

PSYCHIATRIC MORBIDITY IN POSTPARTUM ZULU WOMEN

AT

KING EDWARD VIII HOSPITAL

by

PREMAKANTHIE ROSEMARY LABAN

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ABSTRACT

INTRODUCTION

Psychiatric morbidity in the postpartum period has been a subject of research for years that has been plagued by much controversy. Most of the studies have come from Western countries. Studies that were done in Africa have concentrated on psychotic disorders in in-patients. A pilot study done by Cheetham et al (1981) at King Edward VIII Hospital found a high incidence of 'transient situational disturbances', which required further investigation.

AIMS AND OBJECTIVES:

1. To document the spectrum of psychiatric morbidity in an out-patient population of postpartum Zulu women;
2. To define predictive factors which would identify women 'at risk';
3. To assess the feasibility of 'Western' screening instruments;
4. To investigate whether 'postpartum blues' occurs in Zulu women.

RESEARCH DESIGN

A prospective, descriptive study was undertaken.

Sample Selection:

177 postpartum Zulu women attending the 'Well-Baby' Clinic at King Edward VIII Hospital were randomly selected for inclusion in the study.

Methodology:

Three questionnaires: The General Health Questionnaire-30, Pitt's Questionnaire of Anxiety and Depression and The Kennerley Blues Questionnaire were administered to the subjects. A Structured Clinical Interview DSM-III (SCID) was conducted in those women with symptoms.

FINDINGS:

1. The majority of the sample were between the ages of 20 and 30 years, unmarried, with a Senior Primary education and a baby of 20 weeks.
2. 45.76% of the sample had a psychiatric diagnosis, with 18.07% having major depression. Other disorders included: adjustment disorders, schizophrenia and dysthymia.
3. Significant variables using Chi-square analysis were: inadequate antenatal care, a negative response from the partner and the absence of cultural rituals. No association was found with demographic and obstetric variables.
4. T-test analysis showed a correlation between the questionnaires and the SCID.
5. 37.3% had experienced 'postpartum blues'.

CONCLUSIONS:

1. The spectrum of psychiatric morbidity is affective in nature and similar to other studies.
2. 'Postpartum blues' does occur in Zulu women.

3. Antenatal screening with 'Western' instruments could reduce psychiatric morbidity.
4. The nomenclature of puerperal disorders is inadequate and needs review.
5. More prospective, community-based research is needed, especially in rural Zulu women.

In this research, the statistical planning and analyses and recommendations arising from these analyses, have been done with the support of the Institute for Biostatistics of the Medical Research Council.

PREFACE

This dissertation represents original work by the author. It has not been submitted in part or in whole to another University. Where use was made of the work of other authors, it has been duly acknowledged in the text. The research work on which this dissertation is based was carried out in the Department of Psychiatry, University of Natal and at King Edward VIII Hospital, under the supervision of Dr M G Nair.

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CONTENTS

	Page
CHAPTER 1 INTRODUCTION	1
1.1 DEFINITIONS AND CLASSIFICATION	1
1.1.1 The postpartum period : duration	1
1.1.2 Postpartum psychiatric syndromes	2
1.1.2.1 'Postpartum Blues'	2
1.1.2.2 Postpartum depression	3
1.1.2.3 Postpartum psychosis	3
1.2 MOTIVATION	4
1.2.1 Studies in Africa	4
1.2.2 Aetiology	5
1.2.3 Effects	5
1.2.4 Predictive factors	6
1.3 NATURE AND OBJECTIVES	6
1.4 HYPOTHESES	7
CHAPTER 2 REVIEW OF LITERATURE	8
2.1 HISTORICAL REVIEW	8
2.1.1 Historical background	8
2.1.2 Nosological Controversy	9
2.2 POSTPARTUM SYNDROMES	11
2.2.1 'Postpartum Blues'	11
2.2.2 Postpartum depression	12
2.2.3 Postpartum psychosis	13
2.2.4 Conclusions: Postpartum Syndromes	14
2.3 INCIDENCE AND PREVALENCE	16
2.3.1 'Postpartum Blues'	16
2.3.2 Postpartum depression	16
2.3.3 Postpartum psychosis	17

2. 4	DEMOGRAPHIC VARIABLES IN STUDIES	18
2.4.1	Age	18
2.4.2	Race	18
2.4.3	Socio-economic status	19
2.5	AETIOLOGY	19
2.5.1	Biological Factors	19
2.5.1.1	Genetic factors	20
2.5.1.2	Hormonal factors	20
2.5.1.2.1	Progesterone	21
2.5.1.2.2	Oestrogen	21
2.5.1.2.3	Prolactin	22
2.5.1.2.4	Thyroid hormone	23
2.5.1.2.5	Corticosteroids	23
2.5.1.3	Physiological theories	24
2.5.1.3.1	Monoamine oxidase hypothesis	24
2.5.1.3.2	Tryptophan metabolism	24
2.5.1.3.3	Tyramine conjugation defect	25
2.5.1.3.4	Metabolic changes	26
2.5.1.3.5	Cyclic AMP	26
2.5.2	Psychological Factors	27
2.5.2.1	Personality factors	27
2.5.2.2	Psychodynamic factors	28
2.5.3	Social Factors	30
2.5.3.1	The family	31
2.5.3.2	The environment	31
2.5.3.3	Cultural factors	33
2.5.4	Conclusions: Aetiology	35

	Page
2.6 RISK FACTORS	36
2.6.1 'Postpartum Blues'	36
2.6.1.1 Social factors	36
2.6.1.2 Obstetric factors	36
2.6.1.3 Psychological factors	37
2.6.1.4 Link with mental illness	37
2.6.2 Postpartum Depression	37
2.6.3 Postpartum Psychosis	40
2.6.4 Conclusions: Risk Factors	41
2.7 EFFECTS OF POSTPARTUM PSYCHIATRIC MORBIDITY	42
2.7.1 Effects on the mother	42
2.7.2 Effects on the child	42
2.7.3 Effects on the spouse	44
2.8 METHODOLOGICAL CONSIDERATIONS	44
2.8.1 Research Instruments	44
2.8.1.1 'Postpartum Blues'	44
2.8.1.2 Postpartum depression	45
2.8.2 In-patient versus out-patient studies	46
2.9 CONCLUSIONS: LITERATURE REVIEW	46
CHAPTER 3: PATIENTS AND METHODS	48
3.1 CONSENT AND ETHICS	48
3.2 RESEARCH DESIGN	48
3.2.1 Sample selection	48
3.2.1.1 Difficulties in sample selection	48
3.2.1.2 The selection of the sample	49

	Page
3.3 INSTRUMENTS USED	50
3.3.1 The Kennerley Blues Questionnaire	50
3.3.1.1 The Instrument	50
3.3.1.2 Modifications	50
3.3.1.3 Reliability	51
3.3.1.4 Scoring	51
3.3.2 The 30-item General Health Questionnaire	52
3.3.2.1 The Instrument	52
3.3.2.2 Reliability	52
3.3.2.3 Scoring	52
3.3.3 Pitt's Questionnaire indicating anxiety and depression in pregnancy and the puerperium	52
3.3.3.1 The Instrument	52
3.3.3.2 Modifications	53
3.3.3.3 Scoring	53
3.3.3.4 Reliability and validity	53
3.3.4 Structured Clinical Interview DSM-III	54
3.3.5 Biographical Inventory	54
3.4 METHOD OF ADMINISTRATION	54
3.4.1 The use of research assistants	55
3.4.2 The use of 'Western' instruments	55
3.4.3 The interviews	56
CHAPTER 4 RESULTS	57
4.1 DEMOGRAPHIC CHARACTERISTICS OF THE SAMPLE	57
4.1.1 Maternal Age	57
4.1.2 Marital Status	58

4.1.3	Education	60
4.1.4	Age of the Child	61
4.2	THE SPECTRUM OF PSYCHIATRIC MORBIDITY IN THE SAMPLE	62
4.2.1	Psychiatric Diagnosis	62
4.2.2	Onset of Psychiatric Illness	64
4.2.3	Symptom Distribution in the sample	65
4.2.3.1	Mood Disturbance	65
4.2.3.2	Disturbed Cognitive Function	65
4.2.3.3	Impaired Vegetative Function	67
4.2.3.4	Decreased Energy	68
4.2.3.5	Low self-esteem	68
4.2.3.6	Impaired Sexual Function	68
4.2.3.7	Anxiety	69
4.3	PAST HISTORY	70
4.3.1	Psychiatric History	70
4.3.2	Medical History	71
4.3.3	Family History	71
4.4	OBSTETRIC VARIABLES	71
4.4.1	Parity	71
4.4.2	Gynaecological History	73
4.4.3	Antenatal Care	74
4.4.4	Method of Feeding	74
4.4.5	Obstetric Complications	74
4.4.6	Sex of the Baby	76
4.5	PSYCHOSOCIAL VARIABLES	77
4.5.1	Partner's response	77
4.5.2	Antenatal expectations and postnatal experience	77

	xiii
	Page
4.5.3 Cultural rituals	77
4.6 METHODOLOGICAL RESULTS	78
4.6.1 The 30-item General Health Questionnaire	78
4.6.2 Pitt's Questionnaire of Anxiety and Depression	78
4.6.3 The Kennerley Blues Questionnaire	78
CHAPTER 5 DISCUSSION OF RESULTS	79
5.1 DEMOGRAPHIC CHARACTERISTICS OF THE SAMPLE	79
5.1.1 Maternal age	79
5.1.2 Marital status	80
5.1.3 Educational level	81
5.1.4 Age of the child	81
5.2 THE SPECTRUM OF PSYCHIATRIC MORBIDITY IN THE SAMPLE	82
5.2.1 Psychiatric diagnosis	82
5.2.1.1 Major depression	83
5.2.1.2 Adjustment disorders	83
5.2.1.3 Psychotic disorders	84
5.2.1.4 Dysthymia	85
5.2.2 Onset of psychiatric illness	85
5.2.3 Symptom distribution in the sample	86
5.2.3.1 Impaired vegetative function	86
5.2.3.2 Mood disturbance	87
5.2.3.3 Impaired sexual function	87
5.2.3.4 Anxiety	88
5.2.3.5 Decreased energy	88

	Page
5.2.3.6 Disturbed cognitive function	88
5.2.4 'Postpartum Blues'	89
5.3 PAST HISTORY	91
5.3.1 Psychiatric history	91
5.3.2 Medical history	92
5.3.3 Family history	92
5.4 OBSTETRIC VARIABLES	93
5.4.1 Parity	93
5.4.2 Gynaecological history	93
5.4.3 Antenatal care	94
5.4.4 Method of feeding	95
5.4.5 Obstetric complications	96
5.4.6 Sex of the baby	97
5.5 PSYCHOSOCIAL VARIABLES	97
5.5.1 Partner's response	97
5.5.2 Antenatal expectations and postnatal experience	98
5.5.3 Cultural rituals	98
5.6 METHODOLOGICAL RESULTS	99
CHAPTER 6 CONCLUSION	101
6.1 CONCLUSIONS	101
6.2 IMPLICATIONS	101
6.3 RECOMMENDATIONS	102
REFERENCES	104

	Page
APPENDICES	126
A Consent by patient	126
B The Kennerley Blues Questionnaire (modified)	127
C The 30-item General Health Questionnaire	128
D Pitt's Questionnaire indicating anxiety and depression in the puerperium (modified)	130
E Biographical Inventory	132

LIST OF TABLES

DESCRIPTION OF TABLES

I	Factors associated with an increased risk of postpartum depression (conflicting results)	38
II	Factors associated with an increased risk of postpartum depression	39
III	Factors associated with an increased risk of postpartum psychosis (conflicting results)	40
IV	Factors associated with an increased risk of postpartum psychosis	41
V	Frequency distribution of maternal age in the sample	57
VI	Frequency distribution of marital status in the sample	59
VII	Frequency distribution of educational level in the sample	60
VIII	Frequency distribution of psychiatric diagnosis in the sample	63
IX	Onset of psychiatric symptoms in the sample	64

LIST OF FIGURES

DESCRIPTION OF FIGURES

1	Histogram of frequency distribution of maternal age	58
2	Histogram of the frequency distribution of marital status in the sample	59
3	Histogram of the frequency distribution of educational level in the sample	61
4	Histogram of the frequency distribution of the age of the child	62
5	Pie-graph of diagnostic categories in the sample	63
6	Histogram of the onset of psychiatric symptoms	64
7	Histogram of the frequency distribution of cognitive symptoms in sample	66
8	Histogram of the frequency distribution of vegetative symptoms in the sample	67
9	Histogram of the frequency distribution of symptoms in sample	69
10	Histogram of the frequency distribution of parity in the sample	72
11	Histogram of the frequency distribution of gynaecological variables in sample	73
12	Histogram of the frequency distribution of obstetric variables in the sample	75
13	Histogram of the frequency distribution of the sex of the baby in the sample	76

CHAPTER 1

INTRODUCTION

The postpartum period with its many complex and diverse biological, psychological and social changes represents a vulnerable period in which women are required to make major adjustments in terms of life-style, relationships and role orientation.

1.1 DEFINITIONS AND CLASSIFICATION

Foundeur et al (1957) stated that although many studies had been done in postpartum mental illness, few of them were comparable because of vast differences in criteria and definitions used in the research. The terms 'puerperal', 'postnatal' and 'postpartum' are all used in the literature interchangeably to refer to the period after delivery of the baby. The term 'puerperium' can also be used to describe this period.

1.1.1 The Postpartum Period: Duration

Brockington et al (1982b p.37), stated that the work of reaching an accurate and agreed definition must first begin by establishing the limits of the time interval after childbirth. This is not an easy task, as the literature reflects a variety of time intervals used: from six weeks (Paykel et al 1980) to two years (Kendell 1978 p.70).

Robinson et al (1989) found that the period between two months and one year was significant and confirmed the findings of Nott (1987), who found that the interval between the third and ninth month was important. The postpartum period, therefore, for the purposes of this study, is defined as three months after childbirth.

1.1.2 Postpartum Psychiatric Syndromes

The identification of specific syndromes of mental illness in the puerperium has been a controversial subject. Psychiatric opinion seems to be divided over whether these disorders are a specific entity or not. However, Gitlin and Pasnau (1989), who concluded that studies that were done in the past fifteen years have validated the belief that psychiatric morbidity is higher during the postpartum period, have identified three specific syndromes which follow childbirth : 'postpartum blues', postpartum psychosis and postpartum depression.

1.1.2.1 'Postpartum Blues'

This is a common syndrome, seen in the first seven to ten days postpartum, that is characterized by emotional lability and tearfulness. It has also been called the 'maternity blues' (Pitt 1973) or 'baby blues' (Stern and Kruckman 1983). Vandenburg (1980) described 'postpartum blues' as a time during which mothers were oversensitive and cried copiously for no reason.

There seems to be a lack of agreement about the definition of the 'blues' and no clear inclusion criteria are evident at this stage (Hapgood et al 1988). Symptoms include brief episodes of weeping, anxiety, irritability, forgetfulness, headaches and elation. Restlessness, exhaustion, insomnia and vivid dreaming may also be associated (Stein 1982).

Levy (1987) noted that a similar syndrome was also seen in the post-operative period. However, recent studies have demonstrated that childbearing women showed a very different pattern of 'blues' symptoms after childbirth than women showed after surgery (Kendell et al 1984,

Iles et al 1989, O'Hara et al 1990).

1.1.2.2 Postpartum Depression

Postpartum depression is ".a medical and lay label that has often been used to describe maternal difficulties (Oakley and Chamberlain 1981). Although diagnostic criteria may vary, a consensus is emerging to limit postpartum depression to only those syndromes which meet DSM-III criteria for a major depressive disorder (Troutman and Cutrona 1990 and O'Hara et al 1990). Researchers have also used other terms including: 'Non-psychotic postpartum depression' (Troutman and Cutrona 1990) and 'Postpartum Mood Disorders' (O'Hara et al 1990), to describe postpartum depression.

Symptoms include a mild to moderate depression of mood, irritability and subtle changes of personality. These may persist beyond the first week postpartum and interfere with the mother's ability to function (Cutrona 1982). Other features which may occur are: decreased initiative and diminished sexual response (Hamilton 1989). Although the mother subjectively experiences dysphoric mood and outbursts of frustration, she may be reluctant to report these symptoms to her physician or support system for fear of being ridiculed (Vandenburgh 1980).

1.1.2.3 Postpartum Psychosis

Postpartum psychosis usually begins within two to three weeks after childbirth and may last for two to three months thereafter. Changes in mental status may develop suddenly and fluctuate. These changes can resemble delirium, mania, schizophrenia or depression. Confusion may often alternate with lucid intervals (Casiano and Hawkins 1987). Hamilton (1989) found that excessive

guilt, rejection of the baby, infanticidal threats and severe insomnia were also seen. This disorder can be a source of extreme distress for a family, because it transforms a joyous occasion into a traumatic one.

1.2 MOTIVATION

Although puerperal mental disorders were recognised for centuries, research into their nature has not kept pace with advances in other areas of psychiatry (Brockington and Kumar 1982 p. vii).

1.2.1 Studies in Africa

Thezue (1986-87) confirmed that in developing countries information on the subject of puerperal mental illness is sparse. Shoeb and Hassan (1990) had found that most studies have come from Western countries and felt that it was probable that postpartum mental illness was the same in both industrial and developing countries.

Studies in Africa have focused mainly on psychotic disorders among in-patient populations (Ebie 1972, Harris 1981, Cheetham et al 1981). A pilot study done at King Edward VIII Hospital by Cheetham et al (1981), found a high incidence of 'transient situational disturbances' of small duration and advocated more detailed research in this area. Stern and Kruckman (1983) felt that 'postpartum blues' may be a 'culture-bound syndrome' but there are no studies that have been done in the Zulu community to document this, nor have there been any studies done in the different population groups in Africa to test this theory.

Reichenheim and Harpham (1991) stated that little evidence is available about the mental condition of mothers who are rearing young children, especially in

the poor, urban areas of developing countries, where the risk of mental ill-health might be expected to be high. There is little information available about the mental health of mothers in the Durban area, who attend King Edward VIII Hospital. This may be due to the fact that Durban is a city with a changing population, due to an influx of people from rural communities.

1.2.2 Aetiology

O'Hara et al (1991) cited several reasons for studying postpartum psychiatric disorders. He postulated that a link might exist between these disorders and other disorders associated with reproduction in women and stated that further research may identify similar biological and psychosocial causative factors.

1.2.3 Effects

Swift (1972) stated that it was surprising that these disturbances had evoked so little attention since two people are seriously affected. The infant is deprived of optimum maternal care during a critical phase of his development. The long-term negative impact of postnatal depression was investigated by Cox, who found behaviour disturbances at three years and some cognitive defects at four years in the children of depressed mothers (Cox et al 1987). This confirmed the findings of Wrate et al (1985).

Psychiatric morbidity in the spouses of depressed women was investigated by Rees and Lutkins (1971) and Harvey and McGrath (1988). These studies documented the fact that depression also occurred in fathers.

1.2.4 Predictive Factors

Upadhyaya et al (1989) discussed the reluctance of many women to voluntarily report symptoms of depression postpartum. Many authors have also commented on the failure on the part of health workers to identify depression in the puerperium (Parks 1951, Sclare 1955, Thomas and Gordon 1959, Jennings and Edmundson 1980).

McNeil (1988a) recommended that the psychiatric needs of women be assessed early in pregnancy. This was also reinforced by Dhadphale et al (1983), who felt that all clinic staff should be able to identify psychiatric morbidity. Zilboorg (1957) suggested that obstetricians needed to be equipped with tools, to assist them in the identification of postpartum depression. There are no screening instruments available, at the present time, in obstetric clinics in this community, for the detection of psychiatric illness.

1.3 NATURE AND OBJECTIVES

This is a prospective, descriptive study which aims:

- 1.3.1 To document the spectrum of psychiatric morbidity in an out-patient population of postpartum Zulu women;
- 1.3.2 To define predictive factors which could be used to identify Zulu women who are at risk of developing psychiatric illness postpartum;
- 1.3.3 To assess the feasibility of using 'Western' screening instruments in the detection of psychiatric illness in this community;
- 1.3.4 To investigate whether the phenomenon of 'postpartum blues' occurs in Zulu women.

1.4 HYPOTHESES

- 1.4.1 The spectrum of psychiatric morbidity in postpartum Zulu women attending King Edward VIII Hospital, does not differ from that which has been documented in 'Western' studies.
- 1.4.2 The factors which could identify Zulu women at risk for developing psychiatric morbidity postpartum, is similar to those found by researchers in other studies.
- 1.4.3 Zulu women do experience 'postpartum blues'.

CHAPTER 2

REVIEW OF LITERATURE

" Our current interest in mental illness in pregnancy, and the puerperium is nothing new, but follows a long tradition wherein psychiatrists have been intrigued by women who breakdown at the time of childbearing " (Pitt (1978 p.1). In this chapter, the history of postpartum psychiatric disorders will be discussed first, followed by the different syndromes and their associated demographic factors, aetiology, risk factors and effects. Finally, the methodological aspects of studies in the literature will be reviewed.

2.1 HISTORICAL REVIEW

2.1.1 Historical Background

The epic writings of Hippocrates, Soranus, Celsus and Galen of Ephesus contain evidence that even those early workers observed the phenomenon of puerperal mental illness (Ihezue 1986-87). Hippocrates speculated that lactation played a role in inducing mental illness by milk being diverted from the breast to the brain - hence the term " milk fever" (Casiano and Hawkins 1987).

The first orderly consideration of psychosis after the birth of the child was made by Esquirol in 1845. He cleared away a great deal of mysticism surrounding the disease, as he discounted the thought that it was linked to lactation (Thomas and Gordon 1959). The work done by Marce' in 1859, was reviewed by Hamilton (1982b p.15). This monograph by Marce' described 310 cases of a puerperal psychiatric syndrome characterized by a variety of psychotic manifestations, together with confusion.

While Bleuler, in 1911, discounted the thought that the clinical features of postpartum schizophrenia were special, Kraepelin in 1913, held the view that mania in the puerperium was precipitated by childbirth, only if already latent in the patient (Ihezue 1986-87). Anisur-Rehman et al (1990) reviewed patients with puerperal insanity in the 19th and 20th centuries and found that the majority of cases had affective illnesses, with an acute presentation and a fixed interval of onset. The most common delusions in the 19th century were misinterpretation and misidentification.

During the 20's and 30's of this century, postpartum mental illness requiring hospitalisation was attributed to 'toxic-exhaustive psychosis' (Madden et al 1958). The consensus of psychiatric opinion during the 1960's, as reviewed by Granville-Grossman, was that postpartum mental illness neither forms a single syndrome nor a variety of psychiatric illnesses indistinguishable from their non-puerperal counterparts (Katona 1982). Most of the landmark, scientific-based studies of postpartum psychoses, however, were performed early in the 1960's (Paffenbarger Jr et al 1961, Bratfos and Haug 1966, Protheroe 1969). The late 1970's and early 1980's saw a revival of interest in the nature of postpartum psychoses (McNeil 1986).

2.1.2 The Nosological Controversy

Psychotic illnesses occurring in the postpartum period remains an area of much controversy (Jarrahi-Zadeh et al 1969). This was because ".... psychiatric illness after childbirth did not, and does not, fit nicely into one of the broad categories which are defined in terms of constellations of symptoms " (Hamilton 1982b p.2). Hamilton stated that postpartum psychosis was a specific disease entity and cited the many thousands

of cases studied in the literature as evidence for this.

He attributed the present controversy surrounding the disorders to the adoption of the Kraepelin system of classification and felt that 'postpartum psychosis' was expunged from this system as a simple solution because it did not fit into any of the established categories. The distinguishing characteristics of the disease were minimized thereafter and eventually forgotten. Hamilton felt that the cost of this 'lost identity' was great and had resulted in a " ..disservice to patients and to the advance of knowledge ".

Paffenbarger Jr (1982 p.19) stated that with the recent publication of new material, the concept of a disease entity has also been revived, however, the predominant contemporary view on the status of postpartum disorders, is that they are ordinary functional disorders that are precipitated by childbirth (Cooper et al 1988). This has occurred despite the great interest in the unique qualities of the illness, which has been generated by the formation of 'The Marce' Society' (Hamilton 1982b p.16).

The Diagnostic and Statistical Manual (DSM)II described a separate entity: ' 294.4 Psychosis with Child Birth ', but DSM III (1980) eliminated this category and stated that there was no compelling evidence yet, that postpartum psychosis was a distinct entity (Stern and Kruckman 1983). Hamilton (1989) concluded that there seems to be no official place for a 'postpartum' diagnosis anywhere in the world after review of the International Classification of Diseases (ICD-9) in 1977 and the DSM-III nomenclature in 1980 (APA 1980). Gitlin and Pasnau (1989) and Troutman and Cutrona (1990), confirmed that there are no separate diagnostic categories in the Revised Third Edition of DSM-III, the

DSM-III-R.

At present, it does not appear as if there will be any change in this system of classification in the DSM-IV, as the information that is being released by the Working Group on Psychotic Disorders do not reflect a change in attitude to these disorders.

2.2 POSTPARTUM SYNDROMES

2.2.1 'Postpartum Blues'

From the study of Tobin (1957), in which he stated that 'maternity blues' does exist, there has been extensive research into this syndrome. Most studies suggest that the 'blues' is a normal, physiological process and stress the transient, self-limiting nature of this syndrome (Yalom et al 1968, Pitt 1973). There is still no consensus about the symptoms which should or should not be included in this syndrome (Stein 1982 p.122). There have been numerous attempts to test different checklists of symptoms to resolve this issue (Pitt 1973, Stein 1980, Kennerley and Gath 1989a).

The literature is also divided over the timing of 'the blues', with no agreement as to when symptoms are the most frequent or severe. Gelder (1978), felt that there was a significant change on day 1. Pitt (1973) reported the peak incidence on the 3rd day, Handley et al (1977), the 4th day and Stein et al (1976), the 6th day. The reasons for these discrepancies are not clear and may be related to the fluctuating nature of the individual symptoms of 'the blues'.

Pitt (1973) stated that not all women conformed to the stereotype of 'a trivial fleeting phenomenon' with some women experiencing severe symptoms. Nott et al (1976)

questioned whether these women did not have a condition that was distinct from 'the blues'. The presence of a definite boundary between a case and a non-case of a syndrome is central to the definition of that syndrome. There is no clear cut-off point with 'the blues' because of the use of different levels of severity to define cases and the inclusion of different symptom criteria. At this stage, there is no standard measure of 'the blues' (Stein 1982 p.126).

Descriptions of the subjective sensation experienced by women has been variously described as sadness, anger, depression, elation, anxiety and lability (Condon and Watson 1987). However, criteria used to describe this sensation are far apart and extend from a single weep to actual dysphoric mood (Stein 1982 p.128). Other symptoms include headache (Pitt 1973), irritability and insomnia (Steiner 1979).

