 Rate the following problems by circling the appropriate number :
 O-Not present: 1-rarely present: 2-a little of the time: 3-sometimes:
 4-a good part of the time: 5-most or all of the time.
- | | | | | | | |
|---------------------------------|---|---|---|---|---|---|
| Job Stress | 0 | 1 | 2 | 3 | 4 | 5 |
| Financial Stress | 0 | 1 | 2 | 3 | 4 | 5 |
| Marital Stress | 0 | 1 | 2 | 3 | 4 | 5 |
| Worries about family (children) | 0 | 1 | 2 | 3 | 4 | 5 |
| Individual problems (not Du) | 0 | 1 | 2 | 3 | 4 | 5 |
| Accommodation problems | 0 | 1 | 2 | 3 | 4 | 5 |
| Alcohol Abuse | 0 | 1 | 2 | 3 | 4 | 5 |
| Worry over other family members | 0 | 1 | 2 | 3 | 4 | 5 |
- 179 Rating by interviewer on subject's reliability and co-operation :
- | | |
|------------------------------------|-------------------------|
| Co-operative | O-No: 1-Yes |
| Language or communication problems | O-No: 1-Yes |
| Good recall of facts | O-No: 1-Yes: 2-Doubtful |
| Untruthful | O-No: 1-Yes |
| Use of Denial | O-No: 1-Yes |
| Appeared depressed | O-No: 1-Yes |

MODULE "B"OCCUPATION OF SPOUSE :Details of wife if patient is married :

180 Is your wife employed :
O-No: 1-Yes: 2-Student: 3-Housewife: 4-Retired.

181 O-fulltime: 1-part time: 2-short time: 3-N/A.

If applicable :

183 Type of work : O-N.I.: 1-Professional and Managerial: 2-Middle white collar: 3-Manual Foreman, Skilled Artisans, Farmers and equivalent status: 4-Routine non-manual and semi-skilled manual: 5-Unskilled manual and menial: 6-Housewife: 7-N/A.

184 Grade of work if applicable :

185 Describe her present work in detail : O-N/A :

186 How many people does she supervise :
Is she closely supervised :
O-No: 1-Yes: 2-Don't know: 3-N/A.

187 Describe previous job in detail :
Code as for Q 183.

188 Describe wife's first permanent job : O-N/A.

189 What other jobs has she had : O-N/A.

190 Why did she change or leave previous job : O-N/A.

191 Why did she change first job ? O-N/A.

192	Number of years in previous job)	O-none to 1 year
193	Number of years in first job)	1-1-2: 2-3-4
194	Number of years in present job)	3-5-6: 4-7-8
195	Number of years not working)	5-9-10: 6-10+
			7-N.I. or N/A

197 What does your wife think of your work ?
O-likes my job: 1-does not like it: 2-pays too little: 3-too long hours:
too much time spent on work.

198 What is your father-in-law's occupation at present ?
Code as for Q 183.

199 What is your mother-in-law's occupation at present ?
Code as for Q 183.

200 What are the occupations of your spouse's two best friends ?
Code as above.

1.

2.

196 Do any of the following things worry you about your wife's job ?

Code :

O-fear of losing job :

1-long hours or night shift:

2-too tiring:

3-travelling:

4-bad working conditions:

5-trouble with boss:

6-trouble with workmates :

7-no promotion :

8-uncertain future:

9-N/A

APPENDIX B

STRESS BATTERY

SBI

I am going to read to you a list of things in people's lives. They are things that happen to all of us or which all of us go through from time to time. As I read through the list, just tell me which ones fit your life. You can give as many as you like. You need not think too much about each problem. Just say YES, IF WHAT I READ FITS YOUR LIFE OR HAS FITTED YOUR LIFE IN THE PAST.

Even if the problem is not serious, if you have it or have had it in the past, just say YES.

(REPEAT) Anything which fits your life or has fitted it in the past. You need not think long - just give your feelings.

(INTERVIEWER - PLEASE TURN OVER AND RECORD SELECTION OF ITEMS WITH 1. FOR EACH ITEM SELECTED ASK FOLLOW-UP QUESTIONS A - 1. AFTER THE WHOLE LIST HAS BEEN READ OUT).

(FOLLOW-UP QUESTIONS ARE OPPOSITE EACH PAGE A - STATEMENTS).