2.2.2 Postpartum Depression

There is great interest in postpartum depression in the popular culture as reflected in 'folk' knowledge and in women's magazines (Stern and Kruckman 1983). This has resulted in a 'loose' definition of postpartum depression in the community, with all emotional changes in women postpartum being casually labelled depression and thought of as inconsequential. Earlier studies of this syndrome seem to have had methodological limitations, with considerable variation in the diagnostic criteria that were employed (Cooper et al 1988).

Gitlin and Pasnau (1989), have described this syndrome as a mild to moderate depression which lies between the extremes of puerperal psychosis and 'postpartum blues'. The milder dysphoric syndromes that do not meet the

criteria for major depressive episodes, could be diagnosed as an adjustment disorder with depressed mood according to DSM-III-R. Brockington et al (1988b) felt that postpartum depression represented the depressed form of a bipolar puerperal psychosis.

Pitt (1968) found a high degree of anxiety and irritability in postpartum women that sometimes overshadowed their depressed affect. An associated feature noted was the reversal of the normal diurnal variation in mood, with more severe dysphoria being reported in the afternoon. Problems may also be experienced with sleep and feelings of guilt and inadequacy may occur (Cutrona 1982). Despite their high rate of psychiatric morbidity, women in the first year after childbirth, seem to have a low risk of suicide (Appleby 1991). Appleby suggested that motherhood seemed to protect against suicide.

Vandenburgh (1980) expressed concern for women who are depressed during the postpartum period because they are often misdiagnosed by their physicians and dismissed as 'the baby blues'. He added that these women were also reluctant to disclose their symptoms on their own, which may result in a minimally functioning mother with a moderate depression, who remains untreated.

2.2.3 Postpartum Psychosis

Puerperal psychosis is not a distinct diagnostic entity in the ICD-9 and DSM-III (Agrawal et al 1990). The differing views on this controversial subject include: Platz and Kendell (1988), who felt that puerperal psychoses are simply affective disorders precipitated by a stressor and Hays and Douglass (1984), who supported the claim that postpartum psychosis was a distinct nosological entity which differed from the schizophreniform variant of manic-depression.

McNeil (1987), found that the puerperal psychosis which began within three weeks postpartum, had predominantly affective features and the psychosis which began after three weeks had predominantly schizophrenic features. Targum et al (1979) felt that most postpartum affective psychoses occurred within three months after delivery. Brockington et al (1978 p.61) stated that hospital diagnostic concepts were too variable and unstable (geographically and historically) to be capable of resolving this difficult nosological issue. A later study supported the link between manic-depressive disease and postpartum psychosis (Brockington et al 1981).

Hamilton (1982b p4.) described the typical picture of postpartum psychosis as one in which the onset is acute. The whole pattern of behaviour including mood, thinking and activity can change rapidly. There may be complaints of fatiguability and diminished responsiveness and some evidence of organicity.

2.2.4 Conclusions: Postpartum Syndromes

Although there is a vast body of literature on psychiatric morbidity during the postpartum period, there is no clarity regarding diagnostic entities and criteria. The official nomenclature is locked into the 1980 DSM-III and cannot be changed until DSM-IV in 1993 (Hamilton 1989). The present DSM-IV working group on Mood Disorders has considered the sub-typing of a major depressive episode in the puerperium as : Major depression - postpartum onset (Frances et al 1991).

The concept of 'postpartum blues' should also be made a lot clearer and more specific. Although most of the women with 'postpartum blues' experience a transient self-limiting mood change, there is a link with the

hormonal status of these women which needs to be fully investigated.

Psychotic disorders postpartum range from affective to schizophreniform, with a large percentage being schizoaffective in nature. Clarification of the exact nature of this disorder is imperative because of the advances that are being made in terms of the management of the psychotic disorders.

2.3 INCIDENCE AND PREVALENCE

The terms 'incidence' and 'prevalence' appear to be used interchangeably in the literature. Due to nosological and methodological differences, a wide range of figures is documented.

2.3.1 'Postpartum Blues'

Episodes of weeping and depression occur in 50-70% of recently delivered women (Yalom et al 1968, Pitt 1973). The reported incidence of 'postpartum blues' varies from 34- 79% (Dalton 1971). This is at least partly explained by the general lack of agreement about the definition of 'the blues' (Hapgood et al 1968).

Prevalence of 'postpartum blues' has ranged from 26% (O'Hara et al 1990) to 85% (Stein et al 1981). Descriptive studies have yielded prevalence rates for the following individual symptoms which occur postpartum, including: tearfulness, depression and anxiety, which have all been commonly reported (Pitt 1973, Stein 1980).

2.3.2 Postpartum Depression

Prevalence estimates for postpartum depression range from 3% (Tod 1964) to 33% (Gordon and Gordon 1967). Disagreement seems to be a reflection of the different diagnostic criteria used. (Cutrona 1982).

Very low prevalence (less than 8%) has been found when only women who had sought psychiatric treatment for depression in the year following childbirth, were investigated (Tod 1964, Dalton 1971). Higher estimates, (10% to 17%) have come from studies using standard measures of depression (Pitt 1968, Meares et al 1976, Paykel et al 1980). Neugebauer (1983) reviewed the

study done by Pitt in 1968 and found that his rate of 10.5% was an underestimate. His overall adjusted rate for Pitt's study was 19.7%.

Inflated prevalence estimates (25%-35%) have resulted from studies using less rigorous diagnostic procedures (Jacobson et al 1965, Gordon and Gordon 1967, Kaij et al 1967, Uddenberg and Nilsson 1975). These studies used symptom checklists or global rating scales without specific criteria and therefore have less accurate estimates.

A number of recent studies have also investigated prevalence estimates using conventional diagnostic criteria and have reported rates ranging from 8.2% to 14.9% (Kumar and Robson 1984, O'Hara et al 1984, Watson et al 1984). These rates are more properly considered two to three month-period prevalence rates because they reflect a probability that a depressive episode will occur within the first two to three months postpartum (O'Hara et al 1990). Feggetter et al (1981) found that the prevalence of postpartum depression one year after childbirth was 19.7%.

2.3.3 Postpartum Psychosis

The incidence of postpartum psychosis is generally quoted as about one admission per 1000 births, (Shoeb and Hassan 1990) although other studies have found higher figures of 3.3 and 4.6 per 1000 births (Hemphill 1952, Pugh 1963).

Most studies have found that approximately 75% to 80% of hospitalised syndromes are affective in nature, with 60% of them being depressive disorders (Gitlin and Pasnau 1989). A small percentage of patients have some features of a schizophrenic illness (Brockington et al

1982b p.47). Compared with non-postpartum affective episodes, there is a higher rate of confusion and Schneiderian first-rank symptoms (Brockington et al 1981, Katona 1982). Mania has been reported postpartum (Kadrmas et al 1979).

2.4 DEMOGRAPHIC VARIABLES IN STUDIES

Research on the frequency of postpartum mental illness as a function of demographic variables has failed to reveal consistent epidemiological patterns (Cutrona 1982).

2.4.1 Age

Most studies have found no relationship between age and postpartum depression (Tod 1964, Pitt 1968, Braverman and Roux 1978, Nott et al 1976), although few studies have found a higher rate of depression among young mothers (Handley et al 1980, Hayworth et al 1980, Paykel et al (1980) and one study found that mothers who were over 30 years of age were more likely to become depressed (Kumar and Robson 1978 p.44)

2.4.2 Race

No racial differences have been found with respect to frequency of postpartum mental illness (Hayworth et al 1980, Cutrona 1982), although very few multiracial samples have been studied. Shoeb and Hassan (1990) felt that there was no difference in demographic variables between developing countries and Western countries. This was consistent with the findings of studies in Africa (Ebie 1972, Davidson 1972, Ihezue 1986-87).

2.4.3 Socio-economic Status

Most studies have also found no relationship between postpartum psychiatric syndromes and socio-economic status (Jacobson et al 1965, Nott et al 1976, Ballinger et al 1979, Handley et al 1980).

Stern and Kruckman (1983) in their review of the literature dealing with ethnographic variables have advocated more research in this area. They have considered a hypothesis that a relationship does exist between postpartum depression and social organisation, specifically the structuring of the postpartum period with rituals, gifts or other means. Studies have been done in an attempt to test this hypotheses, however, more research is necessary.

2.5 AETIOLOGY

" An important consideration for psychiatrists has been the aetiological challenge posed by the fact that what is normally so welcome and happy an event as childbirth should be associated with an increased risk of psychiatric disorder " (Kendell 1985). Kear-Colwell (1965) quoted a statement by Robin in 1962, which stated that: " Emotional disturbance in normal puerperal women is an organically determined mental reaction, leading to an exaggeration or release of hysteroid features ".

Research on the aetiology of postpartum disorders has examined three broad categories of causative factors: Biological, Psychological and Social Factors.

2.5.1 Biological Factors

" A number of somatic features and its association with endocrine and metabolic change has resulted in a search

for the biological correlates of mental illness in relation to childbirth " (Sandler 1978 p.9).

2.5.1.1 Genetic Factors

Whalley et al (1982) tested the hypothesis that puerperal affective psychosis was genetically related to manic-depressive disorder. He found no significant difference in the frequency of HLA-A, B and C locus antigens, nine blood group antigens and ten red blood cell isoenzymes. This seemed to confirm the findings of Steiner (1979) who had concluded, after a review of the literature, that hereditary factors were not important.

There are studies, however, which do support the theory that hereditary factors seem to play a part in these conditions. Thuwe (1974) found strong evidence for genetically operating factors, which he stated occurred via dominant transmission and resulted in a high risk of mental illness in the first generation. Recent studies by Bearn et al (1990), noted that gene expression was influenced by the fall in oestrogen at delivery.

2.5.1.2 Hormonal Factors

The postpartum period is associated with sharp hormonal modification, including changes in prolactin, 17 - β oestradiol or progesterone levels (Scapagnini et al 1982).

Meares et al (1976) stated that endocrine factors were important in the production of postpartum disorders. Steiner (1979) postulated that there was a relationship between the hypothalamic-pituitary-gonadal axis because of the fact that severe mental disorders occurred postpartum, premenstrually, at menopause and with the use of some oral contraceptives.

Paffenbarger Jr (1964), felt that the aetiology of postpartum psychoses seemed to be related to the loss of the placenta and Karacan et al (1969) suggested that the sleep disturbances postpartum may be due to hormonal factors. Fekski et al (1984) postulated that 'maternity blues' could be due to the rate of change of concentration in hormone levels in the brain giving rise to transient psychological upsets. Recent evidence seems to indicate that a hormonal aetiology is plausible (Paykel 1991).

2.5.1.2.1 Progesterone

Yalom et al (1968) felt that postpartum depression was due to the sudden fall of progesterone which occurred between the first and second stages of labour. Bower and Altschule (1956) discovered that the remission rate after the concomitant use of progesterone in the management of puerperal psychosis, was almost 100% and cited this as evidence of a progesterone deficit. Brockington et al (1988a) supported this theory after investigating the pre-menstrual relapse of postpartum psychosis and postulated that there may be a role for progesterone and danazol in the treatment of relapses.

2.5.1.2.2 Oestrogen

The 'oestrogen-withdrawal theory' seems to have weak support in the literature (O'Hara et al 1991). Dalton (1971) postulated that the sudden loss of steroid output following the prepartum rise, was responsible for the shift from an elated mood to a depressed mood after the delivery. The study by Nott et al (1976), however, did not produce any strong evidence to support this theory. A weak correlation was found between higher pre-delivery oestrogen and greater irritability and the lower the oestrogen levels were postpartum, the

greater the sleep disturbances that were reported post-partum.

Bearn et al (1990) hypothesized that a reduction in functional oestrogen receptors in puerperal women, which could reflect alterations in oestrogen receptor numbers and affinity or post-receptor events, may be a contributory factor.

2.5.1.2.3 Prolactin

Prolactin is an important reproductive hormone which is secreted in bursts during suckling. The older terms of 'lactational psychosis' and 'milk fever', have for long implied a mysterious link between breast feeding and mental illness (Stein 1982 p.139). The literature over a long period, however, was quite consistent in saying that there was no link (Paffenbarger Jr 1964, Kendell et al 1981a).

Harris et al (1989b) disagreed and felt that a variation in prolactin levels may be linked to the mood change. He found a correlation between depression and a change in salivary prolactin, in depressed breast-feeders. Stein (1982 p. 139) quoted a study by George in 1980 during which a significant association was found between the severity of the 'maternity blues' and plasma concentrations of prolactin.

The frequency and duration of suckling is probably the most important influence on prolactin levels and the resumption of follicular activity, leading to oestrogen and progesterone production (Adler and Cox 1983). The other variable which may influence the hormonal status, is the use of the oral contraceptive pill in the puerperium.

2.5.1.2.4 Thyroid Hormone

Gelder (1978) stated that although prolonged thyroid disorder has been suggested as a cause of puerperal depressive states, there is no satisfactory evidence to suggest this. Harris et al (1989a), however, found a minor association of postnatal depression with actual thyroid dysfunction.

2.5.1.2.5 Corticosteroids

Of all the endocrine changes associated with psychiatric illness, elevated plasma cortisol found in cases of depression has been one of the most consistently reported findings (Stein 1982 p.139). Handley et al (1980) and Gard et al (1986) found that an elevated plasma cortisol at thirty-eight weeks of pregnancy was linked to the more severe 'postpartum blues'.

Hamilton (1982a) used models to understand postpartum mental illness. He explained that free cortisol levels postpartum were variable and reached a low point, which initiated a reaction from a sensor in the hypothalamus. However, the pituitary was 'sluggish' postpartum, due to a change from hyperactivity to a resting phase. In response to the continued signal from the sensor in the hypothalamus, a spread of activity occurred within the hypothalamus, which may give rise to the sleep disturbances and heightened sympathetic activity which characterises the illness.

Treadway et al (1969) had presented a hypothesis that a reduction in norepinephrine, linked to gonadal hormone changes, produced increased biological susceptibility to affective disorders in the puerperium. This was confirmed by Kuevi et al (1983), who found that the reduction in circulating catecholamines correlated with

mood disturbances postpartum. A conflicting result was found by Brockington et al (1988a), who found evidence that enhanced dopaminergic and noradrenergic activity was present. He postulated that a fall in oestrogens exposed super-sensitive dopamine receptors, which altered dopamine neurotransmission.

2.5.1.3 Physiological Theories

Steiner (1979) felt that the physiology of the puerperium is not a cause in itself of any of the symptoms, but is a contributing factor, acting upon an underlying predisposition.

2.5.1.3.1 Monoamine Oxidase Hypothesis

Sandler (1978 p.10) found that there was some evidence to suggest that hormonal influences played a significant role in the regulation of monoamine oxidase. He then speculated that this alteration in activity played some role in the depressive features that are often seen postpartum in accordance with the 'monoamine hypothesis of depressive illness'. George and Wilson (1981) found a correlation between monoamine oxidase activity and depression, as well as with obsessionalism and loss of concentration.

2.5.1.3.2 Tryptophan Metabolism

Serotonin is now thought to play a role in the pathogenesis of depression and the precursor of brain serotonin is tryptophan, particularly the unbound free tryptophan in plasma (Stein 1982 p.146).

Stein et al (1976), Handley et al (1977) and Gard et al (1986) found an association between lowered levels of

free plasma tryptophan and the symptoms of depression and weeping. The absence of the early postpartum peak in plasma tryptophan was associated with 'the blues' and with the later occurrence of postpartum depression (Handley et al 1980, Gard et al 1986).

Wieck (1989) suggested that the alteration in progesterone and oestrogen levels postpartum affected the down-regulation of serotonin receptors adversely. He quoted from a study by Katona in 1985 in which altered receptor affinity was found postpartum.

Coppen et al (1978) postulated that a decrease in free tryptophan was due to a decrease in circulating oestrogens which occurred at the same time. He concluded that hormonal fluctuations postpartum might account for the postpartum affective disorders on this basis. This was, however, not confirmed by Handley et al (1980) in his later study. Harris (1980a), after conducting a double-blind controlled study, concluded that the alterations in tryptophan metabolism were not causative.

2.5.1.3.3 Tyramine Conjugation Defect

Sandler (1978 p.15) hypothesized that a tyramine conjugation defect predisposed postpartum women to depression. He therefore advocated research in the area of membrane structure and transport function, and stated that some impedance of membrane transport did occur, caused by a defect in an as yet unknown mechanism.

Handley et al (1980) confirmed that abnormalities in tryptophan might represent a defect in membrane transport, and postulated that this was responsible for 'the maternity blues'. He also admitted, however that the nature of this defect was obscure.

2.5.1.3.4 Metabolic Changes

The most important regulating mechanism of sodium excretion in pregnancy is the renin-angiotensin system. Plasma renin activity and aldosterone are considerably raised during pregnancy (Stein 1982 p.143). It has been postulated that sodium excretion rises with the onset of more rapid weight loss, which also coincides with the greatest mood disturbance.

Stein (1982 p.144) also quoted a study by Riley in 1980 in which she investigated the role of mild hyperparathyroidism in the genesis of postpartum mental disorders. The findings were inconclusive.

Lindstrom et al (1984) found that certain cases of postpartum psychosis were associated with the occurrence in plasma and CSF of unique opoid peptides, probably related to B-casomorphin. This study was supported by the findings of Newnham et al (1984), who found that humoral factors, including B-endorphin, were important in the genesis of this syndrome.

2.5.1.3.5 Cyclic AMP

Cyclic AMP (Adenosine 3'5' cyclic monophosphate) is thought to be the second messenger in many hormonal interactions with their appropriate target cells and has been reported to be increased in mania and decreased in depression (Stein 1982 p.144).

Ballinger et al (1979) investigated cyclic AMP in relation to emotional disturbance following childbirth, and found that the change in excretion of cyclic AMP that followed delivery was related more to mood change than to mood state at any particular time.

Stein (1982 p.145) felt that these findings added biochemical evidence for the presence of a 'switch' process around the fourth postpartum day and questioned whether the biological events which coincided with the onset of 'the blues' were in any way related to the changes which are said to be associated with cyclical switches in affective disorders.

2.5.2 Psychological Factors

Cox (1989 p.555) described a monograph by Breen in 1975, in which a distinction was made between childbirth as a 'hurdle' which must be overcome and a 'process' which is continuous and results in irreversible physical or psychological change.

2.5.2.1 Personality Factors

Bailey and Hailey (1986-87) found that pregnant women differed from non-pregnant women on some fundamental dimensions of personality including a stronger introverted personality and a lower level of self-acceptance and independence.

Depressed postpartum women were described by Thomas and Gordon (1959), as dependent women, who were not emancipated from their parents, had a low self-esteem and were challenged by the baby's demands on their capacity to love. After administering a comprehensive battery of tests, Davids et al (1961) found that depressed mothers scored higher on the scale of an 'alienation syndrome', which he described as a personality syndrome with resentment, egocentricity, pessimism, distrust and anxiety. Treadway et al (1969) found higher scores on neuroticism scales. This was also confirmed by Jarrahi-Zadeh et al (1969).

Women who assessed themselves as more 'masculine' than others reported fewer psychiatric symptoms during the pregnancy, but more after delivery (Nilsson and Almgren 1970). Postnatal depression was associated with high antenatal scores on either overall hostility and extra-punitiveness or an external locus of control and intra-punitiveness (Little et al 1981). This research was done to attempt to relate puerperal depression to the 'learned helplessness model' of depression. Manly et al (1982) also felt that this model was significant.

2.5.2.2 Psychodynamic Factors

Kane Jr et al (1968) regarded the postpartum period as a maturational crisis during which there is activation of unconscious psychological conflicts, as well as the added stress of the 'intrapsychic reorganisation' of becoming a mother. This conflict over assuming the mothering role was also postulated by Melges (1968) as significant.

Early emotional experiences, acquired well before the period of reasoning, had an effect upon the emotions concerned with reproduction (Parks 1951). He felt that many patients consciously expressed one attitude to pregnancy, while subconsciously having unreasonable fears and unexpressed hostility towards the male. This view was supported by Sclare (1955) who stated that by an unconscious process of identification and introjection, the patient incorporated her mother's attitudes towards pregnancy. Rosenwald (1972) felt that women patterned their mothering on the model that they experienced at their own mother's hands.

The issue of 'fears' was investigated by Tobin (1957) who quoted work by Helene Deutsch in which she labelled these fears as mere rationalisations which gave many

plausible reasons for deeply rooted, negative feelings towards motherhood and for an unconscious anxiety. He also described the views of Bloss who felt that fears with a psychological basis included the fear of loss of sexual attraction or the fear of having a deformed child.

Douglas (1968) postulated certain factors which seemed to influence postpartum depression including: fixation to old relationships especially with the mother or the husband, general ego weakness, the rejection of femininity and the identification of the baby with a hated relative. Cheetham and Rzadkowolski (1980) added that the difficulty in expressing aggression was also important.

Much has also been written in the literature about the ambivalence of the maternal role. Nilsson and Almgren (1970), Meares et al (1976) and Kumar and Robson (1978) all felt that this ambivalence was a correlate of postpartum depression. In his study on the husband-wife relationship in puerperal breakdown, Lomas (1959) found that links between the past generation and the present were weak, resulting in no clear differentiation of roles, which added to the ambivalence new mothers felt.

Uddenberg et al (1976) used a model of childbirth as a developmental stage which required the use of adaptational processes, which involved anxiety. Denial of the pregnancy was a common way of avoiding the anxiety, which resulted in inadequate preparation for motherhood. A 'father complex' was postulated by Kline (1955), as a causative factor, where there were strong dependency needs on the husband which often demanded direct gratification. There was competition with the baby for the attention of the husband resulting in guilt, which then presented as postnatal depression. He also felt that

there was a basic unacceptance of the feminine role as well as unresolved hatred for their own mother.

Substantial evidence exists which supports the notion that, during pregnancy, most women develop an emotional attachment to their unborn child (or 'fantasy baby') (Condon and Watson 1987). They stated that during this process, women acquired a set of expectations about what their experiences of both baby and delivery would be like. Postnatal depression resulted when the reality was different and was actually a period of grieving for the loss of an object of attachment. This had to be done before bonding could take place to the 'new' object.

Recent work on individual differences emphasized the role of cognitive factors in the establishment of a bond between parent and child, which depends on a woman's perception of the infant (Cutrona 1983). Finally the transition to parenthood should be seen as a major stressor as it involved the complete restructuring of gender roles (Richman et al 1991).

2.5.3 Social Factors

" Childbirth, although a universal biological event, occurs in a sociocultural context and is differentially patterned and organised according to people's specific values, attitudes and beliefs " This was a statement by S. Cominsky quoted by Stern and Kruckman (1983).

Researchers who proposed a social stress theory of post-partum depression conceptualized childbirth and the introduction of the infant to the home as an 'acute social event (Atkinson and Rickel 1984). Melges (1968), and Stuart and Rubin(1974) quoted studies of depression in adoptive parents as evidence for a psychosocial model of causation.

2.5.3.1 The Family

Robinson et al (1989), quoted Anderson who stated that the most important predictor of a woman's adjustment during the postpartum period, was her husband's ability to be supportive. This reflects the views of much of the literature on the social causation of postpartum depression. Blair et al (1970), O'Hara et al (1983) and McNeil (1987), found that the absence of the husband at the time of birth was significant. This was confirmed by Paykel et al (1980) and Playfair and Gowers (1981), who found marital difficulties to be a predisposing factor for postpartum depression.

The study by Waring and Patton (1984), found a significant association between the severity of the depression and the deficiencies of marital intimacy. This was also noted by Reichenheim and Harpham (1991). Oakley and Chamberlain (1981) attributed this to the segregation of marital roles which occurred in communities.

Multigravidas appear to be more prone to postpartum depression because they tend to live independently as compared to newly married women who live with the extended family and have more support (Shoeb and Hassan 1990). Paykel et al (1980) confirmed that the absence of social support was significant, while the absence of a midwife at birth was considered an important factor by McNeil (1987). Negative life events were also considered to be significant by Paykel et al (1980) and O'Hara et al (1983).

2.5.3.2 The Environment

Several researchers have tested variables associated with environmental conditions such as financial stress, socio-economic status and geographic mobility (Stern

and Kruckman 1983).

Uddenberg and Nilsson (1975), noted that the poorer the social conditions, the higher the chances of depression, while Gordon and Gordon (1967) identified recent family 'economic shifts' as a factor in a new mother's emotional adjustment. In his study of Jamaican women Davidson (1972), found an association between depression and a combination of low socio-economic status, large family size and major responsibility for family support.

Oakley and Chamberlain (1981) found an association between current social problems, housing and unemployment and postpartum depression. This was corroborated by the findings of Reichenheim and Harpham (1991), who cited overcrowding and the lack of security as important as well.

Krener et al (1989) quoted several studies from developing countries, including a study by Boone in mothers of low birthweight babies and a study by Crockenberg in low socio - economic status teenage mothers, which highlighted the fact that difficult life circumstances contributed to an increased susceptibility to depression.

Williams and Carmichael (1985), after studying depression in immigrant mothers concluded that a strong supporting social network, including extended family and friends, was important in the prevention of depression. These findings confirmed the work done by Kendell et al (1976), who found a correlation between psychiatric morbidity and recent immigration.

Ethnic, socio-economic and educational background all seem to affect the transition to parenthood (Jennings and Edmundson 1980). This transition appears to be more difficult for middle-class than for working-class families because expectations are higher with respect to income, childbearing, childrearing and personal advancement in middle-class families. These goals are often difficult to meet and increase the pressure on a family.

Middle-class women were also likely to have more career aspirations and sources of gratification outside the family making motherhood more complicated. Frank et al (1987) pointed out that there was a trend, particularly among working women to delay childbearing until later in the reproductive years when there is an increased risk of developing affective disorders.

2.5.3.3 Cultural Factors

In order to fully understand psychiatric morbidity in childbearing women, sociocultural factors need to be understood (Cox 1978 p.97).

Collective rituals have been built into society for dealing with the transformation to parenthood (Lindsay 1975). In order to discuss the cultural factors which might be linked to postpartum depression, it is first necessary to consider the rituals which govern the puerperium in many cultures.

Cox (1989 p.556), reviewed these 'postpartum taboos'. He described the period of seclusion in Jamaica, which was initiated following childbirth, when the mother stayed at home, with her baby and was looked after by her own mother. In India, postpartum women were also regarded as impure for forty days, and confined to the

home where a number of rituals to prevent sepsis were carried out.

Cox also quoted research by Pillsbury in China in 1978, where the postpartum period is referred to as 'doing the month', when extra attention was given to the mother by her family, as well as by her wider social network. He also suggested that postnatal rituals in contemporary Western societies took the form of the six week postnatal visit.

Cox (1983), felt that present-day ambiguities about social norms and the usefulness of the traditional postnatal rituals has provided support for the hypothesis that the lack of these rites were related to the aetiology of postnatal depression. He also described the puerperal mental illness in Ugandan women, 'Amakiro', which responds mainly to traditional treatment (Cox 1979). This 'culture-bound syndrome' is also mentioned by Ilechukwu (1991), who stated that the syndrome was ascribed to the neglect of herbal rituals which would have been protective to the new mother.

Stern and Kruckman (1983), in a review of the ethnographic literature on childbirth, quoted studies by Kelly in Nigeria, where postpartum depression is rare, due to the customs of the Ibibio people. They quoted from work done by Upreti in Nepal, where postpartum depression is less prevalent among the Nepalese because of psychosocial support.

They also stated, however, that these findings must be interpreted with consideration being given to methodological differences, such as the lack of formal diagnostic testing and differences in criteria used. Stern and Kruckman (1983) postulated that the 'baby blues' might be a 'culture-bound' syndrome.

Cheetham et al (1981), in their pilot study at King Edward VIII Hospital, found that certain factors such as: disapproval of the family when custom has not been observed, or 'disapproval of the ancestors' when rituals have not been performed, or the failure of the partner to pay 'lobola' or 'damages' were significant in the aetiology of postpartum disorders in women of Nguni origin.

2.5.4 Conclusions: Aetiology

The studies outlining causative factors that are linked to psychiatric morbidity in the postpartum period are mainly inconclusive and often conflicting. This may partly be due to the fact that studies on the aetiology of mental illness in general, are also inconclusive.

Numerous studies have ,however, confirmed the 'organic' nature of these disorders and this is a factor which must not be ignored, as they may be the key to the very elusive biological component in mental illness. Certainly, further detailed research in this area is advocated.

Areas that need to be looked at include: documentation of the exact relationship between the hypothalamic-pituitary- gonadal axis and mental illness postpartum, exploration of the link between the psychological make-up and the skill of mothering and the influence of custom and tradition on the adjustment postpartum.

2.6 RISK FACTORS

Much of the research on puerperal mental illness has been on factors which have been shown to have a significant association with postpartum disorders. This has resulted mainly because of difficulties encountered with aetiological considerations.

2.6.1 'Postpartum Blues'

"Although many clinical correlates of 'the blues' have been found, few of these have been reported by more than one group " (Stein 1982 p.136).

2.6.1.1 Social Factors

The 'blues' has been found to be associated with marital disharmony and with psychosexual problems (Ballinger et al 1979, Cutrona 1983), but not with social class (Jarrahi-Zadah et al 1969, Stein 1980) and life events (Pitt 1973, Paykel et al 1980).

2.6.1.2 Obstetric Factors

The evidence for association between 'the blues' and obstetric factors is conflicting (Kennerley and Gath 1989a). The 'blues' have been reported to be more common in primiparous women (Yalom et al 1968, Nott et al 1976) more common in multiparous women (Davidson, 1972) and not related to parity at all (Pitt 1973, Handley et al 1980).

Obstetric problems in pregnancy have been found to be associated with 'the blues' by some workers (Yalom et al 1968, Davidson 1972), but not by others (Ballinger et al 1979, Stein 1980). Kendell et al (1984) found no association with Caesarean section or length of the

pregnancy.

2.6.1.3 Psychological Factors

Psychological evidence is also confusing (Kennerley and Gath 1989b). 'The blues' was found to be associated with rejecting or ambivalent attitudes to pregnancy and with fear of labour (Yalom et al 1968), but other workers did not find any relationship (Pitt 1973, Ballinger et al 1979). O'Hara et al (1991) found that the best predictor of 'the blues' was mood during pregnancy.

2.6.1.4 Link with mental illness

The main psychiatric interest has been in a possible association between 'the blues' and affective disorders (Kennerley and Gath 1989a). There has been a reported association with depression (Ballinger et al 1979, Stein 1980), but some researchers have not found this (Yalom et al 1968, Pitt 1973, Harris 1980b).

O'Hara et al (1991) found that the predictive factors for 'postpartum blues' were indexes of depression. Women who had higher levels of depressive symptoms during pregnancy, who had at least one previous episode of depression, and who had experienced premenstrual depression, were all at risk for 'postpartum blues'.

2.6.2 Postpartum Depression

Various studies have been done in an attempt to identify predictive factors. These included studies with conflicting evidence (Table I) and studies with evidence for an increased association (Table II).

TABLE I: FACTORS ASSOCIATED WITH AN INCREASED RISK
OF POSTPARTUM DEPRESSION (CONFLICTING RESULTS)

RISK FACTOR	STUDIES WITH EVIDENCE	STUDIES WITH NO EVIDENCE
Past Psychiatric History	Gordon et al (1959) Tod (1964) Paykel et al (1980) Playfair and Gowers (1981)	Pitt (1968) Dalton (1971) Kumar and Robson (1984) Watson et al (1984)
Anxiety During Pregnancy	Tod (1964) Dalton (1971) Meares et al (1976) Hayworth et al (1980) Blumberg (1980) Jones et al (1980)	Pitt (1968) Kumar and Robson (1981)
Young Mother	Hayworth et al (1980) Handley et al (1980)	Pitt (1968)
Parity	Kaij et al (1967) Zajicek and Wolkind (1978) Condon and Esuvaranathan (1990)	O'Hara et al (1982) Cox (1983) Watson et al (1984)

TABLE II FACTORS ASSOCIATED WITH AN INCREASED RISK
OF POSTPARTUM DEPRESSION

RISK FACTOR	STUDIES WITH EVIDENCE
'Maternity Blues'	Pitt (1968) Stein (1980) Paykel et al (1980) Kendell et al (1981a)
Marital Conflict	Gordon & Gordon (1960) Braverman & Roux (1978) Ballinger et al (1979) Cox et al (1982) Watson et al (1984)
Depression During Pregnancy	Nilsson & Almgren (1970) Uddenberg et al (1976) Handley et al (1980) Playfair & Gowers (1981) O'Hara et al (1990)
Social Stress	Paykel et al (1980) Cutrona (1982) O'Hara et al (1984) Watson et al (1984)
Baby Complication	Dalton (1971) Cutrona (1982)
Lack of Support	Gordon et al (1959) Kumar (1982p.109) Ballinger et al (1979)

2.6.3 Postpartum Psychosis

Although there are many disagreements in the literature about which factors are associated with an increased risk of postpartum psychosis, there is also a general agreement on a number of things (Kendell 1985). Risk factors investigated in studies with conflicting results are outlined in Table III, while factors with evidence for an increased association with postpartum psychosis are listed in Table IV.

TABLE III: FACTORS ASSOCIATED WITH AN INCREASED RISK OF POSTPARTUM PSYCHOSIS (CONFLICTING RESULTS)

RISK FACTOR	STUDIES WITH EVIDENCE	STUDIES WITH NO EVIDENCE
Unmarried Mother	Tetlow (1955) Kendell et al (1976) Kendell et al (1978 p. 70)	Paffenbarger Jr (1964)
Stillbirth/ Perinatal Death	Vislie (1956) Paffenbarger Jr (1964)	Bourne (1968) Kendell et al (1981b) McNeil (1988b)
Increasing Maternal Age	Paffenbarger Jr (1964)	Hatherley et al (1979) Kendell et al (1981b)
Short Gestation	Paffenbarger Jr (1964)	Kendell et al (1981b)
Low Birth Weight	Paffenbarger Jr (1964)	Kendell et al (1981b)
Social Stress	Brockington et al (1982b p.60)	Dowlatsahi and Paykel (1990)

TABLE IV: FACTORS ASSOCIATED WITH AN INCREASED RISK
OF POSTPARTUM PSYCHOSIS

RISK FACTOR	STUDIES WITH EVIDENCE
First Child	Thomas & Gordon (1959) Protheroe (1969) Kendell et al (1976) Paffenbarger Jr (1982 p.25)
Previous Psychosis	Tetlow (1955) Bratfos & Haug (1966) Winokur & Ruangtrakool (1966) Reich & Winokur(1970) McNeil (1987)
Family History of Mental Illness	Sim (1963) Whalley et al (1982) Nurnberg (1989)
Caesarean Section	Kendell et al (1981b) Nott and Cutts (1982)

2.6.4 Conclusions : Risk Factors

The few risk factors that are reasonably well established suggest that emotional and physical factors may be involved in the genesis of postpartum psychiatric disorders, but it is still unclear what it is about childbirth, which acts as the trigger (Kendell 1985). However, these predictive factors could act as markers to identify the woman at risk for developing postpartum mental illness, who would need closer monitoring.

2.7 EFFECTS OF POSTPARTUM PSYCHIATRIC MORBIDITY

The effects of psychiatric morbidity in the postpartum period are often not restricted to an individual, as a whole family unit is involved. Postnatal women exert a uniquely important influence on the psychological development of their infants (Robinson and Young 1982).

2.7.1 Effects on the mother

A follow-up study of Da Silva and Johnstone(1981) after a period of one to six years in women who had developed postpartum disorders revealed that social impairment and continuing psychopathology occurred in many cases. A study by Protheroe (11969) found that 30-40% of women who have had an episode of postpartum psychosis, experienced at least one subsequent non-puerperal episode. These women are also not just vulnerable in subsequent pregnancies, but Brockington et al (1988a) found that there is a risk of premenstrual relapse.

Kumar and Robson (1984) found that psychological effects could continue up to four years after childbirth. Marks et al (1992), found that women who relapsed after delivery came from homes in which there was a low level of expressed emotion (EE), where the partner of the person who was ill made fewer critical and positive comments.

2.7.2 Effects on the child

The effects of postpartum depression on the child has been the subject of many studies. Robson and Kumar (1980) found that there was delayed onset of maternal affection and that mothers were more likely to express feelings of dislike or indifference to their babies if they were clinically depressed. Whiffen and Gotlib

(1989) found that there is a identifiable pattern of infant behaviour which exacerbates the mother's mood.

The relation between mother-child interaction was also reviewed by (Stein et al 1991) who found a reduced quality of interaction. He quoted a study by Radke-Yarrow et al in 1985 where insecure attachment occurred in children with depressed mothers and a study by Murray in which mothers with depression responded more slowly to their children. This was also confirmed by Zekoski et al (1987).

Weissman et al (1972) felt that the depressed mother was an impaired mother who showed diminished emotional involvement, impaired communication, increased hostility and resentment and disaffection. Ghodsian et al (1984) found that these mothers tended to use more physical punishment with their children, which reinforced their feelings of guilt. Significant intellectual deficits were found in children whose mothers had suffered with depression especially in the first year of life (Cogill et al 1986).

The long -term negative impact of postnatal depression was referred to by Cox (1987), who found behaviour disturbances at three years and cognitive deficits at four years in his study in 1984 in these children. Lee and Gotlib (1989) found that the internalising behaviour in these children were affected, with more fears being expressed and mood disturbances seen. Murray (1992) stated that infants of postnatally depressed mothers performed worse on object concept tasks and were more insecurely attached to their mothers.

2.7.3 Effects on the spouse

Psychiatric morbidity in the spouses of depressed women was investigated by Rees and Lutkins (1971) and Harvey and Mcgrath (1988). These studies concluded that there was evidence that fathers became depressed following the birth of a child as they found a 42% incidence of major depression and anxiety disorders in their samples.

2.8 METHODOLOGICAL CONSIDERATIONS

2.8.1 Research Instruments

The literature is confounded by the use of different instruments and time scales, making direct comparisons difficult (Hapgood et al 1988).

2.8.1.1 'Postpartum blues'

Kennerley and Gath (1989a) stated that most research findings had been inconclusive, because instruments for detecting and measuring 'the blues' have varied in their suitability. They quoted examples from the literature in which the Present State Examination was used to measure 'the blues' and felt that the instrument was not designed for measuring 'the blues' and was therefore not suitable.

Some researchers have studied 'the blues' with self-rating scales originally intended to measure depressive symptoms (Nott et al 1976, Handley et al 1980, Ballinger et al 1982). Such measures were useful, but may still be considered inappropriate because they did not measure the other symptoms of 'the blues'.

Four scales have been designed for measuring 'the blues' (Pitt 1973, Stein 1980, Kendell et al 1981a, Kennerley

and Gath 1989a). These have been validated specifically for the immediate postpartum period and represent a systemisation of research into 'the blues'. Three recent studies (Knight and Thirkettle 1986, Hapgood et al 1988, 'O Hara et al 1991) have used Visual Analogue Scales and a standardised psychiatric interview in their assessments.

2.8.1.2 Postpartum Depression

Research on postpartum depression has been plagued by a lack of consensus on diagnostic criteria. Instruments have varied from checklists or global rating scales without specific diagnostic criteria, to standardised psychiatric interviews. Until 1982, no published study had employed DSM-III or RDC (Cutrona 1982).

Certain studies used self-report questionnaires including: the Beck Depression Inventory (Manly et al 1982), the Zung Depression Scale (Hayworth et al 1980). Other studies used standardised interview methods of assessment: the Schedule for Affective Disorders and Schizophrenia (O'Hara et al 1984) and the Raskin Three Area Depression Scale (Paykel et al 1980). Three British studies used Goldberg's Standardized Psychiatric Interview (Cox et al 1982, Watson et al 1984, Kumar and Robson 1984).

Various questionnaires have been developed specifically for the detection of postnatal depression including: Pitt's Questionnaire for detecting depression postpartum (Pitt 1968) and the 10-item Edinburgh Postnatal Depression Scale (Cox et al 1987). The General Health Questionnaire (GHQ-30) has also been validated for use in the puerperium (Nott and Cutts 1982). A recent study by Troutman and Cutrona (1990) has used DSM-III-R and RDC.

2.8.2 In-patient versus out-patient studies

In-patient studies have been done mainly at psychiatric hospitals on patients admitted for a psychotic episode (Madden et al (1958, Reich and Winokur 1970, Kadrmas et al 1979, Dean and Kendell 1981). A few studies have been done at highly specialised 'Mother and Baby Units' (Grunebaum and Weissman 1963, Buist et al 1990, Margison and Brockington 1982 p.223, Brockington et al 1990).

The out-patient studies which have been done were largely prospective in nature and have followed patients up from the antenatal clinic through to the postpartum period. This has been done in Western countries because of access to Obstetric and Psychiatric Registers, and computerised systems. There seems to be a dearth of information on prospective studies in Africa (Shoeb and Hassan 1990).

2.9 CONCLUSIONS: LITERATURE REVIEW

Cutrona (1982) felt that much has been written about postpartum psychiatric syndromes and quoted a statement by Herzog and Detre in 1976 in which they felt that these syndromes were still....."controversial in definition and elusive in aetiology".

Much of the research in this field is plagued by areas of controversy and ambiguity. Thus, although many studies exist, there is very little clarity on the specificity of these syndromes. At the same time valuable information has been highlighted which focuses on mental illness in general, especially the aetiology.

Studies in developing countries have been severely compromised by the lack of facilities and instruments.

This has resulted in little material being available for comparative studies, especially in the non-psychotic mood disorders. The positive finding is that there is a lot of similarity with the morbidity in Western countries. Further research is advocated in developing countries, preferably in both rural and urban areas.

CHAPTER 3

PATIENTS AND METHODS

3.1 CONSENT AND ETHICS

The nature of this study was explained to each participant and informed consent was obtained as outlined in Appendix A. Confidentiality was emphasised.

3.2 RESEARCH DESIGN

3.2.1 Sample Selection

Kendell et al (1987) pointed out that in order to be clear as to which demographic and obstetric variables influenced postpartum risk accurately, the sample had to be drawn from a geographically defined population. He felt that it was not sufficient to study all the patients at a given hospital, unless it had a precisely defined catchment area which was not shared with other hospitals. This was difficult in this study as King Edward VIII Hospital serves as a referral hospital for the greater Durban area as well as KwaZulu.

It must be also pointed out that studies that were done in Western countries (Kendell et al 1987, Cox et al 1987) were done with the assistance of computer linkage of obstetric and psychiatric registers. German (1987a) stated that the data base with regard to demographic structures and patterns in Africa was sadly inadequate.

3.2.1.1 Difficulties in sample selection

The selection of a sample was difficult for the following reasons:

1. The obstetric unit at this hospital is regarded as one of the busiest areas of the hospital, with a high turnover of patients. Patients are also not kept in hospital longer than three days postpartum, unless there are problems with either the mother or the baby. The selection of these patients would have resulted in a biased sample.
2. The postnatal clinic at King Edward VIII Hospital has established a policy of referral of patients to the outlying clinics and hospitals for the six week postnatal visit. Only those patients who had developed obstetric complications are seen at this clinic. The selection of patients from the clinic would also have resulted in a biased sample.
3. A prospective study following women from the last trimester in pregnancy through to the postpartum period would have been a fairly accurate reflection of psychiatric morbidity. However, such a study was not attempted because of the changing population of women that attend the antenatal clinic, labour ward and postnatal clinic at King Edward VIII Hospital. Women who attend the antenatal clinic, often deliver their babies at a peripheral clinic because of problems encountered with transport, while women who deliver at the hospital, often have not attended the antenatal clinic and do not return for the postnatal visit.

3.2.1.1 The selection of the sample

177 postpartum women attending the 'Well-Baby Clinic' were randomly selected for inclusion in this study. The interviews took place over a period of eighteen months, from July 1989 to December 1990. Only women who were less than three months postpartum were included in the

study.

3.3 INSTRUMENTS USED

3.3.1 The Kennerley Blues Questionnaire (KBQ)-modified (Kennerley and Gath 1989a) (Appendix B)

3.3.1.1 The Instrument

This questionnaire was developed specifically to detect the presence of 'postpartum blues'. It is a self-rating scale that is used on a daily basis by postpartum women to monitor their symptoms and feelings and consists of a 28 point checklist.

This checklist contains clusters of symptoms which have been labelled as: Primary 'blues', Decreased Self Confidence, Hypersensitivity, Reservation, Despondency, Depression and Retardation.

3.3.1.2 Modifications

The KBQ is usually administered on a daily basis for the first week postpartum, and respondents are asked to rate their feelings and symptoms on their own. The average score over the week is then taken as an indication of the presence or absence of 'the blues'. This method of administration had to be modified for the following reasons:

1. Postpartum women do not stay at King Edward VIII Hospital for as long as 7 days, to do daily rating scales.
2. This was not a feasible option from a practical point of view, especially in a busy obstetric ward.

3. For reasons outlined under 'Difficulties' in the section on sample selection, a biased sample would have resulted.

The KBQ was therefore administered during the interview and respondents were asked to remember how they felt during the first week postpartum, and indicate which feelings and symptoms best described this. This meant that the KBQ was used in an interview situation, on a one-off basis and at varying time intervals from the actual postpartum period. In this way, we have actually assessed the subjective recall of 'postpartum blues'.

3.3.1.3 Reliability

The question that can then be raised is about the reliability of this instrument when used retrospectively. This is especially considering the length of time from the first week postpartum to the time of the interview. Cox et al (1987) stated that depression postpartum was usually accurately recalled by the mother three years later. This instrument was used to identify those women who remembered 'the blues'. The results would however, reflect a lower estimate of the prevalence of 'postpartum blues' and this will be discussed at a later stage. Another criticism which may be relevant regarding the use of this instrument is that rating scales may be less accurate than interviews (Stein 1980). However, there is evidence that reliable estimates do come from studies based on self-report questionnaires (Knight and Thirkettle 1986).

3.3.1.4 Scoring

The 28 questions can either be answered 'yes' or 'no' and a score of one point was allocated for every 'yes'. Total points scored determined the presence or absence

of 'the blues', with scores >10 indicating 'the blues'.

3.3.2 The 30-item General Health Questionnaire (GHQ-30) (Goldberg 1972) (Appendix C)

3.3.2.1 The Instrument

This is a reliable questionnaire that has been used in many epidemiological studies as a screening instrument (Tarnopolsky et al 1979). This is also an efficient, valid and reliable index of non-psychotic psychological impairment (Tennant 1977).

3.3.2.2 Reliability

The GHQ-30 has been validated for use specifically in postpartum women (Nott and Cutts 1982). Cox et al (1987) raised the point of limitations of questionnaires when used with childbearing women, because of emphasis on the somatic symptoms of psychiatric disorders, which may be caused by normal physiological changes. This point will be further discussed during the interpretation of the results.

3.3.2.3 Scoring

The 30 questions were answered on a grading scale. (See Appendix C). Scores >20 were regarded as significant and individual cluster symptom groups were looked at.

3.3.3 Pitt's Questionnaire Indicating Anxiety and Depression During Pregnancy and the Puerperium-modified (Pitt 1968) (Appendix D)

3.3.3.1 The Instrument

This questionnaire consists of 24 questions, which are

answered 'Yes', 'No' and 'Don't Know'. Twelve 'factors' which are hypothetical and not necessarily mutually exclusive are identified by the arrangement of the questions.

The 'factors' include: Sleep, Irritability, Appetite, Hypochondriasis, Depression, Cognition, Libido, Anxiety, Guilt, Retardation, Depersonalisation and Dependency. There are two questions per factor, one expecting the morbid answer 'yes', the other 'no'.

3.3.3.2 Modifications

This instrument had to be modified for use in the interview situation. This was as a result of problems encountered with literacy and language. Respondents were asked the questions during the interview and had to verbally answer them, instead of being asked to circle the appropriate answer.

3.3.3.3 Scoring

This was done according to the individual questions. (See Appendix D). 'I don't know' was given a value of 1, while the rest of the answers were graded either as a 2 or 0. The maximum score is 48 points. A score of >20 was regarded as being significant.

3.3.3.4 Reliability and Validity

A pilot study was done by Pitt (1968) and test re-test reliability was indicated by a significantly high correlation co-efficient between the scores on two different occasions in pregnancy. The questionnaire was also validated using The Hamilton Rating Scale for Depression.

3.3.4 Structured Clinical Interview DSM III (SCID) (Spitzer 1985)

Research suggests that self-report measures are not sensitive to the full spectrum of the depressive diagnosis. Clinical diagnosis tends to be the standard against which self-report measures of symptomatology are evaluated.

Therefore, a combination of diagnosis and symptomatology may be preferable (Whiffen 1988). Cutrona (1982) stated that postpartum disorders remained poorly defined because no published studies at that time had employed either DSM-III or Research Diagnostic Criteria (RDC). The Structured Clinical Interview DSM - III (SCID) was conducted on those women who had positive symptomatology after the administration of the questionnaires in order to establish a DSM - III diagnosis.

3.3.5 Biographical Inventory (Appendix E)

The biographical data was collected from each respondent for use in the determination of demographic factors and included:

1. Identification Data
2. Past History and Family History
3. Obstetric and Gynaecological History
4. Details of the Present Pregnancy
5. Social History

3.4 METHOD OF ADMINISTRATION

Each interview took place in the out-patient section of the Department of Paediatrics at King Edward VIII Hospital, in the privacy of a consultation room. Informed consent was obtained from all respondents,

with the help of a research assistant.

3.4.1 The use of research assistants

At this stage, the use of research assistants to aid in the administration of questionnaires and the structured interview should be clarified, as it may be viewed as a limitation of this study. The same nursing sisters were used throughout the study in an attempt to reduce tester bias. It must also be pointed out that the majority of the sample were able to communicate in English and therefore the need for translation was significantly reduced. Although a research assistant was always present during the interviews, most of them were conducted in English.

3.4.2 The use of 'Western' instruments

Kortmann (1987) stated that it was often difficult for people from different cultural backgrounds to understand one another. The use of questionnaires developed in Western countries also has its limitations, since ".... ..Western psychiatric jargon is culture-bound and needs to be adapted, before being used in other cultures" (Kortmann 1987). Kortmann also pointed out that the translation of these questionnaires was a difficult task. Although it can be done in the language of the cultural group, it does not take into account the norms and values of that culture. If this was done, the result would be an instrument which could not be compared to other studies, as it would not be standardized.

German (1987b) stated that the availability of standardised systems of psychiatric symptom elicitation enabled researchers to study the distribution of symptoms in various cultures and to draw conclusions as to the

nature of such phenomena in other parts of the world. It should also be noted that the few previous studies that have been carried out in developing countries with the use of Western standardised instruments have found a similar spectrum of morbidity as Western countries (Shoeb and Hassan 1990).

3.4.3 The interviews

Responses to the questionnaires were elicited by reading out the questions to the respondents. Although this slight modification may have affected the results, this was necessary because of differences in terminology. It must be pointed out, however that the advantages of this approach were that:

1. No questions were inadvertently left unanswered.
2. The interviewer was always available to answer any question that needed clarification.
3. The interviewer spent a longer time with the respondent and a more comprehensive assessment was made.

The SCID-III was used in all the patients who presented with positive symptomatology after administration of the questionnaires to determine the DSM-III diagnosis. The biographical inventory was filled in at the end of the interview.

Each interview lasted approximately an hour on average.

CHAPTER 4

RESULTS

The sample size was 177. Statistical analysis of the demographic characteristics of the sample (n=177) was done. For the purpose of statistical analyses, the sample was further divided into two groups: With a psychiatric diagnosis (n=81): 'PPD' and No psychiatric diagnosis (n=96): 'No PPD'.

4.1 DEMOGRAPHIC CHARACTERISTICS OF THE SAMPLE (n=177)

4.1.1 Maternal Age

The mean age in years was 28.11 years within the range 14 years to 47 years. 65.5% of the sample were between the ages of 20 and 30 years. The frequency distribution of the sample according to age is outlined in Table V.