(NOTE - IF RESPONDENT CHANGES HIS/HER MIND WHEN ADDITIONAL QUESTIONS ARE ASKED - RING (1) AND SAY - "Doesn't it worry you just a little"
IF RESPONDENT AGREES - ASK FOLLOW-UP QUESTIONS)

- A : Item selected - 1. No selection blank.
B : Do you have problems at present? 1 - Yes: 0 - No
C : (If past) When did it stop? - Write approximate date

AS QUESTIONS D-H FOR PRESENT PROBLEMS ONLY:

- D : When did the problem first start? - Write date
E : Do you feel the problem?
all the time - 1
while at work - 2
while at home - 3
Other - note
F : Does it worry your mind?
just now and again - 1
regularly but not all the time - 2
all the time - 3
G : Do you feel the problem would solve itself:
soon - 1
only after some time - 2
never - 3
don't know - 4
H : How serious is the problem?
very serious - cannot/could not stand it any longer - 1
serious - you cannot bear it much longer - 2
fairly serious - very difficult but bearable - 3
not very serious - bearable 4

	A	B	C	D	E	F	G	H
1. Worry about cost of living								
2. Arguments with relatives								
3. Not enough time to do things								
4. Children who are naughty and won't listen								
5. Fear of boss or foreman at work								
6. Feelings of tiredness								
7. Worry about debts you can't pay								
8. Feeling that friends don't like you								
9. Too much work for you to finish in time								
10. Difficult sleeping at night								
11. Angry at the bosses at work								
12. Feel uncomfortable with friends								
13. Worry about promotion at work								
14. Have bad dreams								
15. Feel uncomfortable with workmates								
16. Feeling that something bad but unknown is going to happen								
17. Grieved about a mother who has died								
18. Worry about your children at home								
19. Feeling that you are being underpaid at work								
20. Irritated with your wife/husband								
21. Have headaches often								
22. Worry about being arrested by the police								
23. Frustrated by neighbours where you live								
24. Sexual problems in your marriage								

	A	B	C	D	E	F	G	H
25.	Worry about doing well in your job							
26.	Worried about H/P payments							
27.	Worry about people who will harm you							
28.	Friction with your in-laws							
29.	Worry about extra-marital relationships							
30.	Angry at family for interfering in your life							
31.	Bored to be at home all day							
32.	Worry that your wife/husband will leave you							
33.	Feel lonely							
34.	Worried about a girl friend demanding things							
35.	Frustrated by work you don't like							
36.	Worried about accommodation							
37.	Feel you have too few friends							
38.	Pestered by relatives who want help							
39.	Feeling sick and weak							
40.	Grieved by a father who has died							
41.	Separated from your wife/husband							
42.	Worried about keeping your job							
43.	Frustrated by nothing to do in your spare time							
44.	Grieved by children who have died							
45.	Too much responsibility at work							
46.	Restricted by political situation							
47.	Feel your wife/husband doesn't care about you							
48.	Don't get enough sympathy or help from your mother							

		A	B	C	D	E	F	G	H
49.	People under you at work don't listen to you								
50.	Feel your family doesn't care about you								
51.	Feel your sex life is unsatisfying								
52.	People at work make you feel degraded (small)								
53.	Angry about conditions at work								
54.	Don't get enough sympathy or help from your father								
55.	Don't feel happy about the way you treat your family								
56.	Feel that life is meaningless								
57.	Feel your mother doesn't love you								
58.	Feel you may have enemies								
59.	Don't feel happy about the way you treat your wife/husband								
60.	Don't get enough sympathy or help from your wife/husband								
61.	Angry about political situation								
62.	Worry about being bewitched/tricked								
63.	Feel your father doesn't care about you								
64.	Frustrated at conditions where you live								
65.	Treated badly by other races								

APPENDIX C

SPIELBERGER QUESTIONNAIRE

SELF-EVALUATION QUESTIONNAIRE

STAI FORM Y-1 (Modified)

NAME SEX: M F AGE DATE

TRIAL AND NUMBER RACE: AFR. IND.

DIRECTIONS

I will read you a number of statements people have used to describe themselves. Listen to each statement and then point to the card which best describes how you have been feeling lately - during the past week or so. For example, I read out "I have been excited" But if you had not been at all excited during the past week, you would point to Card 1 which says "not at all". If you had been a little bit excited you would point to Card 2 which says "a little". If you had been even more excited you would point to Card 3 which says "quite a lot", and if you had been very excited you would point to Card 4 which says "very much so". Let's try out with another statement: "I felt sad" - now show me which card describes how sad you felt during the past week. (Discuss the subject's response to make sure they understand the meaning of each category of response).