TABLE V

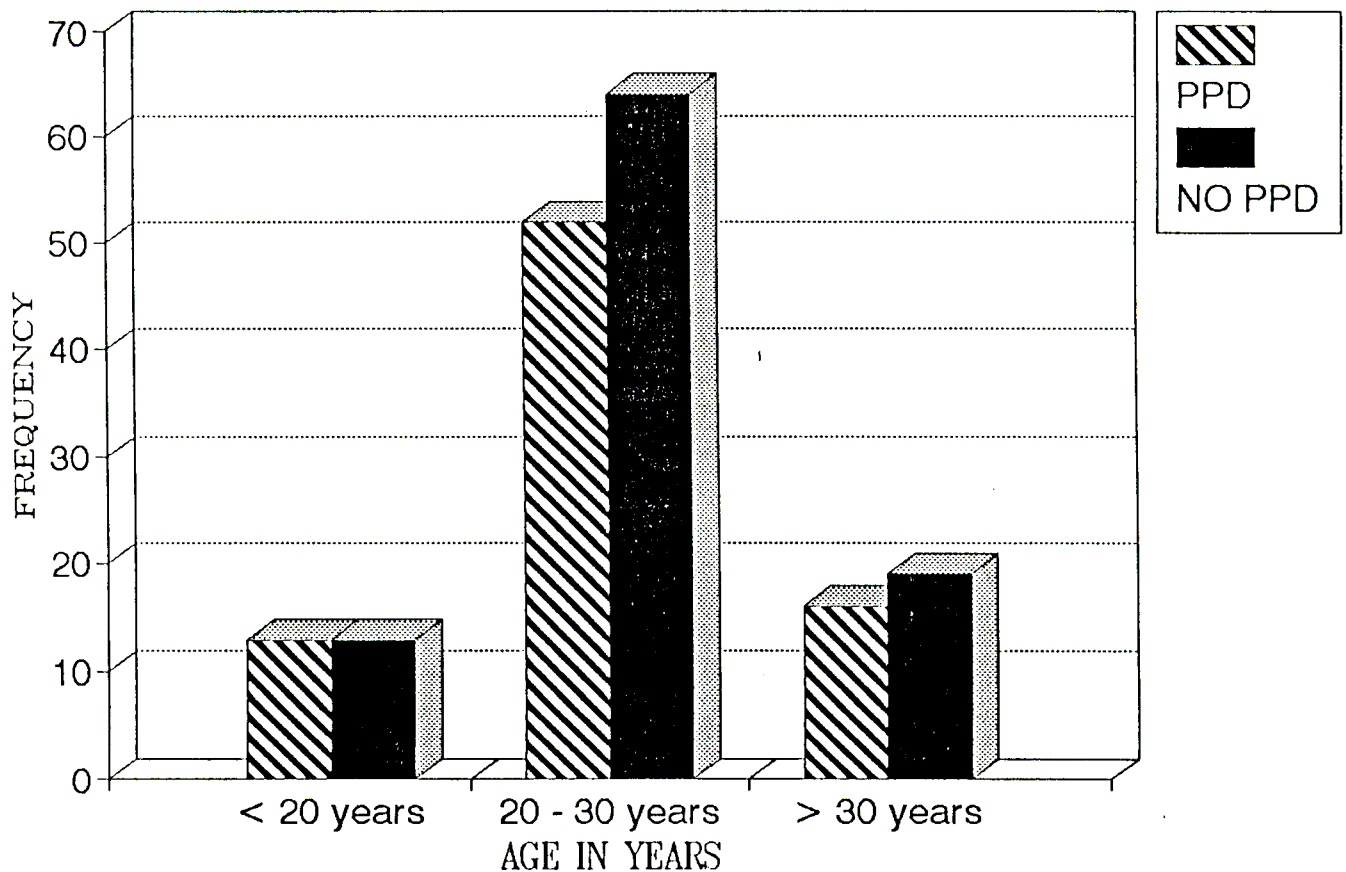
FREQUENCY DISTRIBUTION OF MATERNAL AGE IN SAMPLE (n=177)

Maternal Age	Frequency	Percentage
< 16 years	5	2.8
16-20 years	21	11.9
21-30 years	116	65.5
31-40 years	33	18.6
> 40 years	2	1.1

Chi-square analysis revealed no significant difference between the two groups with 13.54% (13) of the group 'No PPD' and 16.05% (13) of the group 'PPD' being less than 20 years old. 66.67% (64) of the group 'No PPD' were between the ages of 20 and 30 years compared to 64.20% (52) of the group 'PPD'. 19.79% (19) of the women from group 'No PPD' were older than 30 years compared to 19.75% (16) of those from group 'PPD'.

Figure 1 is a histogram which depicts the frequency distribution of maternal age in the sample.

FIGURE 1
HISTOGRAM OF FREQUENCY DISTRIBUTION OF MATERNAL AGE



Chi-square = 0.229; $p < 0.892$ (n=177)

4.1.2 Marital Status

Only 11.3% (20) of the sample were legally married. However, of the 153 women who were considered single, only 30 women were not in a permanent relationship with a partner.

The frequency distribution of the sample according to marital status is seen in Table VI.

TABLE VI

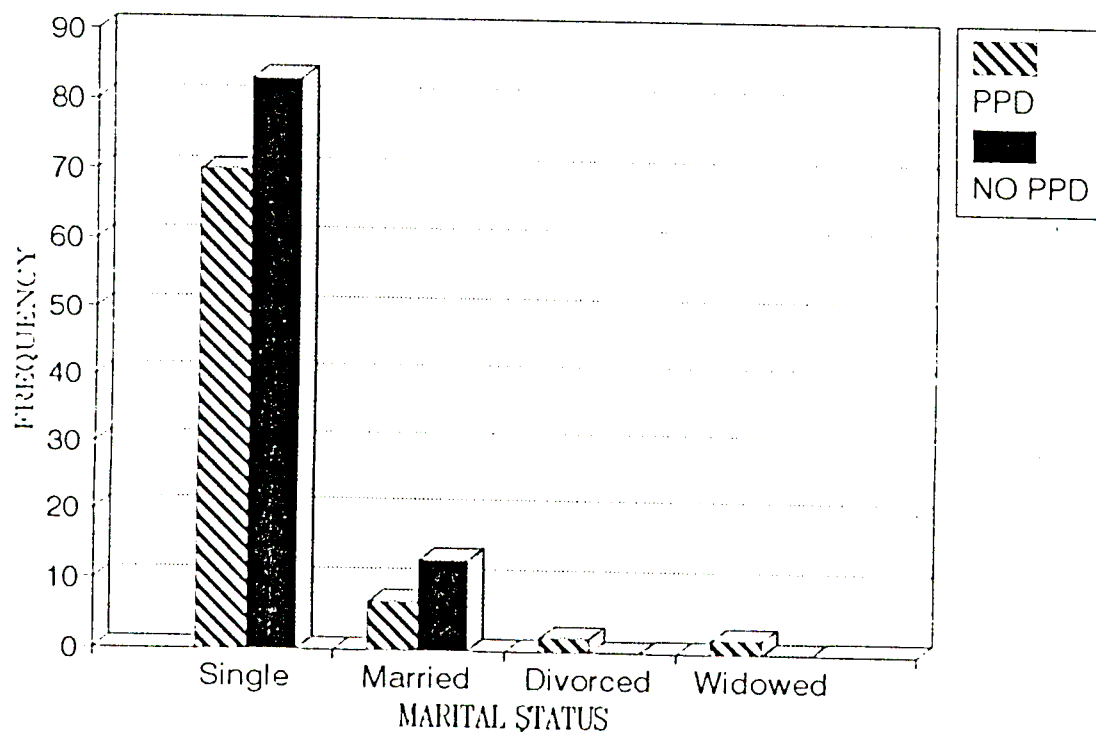
FREQUENCY DISTRIBUTION OF MARITAL STATUS IN THE SAMPLE

Marital Status	Frequency	Percentage
Single	153	86.4
Married	20	11.3
Divorced	2	1.1
Widowed	2	1.1

Figure 2 is a histogram of the frequency distribution of marital status in the sample.

FIGURE 2

FREQUENCY DISTRIBUTION OF MARITAL STATUS IN SAMPLE



Chi-square = 5.674; $p < 0.129$

Statistical analysis revealed no significant difference 86.46% (83) of the respondents from the group 'No PPD' were unmarried compared to 86.42% (70) of those from the group 'PPD'. The respondents who were divorced and widowed were from the group 'PPD'. 13.54% (13) of the women from the group 'No PPD' were married compared to 8.64% (7) of those from the group 'PPD'.

4.1.3 Education

48.6% (86) of the sample had attended high school. Only 11.9% (21) of the sample did not attend a higher educational level than junior primary. Table VII indicates the frequency distribution of educational level in the sample.

TABLE VII

FREQUENCY DISTRIBUTION OF EDUCATIONAL LEVEL IN THE SAMPLE

Level of Education	Frequency	Percentage
Never been to school	12	6.8
Junior Primary	9	5.1
Senior Primary	44	24.9
High School	86	48.6
Post-matric	26	14.7

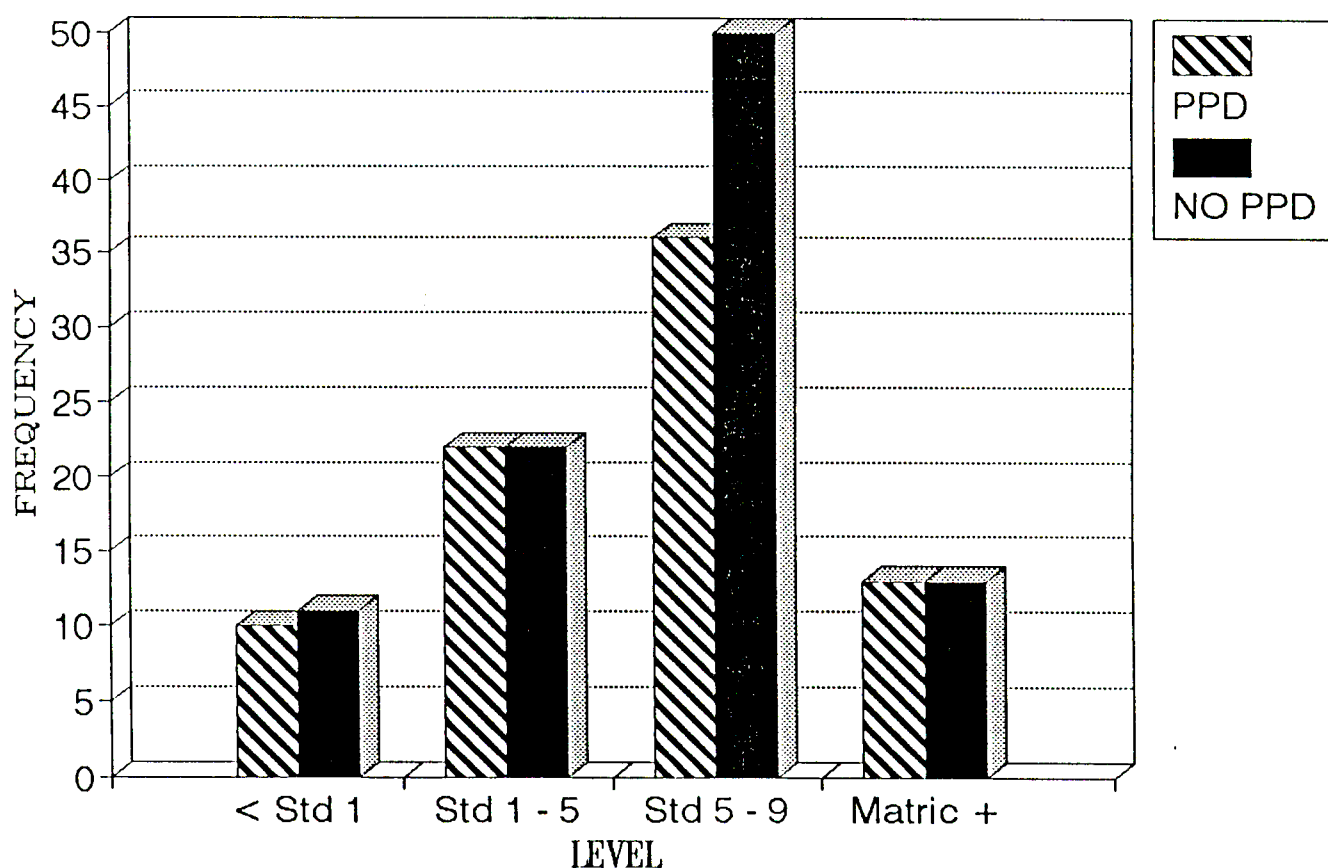
Chi-square analysis revealed no significant difference between the groups with respect to educational level. 11.46% (11) of the women from the group 'No PPD' and 12.35% (10) of those from the group 'PPD' had an educational level equivalent to junior primary or less. Twenty-two women from each group, 22.92% of the group 'No PPD' and 27.16% of the group 'PPD' attended senior primary school. 52.08% (50) of the group 'No PPD' had attended high school, compared to 44.44% (36) of those from the group 'PPD'. Thirteen women from each of the groups, 13.53% of the group 'No PPD' and 16.05% of the

group 'PPD' had passed matric or a higher diploma.

Figure 3 is a histogram indicating the frequency distribution of education in the sample.

FIGURE 3

HISTOGRAM OF THE LEVEL OF EDUCATION IN THE SAMPLE



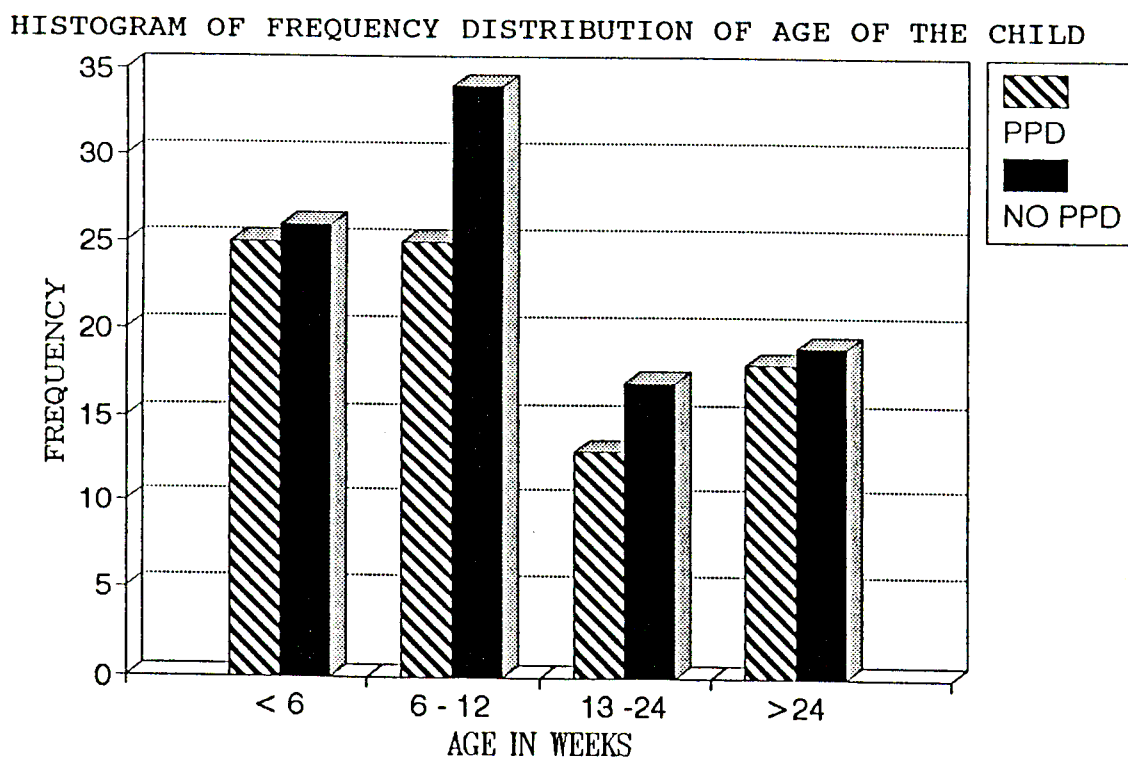
Chi-square =1.063; $p < 0.786$ (n=177)

4.1.4 Age of the Child

The mean of the age of the child was 21 weeks in a range from 3 weeks to 36 weeks. 33.3% (59) of the women had children who were between 6 and 12 weeks old.

Figure 4 is a histogram showing the frequency distribution of the age of the child in the sample.

FIGURE 4



Chi-square = 1.063; $p < 0.786$ (n=177)

4.2 THE SPECTRUM OF PSYCHIATRIC MORBIDITY IN THE SAMPLE

4.2.1 Psychiatric Diagnosis

The psychiatric morbidity in the sample included the following disorders:

4.2.1.1. Major Depression

4.2.1.2 Adjustment Disorders

- with depressed mood
- with anxiety symptoms
- with mixed symptoms

4.2.1.3 Dysthymia

4.2.1.4 Schizophrenia

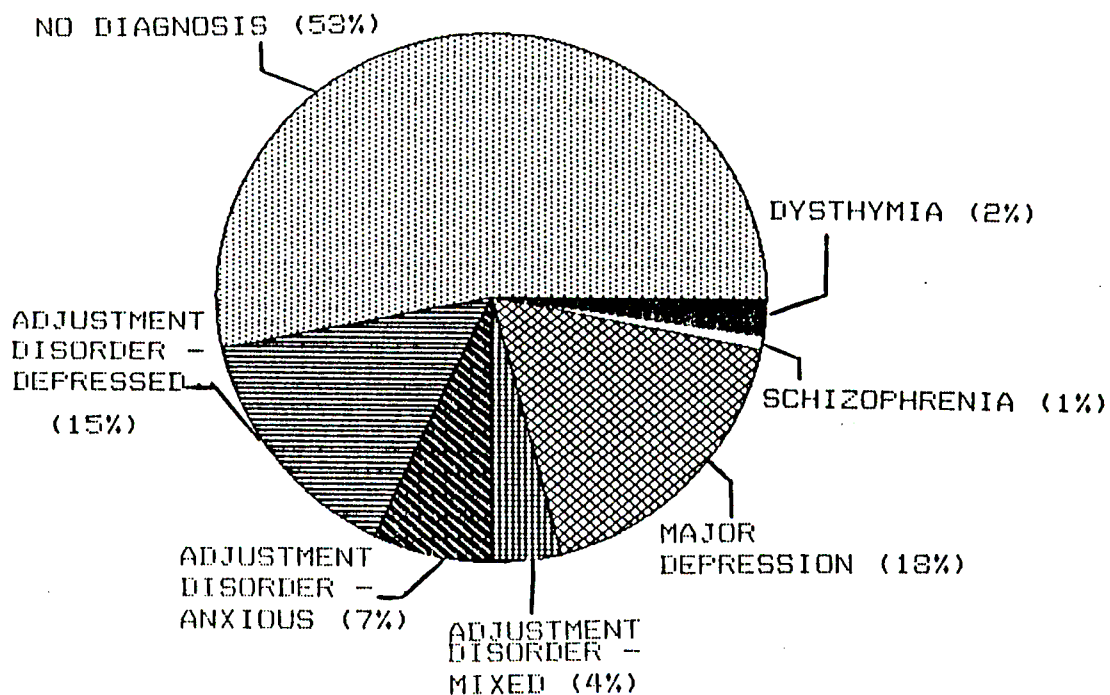
4.2.1.5 'Postpartum Blues' (not in DSM-III)

Table VIII and Figure 8 indicate the frequency distribution of the different diagnoses in the sample.

TABLE VIII
FREQUENCY DISTRIBUTION OF PSYCHIATRIC DIAGNOSIS IN SAMPLE

PSYCHIATRIC DIAGNOSIS	FREQUENCY	PERCENTAGE
1-Adjustment Disorder With Depressed Mood	26	14.69%
2-Adjustment Disorder With Anxiety Symptoms	12	6.78%
3-Adjustment Disorder With Mixed Symptoms	7	3.95%
4-Major Depression	31	17.51%
5-Schizophrenia (residual type)	1	0.56%
6-Dysthymia	4	2.26%
7-'Postpartum Blues'	66	37.30%

FIGURE 5
PIE-GRAPH OF DIAGNOSTIC CATEGORIES IN THE SAMPLE (n=177)



4.2.2 Onset of Psychiatric Illness

The onset of symptoms is reflected in weeks, in relation to the birth of the child. Table IX and Figure 6 indicate the onset of symptoms in those respondents with a psychiatric illness.

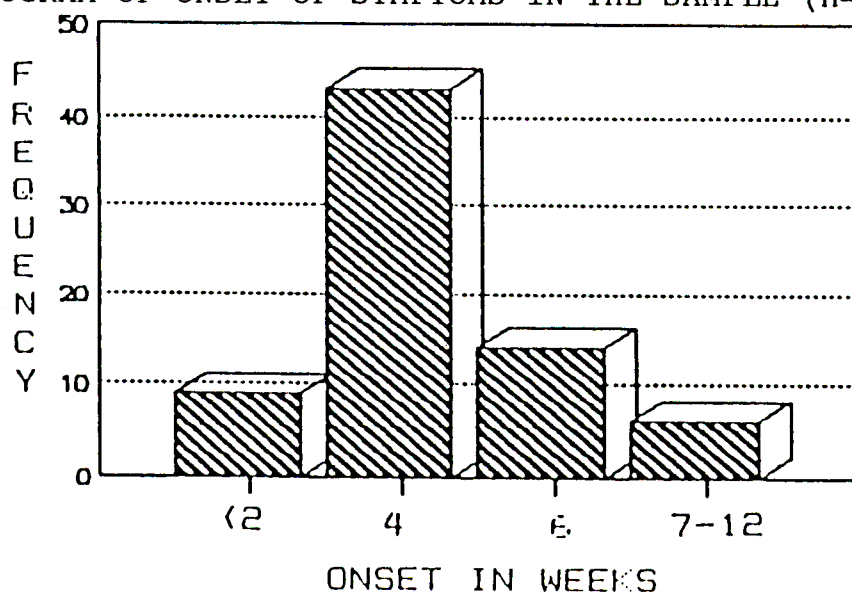
TABLE IX

ONSET OF PSYCHIATRIC SYMPTOMS IN THE SAMPLE (n=72)

DIAGNOSIS	< Two Weeks	Four Weeks	Six Weeks	Seven-Twelve Weeks
Adjustment Disorder With Depressed Mood	4	16	4	2
Adjustment Disorder With Anxiety Symptoms	2	6	3	1
Adjustment Disorder With Mixed Symptoms	1	4	1	1
Major Depression	2	17	6	2
TOTAL	9	43	14	6

FIGURE 6

HISTOGRAM OF ONSET OF SYMPTOMS IN THE SAMPLE (n=72)



Nine of the respondents developed their symptoms prior to pregnancy. These included :

1. Four of the women with major depression
2. The four respondents who were dysthymic
3. One of the respondents had a history of schizophrenia and developed an acute relapse in the first postpartum week.

17.28% of the respondents with a psychiatric disorder developed their symptoms at six weeks postpartum as compared to the 53.09% at approximately four weeks postpartum. 60.66% of those respondents with depressive symptoms developed them by four weeks postpartum.

4.2.3 Symptom Distribution In The Sample

4.2.3.1 Mood Disturbance

63.28% (112) of the sample did not experience a change in mood postpartum. 36.72% (65) of the women did experience a depressed mood postpartum.

There was a significant difference between the groups with 92% of the group 'PPD' experiencing depressed mood compared to 0.05% of the group 'No PPD'. (Chi-square = 110.157; $p < 0.0001$).

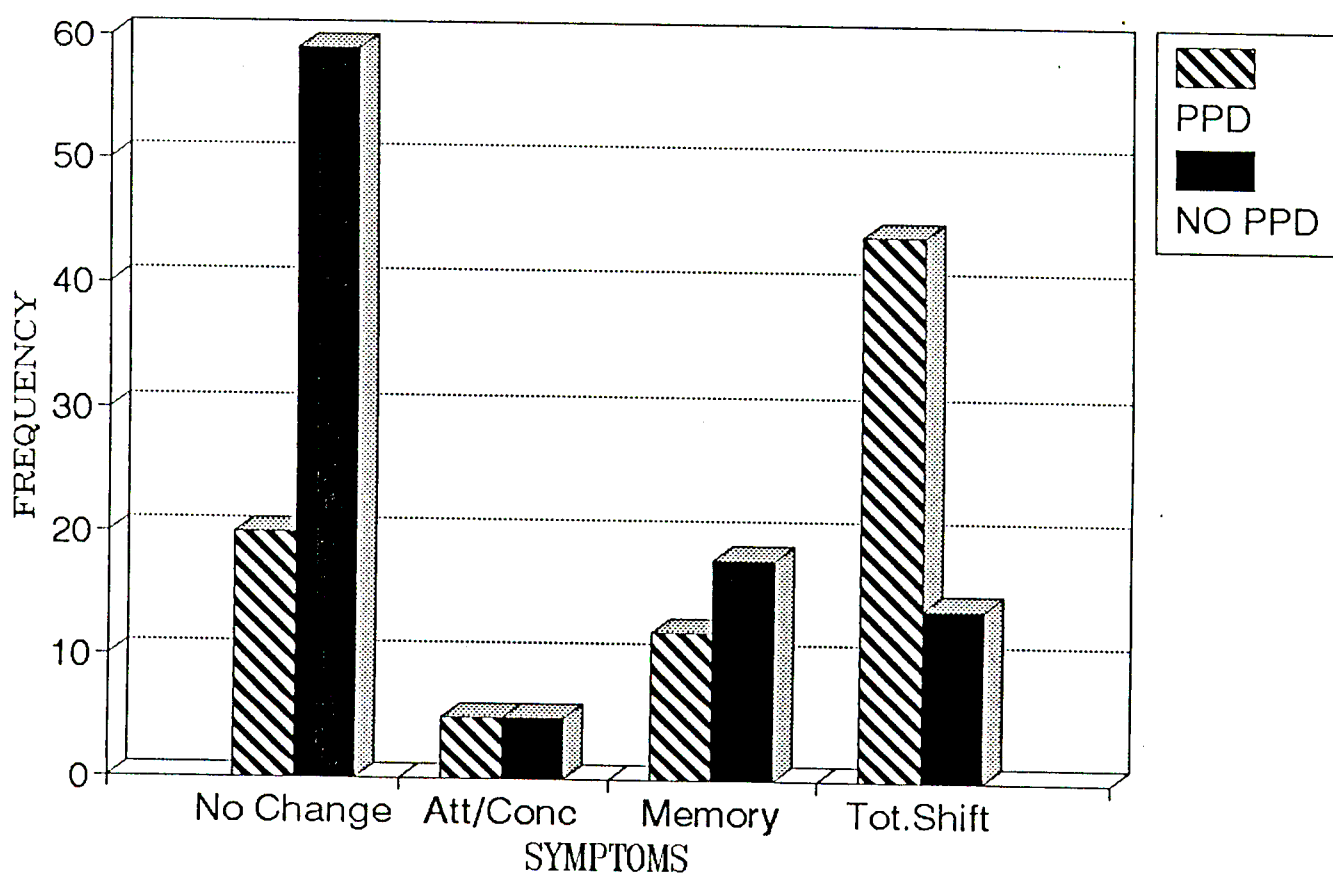
4.2.3.2 Disturbed Cognitive Function

44.63% (79) of the sample did not have any impairment in cognitive function. Both attention and concentration and memory was disturbed in 32.77% (58) of the women. Memory impairment was reported by 16.95% (30) of the sample, with no concomitant change in attention and concentration. 5.65% (10) of the respondents had impaired attention and concentration, but no problems with memory.

Statistical analysis showed a significant association between disturbed cognitive function and postpartum psychiatric disorder with 38.54% (37) of the group 'No PPD' complaining of cognitive changes postpartum compared to 75.31% (61) of the group 'PPD'. Figure 7 depicts the frequency distribution of cognitive symptoms in the sample.

FIGURE 7

FREQUENCY DISTRIBUTION OF COGNITIVE SYMPTOMS IN SAMPLE
(n=177)

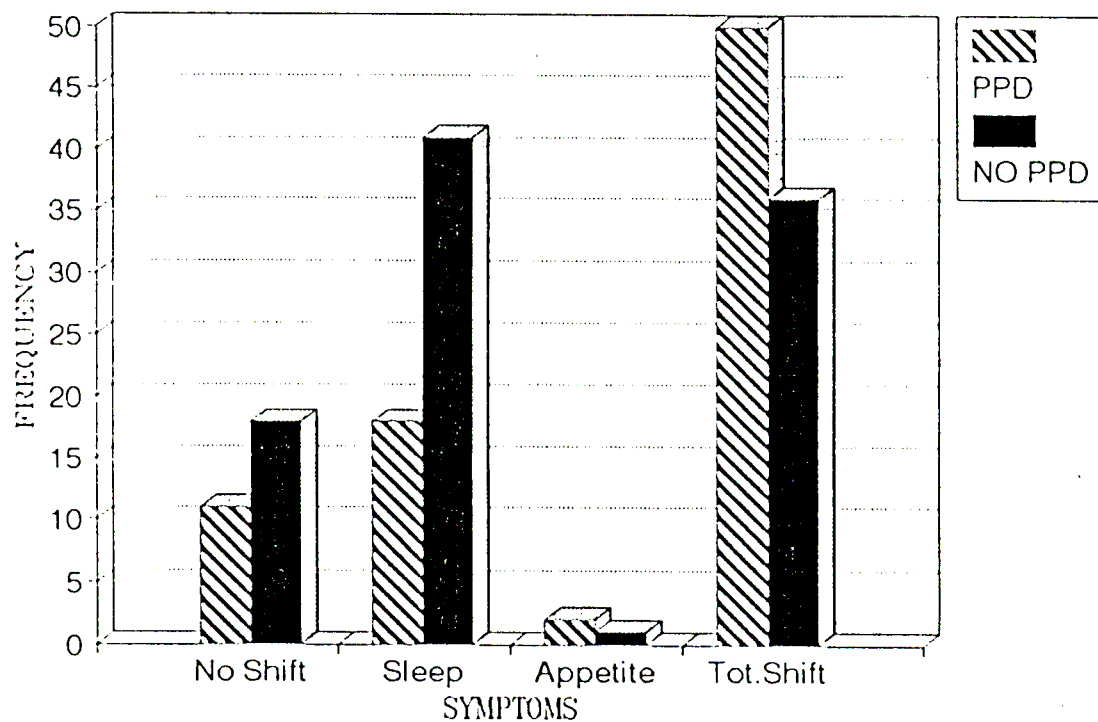


4.2.3.3 Impaired Vegetative Function

Only 16.38% (29) of the sample reported no change in vegetative function. 48.59% (86) of the respondents experienced both appetite and sleep disturbances. A disturbed sleep pattern with no change in appetite was found in 33.33% (59) of the sample. Three of the women had poor appetites with no alteration in their sleep pattern. Figure 8 is a histogram which depicts the frequency distribution of vegetative symptoms in the sample.

FIGURE 8

HISTOGRAM OF THE FREQUENCY OF VEGETATIVE SYMPTOMS



Chi-square = 12.084; $p < 0.007$ (n=177)

Statistical analysis revealed a significant association between impaired vegetative function and psychiatric disorder with 61.73% (50) of the group 'PPD' reporting a change in vegetative function compared to 37.5% (36) of the group 'No PPD'.

4.2.3.4 Decreased Energy

70.62% (125) of the sample did not experience decreased energy levels postpartum, while 29.38% (52) of the respondents noted symptoms of excessive tiredness and feelings of fatigue postpartum. There was a significant correlation between feelings of decreased energy and psychiatric disorder with 14.58% (14) of the group 'No PPD' reporting symptoms compared to 46.91% (38) of the group 'PPD'. (Chi-square = 22.133; $p < 0.0001$).

4.2.3.5 Low Self-Esteem

73.45% (130) of the respondents reported no change in self-esteem, while 26.55% experienced low self-esteem postpartum. There was a significant association between low self-esteem and psychiatric disorder with 10.4% (10) of the group 'No PPD' reporting a change in self-esteem compared to 43.21% (35) of the group 'PPD', who had low self-esteem postpartum.

4.2.3.6 Impaired Sexual Function

Only 23.16% (41) of the women had not experienced changes in sexual function postpartum. The majority of the sample (76.84%) reported impaired sexual functioning postpartum, which included experiencing dyspareunia and a loss of interest in sex.

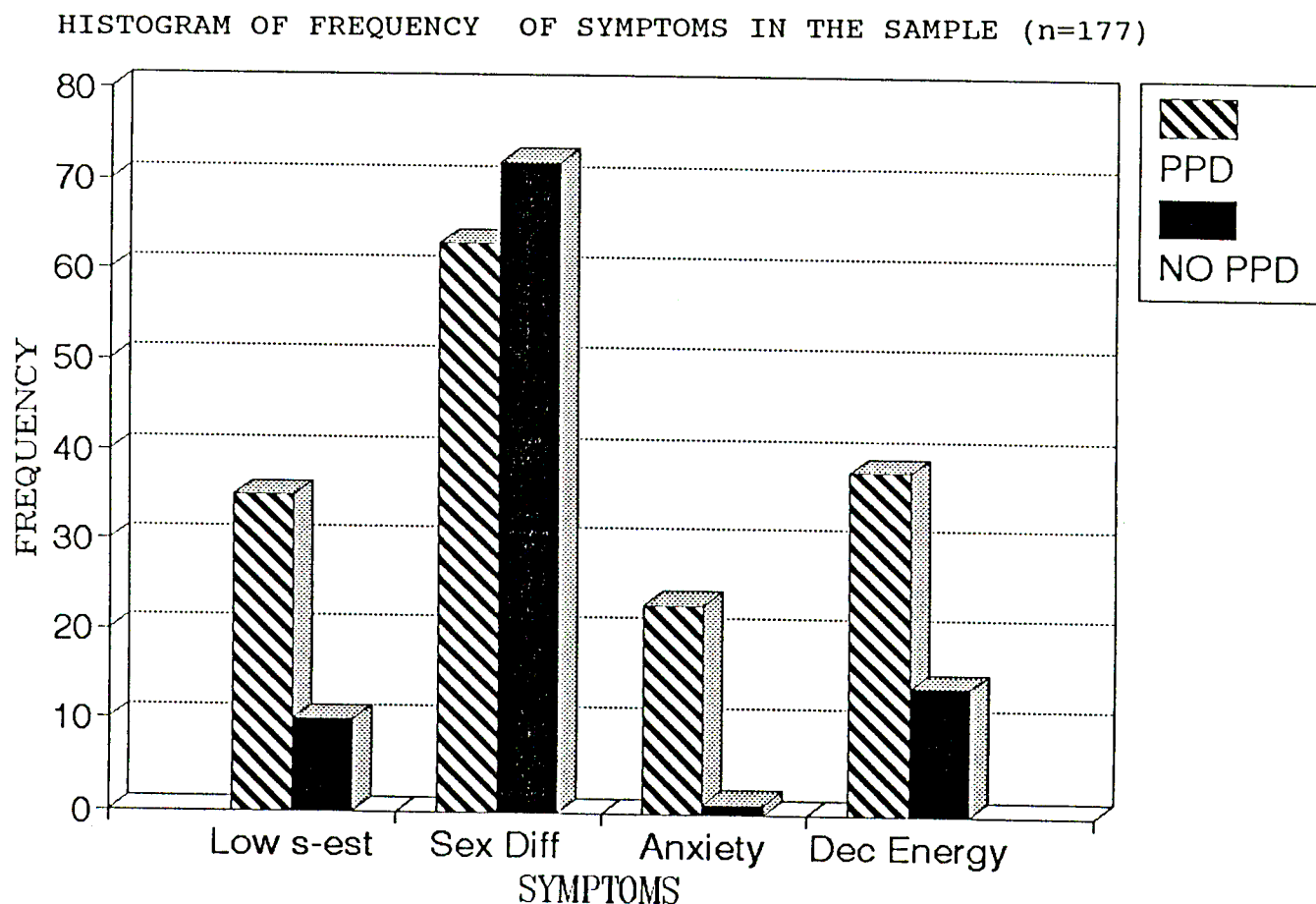
Statistical analysis showed that there was no significant difference between the groups with regard to impaired sexual function postpartum. 75.79% (72) of the group 'No PPD' reported impaired functioning, compared to 77.78% (63) of the group 'PPD'. (Chi-square = 0.097; $p < 0.756$).

4.2.3.7 Anxiety

The majority of the sample 86.44% (153) did not experience significant symptoms of anxiety. 13.56% (24) of the respondents did report becoming anxious postpartum, especially with regard to caring for the baby. There was a significant association between symptoms of anxiety and psychiatric disorder. Only 1.04% (1) of the group 'No PPD' reported anxiety compared to 28.40% (23) of the group 'PPD'. (Chi-square=28.045; $p < 0.0001$).

Figure 9 is a histogram which outlines the frequency distribution of the following symptoms in the sample: Low self-esteem, anxiety, impaired sexual functioning and decreased energy levels.

FIGURE 9



4.3 PAST HISTORY OF THE SAMPLE (n=177)

152 respondents (85.9%) had no significant past history. Statistical analysis showed that there was no significant difference between the groups with respect to past psychiatric and medical history and family history of mental illness.

4.3.1 Psychiatric History

Only 9 women (5.1%) had a previous psychiatric history. One had previously been diagnosed as schizophrenic and was receiving treatment for the disorder. However, she still experienced residual symptoms of the illness and reported that she had developed an acute relapse in the first postpartum week. She was not acutely psychotic at the time of the interview.

Four women reported symptoms of a chronic depressive disorder. Two of the women had received psychiatric treatment at a peripheral clinic for three years. The other two women were treated at a medical outpatient clinic for 'depression' and tension headaches. Four women had been treated for a major depressive disorder antenatally. All of these women were part of the group 'PPD'. Chi-square analysis was not done as the 'cell size' was too small.

15.91% (28) of the sample reported a history of 'postpartum blues' in previous pregnancies. There was no significant correlation between a history of 'postpartum blues' and the presence of a psychiatric disorder, with 15 (15.63%) of the women from the group 'No PPD' reporting 'postpartum blues' in previous pregnancies compared to 13 (16.05%) from the group 'PPD'.

4.3.2 Medical History

Previous medical illness was reported by 11 respondents (6.21%). Eight women were being treated for hypertension at medical outpatients while two women reported that they were diabetic and were receiving oral hypoglycaemic agents. One respondent was being treated for arthritis. 9.88% (8) of these respondents were from the group 'PPD' compared to 3.13% (3) who were from the group 'No PPD'. Chi-square analysis was not done because of the small cell size.

4.3.3 Family History

In 2.8% of the sample (5), a family history of mental illness was recorded. Three of the women had family members who were being treated for depression while two of the respondents had relatives with schizophrenia. One of these respondents was from the group 'No PPD', while the rest were from the group 'PPD'. Chi-square analysis was not feasible because of the small cell size. 30 (17%) of the sample reported a strong family history of alcohol abuse. 60% of these respondents were from the group 'PPD'.

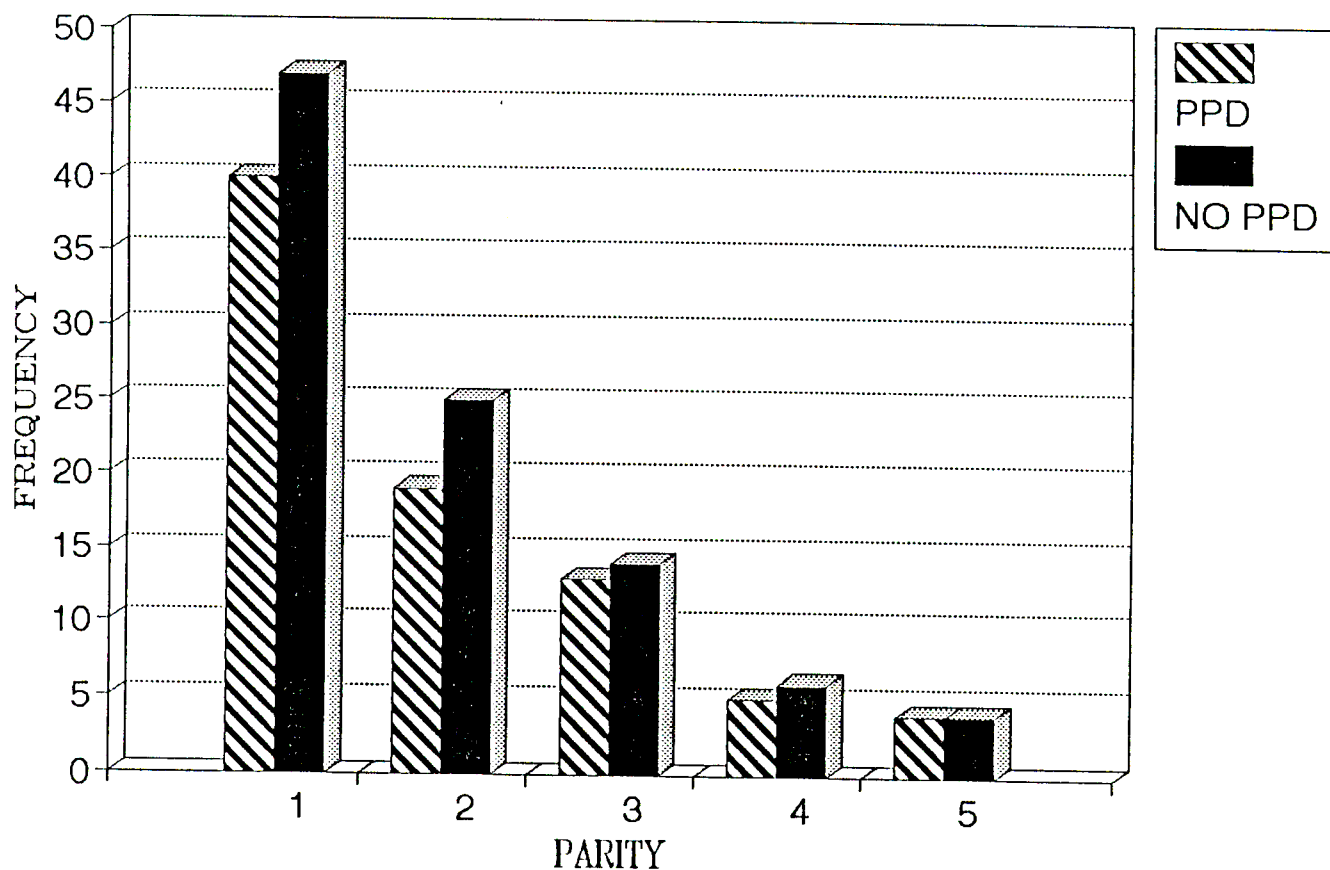
4.4 OBSTETRIC VARIABLES OF THE SAMPLE

4.4.1 Parity

Parity was defined as the number of full term pregnancies that a woman has had. 49.2% of the sample were primigravidas (87), while 24.9% had two children (44) and 15.3 % had 3 children (27). 6.2% (11) of the women had 4 children and 4.5% (8) had 5 children. Figure 10 is a histogram depicting the parity of the sample.

FIGURE 10

FREQUENCY DISTRIBUTION OF PARITY IN THE SAMPLE (n=177)



Chi-square = 0.440; $p < 0.994$

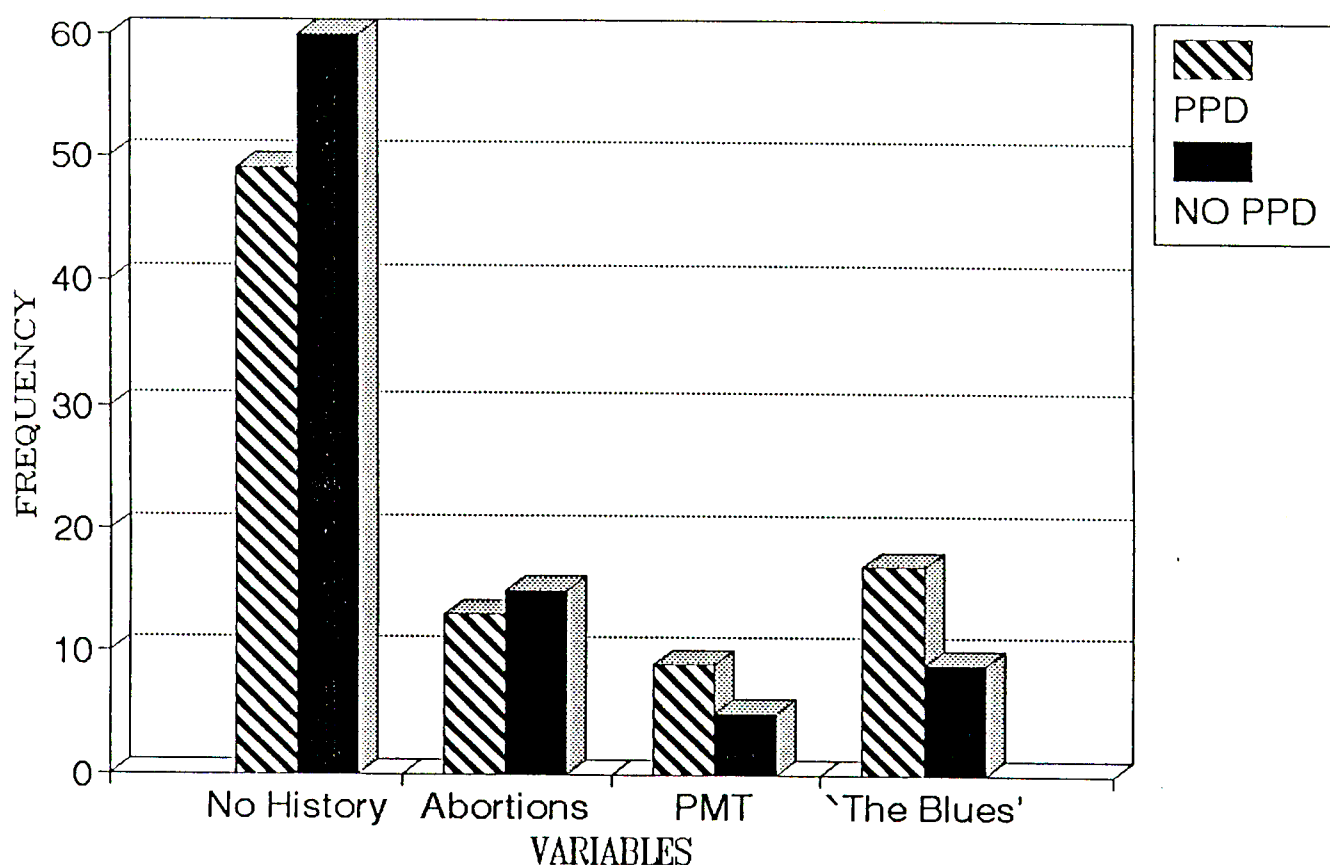
Chi-square analysis revealed no significant difference between the groups with regard to parity. 48.96% (47) of the group 'No PPD' were primigravidas compared to 49.38% (40) of the group 'PPD'. 26.04% (25) of respondents from the group 'No PPD' had two children compared to 23.46% (19) from the group 'PPD' and 25.00% (24) of the group 'No PPD' had 3 or more children compared to 27.16% (22) of the group 'PPD'.

4.4.2 Gynaecological History

The majority of the sample, 61.6%(109), had experienced no past gynaecological problems. 18.08%(32) women had a history of previous abortions. Only 20.34% (36) women complained of pre-menstrual tension. Figure 11 is a histogram which shows the frequency distribution of the gynaecological variables in the sample.

FIGURE 11

HISTOGRAM OF THE FREQUENCY OF GYNAECOLOGICAL VARIABLES



Chi-square = 2.717; $p < 0.437$ (n=177)

Statistical analysis revealed no significant difference between the groups in respect of gynaecological history.

39.58% (38) of the women from the group 'No PPD' had a significant gynaecological history compared to 37.04% (30) of the women from the group 'PPD'. 56.25% (18) of those respondents with a previous abortion were from the group 'No PPD' compared to 43.75% (13) from the group 'PPD'. 58.33%(21) of the women with pre-menstrual tension were from the group 'PPD' compared to 41.67% (15) of the women from the group 'No PPD'.

4.4.3 Antenatal Care

89.8% (159) of the sample attended the antenatal clinic. 10.2% (18) did not have antenatal care. Statistical analysis revealed a significant difference between the groups (Chi-square = 8.275; $p < 0.004$).

There was a significant association between the lack of antenatal care and the presence of a psychiatric disorder postpartum. 77.78% (14) of the women who did not attend the antenatal clinic were from the group 'PPD'.

4.4.4 Method of Feeding

Breastfeeding was chosen by 58.2% (103) of the women as the method of feeding, whilst 41.8% (74) of the women bottle-fed their babies. There was no significant difference between the groups. 48.54% (50) of those who chose breast-feeding were from the group 'No PPD' compared to 51.46% (53) from the group 'PPD'. 37.84% (28) of the women who bottle-fed their infants were from the group 'PPD' and 62.16% (46) were from the group 'No PPD'.

4.4.5 Obstetric Complications

The majority of women in the sample 70.06% (124) did not experience any obstetric problems. Pregnancy-induced hypertension was associated with 5.65% (10) of the preg-

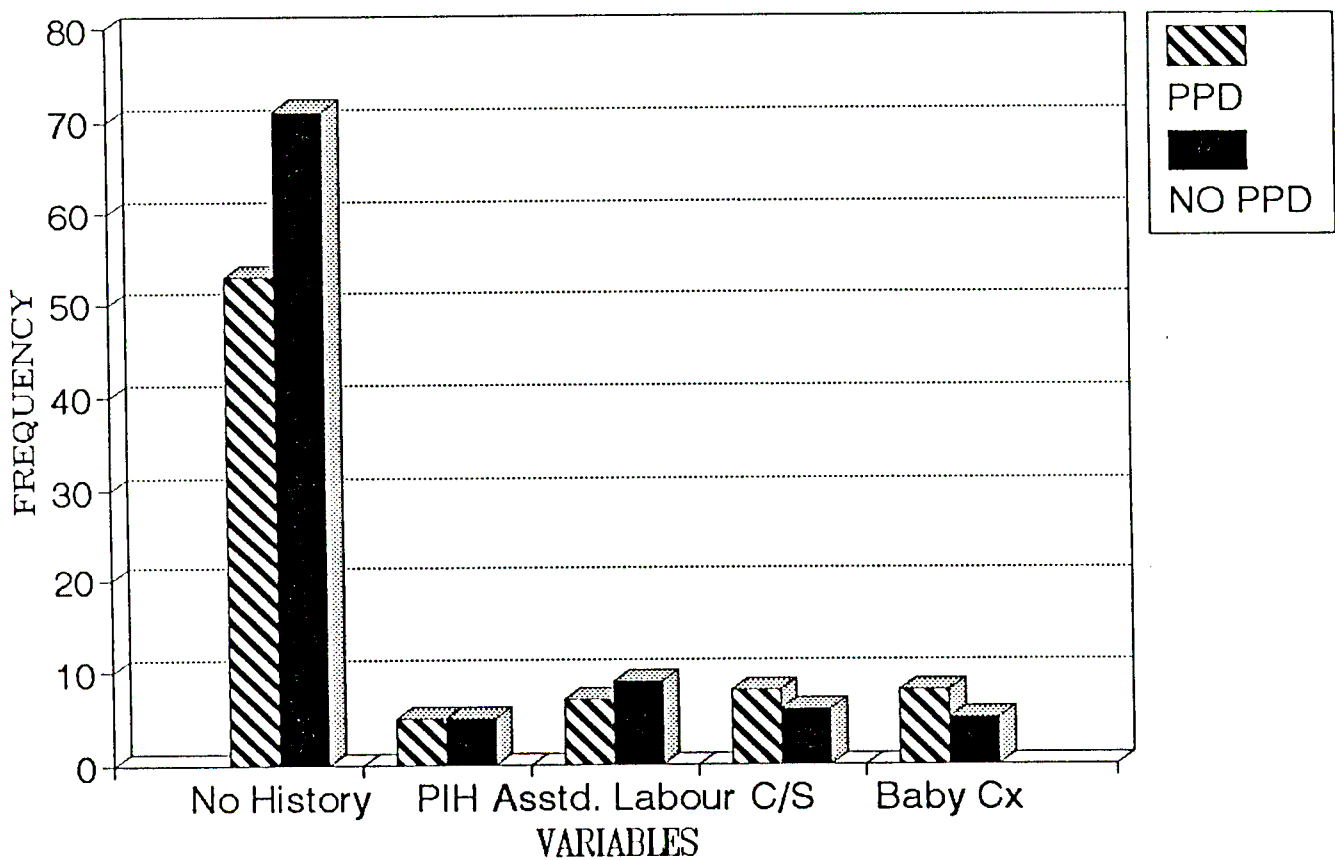
nancies. The baby was delivered by Caesarean Section in 7.91% (14) of the women, while assistance during labour was required in 9.04% (16) of the sample. Only 7.3% (13) of the babies developed complications which included: Premature birth (3), Perinatal infection (2), Low birth weight (8).

There was no significant statistical difference between the two groups, although Chi-square analysis was not always feasible because of the small cell size.

Figure 12 is a histogram which outlines the frequency distribution of obstetric complications in the sample.

FIGURE 12

FREQUENCY DISTRIBUTION OF OBSTETRIC VARIABLES IN SAMPLE



Chi-square = 3.370; $p < 0.643$ (n=177)

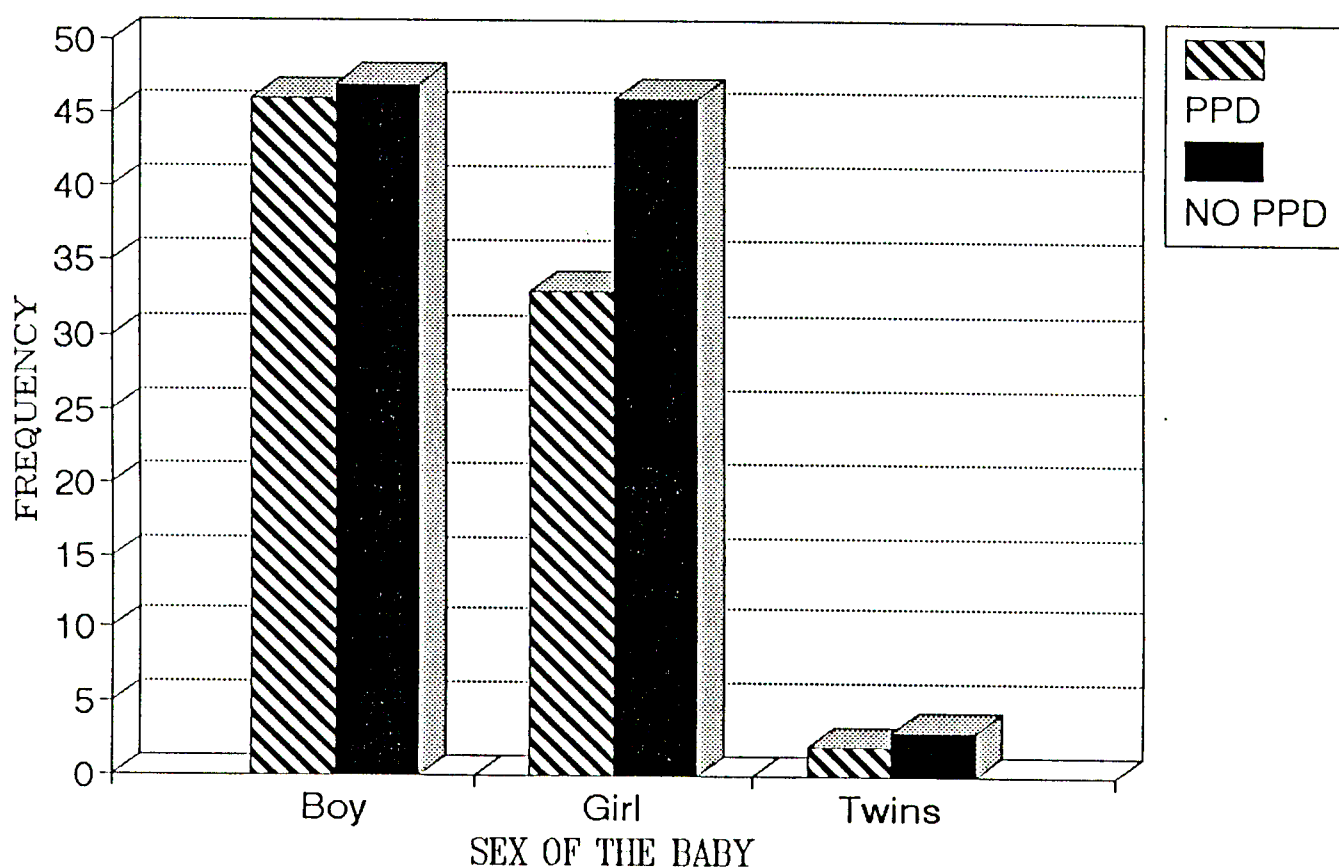
4.4.6 Sex of the Baby

52.5% (93) of the women delivered boys, while 44.6% (79) of the women had daughters. 2.8% (5) of the women had twins. There was no statistical difference between the groups, with 50.54% of the male children from the group 'No PPD' and 49.46% from the group 'PPD'.