	NOT AT ALL	A LITTLE	QUITE A LOT	VERY MUCH SO
1. I felt calm (peaceful and quiet inside me)	1	2	3	4
2. I felt secure (safe from any kind of trouble)	1	2	3	4
3. I was tense (uneasy in mind and body)	1	2	3	4
4. I was strained (anxious, unable to cope)	1	2	3	4
5. I felt at ease (relaxed, comfortable)	1	2	3	4
6. I felt upset	1	2	3	4
7. I was worrying over possible misfortunes (I was worried about troubles which might happen)	1	2	3	4
8. I felt satisfied (about the way things were going)	1	2	3	4
9. I felt frightened	1	2	3	4
10. I felt comfortable (nice)	1	2	3	4
11. I felt self-confident (sure of myself)	1	2	3	4
12. I felt nervous	1	2	3	4
13. I felt jittery (restless)	1	2	3	4
14. I felt indecisive (couldn't make up my mind about anything)	1	2	3	4
15. I was relaxed (I felt that my body was at ease)	1	2	3	4
16. I felt content (quite pleased with my life)	1	2	3	4
17. I was worried	1	2	3	4
18. I felt confused (my thoughts felt mixed up)	1	2	3	4
19. I felt steady (did not easily become upset)	1	2	3	4
20. I felt pleasant (fine)	1	2	3	4

APPENDIX D
SELF-EVALUATION QUESTIONNAIRE
STAI FORM Y-2 (Modified)

DIRECTIONS

Now I will read you some statements which people have used to describe how they generally or usually feel. So now we are not talking about how you feel today or how you felt last week, but how you feel at any time. Listen to each statement and then point to the card which best describes how you generally feel. For example, if I read out: "I feel angry" and you "almost never" feel angry, you would point to Card 1. If you "sometimes" feel angry, you would point to Card 2. If you "often" feel angry you would point to Card 3. If you "almost always" feel angry, you would point to Card 4. Let's try it out with the statement "I feel full of energy" - now show me which card describes how often this is true of you. (Make sure the subject understands how to use the response categories).

	ALMOST NEVER	SOMETIMES	OFTEN	ALMOST ALWAYS
21. I feel pleasant	1	2	3	4
22. I feel nervous and restless	1	2	3	3
23. I feel satisfied with myself	1	2	3	4
24. I wish I could be as happy as others seem to be	1	2	3	4
25. I feel like a failure (that I am not good at anything)	1	2	3	4
26. I feel rested (not tired)	1	2	3	4
27. I am "calm, cool and collected" (I can face things without getting hot and bothered; in full control of myself)	1	2	3	4
28. I feel that difficulties are piling up so that I cannot overcome them (my troubles are becoming so many that I can't deal with them)	1	2	3	4
29. I worry too much over something that really doesn't matter (I worry too much over things that are not really important)	1	2	3	4
30. I am happy	1	2	3	4
31. I have disturbing thoughts (I think about things that upset me)	1	2	3	4
32. I lack self-confidence (I am not sure of myself)	1	2	3	4
33. I feel secure (I feel that nothing is going to go wrong in my life)	1	2	3	4
34. I make decisions easily (I find it easy to make up my mind about things)	1	2	3	4
35. I feel inadequate (I feel that I can't do things as well as I should)	1	2	3	4
36. I am content (I am happy with the way things are in my life)	1	2	3	4

SELF-EVALUATION QUESTIONNAIRE (contd.)

	ALMOST NEVER	SOMETIMES	OFTEN	ALMOST ALWAYS
37. Some unimportant thought runs through my mind and ... bothers me (I cannot stop thinking about things which are not really important)	1	2	3	4
38. I take disappointments so keenly that I can't put them ... out of my mind (disappointments upset me very much and I can't stop thinking about them)	1	2	3	4
39. I am a steady person (I don't get upset or excited)	1	2	3	4
40. I get in a state of tension or turmoil as I think over my .. recent concerns and interests (I feel troubled and upset when I think of things which have happened)	1	2	3	4

APPENDIX E

FOLLOW-UP STUDY

NAME CODE NO.

2nd SERIES:

1. MEDICAL QUESTIONS:

1. Length of history
2. How many severe attacks?
3. How often attacks? mild per
- severe per
4. Complications:
Date
Bleed
Perforation
5. Operations:
Date
Type
6. How many endoscopies have you had?
7. How many attacks of pain have you had since the
2½ days of questioning

2. Psychosocial Questions:

1. Has there been a change in your job situation?
Are there any worries connected with job at present?
Does this cause you pain?
2. How is your marital situation at present?
Any worries or problems? Causing pain?
3. How is your family situation? Any worries or problems? Causing pain?
4. Money worries? Causing pain?
5. Worried about health?
6. Other worries? Causing pain?

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