Figure 13 is a histogram of the frequency distribution of the sex of the baby in the sample.

FIGURE 13

FREQUENCY DISTRIBUTION OF THE SEX OF THE BABY IN SAMPLE



Chi-square = 1.087; $p < 0.581$ (n=177).

4.5 PSYCHOSOCIAL VARIABLES

4.5.1 Partner's Response

66.7% (118) women had supportive partners while 33.3% (59) of the women experienced a negative response to the pregnancy and the child from the partner. There was a highly significant association between the lack of support from the partner and the presence of a postpartum psychiatric disorder. (Chi-square = 10.243; $p < 0.001$). 62.71% of the women with a negative response to the pregnancy and the baby were from the group 'PPD' compared to 37.29% from the group 'No PPD'.

4.5.2 Antenatal Expectations and Postnatal Experience

In 72.9% (129) of the sample, the postnatal experience was similar to the antenatal expectations, while 27.1% (48) of the women were disappointed postpartum because their antenatal expectations were not fulfilled. There was no significant difference between the two groups, with 22.92% (22) of the group 'No PPD' claiming that the experience differed from the expectation compared to 32.10% (26) of the group 'PPD'. ($p < 0.171$)

4.5.3 Cultural Rituals

Only 17.0% (30) of the women performed cultural rituals while 83.1% of the women did not do so. There was an association between the absence of cultural rituals postpartum and the presence of a psychiatric disorder, although the results were not statistically significant. (Chi-square = 5.48; $p < 0.020$). 94.9% of the group 'PPD' did not perform cultural rituals compared to 88.7% of the group 'No PPD'.

4.6 METHODOLOGICAL RESULTS

4.6.1 The 30-item General Health Questionnaire (GHQ)

The mean score on the GHQ of the sample (n=177) was 10 within a range of scores from 0 to 30. 16.9% of the respondents scored 10, while 42.9% had a score > 10. Respondents from the group 'PPD' had a mean score of 16, while those from the group 'No PPD' had a mean score of 6.6. T-test analysis revealed a significant correlation between the results obtained from the GHQ and the psychiatric diagnosis made after the SCID ($p < 0.0001$).

4.6.2 Pitt's Questionnaire of Anxiety and Depression

The mean score on Pitt's Questionnaire of the sample (n=177) was 14.5 within a range of scores from 0 to 36. 21.5% of the respondents scored 14, with 45.2% of women scoring >14. The group 'PPD' had a mean score of 19.88, while the group 'No PPD' disorder had a mean score of 10.6. T-test analysis showed a significant correlation between the results obtained from using the Pitt's Questionnaire and the diagnosis made after the SCID. ($p < 0.0001$).

4.6.3 The Kennerley Blues Questionnaire (KBQ)

50.8% (90) of the sample had experienced 'postpartum blues' according to the scoring of the KBQ. This figure was then revised to exclude those who developed a subsequent psychiatric disorder, leaving 37.3% (66) of the respondents who experienced the self-limiting condition of 'postpartum blues'.

The mean score on the Kennerley Blues Questionnaire for the sample (n=177) was 11.8, within a range of scores from 1 to 24. 31.6% of the sample scored 8, while 50.8% of the sample scored >10.

CHAPTER 5

DISCUSSION OF RESULTS

5.1 DEMOGRAPHIC CHARACTERISTICS OF THE SAMPLE

The majority of the sample were between the ages of 20 and 30 years old, unmarried, with a baby of 20 weeks and a history of having attended senior primary school. These findings compare favourably with many other studies done both in Western countries and developing countries (Oltman and Fredman 1965, Davidson 1972, Ballinger et al 1982, Shoeb and Hassan 1990).

The fact that there was no significant correlation between psychiatric disorders and demographic variables is in keeping with the literature. Cutrona (1982) stated that research on the frequency of postpartum disorders, as a function of demographic variables, has failed to reveal consistent epidemiological patterns.

5.1.1 Maternal Age

65% of the sample were between the ages of 20 years and 30 years with a mean age of 28.11 years. This finding is consistent with the literature, where the mean age has been 28 years (Hapgood et al 1988), 28.46 years (Whiffen and Gotlib 1989) and 27.02 years (O'Hara et al 1990).

There was no significant association between maternal age and postpartum psychiatric disorders. This is in keeping with most of the literature, although there are conflicting results. Most of the studies have found no relationship between age and postpartum depression (Pitt 1968, Nott et al 1976, Ballinger et al 1979). Three studies have found a higher incidence of

depression in younger mothers (Handley et al 1980, Hayworth et al 1980, Paykel et al 1980). The study by Kumar (1982 p. 80), found that mothers over the age of 30 were more likely to become depressed.

5.1.2 Marital Status

11.3% of the sample were legally married, which can be compared with the 20% of legal marriages found in the pilot study by Cheetham et al (1981). However of the 153 who were considered single, only 30 (16.9%) were not involved in a committed relationship. Subotsky (1991) noted that single parenthood was very common in cities. This differed from the findings of Davidson (1972) in Jamaica, who found that 30% were legally married and 40% were involved in a casual relationship. Davidson (1972) described the casual relationship as ".....the unusual male-female relationship wherein the parents have never lived together, but the father will continue to provide financial support for the child ".

This study also differs from the findings of studies done in other African countries which found a higher percentage of married women : Ebie (1972), whose study was done in Nigeria found that 57 out of 58 women were married and Shoeb and Hassan (1990), whose study was in the Assir region of Saudi Arabia, stated that 83 out of 91 women, were married. Most 'Western' studies have reported a high percentage of married women (O'Hara et al 1990).

There was no significant association between marital status and the presence of postpartum psychiatric disorders in this study. With respect to marital status at the time of delivery, there are mixed findings in the literature. Braverman and Roux (1978) and O'Hara et al (1983) found that women who were single, divorced or

widowed had a higher incidence of postpartum depression. In this present study, it should be noted that the two respondents who were widowed and the two who were divorced were part of the group with a psychiatric disorder.

Most studies have used married samples exclusively, especially in 'Western studies', so that the impact of marital status has not been adequately investigated. The quality of the marital relationship has received a lot of attention in the literature, but this will be discussed at a later stage.

5.1.3 Educational Level

An interesting finding was that 84.7% of the sample had at least received Senior Primary Education. The mean number of years spent at school was 11.8 years. This is slightly lower than studies done in Western countries: 13.12 years (Whiffen and Gotlib 1989) and 15.18 years (O'Hara et al 1990).

It has already been discussed in Chapter 3 that most of the interviews were done in English. This could be a reflection of the fact that women attending the 'Well-Baby Clinic' at King Edward VIII Hospital are from the surrounding areas and part of the growing urbanised population in Durban.

5.1.4 Age of the Child

This is actually a reflection of the duration post delivery which ranged in the study from 3 weeks to 36 weeks. 33.3% of the sample were between 6 and 12 weeks post-delivery.

The duration of the postpartum period that is discussed in the literature has varied from six weeks (Paykel et al 1980) to two years (Kendell 1978 p. 70). However, Brockington et al (1982b p. 40) has stated that with studies using a longer time interval postpartum, there is the dilemma of other variables becoming significant e.g life events. Nott (1972) found that the highest incidence of new cases of postpartum psychiatric disorders occurred between the third and ninth month postpartum.

5.2 THE SPECTRUM OF PSYCHIATRIC MORBIDITY IN THE SAMPLE

There was a 45.7% incidence of psychiatric morbidity in the sample. This is consistent with the findings of Uphadyaya et al (1989) who found a 45.65% incidence of psychiatric disorders in their study, which was also carried out in a 'Well-Baby Clinic', using DSM-III criteria.

The spectrum of psychiatric morbidity found in the sample is similar to that found in the study by Hapgood et al (1988), who found similar diagnoses, including major depression and adjustment disorders with depressed mood, mixed symptoms and anxiety symptoms, in their sample.

5.2.1 Psychiatric Diagnosis

71.6% of the disorders found in this present study were part of the spectrum of affective disorders. This is consistent with the results obtained by Rahim and Al-Sabiae (1991), who found an 87% incidence of affective disorders in their study in Saudi Arabia and Makanjoula (1982), who found a preponderance of affective symptoms in his study in Nigeria.

5.2.1.1 Major Depression

17.5% of the sample had major depression which is very similar to the 17.39% found by Uphadyaya et al (1989). This finding is also consistent with the rest of the literature which recorded an incidence of 3 - 33% (Cooper et al 1988). Hapgood et al (1988) found a higher incidence (27.27%) of major depressive disorders in their study.

Earlier studies, Kaij et al (1967), Uddenberg and Nilsson (1975), reported higher incidences because of the use of vague criteria, however, those studies which used Research Diagnostic Criteria (RDC) or DSM-III criteria, found lower incidences : 8 - 15% (Gitlin and Pasnau 1989).

It is disturbing to note that 87.1% of the women with major depression were not diagnosed up to the time of this study. One of the respondents had severe suicidal ideation, with a moderate level of intent because of desperate social circumstances and had to be referred immediately for crisis intervention. These findings confirm the results of other studies which found that depression in the puerperium is often missed and that depressed mothers do not volunteer their symptoms to the primary care physician or seek treatment solely for their depression (Vandenburgh 1980, Upadhyaya et al 1989).

5.2.1.2 Adjustment Disorders

Gitlin and Pasnau (1989) suggested that the milder dysphoric syndromes that do not meet the criteria for major depressive episodes, be diagnosed as adjustment disorders with depressed mood. In this study, 26.42% of the sample had adjustment disorders which consisted

of adjustment disorders with depressed mood (14.69%), anxiety symptoms (6.78%) and mixed symptoms (3.95%). Katona (1982) found a 15.5% incidence of adjustment disorder with depressed mood, and a 3.6% incidence of adjustment disorder with mixed symptoms. The findings are also similar to the results obtained by Briscoe (1986) and Troutman and Cutrona (1990) who found a 20% incidence of these disorders.

The pilot study by Cheetham et al (1981) at King Edward VIII Hospital found a 35% incidence of 'transient situational disorders', which possibly represented a mixture of adjustment disorders and 'postpartum blues'. Although these disorders are referred to as milder syndromes, there is still an impairment of functioning. It is possible, that with continuing stressors and without social support and adequate treatment, the affected mothers may develop major depressive episodes.

The diagnosis of adjustment disorder is defined as a maladaptive reaction to a known stressor and is supposed to remit once the stressor has ceased or a new level of functioning has been achieved. This diagnosis seems inappropriate in the puerperium as part of the stressor includes a new child, who is unlikely to 'remit'. This study also found that the diagnosis of adjustment disorder was inadequate in some of the respondents with marked impairment in functioning. An alternative diagnosis in the DSM-III-R would be that of a depressive disorder not otherwise specified.

5.2.1.3 Psychotic Disorders

Only one respondent had a diagnosis of a psychotic disorder : schizophrenia (residual type). It is important to note that the diagnosis of schizophrenia was made one year before the pregnancy, however an acute

relapse of symptoms was noted in the first week of the puerperium. There is sufficient evidence to suggest that there is a tendency for relapses of psychiatric disorders to occur postpartum (Brockington et al 1982b, Hamilton 1989). This respondent was not acutely psychotic at the point of assessment, but had residual symptoms of the disorder.

The relative absence of psychotic disorders in this study is not surprising considering the fact that this study was carried out in the 'Well-Baby Clinic' at King Edward VIII Hospital. Psychotic disorders usually present with bizarre behaviour and impairment in social and occupational functioning and are normally seen in the psychiatric clinic. Uphadyaya et al (1989) found no psychotic disorders in their study at a Well-Baby Clinic.

5.2.1.4 Dysthymia

2.26% (4) of the sample were considered to be dysthymic. Only two of the women had previously been diagnosed as having 'chronic depression' at a psychiatric clinic. The other two were diagnosed as dysthymic in this study. O'Hara et al (1990) found a lower figure of 1.1% incidence of dysthymia in their study. It is interesting to note that the two women who were previously diagnosed as having dysthymia, did not develop a major depressive episode after the stressor of the childbirth.

5.2.2 Onset of Psychiatric Illness

11.11% of the respondents with psychiatric morbidity developed their symptoms at two weeks, 53.09% at four weeks, 17.28% at six weeks and 7.41% at twelve weeks. These findings differ from those of some studies which found the onset of symptoms higher at six weeks (Cooper

et al 1988, Hannah et al 1992). Other studies found different results: onset within two weeks (Ifabumuyi and Akindele 1985, Rahim and Al-Sabiae 1991), within one month (Bagandahl-Strindlund 1986, Marks et al 1991) and within six weeks (Makanjoula 1982, Hannah et al 1992).

It must be pointed out, however, that it is difficult to assess this variable accurately as the symptoms are initially either overlooked or denied and women may use external events to remember the onset of their symptoms (Pitt 1991).

The onset of these disorders can be insidious and it is possible that symptoms may become blurred by the normal physiological changes and the routine of looking after an infant. It is also probable that by four to six weeks postpartum, these other factors may stabilise, thus allowing the mother to notice her symptoms and become concerned by them (Oates 1989).

The association of psychiatric symptoms and the period four to six weeks postpartum, has positive implications. This is the time when mothers normally present to their postnatal clinic. Pitt (1991) found that postnatal clinics in hospital are usually poorly attended and staffed by ".....a junior obstetrician more concerned about the genital apparatus than the patient's feelings" Staff at postnatal clinics need to have a high index of suspicion for depression, so that more effective treatment can be offered to the patient.

5.2.3 Symptom Distribution In The Sample

5.2.3.1 Impaired Vegetative Function

Only 16.38% of the sample reported no change in vegeta-

tive function. The significance of these symptoms must be assessed in terms of the normal changes that occur in the puerperium. O'Hara et al (1984) stated that many normal physiological changes of pregnancy and the puerperium are similar to that of depression, including the appetite change and the insomnia. Krener et al (1989) found that appetite was always affected and insomnia was reported by all subjects in their study. Cutrona (1982) quoted a statement by Yalom in 1973, in which he stated that one difficulty in diagnosing insomnia among new mothers, is that they are all kept awake by the demands of their infants, quite apart from any emotional distress. Therefore, Hopkins et al (1989) suggested that the diagnosis of depression postpartum be made on the cognitive-affective changes that occur.

5.2.3.2 Mood Disturbance

36.72% of the sample reported a change in mood. This is consistent with the literature: Dalton (1971) 41.3% and Oakley and Chamberlain (1981) 33%. Dysphoric mood alone, however, is not sufficient to warrant the diagnosis of postpartum depression (Cutrona 1982).

5.2.3.3 Impaired Sexual Function

76.84% of the sample reported changes in sexual functioning. There was, however, no significant association with psychiatric morbidity. This is consistent with the findings in the literature (Hopkins et al 1989). 25% of the sample in the study of Kumar et al (1981) complained of tiredness which affected their functioning. Falicov (1973) found that at seven months postpartum, there was still some impairment in sexual function being reported by patients.

Kumar et al (1981) stated that sexuality in pregnant

and recently delivered women was the subject of many fears and taboos, which may reduce the frequency and enjoyment of sexual intercourse. This factor may be of relevance to this study. Other factors which may influence sexual functioning include: perineal pain, the oral contraceptive pill, changes in body image, fatigue and breast-feeding (Alder 1989).

5.2.3.4 Anxiety

13.56% of the sample reported anxiety symptoms, which compares favourably with the results of Robinson and Young (1982) who found a 11.6% incidence of symptoms of anxiety postpartum. Most of the respondents with anxiety reported these feelings in relation to coping with their babies.

5.2.3.5 Decreased Energy

29.38% of the sample reported feelings of tiredness. Blair et al (1970) remarked that tiredness was the commonest symptom in pregnancy and the puerperium. The normal physiological responses postpartum result in many changes. The change in role functioning together with caring for a new baby, including regular feeding of a dependent infant increases the fatigue which a new mother experiences (Oates 1989).

5.2.3.6 Disturbed Cognitive Function

32.77% of the sample reported a change in their cognitive functioning. Other studies have reported prevalence rates between 25% and 35% (Jacobson et al 1965, Uddenberg and Nilsson 1975). These studies used symptom checklists without any diagnostic criteria.

The association between disturbed cognitive function

and psychiatric disorder also needs to be assessed in terms of the normal physiological changes that occur postpartum (Elliott 1989). Short-term memory changes have been reported by women, at least two years postpartum (Cox 1989).

Hopkins et al (1989) stated that cognitive difficulties, including difficulties with concentration were commonly occurring sequelae of childbirth and must not be confused with the symptoms of depression. A recent report by Moleman et al (1992) postulates that the cognitive deficits that occurred postpartum, were post-traumatic as a result of complicated deliveries. They hypothesize that in some cases the delivery can be so stressful, that it results in a dissociative-like state, with cognitive difficulties.

5.2.4 'Postpartum Blues'

This study found a 37.3% incidence of 'postpartum blues' after exclusion of those women who developed a subsequent depression. This reflects a lower incidence than most of the literature: Pitt (1968) 50%, Oakley and Chamberlain (1981) 71% and O'Hara et al (1990) 41.8%. A lower figure of 28.5% was found by Lanczik et al (1992). It was pointed out in Chapter 3 that it was the recall of 'postpartum blues' that was being assessed, as a prospective study was not feasible for various reasons. This could be viewed as a limitation of this study, as Kennerley and Gath (1989) pointed out that assessing 'maternity blues' data retrospectively may be considered to be unreliable.

However, the aim of this study was to determine whether the phenomenon of 'postpartum blues' did occur in the postpartum women attending this hospital and this was shown to be the case. A prospective study detailing the

different aspects of the syndrome, however would reveal a more accurate estimate of the prevalence of 'postpartum blues' in the Zulu community.

It is important to consider the fact that 'the blues' may, in fact, represent a marker for risk of affective disorder in child-bearing aged women (O'Hara et al 1991). Hapgood et al (1988), argued that there seems to be a strong case for the careful assessment of 'the blues' in the postpartum period in the same way as physical state is assessed, since this may be one of the few predictors of postnatal depression.

A recent study by Hannah et al (1992), in postpartum women at five days and six weeks postpartum, found a strong association between maternal dysphoria in the first and sixth week postpartum, using the same rating scale. In view of this link, a suggestion is made to screen all women at five days postpartum, whether in hospital or in the community to identify individuals most vulnerable to postnatal depression both quickly and effectively.

The issue of where 'postpartum blues' falls in the present classification of affective illness is controversial. Although there are many similarities to the organic brain syndromes, the disorder is transient and self-limiting. The diagnosis of adjustment disorders or a V code diagnosis is not accurate because of the biological component. A review of the classification system of psychiatric morbidity postpartum is necessary.

Many studies have hinted at the possibility that 'postpartum blues' is a 'culture-bound' syndrome. The results of this study indicate that 'postpartum blues' is not an ethnic-specific syndrome. However, the disorder may be a reflection of an urbanised sample. The many

factors linked to the effect of a change in the degree of urbanisation include the lack of extended family support, the poor socio-economic conditions and the lack of adequate facilities.

All of these factors combined with the biological component may predispose to the syndrome. Urbanised women from the higher social classes may have equivalent levels of stressors from different sources which predispose to the development of the syndrome. This hypothesis of a link to urbanisation cannot be verified until a study is done in the rural Zulu community.

5.3 PAST HISTORY

5.3.1 Psychiatric History

Only 9 women had a past history of psychiatric problems. This is similar to the finding of Ebie (1972) who found seven women with a past history of psychiatric disorder. Shoeb and Hassan (1990) differed greatly with these findings with only 30 of the 91 women in the sample not reporting previous problems. 6 % of the sample in the study by Ifabumuyi and Akindele (1985) in Nigeria, had a past history of mental illness.

There was no significant association between a past psychiatric history and postpartum psychiatric disorder in this study. This is not consistent with the literature as most studies have found that a higher proportion of women who develop postpartum psychiatric disorders have a history of previous psychiatric problems than women who do not become depressed postpartum (Elliott 1989, Marks et al 1991). A history of affective symptoms is listed as an especially good predictor of postpartum depression (Cutrona 1982).

The findings of this present study are also surprising since 71.61% of the psychiatric morbidity found in this study was affective in nature. The study by O'Hara et al (1982) found that a history of affective symptoms is a better indicator of postpartum depression than a history of non-affective symptoms. However, there are two studies done which have found no relationship between past psychiatric history and postpartum disorders: Pitt (1968) and Dalton (1971). It should also be noted that most studies did not specify the nature of the symptoms in the past history and it is difficult to find a specific pattern regarding an affective or non-affective association (Elliott 1989).

There was a 15.91% history of 'postpartum blues' in previous pregnancies. This is consistent with the literature, with Dalton (1971), reporting an 8.4% incidence and Tod (1964), 19%. However, there was a lack of association between the previous 'postpartum blues' and the present psychiatric disorder. This differs from other studies. Hannah et al (1992) found that the recollection of low mood after the birth of a previous child, should alert the medical attendant to a patient at risk for developing postnatal depression.

5.3.2 Medical History

There was no correlation between the presence of mental illness and physical illness, which is consistent with the literature (Hamilton 1989).

5.3.3 Family History

There was no significant association between a family history of mental illness and the presence of postpartum psychiatric disorders. This is consistent with the literature (Casiano and Hawkins 1987). However, it must

be noted that in psychiatry, in general, a family history, especially of affective disorder does make an individual more vulnerable to develop affective disorders. Makanjoula (1982) postulated that patients were reluctant to offer accurate information about serious mental illness in the family, in Africa, therefore most figures were underestimates.

5.4 OBSTETRIC VARIABLES

5.4.1 Parity

49.2% of the sample were primigravidas and 26% of the women had more than two children. The rest of the sample did have three to five children. Davidson (1972) found a 44% incidence of primigravidas, however his results differed in the sense that he found a 33% incidence of grand multiparous women (> 6 children). Meares et al (1976) found a 41% incidence of primigravidas while Kear-Colwell (1965) found a 32% incidence. Other studies have found a higher incidence of primiparous respondents in their sample: Ballinger (1982) -40%, O'Hara et al (1991) -56.7%. Studies from North Africa in Algeria, Morocco and Tunisia have found a preponderance of multiparae (Ilechukwu 1991).

There was no significant association between parity and psychiatric disorder in this study. Most studies have found no relationship between the number of children and postpartum depression (Ballinger et al 1979, Handley et al 1980, Hayworth et al 1980). Bridge et al (1985) found that parity was significantly associated with severe depression at six months postpartum.

5.4.2 Gynaecological History

38.4% of the sample had a past history of gynaecologi-

cal problems including: previous abortions (18.08%) and pre-menstrual tension (20.34%).

These findings differ from the literature, with higher incidences found in most other studies. Cheetham et al (1981) found a 38% incidence of previous abortions and other complications. O'Hara et al (1990) found a 25.45% incidence of pre-menstrual tension.

There was no significant association found in the study between gynaecological problems and psychiatric illness. The literature is divided in this regard, with some studies (Jacobson et al 1965, Playfair and Gowers 1981) finding a significant association between previous abortions, pre-menstrual tension and postpartum depression. Pitt (1968) and Kumar and Robson (1984) did not find such an association. Nott et al (1976) suggested that pre-menstrual tension and other menstrual problems were more strongly associated with the early symptoms of 'the blues' than the later postpartum depression.

5.4.3 Antenatal Care

Only 10.2% of the sample did not have any antenatal care and there was a significant association between lack of antenatal care and the presence of a postpartum psychiatric disorder.

The literature does not comment a great deal on the significance of antenatal care. This might be because most studies have been done in Western countries where there is a highly specialised obstetric service and this was not considered a significant variable.

Davidson's (1972) comment that "...Jamaicans are prone to be irregular at tenders of clinics" was not discussed fully in the paper and is thus difficult to comment

on. It would appear as if the good antenatal attendance that was seen, in this study at King Edward VIII Hospital, was a function of the fairly urbanised population which attends this hospital.

There is also no evidence in the literature for an association between the lack of antenatal care and the presence of a psychiatric disorder. The finding in this study of a correlation, may be an indicator that those women who failed to have good antenatal care, may have been predisposed to psychiatric illness, because of other variables, for example, poor social circumstances. It is also possible that other factors like inadequate transport and lack of family support could have resulted in poor antenatal care. This finding adds weight to the argument, for education in the antenatal clinic, in preparation for motherhood, as a preventative measure in postpartum depression.

An important factor in the prevention of psychiatric morbidity postpartum should include antenatal counselling. Pitt (1991) quotes from a study by Leverton and Elliot, where success was reported in reducing the incidence of postnatal depression in 'at risk' women through antenatal counselling. This was similar to the results of Frommer and O'Shea (1973). Barnett and Parker (1985) found that any intervention based on a structured counselling programme was effective and Holden et al (1989) found that counselling by health workers was valuable in the reduction of depression.

5.4.4 Method of Feeding

58.2% of the sample breast-fed their babies. This is similar to the results of Dalton (1971), who found a 48.6% incidence of breast-feeders. There was no significant association between the method of feeding chosen

and psychiatric disorder, which is consistent with some of the literature. Adler and Cox (1983) found a higher incidence of postnatal depression in women who totally breastfed their infants for twelve weeks than those who partially breastfed them.

Adler and Bancroft (1988), concluded that the effect of the feeding method, was more noticeable on the sexuality of the women than on their mood, with their entire breast-feeding group reporting a decline in sexuality. They postulated that this was due to fatigue, resulting from the disturbance in sleep and from conflicts, in some women, between their identities as a sexual person and a breastfeeding mother. A recent study by Hannah et al (1992), found an association between bottle-feeding and postnatal depression.

5.4.5 Obstetric Complications

Pregnancy-induced hypertension was found in 5.6% of the sample. A similar incidence (10%) was found by Cheetham et al (1981). The rest of the findings of delivery by Caesarean Section (7.9%), assisted labour (9%) and baby complications (7.3%) differs markedly from the literature. Knight and Thirkettle (1986) found a 4.3% incidence of Caesarean Section, while Ballinger (1982) found a 28% incidence. Assisted deliveries occurred in 21% of the study by Ballinger (1982) and 48% of the study by Oakley and Chamberlain (1981). Davidson (1972) had a 25.6% incidence of baby complications. The findings in these studies, may have been as a result of biased sampling, which focused on high-risk obstetric patients.

There was no significant association between obstetric complications and the presence of psychiatric disorder. This is consistent with the literature (Pitt 1968, Paykel et al 1980).

5.4.6 Sex of the Baby

52.5% of the sample delivered male children. This is similar to the findings of Whiffen and Gotlib (1989), who found a 56% incidence in their sample.

There was no significant association between the sex of the baby and the incidence of postpartum psychiatric disorders. There is little evidence in the literature of any correlation between these two variables.

5.5 PSYCHOSOCIAL VARIABLES

5.5.1 Partner's Response

33.3% of the respondents described a negative, unsupportive response from their partners. This is very similar to the finding by Cheetham et al (1981) who found a 36% incidence of unsupportive partners.

There was a highly significant association between a negative response from the partner and the presence of a psychiatric disorder. Reichenheim and Harpham (1991) noted that there is a growing phenomenon in developing countries of single parenthood, which often results in the impaired mental health of the mother.

Richman et al (1991) suggested that when social support was lacking, this deficit was more problematic for women in more traditional, family-centred roles than for women whose identities encompass occupational roles. Cheetham et al (1981), attributed the change in the families in Africa, to the transitional stage of the urbanisation process, from the rural to the sophisticated, urbanised individual. They felt that the lack of male support was due to the fact that the women resided in the domain of the extended family, while the men

sought employment.

Other studies have shown that the absence of an intimate, confiding relationship with a spouse may be the vulnerability factor, in the development of depression in women, who live in adverse circumstances at any time in their lives (Waring and Patton 1984). Brockington et al (1990) suggested, that it is the marital rather than the maternal relationship, which is generally regarded as disordered in postnatal depression. Robinson and Young (1982), quoted a statement by Anderson which stated that ".....the most important predictor of a woman's postpartum adjustment is her husband's ability to be supportive".

5.5.2 Antenatal Expectations and Postnatal Experience

27.1% of the respondents admitted that the reality was very different, from their preconceived ideas regarding the postpartum period. Oakley and Chamberlain (1981), found that 80.8% of the women in their study admitted to being disappointed postpartum and suggested that this was because of the over-romanticised idea about motherhood. There was no significant correlation between this difference in experience and postpartum depression, which is consistent with the findings in the literature (Elliott 1989).

5.5.3 Cultural Rituals

83.1% of this sample did not perform any rituals. This is in total contrast, to the study done by Cheetham et al (1981) at King Edward VIII Hospital, who found that only 13% of their sample did not perform any rituals. This might be a reflection of the changing pattern of behaviour, due to urbanisation and contact with Western communities.

There was an association between the lack of cultural rituals and psychiatric disorder. Odejide et al (1989) emphasised the supernatural aspect of beliefs in Africa, which affects attitudes to mental health. Cox (1989), felt that the importance of these rituals, was in the extended family support, that is made available to the new mother, by the community.

Cheetham et al (1981) stated that cultural factors such as family disapproval, failure to observe customs, or non-payment of lobola or damages, were related to psychiatric disorders during the postpartum period. They suggested that, although the community was at varying stages of transition, from the rural to the urbanised mode of living, tradition and custom in relation to marriage was strongly observed. They found that dramatic improvement was noticed in women with 'transient situational disturbances' in the puerperium, after parental approval had been obtained or the necessary rituals performed.

5.6 METHODOLOGICAL RESULTS

There was a significant correlation between the results obtained by the 30-item General Health Questionnaire and Pitt's Questionnaire indicating Anxiety and Depression and the Structured Clinical Interview DSM III. This suggests that there could be a place for the assessment of women at the postnatal clinic, using a screening instrument. Gordon and Gordon (1956) suggested that this should be done to detect women at risk and Dhadphale et al (1983) suggested that clinic staff, not necessarily psychiatrically trained, should be able to identify psychiatric morbidity even when it presents differently, with the use of screening instruments. Briscoe (1986), recommended that routine screening be carried out at the six-week postnatal visit, using the 30-item GHQ, to

detect those women who will require more support from the health worker.

One of the objectives of this study, was to assess the feasibility of using Western screening instruments, in the Zulu community to detect mental illness, as other studies have encountered methodological difficulties in Africa, with the non-Western ways of expressing depression.

It has already been pointed out that the results that were obtained from the screening questionnaires, the 30-item GHQ and Pitt's questionnaire indicating anxiety and depression in the puerperium, were similar to the results obtained with the SCID. It was also relatively easy to administer these screening instruments, with very few difficulties encountered with translation of the instruments, where necessary. Both the instruments took about fifteen minutes to administer together. From the above findings, it appears as if Western screening instruments are suitable for use in the Zulu community. Certainly, it would be a feasible option to use them as an interim measure, until culture-specific instruments are developed.

CHAPTER 6

CONCLUSION

6.1 CONCLUSIONS

The conclusions which can be made include the following:

6.1.1 The spectrum of psychiatric morbidity in postpartum Zulu women is mainly affective in nature and similar to that of 'Western' studies, which is in keeping with present healthier attitude in transcultural psychiatry which chooses to emphasise the similarities between groups.

6.1.2 Factors associated with an increased risk of postpartum psychiatric disorders in this sample included:

6.1.2.1 The lack of antenatal care;

6.1.2.2 The absence of cultural rituals;

6.1.2.3 A negative, unsupportive response from the partner.

6.1.3 'Postpartum blues' does occur in Zulu women.

6.2 IMPLICATIONS

Important issues which arise out of the above statements include:

6.2.1 Affective illness is often the victim of missed diagnosis or misdiagnosis. Depression is often associated with impairment in functioning which can have serious consequences for the whole family unit. It is imperative that health care workers be equipped with the necessary skills to recognise these disorders and refer the

women with depression to treatment units.

- 6.2.2 Antenatal screening is an effective method of reducing psychiatric morbidity by the earlier identification of women who are at risk for affective illness postpartum. Women who have experienced a change in their cultural system and women with unsupportive partners are particularly vulnerable.
- 6.2.3 'Western' instruments are suitable for screening purposes and can be used by primary health care workers.
- 6.2.4 The overlap between normal physiological changes and psychiatric symptoms postpartum contributes to the diagnostic dilemma in these syndromes. It is suggested that the diagnosis of depression be made on a cognitive-affective basis with an emphasis on impairment in functioning.
- 6.2.5 'Postpartum blues' does occur in Zulu women and is not a culture-bound syndrome.
- 6.2.6 The present classification of puerperal mental illness is inadequate and needs revision. We cannot expect obstetricians to become sensitive to these disorders if we do not consider them specific enough to warrant a diagnostic genre'.

6.3 RECOMMENDATIONS

- 6.3.1 Antenatal and postnatal screening should become part of the routine assessment of patients in obstetric units and staff should be exposed to training programme to equip them with the skills that are necessary.

6.3.2 A prospective study following women up from pregnancy, through the delivery and during the postpartum period is advocated, as it would result in an accurate understanding of the morbidity that is associated with pregnancy and the puerperium. More community-based studies are necessary to determine the psychiatric morbidity in rural Zulu women.

6.3.3 A restructuring of the classification system of postpartum disorders is imperative. The present recommendation by the Working Group for the DSM-IV on Mood Disorders to include a subtype which would read : of postpartum onset is a very positive step but is still insufficient as there is a wider spectrum that needs to be clarified.

Research into the specific nature of these disorders will flourish, if the concept of a distinct entity for puerperal illness is accepted. It might even be possible that these disorders may contribute to the 'key' to the elusive biological component of mental illness in general.

REFERENCES

- Adler EM. Sexual behaviour in pregnancy, after child-birth and during breast-feeding. Bailliere's Clinical Obstetrics and Gynaecology 1989; 3 : 805-821.
- Adler E, Bancroft J. Breast-feeding persistence, sexuality and mood in postpartum women. Psychol Med 1988; 18 : 389-396.
- Adler EM, Cox JL. Breast feeding and post-natal depression. Psychosom Res 1983; 27 : 139-144.
- Agrawal P, Bhatia MS, Malik SC. Postpartum psychosis: a study of indoor cases in a general hospital psychiatric clinic. Acta psychiatr Scand 1990; 81 : 571-575.
- American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders 3rd ed. Washington, DC: American Psychiatric Association, 1980.
- Anis-ur-Rehman, St Clair D, Platz C. Puerperal insanity in the 19th and 20th centuries. Br J Psychiatry 1990; 156 : 861-865.
- Appleby L. Suicide during pregnancy and in the first postnatal year. Br Med J 1991; 302 : 137-140.
- Atkinson MI, Rickel AU. Postpartum depression in primiparous parents. J Abnorm Psychol 1984; 93 : 115-119.
- Bagendahl-Strindlund M. Parapartum mental illness: timing of illness onset and its relation to symptoms and sociodemographic characteristics. Acta psychiatr Scand 1986; 74 : 490-496.
- Bailey LA, Hailey BJ. The psychological experience of pregnancy. Int J Psychiatry Med 1986-1987; 16 : 263-273.

- Ballinger CB, Buckley DE, Naylor GJ, Stansfield DA.
Emotional disturbance following childbirth:
clinical findings and urinary excretion of cyclic
AMP (adenosine 3'5' cyclic monophosphate).
Psychol Med 1979; 9 : 293-300.
- Ballinger CB. Emotional disturbance during pregnancy
and following delivery. J Psychosom Res 1982;
26 : 629-634.
- Barnett B, Parker G. Professional and non-professional
intervention for highly anxious primiparous
mothers. Br J Psychiatry 1985; 146 : 289-293.
- Bearn JA, Fairhall KM, Robinson ICAF, Lightman SL,
Checkley SA. Changes in a proposed new neuroendo-
crine marker of oestrogen receptor function in
postpartum women. Psychol Med 1990; 20 :
779-783.
- Blair RA, Gilmore JS, Playfair HR, Tisdall MW, O'Shea C
Puerperal depression: a study of predictive
factors. J R Coll Gen Pract 1970; 19 : 22-25.
- Blumberg NL. Effects of neonatal risk, maternal
attitude and cognitive style on early postpartum
adjustment. J Abnorm Psychol 1980; 89 : 139-150.
- Bourne S. The psychological effects of stillbirth on
women and their doctors. J R Coll Gen Pract 1968;
16 : 103-112.
- Bower WH, Altschule MD. Use of progesterone in the
treatment of post-partum psychosis. N Engl J Med
1956; 254 : 157-160.
- Bratfos O, Haug JO. Puerperal mental disorders in manic
depressive females. Acta psychiatr Scand 1966;
42 : 285-294.
- Braverman J, Roux JF. Screening for the patient at risk
for postpartum depression. Obstet Gynecol 1978;
52 : 731-736.

- Bridge LR, Little BC, Hayworth J, Dewhurst J Sir, Priest RG. Psychometric ante-natal predictors of post-natal depressed mood. J Psychosom Res 1985; 29 : 325-331.
- Briscoe M. Identification of emotional problems in postpartum women by health visitors. Br Med J 1986; 292 : 1245-1247.
- Brockington IF, Kumar R. Preface. In: Motherhood and Mental Illness London: Academic Press Inc., 1982a; p.vii.
- Brockington IF, Cernik KF, Schofield EM, Downing AR, Francis AF, Keelan C. Puerperal Psychosis: phenomena and diagnosis. Arch Gen Psychiatry 1981; 38 : 829-833.
- Brockington IF, Kelly A, Hall P, Deakin W. Premenstrual relapse of puerperal psychosis. J Affective Disord 1988a; 14 : 287-292.
- Brockington IF, Margison FR, Schofield EM, Knight RJE. The clinical picture of the depressed form of puerperal psychosis. J Affective Disord 1988b; 15 : 29-37.
- Brockington IF, Martin C, Brown GW, Goldberg D, Margison F. Stress and puerperal psychosis. Br J Psychiatry 1990; 157 : 331-334.
- Brockington IF, Schofield EM, Donnelly P, Hyde C. A clinical study of post-partum psychosis. In: Sandler M, ed. Mental Illness in Pregnancy and the Puerperium Oxford: Oxford University Press, 1978: 59-68.
- Brockington IF, Winokur G, Dean C. Puerperal psychosis. In: Brockington IF, Kumar R, eds. Motherhood and Mental Illness London: Academic Press Inc., 1982b: 37-69.
- Buist AE, Dennerstein L, Burrows GD. Review of a mother-baby unit in a psychiatric hospital. Aust N Z J Psychiatry 1990 ; 24 : 103-109.

- Casiano ME, Hawkins DR. Major mental illness and child-bearing: a role for the consultation-liason psychiatrist in obstetrics. Psychiatr Clin North Am 1987; 10 : 35-51.
- Cheetham RWS, Rzadkowolski A. Psychiatric aspects of labour and the puerperium. S Afr Med J 1980; 58 : 814-816.
- Cheetham RWS, Rzadkowolski A, Rataemane C. Psychiatric disorders of the puerperium in South African women of Nguni origin. A pilot study. S Afr Med J 1981; 60 : 502-506.
- Cogill SR, Caplan HL, Alexander H, Robson KM, Kumar R. Impact of maternal postnatal depression on cognitive development of young children. Br Med J 1986; 292 : 1165-1168.
- Condon JT, Esuvaranathan V. The influence of parity on the experience of pregnancy: a comparison of first- and second-time expectant couples. Br J Med Psychol 1990; 63 : 369-377.
- Condon JT, Watson TL. The maternity blues: exploration of a psychological hypothesis. Acta psychiatr Scand 1987; 76 : 164-171.
- Cooper PJ, Campbell EA, Day A, Kennerley H, Bond A. Non-psychotic psychiatric disorder after childbirth: a prospective study of prevalence, incidence, course and nature. Br J Psychiatry 1988; 152 : 799-806.
- Coppen A, Stein G, Wood K. Postnatal depression and tryptophan metabolism. In: Sandler M, ed. Mental Illness in Pregnancy and the Puerperium Oxford: Oxford University Press, 1978: 25-34.
- Cox JL. Some socio-cultural determinants of psychiatric morbidity associated with childbearing. In: Sandler M, ed. Mental Illness in Pregnancy and the Puerperium Oxford: Oxford University Press, 1978: 91-98.

- Cox JL. Psychiatric morbidity and pregnancy: A controlled study of 263 semi-rural Ugandan women. Br J Psychiatry 1979; 134 : 401-405.
- Cox JL. Postnatal depression: A comparison of African and Scottish women. Soc Psychiatry 1983; 18 : 25-28.
- Cox JL. Psychiatric disorders of childbirth. In: Forest AD, Affleck JW, Zealley AK, eds. Companion to Psychiatric Studies Edinburgh: Churchill-Livingstone, 1989: 555-563.
- Cox JL, Connor Y, Kendell RE. Prospective study of the psychiatric disorders of childbirth. Br J Psychiatry 1982; 140 : 111-117.
- Cox JL, Holden JM, Sagovsky R. Detection of postnatal depression. Development of the 10-item Edinburgh Postnatal Depression Scale. Br J Psychiatry 1987; 150 : 782-786.
- Cutrona CE. Nonpsychotic postpartum depression: a review of recent research. Clin Psychol Review 1982; 2 : 487-503.
- Cutrona CE. Causal attribution and perinatal depression. J Abnorm Psychol 1983; 92 : 161-172.
- Da Silva L, Johnston EC. A follow-up study of severe puerperal psychiatric illness. Br J Psychiatry 1981; 139 : 346-354.
- Dalton K. Prospective study into puerperal depression. Br J Psychiatry 1971; 118 : 689-692.
- Davids A, De Vault S, Talmadge M. Psychological study of emotional factors in pregnancy: a preliminary report. Psychosom Med 1961; XXIII : 93-103.
- Davidson JRT. Post-partum mood change in Jamaican women: a description and discussion on its significance. Br J Psychiatry 1972; 121 : 659-663.
- Dean C, Kendell RE. The symptomatology of puerperal illness. Br J Psychiatry 1981; 139 : 128-133.

- Dhadphale M, Ellison RH, Griffin L. The frequency of psychiatric disorders among patients attending semi-urban and rural general out-patient clinics in Kenya. Br J Psychiatry 1983; 142 : 379-383.
- Douglas G. Some emotional disorders of the puerperium. J Psychosom Res 1968; 12 : 101-106.
- Dowlatsahi D, Paykel ES. Life events and social stress in puerperal psychoses: absence of effect. Psychol Med 1990; 20 : 655-662.
- Ebie JC. Psychiatric illness in the puerperium among Nigerians. Trop Geogr Med 1972; 24 : 253-256.
- Elliott SA. Psychological strategies in the prevention and treatment of postnatal depression. Bailliere's Clinical Obstetrics and Gynaecology 1989; 4 : 879-903.
- Falicov CJ. Sexual adjustment during the first pregnancy and postpartum. Am J Obstet Gynecol 1973; 117 : 991-1000.
- Feggetter G, Cooper P, Gath D. Nonpsychotic psychiatric disorders in women one year after childbirth. J Psychosom Res 1981; 25 : 369-372.
- Fekski A, Harris B, Walker RF, Riad-Fahmy D, Newcombe RG. 'Maternity blues' and hormone levels in saliva. J Affective Disord 1984; 6 : 351-355.
- Foundeur M, Fixsen C, Triebel WA, White MA. Postpartum mental illness. A controlled study. AMA Archives of Neurology and Psychiatry 1957; 77 : 503-512.
- Frances AJ, Hall W, First MB, Widiger TA, Pincus HA. Issues and proposals for changes in mood disorders in DSM-IV. J Clin Psychiatry Advances Monograph 1991; 1 : 5-9.
- Frank E, Kupfer DJ, Jacob M, Blumenthal SJ, Jarrett DB. Pregnancy-related affective episodes among women with recurrent depression. Am J Psychiatry 1987; 144 : 288-293.

- Frommer EA, O'Shea G. Antenatal identification of women liable to have problems in managing their infants. Br J Psychiatry 1973; 123 : 149-156.
- Gard PR, Handley SL, Parsons AD, Waldron G. A multi-variate investigation of postpartum mood disturbances. Br J Psychiatry 1986; 148 : 567-575.
- Gelder M. Hormones and postpartum depression. In: Sandler M, ed. Mental Illness in Pregnancy and the Puerperium Oxford: Oxford University Press, 1978: 80-90.
- George AJ, Wilson KCM. Monoamine oxidase activity and the puerperal blues. J Psychosom Res 1981; 25 : 409-414.
- German GA. Mental health in Africa: I. The extent of mental health problems in Africa today: an update of epidemiological knowledge. Br J Psychiatry 1987; 151 : 435-439.
- German GA. Mental health in Africa: II. The nature of mental disorder in Africa today: some clinical observations. Br J Psychiatry 1987; 151 : 440-446.
- Ghodsian M, Zajicek E, Wolkind S. A longitudinal study of maternal depression and child behaviour problems. J Child Psychol Psychiat 1984; 25 : 91-109.
- Gitlin M, Pasnau RO. Psychiatric syndromes linked to reproductive function in women: a review of current knowledge. Am J Psychiatry 1989; 146 : 1413-1422.
- Goldberg DP. The detection of psychiatric illness by questionnaire. Maudsley Monograph No.21 . Oxford University Press, 1972.
- Gordon RE, Gordon KK. Social factors in prevention of postpartum emotional problems. Obstet Gynecol 1960; 15 : 433-438.

- Gordon RE, Gordon KK. Factors in post-partum emotional adjustment. Am J Orthopsychiatry 1967; 37 : 359-360.
- Gordon RE, Gordon KK, Englewood NJ. Social factors in the prediction and treatment of emotional disorders of pregnancy. Am J Obstet Gynecol 1959; 77 : 1074-1089.
- Grunebaum HV, Weiss JL. Psychotic mothers and their children: joint admission to an adult psychiatric hospital. Am J Psychiatry 1963; 119 : 927-933.
- Hamilton A. Model utility in postpartum psychosis. In: Mental illness in pregnancy and the puerperium. Psychopharm Bull 1982a; 18 : 184-187.
- Hamilton JA. The identity of postpartum psychosis. In: Brockington IF, Kumar eds. Motherhood and Mental Illness London: Academic Press Inc. 1982b: 1-17.
- Hamilton JA. Postpartum psychiatric syndromes. Psychiatr Clin North Am 1989; 12 : 89-103.
- Handley SL, Dunn T, Baker JM, Cockshott C, Gould C. Mood changes in the puerperium and plasma tryptophan and cortisol. Br Med J 1977; 2 : 18-22.
- Handley SL, Dunn TL, Waldron G, Baker JM. Tryptophan, cortisol and puerperal mood. Br J Psychiatry 1980; 136 : 498-508.
- Hannah P, Adams D, Lee A, Glover V, Sandler M. Links between early post-partum mood and post-natal depression. Br J Psychiatry 1992; 160 : 777-780.
- Hapgood CC, Elkind GS, Wright JJ. Maternity Blues: Phenomena and relationship to later post partum depression. Aust N Z J Psychiatry 1988; 22 : 299-306.
- Harris B. Prospective trial of L-tryptophan in the maternity blues. Br J Psychiatry 1980a; 137 : 233-235.

- Harris B. Maternity Blues. Br J Psychiatry 1980b; 136 : 520-521.
- Harris B. 'Maternity Blues' in East African Clinic attenders. Arch Gen Psychiatry 1981; 38 : 1293-1295.
- Harris B, Fung H, Johns S, et al. Transient post-partum thyroid dysfunction and postnatal depression. J Affective Disord 1989a; 17 : 243-249.
- Harris B, Johns S, Fung H, et al. The hormonal environment of post-natal depression. Br J Psychiatry 1989b; 154 : 660-667.
- Harvey I, McGrath G. Psychiatric morbidity in spouses of women admitted to a mother and baby unit. Br J Psychiatry 1988; 152 : 506-510.
- Hatherley LI, Breheny JE, Robinson FS, Beischer NA. Psychiatric disorders in Obstetrics. Med J Aust 1979; 2 : 399-401.
- Hays P Douglass A. A comparison of puerperal psychosis and the schizophreniform variant of manic-depression. Acta psychiatr Scand 1984; 69: 177-181.
- Hayworth J, Little BC, Carter SB, Raptopoulous P, Priest RG, Sandler M. A predictive study of postpartum depression: some predisposing characteristics. Br J Med Psychol 1980; 53 : 161- 167.
- Hemphill RE. Incidence and nature of puerperal psychiatric illness. Br Med J 1952; 49 : 1232-1235.
- Holden JM, Sagovsky R, Cox JL. Counselling in a general practice setting: controlled study of health visitor intervention in treatment of postnatal depression. Br Med J 1989; 298 : 223-226.
- Hopkins J, Campbell SB, Marcus M. Postpartum depression and postpartum adaptation: overlapping constructs? J Affective Disord 1989; 17 : 251-254.

- Ifabumuyi OI, Akindele MO. Post-partum mental illness in Northern Nigeria. Acta psychiatr Scand 1985; 72 : 63-68.
- Ihezue UH. Puerperal mental illness in Enugu, Nigeria. Psychopathologie Africaine 1986-1987; XXI.I : 91-102.
- Ilechukwu STC. Psychiatry in Africa: special problems and unique features. Transcultural Psychiatric Research Review 1991; 28 : 169-218.
- Iles S, Gath D, Kennerley H. Maternity blues II. A comparison between post-operative women and post-natal women. Br J Psychiatry 1989; 155 : 363-366.
- Jacobson L, Kaij L, Nilsson A. Post-partum mental disorders in an unselected sample: frequency of symptoms and predisposing factors. Br Med J 1965; 1965; 1 : 1640-1643.
- Jarrahi-Zadeh A, Kane Jr FJ, Van der Castle RL, Lachenbruch PA, Ewing JA. Emotional and cognitive changes in pregnancy and early puerperium. Br J Psychiatry 1969; 115 : 797-805.
- Jennings B, Edmundson M. The postpartum period: after confinement: the fourth trimester. Clin Obstet Gynecol 1980; 23 : 1093-1103.
- Jones FA, Green V, Krauss DR. Maternal responsiveness of primiparous mothers during the postpartum period: age differences. Pediatrics 1980; 65 : 579-584.
- Kadmas A, Winokur G, Crowe R. Postpartum mania. Br J Psychiatry 1979; 135 : 551-554.
- Kaij L, Jacobson L, Nilsson A. Post-partum mental disorder in an unselected sample. The influence of parity. J Psychosom Res 1967; 10 : 317-325.
- Kane Jr. FJ, Harman Jr. WJ, Keeler MH, Ewing JA. Emotional and cognitive disturbance in the early puerperium. Br J Psychiatry 1968; 114 : 99-102.

- Karacan J, Williams RL, Hursch CJ, McCaulley M, Heine MW.
Some implications of the sleep patterns of pregnancy
for postpartum emotional disturbances.
Br J Psychiatry 1969; 115 : 929-931.
- Katona CLE. Puerperal mental illness: Comparisons with
non-puerperal controls. Br J Psychiatry 1982;
141 : 447-452.
- Kear-Colwell JJ. Neuroticism in the early puerperium.
Br J Psychiatry 1965; 111 : 1189-1192.
- Kendell RE. Childbirth as an aetiological agent. In:
Sandler M, ed. Mental Illness in Pregnancy and
the Puerperium Oxford: Oxford University Press,
1978; 69-79.
- Kendell RE. Emotional and physical factors in the
genesis of puerperal mental disorders.
J Psychosom Res 1985; 29 : 3-11.
- Kendell RE, Chalmers JC, Platz C. Epidemiology of
puerperal psychoses. Br J Psychiatry 1987;
150 : 662-673.
- Kendell RE, Mackenzie WE, West C, McGuire RJ, Cox JL.
Day-to-day mood changes after childbirth:
further data. Br J Psychiatry 1984; 145 :
620-625.
- Kendell RE, McGuire RJ, Connor Y, Cox JL. Mood changes
in the first three week after childbirth.
J Affective Disord 1981a; 3 : 317-326.
- Kendell RE, Rennie D, Clarke JA, Dean C. The social and
obstetric correlates of psychiatric admission in
the puerperium. Psychol Med 1981b; 11 : 341-350.
- Kendell RE, Wainwright S, Hailey A, Shannon B. The
influence of parity on psychiatric morbidity.
Psychol Med 1976; 6 : 297-302.
- Kennerley H, Gath D. Maternity blues. I. Detection and
measurement by questionnaire. Br J Psychiatry
1989a; 155 : 356-362.

- Kennerley H, Gath D. Maternity blues. III. Associations with obstetric, psychological and psychiatric factors. Br J Psychiatry 1989b; 155 : 367-373.
- Kline CL Emotional illness associated with childbirth. A study of 52 patients and the literature. Am J Obstet Gynecol 1955; 69 : 748-754.
- Knight RG, Thirkettle JA. Anxiety and depression in the immediate post-partum period: A controlled investigation of a primiparous sample. Aust N Z J Psychiatry 1986; 20 : 430-436.
- Kortmann F. Problems in communication in transcultural psychiatry. The self reporting questionnaire in Ethiopia. Acta psychiatr Scand 1987; 75 : 563-570.
- Krener P, Simmons MK, Hansen RL, Treat JN. Effect of pregnancy on psychosis: Life circumstances and psychiatric symptoms. Int J Psychiatry Med : 1989; 19 : 65-84.
- Kuevi V, Causon R, Dixon AF et al. Plasma amine and hormone changes in 'post-partum blues'. Clinical Endocrinology 1983; 19 : 39-46.
- Kumar R. Neurotic disorders in childbearing women. In: Brockington IF, Kumar R, eds. Motherhood and Mental Illness London : Academic Press Inc., 1982; 71-118.
- Kumar R, Brant HA, Robson KM. Childbearing and maternal sexuality. A prospective survey of 119 primiparae. J Psychosom Res 1981; 25 : 373-383.
- Kumar R, Robson K. Neurotic disturbance during pregnancy and the puerperium: Preliminary report of a prospective survey of 119 primiparae. In: Sandler M, ed. Mental Illness in Pregnancy and the Puerperium Oxford: Oxford University Press, 1978; 40-51.
- Kumar R, Robson KM. A prospective study of emotional disorders in childbearing women. Br J Psychiatry 1984; 144 : 35-47.

- Lanczik M, Spingler H, Heidrich A et al. Post partum blues: depressive disease or pseudoneurasthenic syndrome. J Affective Disord 1992; 25 : 47-52.
- Lee CM, Gotlib IH. Maternal depression and child adjustment: a longitudinal analysis. J Abnorm Psychol 1989; 98 : 78-85.
- Levy V. The maternity blues in post-partum and post-operative women. Br J Psychiatry 1987; 151 : 368-372.
- Lindsay JSB. Puerperal psychosis: A follow-up study of a joint mother and baby treatment programme. Aust N Z J Psychiatry 1975; 9 : 73-76.
- Lindstrom LH, Nyberg F, Terenius L et al. CSF and plasma B-casomorphin-like opioid peptides in postpartum psychosis. Am J Psychiatry 1984; 141 : 1059-1066.
- Little BC, Hayworth J, Carter SBM et al. Personal and psychophysiological characteristics associated with puerperal mental state. J Psychosom Res 1981; 25 : 385-393.
- Lomas P. The husband-wife relationship in cases of puerperal breakdown. Br J Med Psychol 1959; 32 : 117-123.
- Madden JJ, Luhan JA, Tuteur W, Bimmerle JF. Characteristics of post-partum mental illness. Am J Psychiatry 1958; 115 : 18-24.
- Makanjoula ROA. Psychotic disorders after childbirth in Nigerian women. Tropical and Geographical Medicine 1982; 34 : 67-72.
- Manly PC, McMahon RJ, Bradley CF, Davidson PO. Depressive attributional style and depression following childbirth. A Abnorm Psychol 1982; 91 : 245-254.
- Margison F, Brockington IF. Psychiatric mother and baby units. In: Brockington IF, Kumar R, eds. Motherhood and Mental Illness London: Academic Press Inc., 1982; 223-238.

- Marks MN, Wieck A, Checkley SA, Kumar R. Life stress and post-partum psychosis: a preliminary report. Br J Psychiatry 1991; 158 (suppl.10) : 45-49.
- Marks MN, Wieck A, Seymour A, Checkley SA, Kumar R. Women whose mental illnesses recur after childbirth and partners levels of expressed emotion during late pregnancy. Br J Psychiatry 1992; 161 : 211-216.
- McNeil TF. A prospective study of postpartum psychoses in a high-risk group. I. Clinical characteristics of the current postpartum episodes. Acta psychiatr Scand 1986; 74 : 205-216.
- McNeil TF. A prospective study of postpartum psychoses in a high-risk group. 2. Relationship to demographic and psychiatric history characteristics. Acta psychiatr Scand 1987; 75 : 35-43.
- McNeil TF. A prospective study of postpartum psychoses in a high-risk group. 3. Relationship to mental health characteristics during pregnancy. Acta psychiatr Scand 1988a; 77 : 604-610.
- McNeil TF. A prospective study of postpartum psychoses in a high-risk group. 5. Relationship to psychosocial aspects of labour and delivery. Acta psychiatr Scand 1988b; 78 : 471-477.
- Meares R, Grimwade J, Wood C. A possible relationship between anxiety in pregnancy and puerperal depression. J Psychosom Res 1976; 20 :605-610.
- Melges FT. Postpartum psychiatric syndromes. Psychosom Med 1968; 30 : 95-108.
- Meltzer ES, Kumar R. Puerperal mental illness. Clinical features and classification : A study of 142 mother-and-baby admissions. Br J Psychiatry 1985; 147 : 647-654.
- Moleman N, Van der Hart O, Van der Kolk BA. Brief report: the partus stress reaction: a neglected etiological factor in postpartum psychiatric disorder. J Nerv Ment Dis 1992; 180 : 271-272.

- Murray L. The impact of postnatal depression on infant development. J Child Psychol Psychiat 1992; 33 : 543-561.
- Neugebauer R. Rate of depression in the puerperium. Br J Psychiatry 1983; 143 : 421-422.
- Newnham JP, Dennett PM, Ferron SA et al. A study of the relationship between circulating B-endorphin-like immunoreactivity and post partum 'blues'. Clinical Endocrinology 1984; 20 : 169-177.
- Nilsson A, Almgren P-E. Para-natal emotional adjustment. A prospective investigation of 165 women. Part II The influence of background factors, psychiatric history, parental relations and personality characteristics. Acta psychiatr Scand 1970; 220 : Suppl. 63-141.
- Nott PN. Extent, timing and persistence of emotional disorders following childbirth. Br J Psychiatry 1987; 151 : 523-527.
- Nott PN, Cutts S. Validation of the 30-item General Health Questionnaire in postpartum women. Psychol Med 1982; 12 : 409-413.
- Nott PN, Franklin M, Armitage C, Gelder MG. Hormonal changes and mood in the puerperium. Br J Psychiatry 1976; 128 : 379-383.
- Nurnberg HG. An overview of somatic treatment of psychosis during pregnancy and postpartum. Gen Hosp Psychiatry 1989; 11 : 328-338.
- Oakley G, Chamberlain G. Medical and social factors in postpartum depression. J Obstet Gynecol 1981; 1 : 182-187.
- Oates M. Management of major mental illness in pregnancy and the puerperium. Bailliere's Clinical Obstetrics and Gynaecology 1989; 3 : 905-920.
- Odejide AO, Oyewunmi LK, Ohaeri JU. Psychiatry in Africa : an overview. Am J Psychiatry 1989; 146 : 708-716.

- O'Hara MW, Neunaber DJ, Zekoski EM. Prospective study of postpartum depression: prevalence, course and predictive factors. J Abnorm Psychol 1984; 93 : 158-171.
- O'Hara MW, Rehm LP, Campbell SB. Predicting depressive symptomatology: Cognitive-behavioural models and postpartum depression. J Abnorm Psychol 1982; 91 : 457-461.
- O'Hara MW, Rehm LP, Campbell SB. Postpartum depression: A role for social network and life stress variables. J Nerv Ment Dis 1983; 171 : 336-341.
- O'Hara MW, Schlechte JA, Lewis DA, Wright EJ. Prospective study of postpartum blues. Biological and psychosocial factors. Arch Gen Psychiatry 1991; 48 : 801-806.
- O'Hara MW, Zekoski EM, Philipps LH, Wright EJ. Controlled prospective study of postpartum mood disorders: Comparison of childbearing and non-childbearing women. J Abnorm Psychol 1990; 99 : 3-15.
- Oltman JE, Fredman S. Trends in postpartum illness. Am J Psychiatry 1965; 122 : 328-329.
- Paffenbarger Jr RS. Epidemiological aspects of parapartum mental illness. Br J Prev Soc Med 1964; 18 : 189-195.
- Paffenbarger Jr RS. Epidemiological aspects of mental illness associated with childbearing. In: Brockington IF, Kumar R, eds. Motherhood and Mental Illness London: Academic Press Inc., 1982; 19-36.
- Paffenbarger Jr RS, Steinmetz CH, Pooler BG, Hyde RT. The picture puzzle of postpartum psychoses. J Chron Dis 1961; 13 : 161-173.
- Parks J. Emotional reactions to pregnancy. Am J Obstet Gynecol 1951; 62 : 339-345.
- Paykel ES. Depression in women. Br J Psychiatry 1991; 158: (suppl.10) 22-29.

- Paykel ES, Emms EM, Fletcher J, Rassaby ES. Life events and social support in puerperal depression. Br J Psychiatry 1980; 136 : 339-346.
- Pitt B. "Atypical" depression following childbirth. Br J Psychiatry 1968; 114 : 1325-1335.
- Pitt B. 'Maternity Blues'. Br J Psychiatry 1973; 122 : 431-433.
- Pitt B. Introduction. In: Sandler M, ed. Mental Illness in Pregnancy and the Puerperium Oxford: Oxford University Press. 1978; 1-6.
- Pitt B. Psychiatry seminar: depression following childbirth. Hospital Update 1991; 17 : 133-140.
- Platz C, Kendell RE. A matched-control follow-up and family study of 'puerperal psychoses'. Br J Psychiatry 1988; 153 : 90-94.
- Playfair HR, Gowers JI. Depression following childbirth-a search for predictive signs. J R Coll Gen Pract 1981; 31 : 201-208.
- Protheroe C. Puerperal psychoses: a long term study 1927-1961. Br J Psychiatry 1969; 115 : 9 - 30.
- Pugh TF, Jerath BK, Shimdt WM, Reed RB. Rates of mental disease related to childbearing. N Engl J Med 1963; 168 : 1224-1228.
- Rahim FMA, Al-Sabiae A. Puerperal psychosis in a teaching hospital in Saudi Arabia: clinical profile and cross-cultural comparison. Acta psychiatr Scand 1991; 84 : 508-511.
- Rees WD, Lutkins SG. Parental depression before and after childbirth: an assessment with the Beck Depression Inventory. J R Coll Gen Pract 1971; 21 : 26-31.
- Reich T, Winokur G. Postpartum psychoses in patients with manic depressive disease. J Nerv Ment Dis 1970; 151 : 60-68.
- Reichenheim ME, Harpham T. Maternal mental health in a squatter settlement in Rio de Janeiro. Br J Psychiatry 1991; 159 : 683-690.

- Richman JA, Raskin VD, Gaines C. Gender roles, social support and postpartum depressive symptomatology. The benefits of caring. J Nerv Ment Dis 1991; 179 : 139-147.
- Robinson GE, Olmsted MP, Garner DM. Predictors of postpartum adjustment. Acta psychiatr Scand 1989; 80 : 561-565.
- Robinson S, Young J. Screening for depression and anxiety in the post-natal period: Acceptance or rejection of a subsequent treatment offer. Aust N Z J Psychiatry 1982; 16 : 47-51.
- Robson KM, Kumar R. Delayed onset of maternal affection after childbirth. Br J Psychiatry 1980; 136 : 347 - 353.
- Rosenwald GC. Early and late postpartum illnesses. Psychosom Med 1972; 34 : 129-137.
- Sandler M. Some biological correlates of mental illness in relation to childbirth. In: Sandler M, ed. Mental Illness in Pregnancy and the Puerperium Oxford: Oxford University Press. 1978; 9-24.
- Scapagnini U, Drago F, Nicoletti F, Patti F, Matera M, Canonico PL. Hormonal modulation of central dopamine receptor sensitivity in the postpartum period. Psychopharm Bull 1982; 18 : 187-189.
- Sclaire AB. Psychiatric aspects of pregnancy and childbirth. The Practitioner 1955; 175 : 146-154.
- Shoeb IH, Hassan GA. Post-partum psychosis in the Assir region of Saudi Arabia. Br J Psychiatry 1990; 157 : 427-430.
- Sim M. Abortion and the psychiatrist. Br Med J 1963; 2 : 145-148.
- Spitzer RL, Williams JB. Structured clinical interview for DSM III (SCID). New York: Biometrics Research Division, New York State Psychiatric Institute, 1985.

- Stein A, Gath DH, Bucher J, Bond A, Day A, Cooper PJ.
The relationship between postnatal depression and
mother-child interaction. Br J Psychiatry 1991;
158 : 46-52.
- Stein G. The Maternity Blues. In: Brockington IF,
Kumar R, eds. Motherhood and Mental Illness
London: Academic Press Inc., 1982; 119-154.
- Stein G, Marsh A, Morton J. Mental symptoms, weight
changes and electrolyte excretion in the first
postpartum week. J Psychosom Res 1981; 25 :
395-408.
- Stein GS. The pattern of mental change and body weight
change in the first post-partum week.
J Psychosom Res 1980; 24 : 165-171.
- Stein GS, Milton F, Bebbington P, Wood K, Coppen A.
Relationship between mood disturbance and free
plasma tryptophan in postpartum women.
Br Med J 1976; 2 : 457.
- Steiner M. Psychobiology of mental disorders associated
with childbearing. An overview. Acta Psychiatr
Scand 1979; 60 : 449-464.
- Stern G, Kruckman L. Multi-disciplinary perspectives
on post-partum depression: an anthropological
critique. Soc Sci Med 1983; 17 : 1027-1041.
- Stuart S, Rubin LJ. Postpartum reactions: some
unrecognised variations. Am J Psychiatry 1974;
131 : 870-874.
- Subotsky F. Issues for women in the development of
mental health services. Br J Psychiatry 1991;
158 (suppl.10) : 17-21.
- Swift CR. Psychosis during the puerperium among
Tanzanians. East Afr Med J 1972; 49 : 651-657.
- Targum SD, Davenport YB, Webster MJ. Brief communication:
Postpartum mania in bipolar manic-depressive
patients withdrawn from Lithium carbonate.
J Nerv Ment Dis 1979; 167 : 572-574.

- Tarnopolsky A, Hand DJ, McLean EK, Roberts H, Wiggins RD. Validity and uses of a screening questionnaire (GHQ) in the community. Br J Psychiatry 1979; 134 : 508-515.
- Tennant C. The General Health Questionnaire: a valid index of psychological impairment in Australian populations. Med J Australia 1977; 2 : 392-394.
- Tetlow C. Psychoses of childbearing. Journal of Mental Science 1955; 101 : 629-639.
- Thomas CL, Gordon JE. Psychosis after childbirth: ecological aspects of a single impact stress. Am J Med Sc 1959; 238 : 363-388.
- Thuwe I. Genetic factors in puerperal psychosis. Br J Psychiatry 1974; 125 : 378-385.
- Tobin SM. Emotional depression during pregnancy. Obstet Gynecol 1957; 10 : 677-681.
- Tod EDM. Puerperal depression. A prospective epidemiological study. Lancet 1964; 2 : 1264-1266.
- Treadway CR, Kane FJ, Zarrahi-zadeh A, Lipton MA. A psychoendocrine study of pregnancy and the puerperium. Am J Psychiatry 1969; 125 : 1380-1386.
- Troutman Br, Cutrona CE. Nonpsychotic postpartum depression among adolescent mothers. J Abnorm Psychol 1990; 99 : 69-78.
- Uddenberg N, Fagerstorm C-F, Hakanson-Zaunders M. Reproductive conflicts, mental symptoms during pregnancy and time in labour. J Psychosom Res 1976; 20 : 575 - 581.
- Uddenberg N, Nilsson L. The longitudinal course of para-natal emotional disturbance. Acta psychiatr Scand 1975; 52 : 160-169.
- Upadhyaya A, Creed F, Upadhyaya M. Psychiatric morbidity among mothers attending a well-baby clinic: a cross-cultural comparison. Acta psychiatr Scand 1989; 81 : 148-151.

- Vandenburgh RL. Postpartum depression.
Clin Obstet Gynecol 1980; 23 : 1105-1111.
- Vislie H. Puerperal mental disorders. Acta psychiatrica et Neurologica Scandinavica 1956; supplement 111.
- Waring EM, Patton D. Marital intimacy and depression.
Br J Psychiatry 1984; 144 : 641-644.
- Watson JP, Elliott SA, Rugg AJ, Brough DI. Psychiatric disorders in pregnancy and the first postnatal year. Br J Psychiatry 1984; 144 : 453-462.
- Weissman MM, Paykel ES, Klieman GL. The depressed woman as a mother. Soc Psychiatry 1972; 7 : 98-108.
- Whalley LJ, Roberts DF, Wentzel J, Wright AF. Genetic factors in puerperal affective psychoses.
Acta psychiatr Scand 1982; 65 : 180-193.
- Whiffen VE. Screening for postpartum depression: A methodological note. J Clin Psychol 1988; 44 : 367-371.
- Whiffen VE, Gotlib IH. Infants of postpartum depressed mothers: temperament and cognitive status.
J Abnorm Psychol 1989; 98 : 274-279.
- Wieck A. Endocrine aspects of postnatal mental disorders. Bailliere's Clinical Obstetrics and Gynaecology 1989; 3 : 857-877.
- Williams H, Carmichael A. Depression in mothers in a multi-ethnic urban industrial municipality in Melbourne. Aetiological factors and effects on infants and preschool children.
J Child Psychol Psychiatr 1985; 26 : 277-288.
- Winokur G, Ruangtrakool S. Postpartum impact on patients with independently diagnosed affective disorder. JAMA 1966; 197 : 242-246.
- Wrate RM, Rooney AC, Thomas PF, Cox JL. Postnatal depression and child development: a three-year follow-up study. Br J Psychiatry 1985; 146 : 622-627.

- Yalom ID, Lunde DT, Moos RH, Hamburg DA. "Postpartum blues" syndrome. A description and related variables. Arch Gen Psychiatry 1968; 18 : 16-27.
- Zajicek E, Wolkind S. Emotional difficulties in married women during and after the first pregnancy. Br J Med Psychol 1978; 51 : 379-385.
- Zekoski EM, O'Hara MW, Wills KE. The effects of maternal mood on mother-infant interaction. J Abnorm Child Psychol 1987; 15 : 361-378.
- Zilboorg G. The clinical issues of postpartum psychopathological reactions. Am J Obstet Gynecol 1957; 73 : 305-312.

APPENDIX A

CONSENT BY PATIENT

I.....
hereby declare that I give my consent for the investigation as described below.

This study consists of an interview and three questionnaires and aims to investigate how women feel after they have had their babies.

I understand that my identity will be kept confidential and that my personal name or identification data will not be used in any publication.

I understand and accept that the information collected will be used for research purposes, publication in scientific journals and for teaching purposes.

The interview will be conducted by Dr P R Laban, with a nursing sister present.

My permission is granted of my own free will and I am aware that I can revoke such permission at any time.

SIGNATURES:

DATE:.....

1. RESPONDENT.....
2. INTERVIEWER.....
3. WITNESS.....

APPENDIX B

THE KENNERLEY BLUES QUESTIONNAIRE (MODIFIED)

This is a list of words which newly delivered mothers have used to describe how they are feeling. Please indicate to the interviewer how you felt during the first week after delivery of your baby, by responding 'Yes' or 'No' to the list.

	YES	NO
1. TEARFUL.....		
2. MENTALLY TENSE.....		
3. ABLE TO CONCENTRATE.....		
4. LOW SPIRITED.....		
5. ELATED.....		
6. HELPLESS.....		
7. FINDING IT DIFFICULT TO SHOW YOUR FEELINGS..		
8. ALERT.....		
9. FORGETFUL, MUDDLED.....		
10 ANXIOUS.....		
11. WISHING YOU WERE ALONE.....		
12. MENTALLY RELAXED.....		
13. BROODING ON THINGS.....		
14. FEELING SORRY FOR YOURSELF.....		
15. EMOTIONALLY NUMB, WITHOUT FEELINGS.....		
16. DEPRESSED.....		
17. OVER-EMOTIONAL.....		
18. HAPPY.....		
19. CONFIDENT.....		
20. CHANGEABLE IN YOUR SPIRITS.....		
21. TIRED.....		
22. IRRITABLE.....		
23. CRYING WITHOUT BEING ABLE TO STOP.....		
24. LIVELY.....		
25. OVER-SENSITIVE.....		
26. UP AND DOWN IN YOUR MOOD.....		
27. RESTLESS.....		
28. CALM, TRANQUIL.....		

APPENDIX C

THE 30-ITEM GENERAL HEALTH QUESTIONNAIRE

Please answer ALL the questions by indicating the one which you think most nearly applies to you. The aim is to record how you have been feeling recently and how you are feeling now. PLEASE NOTE:

The numbers : 1 -better /more so than unusual

2 -same as usual

3 -less than usual

4 -much less than usual

The letters : A - not at all

B -no more than usual

C -rather more than usual

D -much more than usual

HAVE YOU RECENTLY :

- | | | | | |
|--|---|---|---|---|
| 1 .BEEN ABLE TO CONCENTRATE
ON WHATEVER YOU'RE DOING? | 1 | 2 | 3 | 4 |
| 2. LOST MUCH SLEEP OVER WORRY? | A | B | C | D |
| 3. BEEN HAVING RESTLESS,
DISTURBED NIGHTS? | A | B | C | D |
| 4. BEEN MANAGING TO KEEP YOUR-
SELF BUSY AND OCCUPIED? | 1 | 2 | 3 | 4 |
| 5. BEEN GETTING OUT OF THE
HOUSE AS MUCH AS USUAL? | 1 | 2 | 3 | 4 |
| 6. BEEN MANAGING AS WELL AS
MOST PEOPLE WOULD IN YOUR
SITUATION? | 1 | 2 | 3 | 4 |
| 7. FELT ON THE WHOLE YOU WERE
DOING THINGS WELL? | 1 | 2 | 3 | 4 |
| 8. BEEN SATISFIED WITH THE WAY
YOU ARE LIVING YOUR LIFE? | 1 | 2 | 3 | 4 |
| 9. BEEN ABLE TO FEEL WARMTH AND
AFFECTION FOR THOSE NEAR YOU? | 1 | 2 | 3 | 4 |
| 10.BEEN FINDING IT EASY TO GET
ON WITH PEOPLE? | 1 | 2 | 3 | 4 |
| 11.SPENT MUCH TIME CHATTING WITH
PEOPLE? | 1 | 2 | 3 | 4 |

12.FELT THAT YOU ARE PLAYING A USEFUL PART IN THING	1	2	3	4
13.FELT CAPABLE OF MAKING DECISIONS ABOUT THINGS?	1	2	3	4
14.FELT CONSTANTLY UNDER STRAIN?	A	B	C	D
15.FELT THAT YOU COULDN'T OVER- COME YOUR DIFFICULTIES?	A	B	C	D
16.BEEN FINDING LIFE A STRUGGLE ALL THE TIME?	A	B	C	D
17.BEEN ABLE TO ENJOY YOUR NORMAL DAY TO DAY ACTIVITIES?	1	2	3	4
18.BEEN TAKING THINGS HARD?	A	B	C	D
19.BEEN GETTING SCARED /PANICKY FOR NO REASON?	A	B	C	D
20.BEEN ABLE TO FACE UP TO YOUR PROBLEMS?	1	2	3	4
21.FOUND EVERYTHING GETTING ON TOP OF YOU?	A	B	C	D
22.BEEN FEELING UNHAPPY AND DEPRESSED?	1	2	3	4
23.BEEN LOSING CONFIDENCE IN YOURSELF?	A	B	C	D
24.BEEN THINKING OF YOURSELF AS A WORTHLESS PERSON?	A	B	C	D
25.FELT THAT LIFE IS ENTIRELY HOPELESS?	A	B	C	D
26.BEEN FEELING HOPEFUL ABOUT YOUR OWN FUTURE?	1	2	3	4
27.BEEN FEELING REASONABLY HAPPY ALL THINGS CONSIDERED?	1	2	3	4
28.BEEN FEELING NERVOUS AND STRUNG-UP ALL THE TIME?	A	B	C	D
29.FELT THAT LIFE ISN'T WORTH LIVING?	A	B	C	D
30.FOUND AT TIMES THAT YOU COULD NOT DO ANYTHING BECAUSE YOUR NERVES WERE TOO BAD?	A	B	C	D

APPENDIX D

PITT'S QUESTIONNAIRE INDICATING ANXIETY AND DEPRESSION
IN PREGNANCY AND THE PUERPERIUM (MODIFIED)

We are asking you these questions in order to find out how you feel about things during this time of having your baby. We want your answers to tell us how you felt since the birth of your baby , and how you feel now.

YES NO DON'T
 KNOW

Since the birth of your baby,

1. Do you sleep well?
2. Do you easily lose your temper?
3. Are you worried about your looks?
4. Have you a good appetite?
5. Are you happy as you ought to be?
6. Do you easily forget things?
7. Have you as much interest in sex as ever?
8. Is everything a great effort?
9. Do you feel ashamed for any reason?
10. Can you relax easily?
11. Can you feel that the baby is really yours?
12. Do you want someone with you all the time?
13. Are you easily woken up?
14. Do you feel calm most of the time?
15. Do you feel you are in good health?
16. Does food interest you less than it did?
17. Do you cry easily?
18. Is your memory as good as it ever was?

YES NO DON'T
KNOW

- 19. Have you less desire for sex
than usual?
- 20. Have you enough energy?
- 21. Are you satisfied with the way
you are coping things?
- 22. Do you worry a lot about the
baby?
- 23. Do you feel unlike your normal
self?
- 24. Do you have confidence in
yourself?

Is there anything else you want to add about your
feelings, at the moment. If so, please indicate here.

APPENDIX E

BIOGRAPHICAL INVENTORY

IDENTIFICATION DATA:

I.D.No:

Age:

Marital Status:

Educational Level:

Age of Baby:

PAST HISTORY:

Past Psychiatric History:

Medical History:

Family History:

Gynecological History:

Abortions:

Pre-menstrual Tension:

Pregnancy Complications:

OBSTETRIC HISTORY:

Parity:

Pregnancy:

Antenatal Care:

Hypertension:

Anxiety and depression:

Delivery:

Mode of Delivery:

Problems in Labour:

Baby:

Sex of Baby:

Baby Complications:

Method of Feeding:

SOCIAL HISTORY:

Partner's Support:

Cultural Rituals:

Postnatal Reality /Antenatal expectations: