

COMMUNITY AWARENESS OF GOBI-FFF AND ITS
IMPLEMENTATION IN TWO URBAN COMMUNITIES

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A B B R E V I A T I O N S

GOBI-FFF	=	Growth monitoring, Oral rehydration therapy, Breast feeding, Immunisation, Female education, Family spacing, Food supplementation.
ORT	=	Oral rehydration therapy.
IMR	=	Infant mortality rate.
WHO	=	World Health Organization.
ORS	=	Oral rehydration solution.
MCH	=	Maternal and child health.
KD	=	Kwa Ndengezi.
SC	=	Shallcross.
HSL	=	Household subsistence level.
CBR	=	Crude birth rate.
CDR	=	Crude death rate.

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S U M M A R Y

The awareness of mothers of the importance of growth monitoring, oral dehydration therapy (ORT), breast feeding and immunization (GOBI) as well as to female education, family spacing and food supplementation (FFF) and their implementation, was studied. Some personal characteristics of the mothers and some socio-economic factors prevalent, were also looked into. This study was carried out in two urban communities within the greater Durban area, namely, Kwa Ndengezi (KD) and Shallcross (SC). By and large, both the awareness and implementation of the different factors of GOBI-FFF by the mothers was poor, but with some exceptions. On the implementation side, only 21.3% of the KD mothers and 14% of the SC mothers knew how to make the ORS. 36% from KD and 56% from SC were fully immunized for age on inspection of the immunization card, although 25.3% from KD and 18% from SC could not produce their immunization card. However 88% from KD and 78% from SC did breast feed their babies. Only 53.3% of the KD mothers and 76% of the SC mothers were practising family spacing. An interesting personal characteristic of the KD mothers interviewed was that 50.7% were unmarried.

Low educational standards in general, and poor health education in particular; and in KD in addition inadequate comprehensive clinic services, appear to be the major factors responsible for the low level

of awareness and implementation of GOB- FFF.

Recommendations are made for a comprehensive and multi-faceted health program, in which the local health clinics could play a pivotal role; and the concept of primary health care to be popularised. Special reference is made for the promotion of breast feeding. Recommendations are also made for a comprehensive and dynamic health education program utilizing various vehicles for the delivery of this education.

I N T R O D U C T I O N

The health picture in the developing world is still very bleak. The various Black populations of South Africa (be they Africans, Indians or Coloureds) are part of this developing world. In a total world population of 4,607 million (of which 75 % are in the developing world); there are 10.3 million annual infant deaths (0-11 months) (of which 97 % are in the developing countries); and 4.3 million annual child deaths (1-4 years) (of which 98 % are in the developing countries).^{*1} The infant mortality rate (IMR) (infant deaths per 1,000 live births) in 1980 for the developing countries as a whole, and for Southern Africa specifically is 100; as compared to the IMR of 20 for developed countries.^{*1} South Africa has an IMR of 90 (1982). ^{*2}

However, a few relatively simple and inexpensive methods could enable parents themselves to bring about a revolution in child survival and development. The idea that could make this revolution possible is primary health care. The vehicles that could make this revolution achievable are the spread of education, communications and social organization. The techniques which could make this revolution affordable even with very limited resources, are growth monitoring, oral rehydration therapy, breast-feeding and immunization (GOBI). These four principle life line techniques are low-cost, available now, achieve rapid results and almost universally relevant. They involve people in taking more responsibility for their own health, and thus promote primary health care. In combination they offer an even greater degree of protection against the synergistic alliance

of malnutrition and infection which is the central problem of child health and child development today. *3

In addition, three other changes-female education, family spacing and food supplementation (FFF) are also among the most powerful levers for raising the level of child survival and child health. Although more costly and more difficult to achieve, these changes in the lives of women are of such potential significance that they must also now be counted among the breakthrough in knowledge which could change the ratio between the health and wealth of nations. *3

However, against this information is the stark reality that only up to 15 % of the world's families are using oral rehydration therapy (ORT), the revolutionary low-cost technique for preventing and treating diarrhoeal dehydration, the biggest single killer of children in the world. *4

This then raises the vital question that although the potential for child survival and a healthy and normal child development is there, to what extent is the average mother aware of and implementing these cost-effective methods of GOBI-FFF in her own situation? These questions are thus addressed in this study in an African and an Indian urban communities in Natal/Kwa Zulu.

O B J E C T I V E S

1. To ascertain the level of knowledge of mothers of the importance of Growth Monitoring, Oral Rehydration Therapy, Breast Feeding and Immunisation. (GOBI)
2. To ascertain the level of knowledge of mothers of FFF.
3. To ascertain the level of implementation of GOBI-FFF in the households visited.
4. To ascertain the personal characteristics of mothers.
5. To ascertain socio-economic circumstances in households visited.
6. To identify any associations between the personal characteristics of mothers, the socio-economic circumstances and level of awareness and implementation of GOBI-FFF.
7. To ascertain birth, mortality and specific morbidity rates in households visited.
8. To identify associations, if any, between awareness and implementation of GOBI-FFF and birth, mortality and specific morbidity rates.
9. To submit recommendations, where appropriate, in respect of interventive programmes directed to the reduction of morbidity and mortality and to the implementation of family spacing.

DEFINITION OF CRITERIA

The following terms are defined for the purposes of this study.

1. GOBI: As defined by the World Health Organization (WHO) GOBI is an abbreviation for;
 - a) Growth Monitoring.
 - b) Oral Rehydration Therapy.
 - c) Breast Feeding.
 - d) Immunisation.
2. FFF; As defined by WHO, FFF is an abbreviation for;
 - a) Female Education, that is, the literacy status of the mother.
 - b) Family Spacing.
 - c) Food Supplementation.
3. INDIAN COMMUNITY: Refers to the urban community of Shallcross (SC) situated above 30 km west of Durban.
4. AFRICAN COMMUNITY; Refers to the urban community of Kwa Ndengezi (KD) which is situated about 35 km west of Durban>
5. CHILD: A child between the ages of one and two years of age is considered for the purpose of the study.
6. SOCIO-ECONOMIC STATUS: The following categories based on household income are defined as follows:
 - a) Up to R150 per month.
 - b) Between R151 and R450 per month.
 - c) Between R451 and R800 per month.
 - d) R801 and over per month.
7. PERSONAL CHARACTERISTICS OF MOTHERS: Include age, educational level, marital status and parity.
8. SPECIFIC MORBIDITY RATES: This refer to illness due to

gastro-enteritis and measles.

SELECTION OF SAMPLE AND CONTROL GROUPS

SAMPLE: Seventy five (75) houses in Kwa Ndengezi (4 % of the total number of houses), and one hundred (100) in Shallcross (3.7 % of the total number of houses), where selected for inclusion in the study. The sampling was done by systematic selection from clusters. Shallcross was divided into ten clusters and ten homes from each cluster where selected by systematic sampling, whereby every third house was selected. Kwa Ndengezi was divided into eight clusters and seventy five houses were selected from the eight clusters by systematic sampling, with every third house being selected. The houses had to contain a child between the ages of one and two years of age, with the mother present and being the child-minder herself. In the event of these criteria not being met, then the house immediately next door was selected; and so on until the criteria were met.

CONTROL: For the purposes of this descriptive study a control group was not drawn. However, comparisons are made internally to the study.

METHOD OF DATA COLLECTION

A household survey was conducted, in which each household included in the study was visited and the mother interviewed. A standardised questionnaire was administered by fully trained and briefed interviewers; and relevant information elicited. The interviewers were medical students from the University of Natal Medical School. The researcher discussed the entire questionnaire,

question by question, with the students prior to the survey; and all queries and questions by the students were answered. In addition, whenever any student encountered any problems relating to interpretation of a question or otherwise, this was discussed with the researcher. In addition, where doubts existed with regard to the adequate answering of questions this was followed personally by the researcher.

Prior to the survey a pilot study was conducted by the researcher, whereby eight (8) houses were visited, four in Kwa Ndengezi and four in Shallcross. The questionnaire was administered personally by the researcher in this instance. The responses were collated. These questions and their responses were discussed and evaluated with the help of the members of the Department of Community Health; and arising out of these discussions the final questionnaire evolved.

Bias was reduced through the following means:

- a) There was random sampling of houses.
- b) A standardised questionnaire reduced interviewer bias.
- c) There was strict adherence to defined criteria.
- d) Fully briefed and trained personnel (medical students) administered the questionnaire.

The questionnaire was designed such that in open-ended questions, the responses were predetermined. A tick was required by the interviewer next to the appropriate answer. This further facilitated elimination of bias by the interviewer. However, such open-ended questions always had as one of their predetermined answers:

" Other (specify)". The students were specifically warned and reminded not to prompt for answers especially with the open-ended questions. Many of these open-ended questions expected one or more answers, eg. "Why is breast feeding important?" The mother could give one or many reasons or reply that she does not know.

T H E A R E A S S U R V E Y E D

SHALLCROSS

Shallcross is a relatively recently resettled urban Indian community about 30km south west of Durban. The Group Areas regulations of this country dictate that people of different races live in different areas. Hence very long established Indian families in Pinetown, Malvern, Queensburgh, etc., were uprooted and displaced in Shallcross about twenty years ago. The Development Area Proclamation 92/1966 was established on 28th August, 1966.

There are 2699 occupied housing units in Shallcross, of which 2107 are dwelling units and 562 are flats. The dwelling units are either privately owned or housing schemes developed by the authorities, from the sub-sub economic group upwards. Hence a very broad spectrum of socio-economic groups reside in Shallcross. An average of 6.7 persons reside in a housing unit. From 1980 to 1984 there has been an annual growth rate of 4.8%. The annual growth rate of the population of South Africa is 2.8, and of the U.S.A. it is 1. However, the average annual growth rate of urban South Africa is 3.2. *5. This exceptionally high figure for Shallcross takes into account not only the natural growth rate, but also the influx into the area of newly resettled families, which is taking place all the time as the township is actively expanding.

There are nine schools in the area (primary and high schools); four civic association organizations; three youth groups; and seventeen religious organizations. Recreational facilities include a



soccer stadium, five childrens' play grounds and a community hall with badminton courts. The roads are tarred. Reticulated water supply is provided by the Umgeni Water Board. Sewage disposal is by water borne reticulation (91 %) and by septic and conservancy tanks (9 %). *6

Clinic facilities are provided by the Development and Service Board complex and these offer a daily minor paediatric curative service, daily family planning, daily well baby clinic including immunisation, twice weekly geriatric clinic, immunisations to schools and general public whenever required, daily TB and VD services and health education. Free food is supplied to the indigent. Three satellite clinics are operating in the different parts of Shallcross (one is weekly and the other two are monthly). Environmental health is monitored by a health inspector. Social welfare services are also offered. In addition there are more than six general practitioners in the area and many others in the immediate vicinity of Chatsworth and Malvern. There is one Dentist in Shallcross. R.K. Khan Provincial Hospital is the referral hospital for Shallcross and it is about three kilometres away. This is one of the major referral hospitals in Durban. *7.

In 1984 the total births were 236; the total infant mortality (less than one year) was 8; the total number of deaths of all ages (including the infants) is 113. The number of notification of Tuberculosis was 10 (1982) and 8 in 1983. Hence the infant mortality rate (IMR) is 33.9/1000 live births (IMR in South Africa is 90). The crude death rate (CDR) is 6.3/1000 population (CDR in South Africa is 14). The crude birth rate (CBR) is 13.1/1000 population (CBR in South Africa is 39) (1982 figures). *8

KWA NDENGEZI

Kwa Ndengezi is a urbanised African community situated about 35 km west of Durban under the control of Kwa Zulu Government. A Group Areas proclamtion dictated this land for African occupation only in 1977. In doing so settled African communities elsewhere, namely, Shallcross, Klaarwater, Umhlatuzana, St. Wendolins and Motala Farm near Pinetown, where uprooted and resettled at Kw Ndengezi which was now formally declared a township. At present it is maintained and developed by the Natalia Development Board (formally Port Natal Administration Board); and administered by the Kwa Zulu Government and forms part of the Kwa Zulu territory. The township is actively expanding.

The total number of houses in Kwa Ndengezi at present is 1863; all are cottages, either double storey semi-detached, single storey semi-detached or cluster type. A small number are self built (20 in number-1.1%). The total population is 11673 people. A further breakdown reveals 6147 adults and 5526 children (ages not specified). The adult/child ratio is 1.1/1 (the South African adult/child (1-4years) ratio is 5.3/1. The total population of 11673 is further bgroken down into 5593 females and 6080 males. The male to female ratio is not 0.9/1. There is an average of a total of 6.3 persons living in each household, and average of 3.0 children living in each household. *9

The roads are tarred; the water supply is from taps; and sewerage disposal is water-borne. There is electricity to the township but most houses do not have it. There are six schools in the

township (primary and high schools) and two creches. Recreational facilities included a soccer ground and a community hall. I could not trace any presence of a social welfare organization, apart from a number of church groups.

A community clinic operates daily and is administered by the Kwa Zulu Department of Health. This is a nurse-oriented clinic where the professional nurses diagnose and treat minor ailments daily with the doctor attending once a week. There is a twenty four hour labour service. TB, VD and special medical clinics (diabetes, hypertension, epilepsy, asthma) are also run daily by the sisters; immunisation and child health once a week; and family planning and ANC services twice a week. There are no general practitioners in the township. The referring hospitals are St. Mary's, Kwa Dabeka and King Edward VIII Hospitals, about ten to thirty kilometres from the township. There are no house visits done by the sisters. There is no psychiatric, geriatric, dental and social worker services. There can be long delays in getting an ambulance to transport serious patients especially complications of labour to the hospitals.

It must be emphasized that in both communities the official population figures given would most probably be far below the actual figures. This is so because there is a perpetual severe shortage of housing for the Black groups (African, Indian, Coloured); and very many of the householders accommodate unofficial tenants, often whole families.

R E S U L T S

Looking at the historical development and some statistical data of the two communities, one saw a few broad similarities. However, the survey highlighted many striking contrasts between the two communities. It was therefore felt prudent to discuss the results of the survey of each community separately in terms of the objectives, and compare where appropriate.

SOME OF THE MORE IMPORTANT FINDINGS REGARDING THE PERSONAL CHARACTERISTICS OF MOTHERS

Majority of the mothers interviewed fell in the age group 21 to 36 years in both communities (69.4% in KD and 81% in SC) (see table 1). In both communities there was no mother under 16 years of age. The difference in age between the two communities was not significant using the χ^2 test ($10\% > p > 5\%$).

In KD 96 % belonged to the Christian faith and 4 % believed in a traditional African Religion. In SC 76 % were Hindus, 15 % were Christians and 9 % were Muslims (see table 2).

Considering the educational standards of the mothers, the majority of mothers in both communities had attained only up to the junior high school level (std 6-8): 52 % in KD and 55 % in SC (see table 3 and figure 1). However, a much bigger number of mothers had reached only up to std 5 (including those who had received no education at all) in KD than in SC (40 % in KD and 24 % in SC); and many more attained higher educational standards (standard 9 to post matric) in SC than in KD (21 % in SC and 8 % in KD). This difference

in the educational standards attained by the mothers in the two communities is significant using the χ^2 test ($0.02 > p_2 > 0.01$). For the statistical analysis, the matric (std.9 & 10) and postmatric groups were combined. Only 3 % of the SC mothers had gone beyond matric, and none from KD.

A striking picture presents itself in terms of the marital status of the mothers. 50.7 % of the mothers in KD were unmarried; only 1 % from SC were unmarried (see table 4). In KD 45.3 % were married and 4 % divorced, separated or widowed. In SC 98 % were married and 1 % divorced, separated or widowed. This difference in the marital status of the mothers in the two communities is highly significant using the χ^2 test ($p_1 < 0.001$).

In both communities the most popular age of the mother at the time of her first pregnancy was 16 to 20 years (60 % in KD, 50 % in SC); followed by the age group 21 to 25 years (26.7 % in KD and 30 % in SC); followed by the age group 26 to 35 years of age (5.3 % in KD and 13 % in SC); followed by the age group of under 16 years (5.3 % in KD and 6 % in SC) (see table 5). No statistical difference existed between the two groups in terms of this parameter using the χ^2 test ($0.50 > p_3 > 0.10$).

The nuclear family was categorised into small (1-2 children per mother), medium (3-5 children) and large (6 children and more). In both communities the majority of mothers had 1 to 2 children (46.7 % in KD and 62 % in SC); followed by 3 to 4 children (42.7 % in KD and 38 % in SC). 10.6 % of the mothers had large families in KD, and none in SC. (table 6 & fig.2). This difference between the two communities

FIGURE 1: PIE DIAGRAM SHOWING THE EDUCATIONAL STANDARD OF THE MOTHERS IN KWA NDENGEZI AND SHALLCROSS.

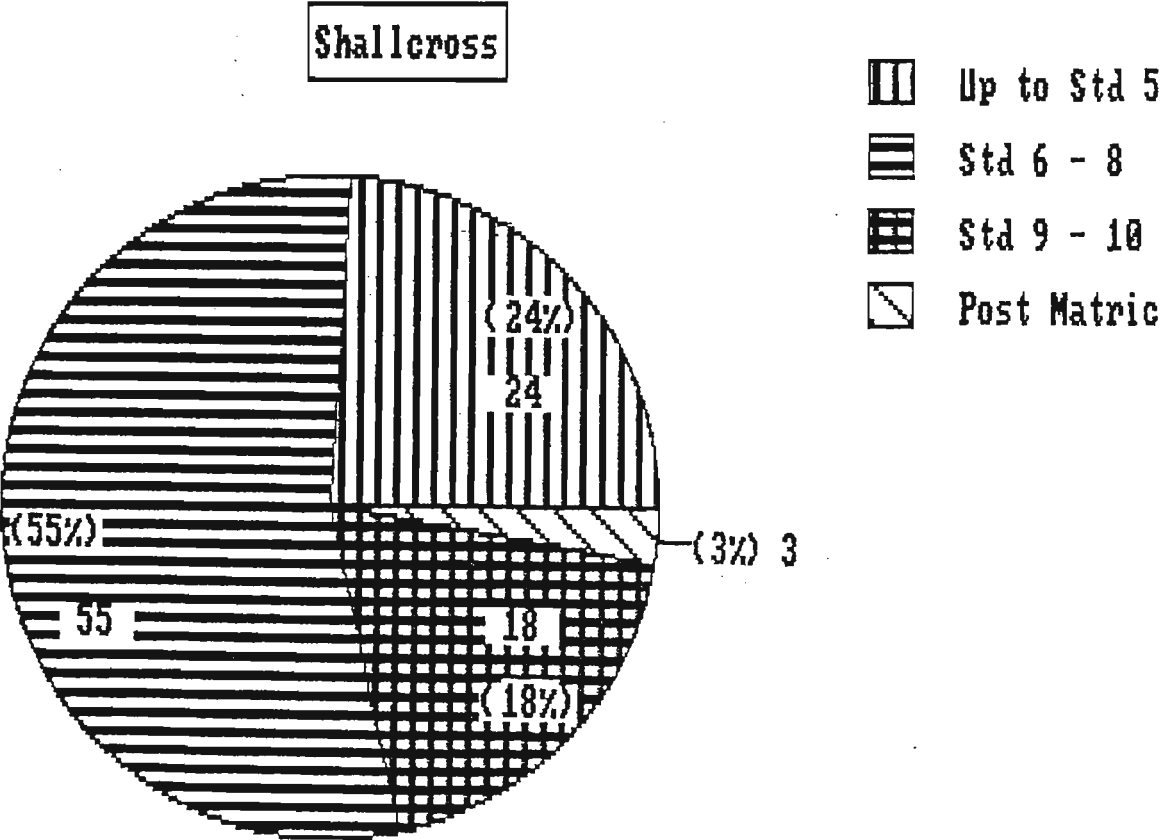
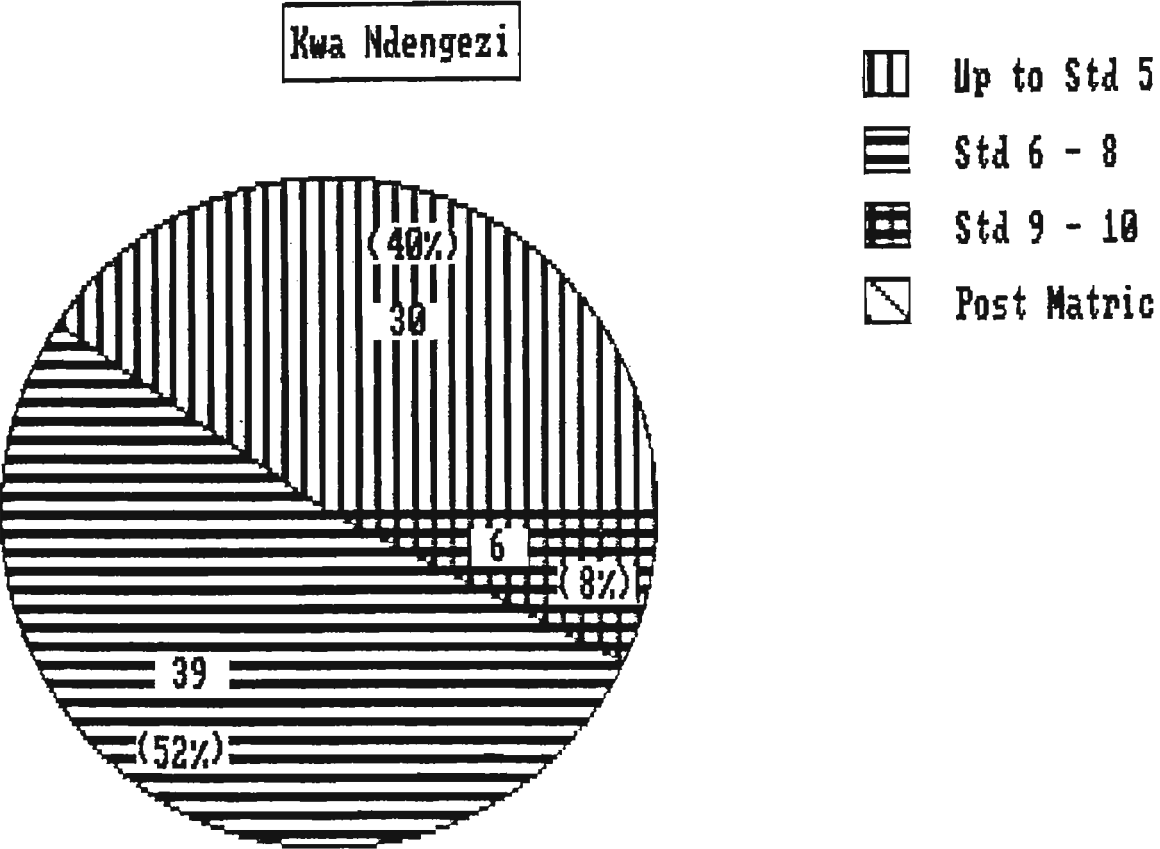
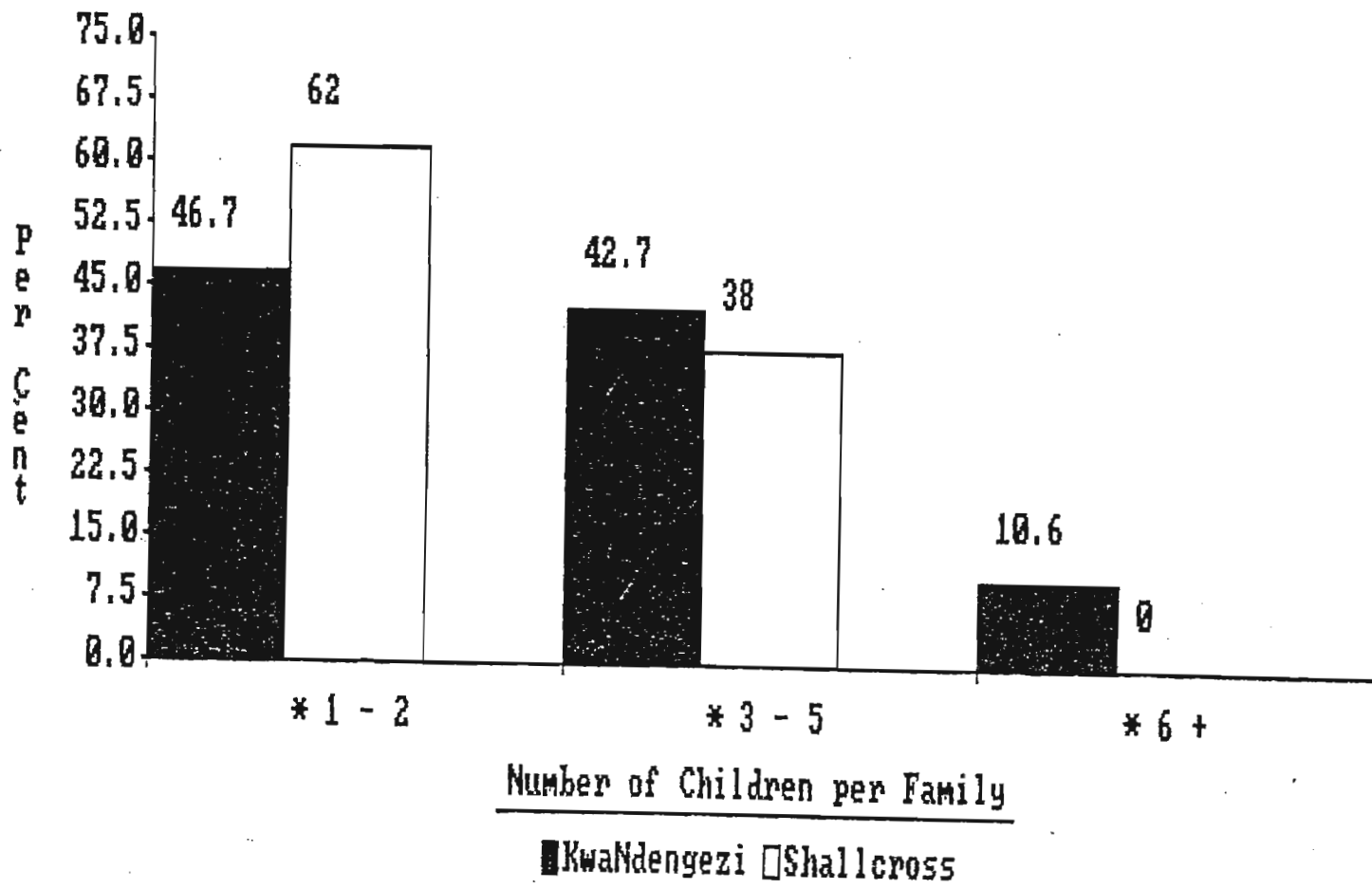


FIGURE 2 : BAR DIAGRAM SHOWING THE SIZE OF THE FAMILIES IN KWA NDENGEZI AND SHALLCROSS.



in terms of the number of children per mother was significant using the χ^2 test ($0.05 > p > 0.02$). For the statistical analysis, the mothers were grouped according to those who had up to 2 children and those who had three children and more. It must be remembered that these are ratios of families visited - which excluded those without children and included only those with children between 1 and 2 years of age. The overall average of the number of children per mother at the time of the survey (excluding those who may have died) is 3.1 children per mother in KD and 2.3 children per mother in SC.

SOME OF THE MORE IMPORTANT FINDINGS RELATING TO THE SOCIO-ECONOMIC CIRCUMSTANCES PREVAILING IN THE TWO COMMUNITIES

The income per month of the majority of the household in KD (69.3 %) was below R450, whereas it was over R450 in the majority of the homes in SC (65 %). However, 10.7 % of the KD mothers were ignorant of the income their husband earned. 29.3 % in KD earned below R150 compared to 2 % in SC. 26 % in SC earned over R800 compared to 1.3 % in KD. (see table 7) The difference in the household incomes of the two communities is significant using the χ^2 test ($p < 0.001$). The household subsistence level (HSL) in Durban is R325.86 for an African family of 6; and R386.78 for an Indian family of five (March ,1985). This is the bare minimum and includes expenses for food, rent and transport only; and excludes all other expenses such as schooling, etc. (Information supplied by the Institute of Race Relations).

The overall difference in the income pattern of the two

communities is further accentuated by the following fact, namely, that KD which has a higher percentage of lower income households has a bigger percentage of larger families dependent on this income. 54.7 % of the KD households have more than 6 people dependent on the income compared to 30 % in SC. On the other hand, 70 % of the SC household have families of 6 or less dependent on the income compared to 45.3% in KD (see table 8). This difference in the size of the families in terms of the number of people dependent on the income is statistically significant using the x2 test ($0.01 > p3 > 0.001$).

Regarding the occupation of the fathers in KD, the largest proportion fell in the manual unskilled category (24 %), followed by manual skilled (22.7 %), and non manual (18.7 %). (see table 9). In SC however, the position was reversed, 40 % falling in the non manual category, 34 % in the manual skilled, and 18 % in the manual unskilled category. The unemployed comprised 12 % in KD and 5 % in SC. A high percentage of "non applicables" in KD (22.7 %) refer to single parents, widows, separated or divorced as well as those mothers who did not know what the occupation of the father was. The "not applicables" formed 3 % in SC. However, many single mothers' children are fully supported by the fathers (though not married), their occupations were known and included in the appropriate category. The difference in the occupations of the fathers in the two communities was statistically significant using the x2 test ($p4 < 0.001$).

Regarding housing, only 14.7 % of the KD homes were self owned compared to 40 % in SC (see Table 10). The rest of the householders interviewed in KD (85.3 %) were renting from the authorities. Of the 60 % renting in SC 46 % were staying in cottages and 14 % in flats.

This difference in the ownership versus renting of homes in the two communities is significant using the χ^2 test ($p_2 < 0.001$).

AWARENESS OF THE MOTHERS OF GOBI-FFF

On enquiring as to the importance of growth monitoring, 77.4 % from KD and 30.7 % from SC (average 48 %) did not know why it was important. 0 % from KD and 10.2 % from SC linked it to malnutrition (average 6.4 %). 1.3 % from KD and 15 % from SC linked it to chronic illness (average 9.9 %). 21 % from KD and 44.1 % from SC said it indicated if the child was healthy (average 35.7 %). Two mothers from SC said it could detect abnormalities. The difference in the response by the two communities is statistically significant, using the χ^2 test ($p_3 < 0.001$). (see table 11).

On enquiring about their knowledge on the signs of severity and dehydration in diarrhoeal disease, the following answers were elicited(see table 12). The majority in both communities said that the child is weak and listless (39 % in KD , 29.3 % in SC, average of 33.3 %). The second major response in both communities was " don't know" (23 %) in KD, 12.6 % in SC, average of 16.9 %). 5 % in KD and 4.9 % in SC (average 4.9 %) said flabby skin (loss of tissue turgor). 4 % in KD and 12.8 % in SC (average 3.3 %) answered sunken head (Fontanelle). 2 % in KD and 12.8 % in SC (average 2.5 %) replied dry tongue and mouth. However, 27% in KD and 47.6% in SC (average 39.1 %) gave a host of other signs such as increased frequency of diarrhoea, vomiting, green stools, not taking feeds, loss of weight, sunken eyes,

pyrexial and sores on tongue. The difference in the response of the two communities is significant using the χ^2 test ($0.01 > p > 0.001$). For the statistical analysis, the three responses relating to the signs of dehydration were grouped together, namely sunken fontanelle, loss of tissue turgor, and dry tongue and mouth.

Table 13 gives the responses to the question: "Why is breast feeding important?" The pattern of answers in both communities is generally similar. The majority (41.7% in KD, 38.3% in SC, average of 39.4 %) said it was the healthiest. The second major response was it was clean (19.8% in KD, 16.8% in SC, average of 17.7 %). 10.4 % in KD and 15.3 % in SC (average 13.9 %) said it was economical. Nil in KD and 11.7% in SC (average 8.0 %) said it was important because of bonding between the mother and child. 5.2 % in KD and 13.1% in SC (average 10.7%) said it was convenient. The "other" miscellaneous answer included "correct temperature", "the child does not suffer from constipation and indigestion", "not important" and "don't know". The difference in the response of the two communities is highly significant, using the χ^2 test ($p < 0.001$).

The mothers were also asked whether infants were healthier on being breast fed or substitute for breast or was there no difference between the two? The response in SC was 86 %, 3 % and 11 % respectively. The response in KD was 68 %, 8 % and 12 % respectively. In addition 12 % in KD did not know (see table 14). Using the χ^2 test, the difference in the response between the two communities was statistically significant ($0.01 > p > 0.001$).

To the question : "Why is immunisation important?" 80 % in KD and 89 % in SC said it prevents occurrence of certain diseases. 20 % in KD and 11 % in SC did not know its importance. Using the x2 test, the difference in the response was not significant ($0.10 > p1 > 0.05$) (see table 15).

When asked what diseases are immunised against, as much as 20 % in KD and 16 % in SC did not know any. The most well known of the diseases immunised against were measles (58.7 % in KD and 67 % in SC mentioned this disease); polio myelitis (53.3 % in KD and 51 % in SC mentioned this); and tuberculosis (46.7 % in KD and 45 % in SC mentioned this). However, 20 % in KD and 15 % in SC mentioned other diseases such as small pox, chicken pox, rickets, diarrhoea (see table 16).

Table 17 summarises the responses to the question: "Why is family spacing important?" In SC the majority response was "economic reasons" (43 %) followed by "baby's health" (19.7 %) followed by "mother's health" (12 %). However, 4.3 % felt it was not important while 9.9 % did not know. In KD the pattern of response was similar though with overall reduced percentages because the bulk of them did not know (39.3%). Thus 21.4% gave "the economic reason", 16.7 % gave "baby's health ", as the reason, and 8.3 % said "mothers health". 4.8% felt that it was not important. Using the x2 test, the difference in response between the two communities was significant ($p6 < 0.0005$).

THE FINDINGS RELATING TO THE IMPLEMENTATION OF GOBI-FFF

When asked whether they knew how to make a sugar-salt solution for treatment of diarrhoea in children, only 21.3% in KD 14% in SC knew. The difference in the response in the two communities was not significant, using the χ^2 test. ($0.50 > p > 0.10$). It was assumed that if they knew then they would be able to implement it. A positive reply had to actually describe the solution, namely, 6-8 teaspoons of sugar with 1/2-1 teaspoon of salt in a litre of pre-boiled water, or an answer very close to it, or the same proportions but in different quantities. Thus if a mother responded with a positive answer but her actual description was far from the correct proportions, then this answer was construed as negative. (see table 18 and Figure 3)

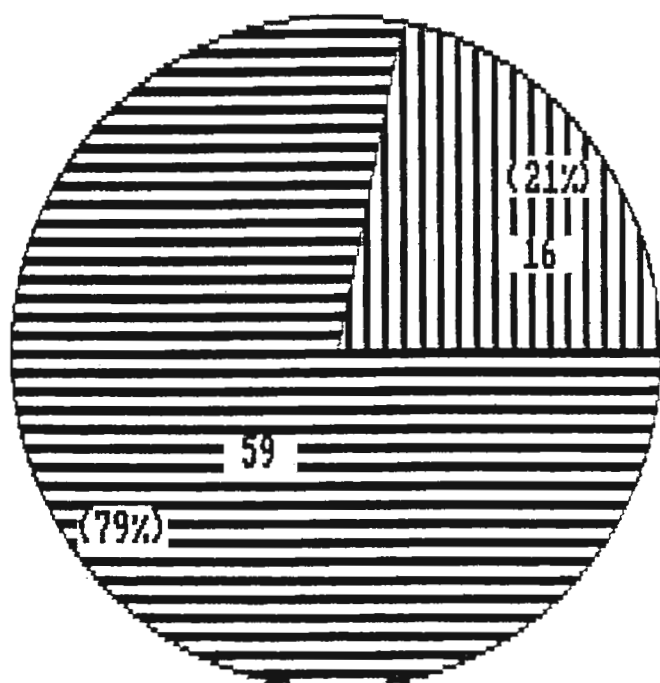
On the implementation of breast-feeding 88 % from KD and 78 % from SC did breastfeed their children for variable periods of time. The difference in the responses from the two communities is not significant, using the χ^2 test ($0.10 > p > 0.05$) (see table 19 and Figure 4).

On the question of immunization, the mothers were asked to produce their immunization cards. However 25.3 % in KD and 18 % in SC had "mislaid" it, though they claimed that their children were either fully or partially immunized. The pattern of response in both communities is similar though the figures/percentages vary considerably, namely the majority in both communities were fully immunized (36 % in KD and 56 % in SC) followed by those partially

FIGURE 3 : PIE DIAGRAM SHOWING THE RESPONSES TO THE QUESTION
 "DO YOU KNOW HOW TO MAKE THE SUGAR-SALT SOLUTION?"

Kwa Ndengezi

Yes
 No



Shalleross

Yes
 No

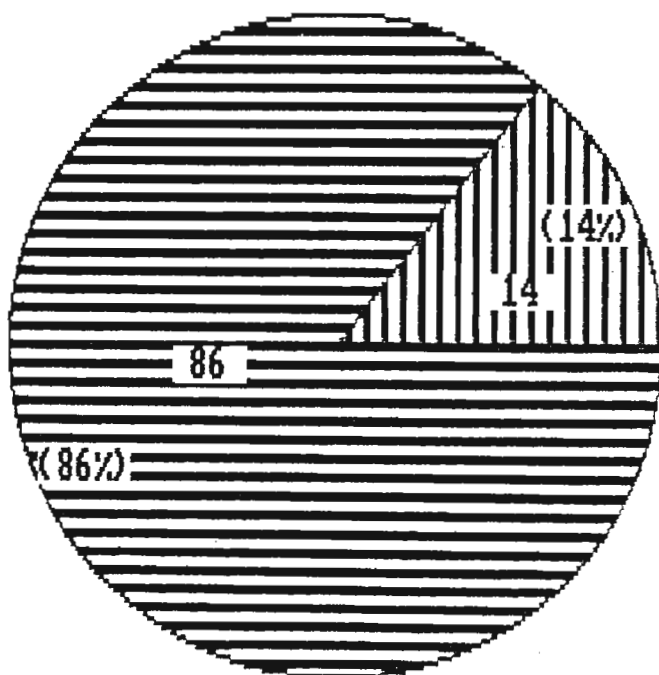
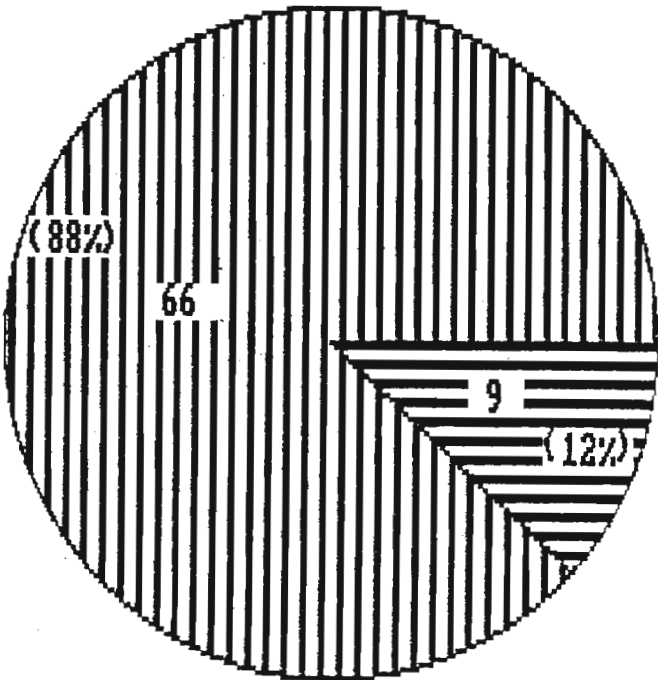


FIGURE 4 : PIE DIAGRAM SHOWING THE RESPONSE TO THE QUESTION : "DID YOU BREAST FEED THIS CHILD?" IN THE TWO COMMUNITIES OF SHALLCROSS AND KWA NDENGEZI.

Kwa Ndengezi

Yes
No



Shallcross

Yes
No

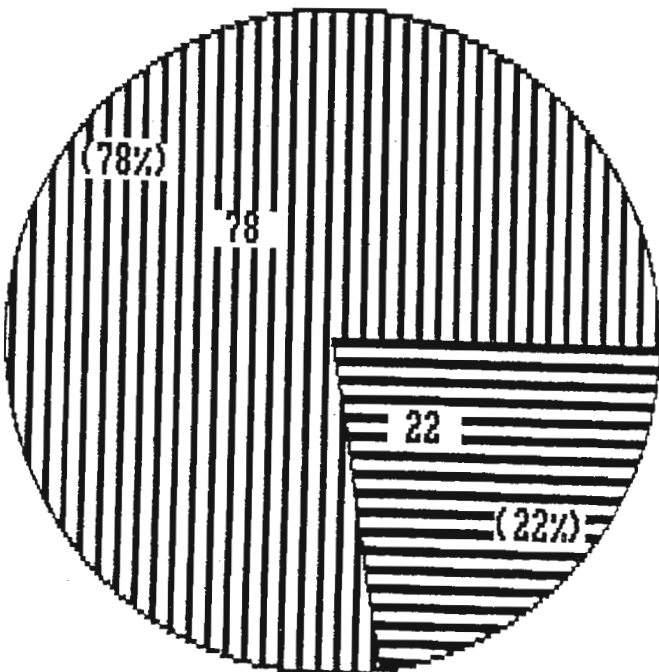
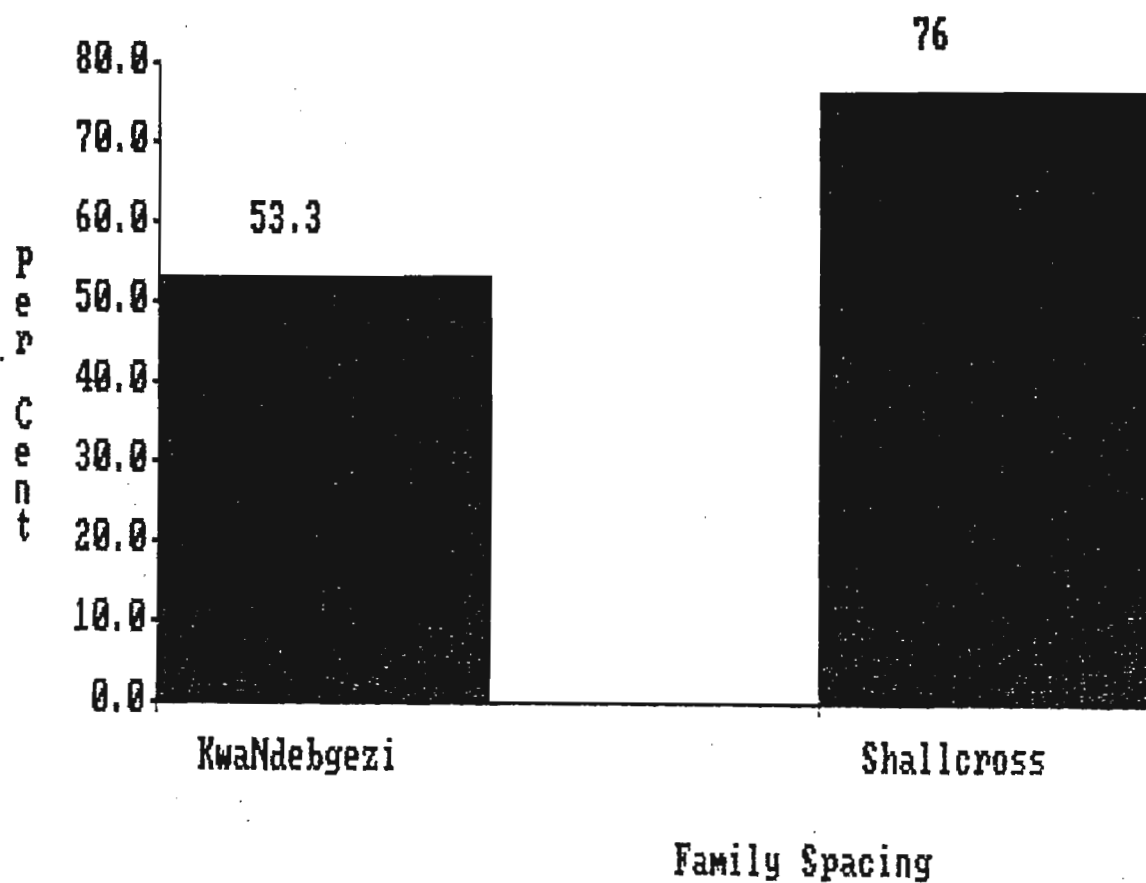


FIGURE 5 : BAR DIAGRAM SHOWING THE PERCENTAGE OF FAMILIES PRACTISING FAMILY SPACING IN THE TWO COMMUNITIES OF SHALLCROSS AND KWA NDENGEZI.



immunized by age (33.3 % in KD and 26 % in SC). There were 5.3 % in KD who were not immunized at all. The difference in the response of the two communities was significant, using the χ^2 test ($0.02 > p > 0.01$) (see table 22).

On the question of the implementation of family spacing, while only 53.3 % in KD were practising family spacing, 76 % were doing so in SC. This difference in the response is statically significant, using the χ^2 ($0.01 > p > 0.001$). (see Table 23 and Figure 5). However while the large proportion in SC were using the pill (68.4 %) with only 7.9 % using the parenteral method; 50 % in KD were using the pill with 32.5% using the parenteral method (see Table 24).

SOME ASPECTS OF PRIMARY HEALTH CARE AND PREVENTIVE AND PROMOTIVE MEDICINE

At the onset of illness, the vast majority in both communities visited the clinic, doctor or hospital (88.6 % in KD and 74 % in SC). However many did try traditional remedies or patent medicines as well, either alone or in combination with the visit to the clinic/doctor/hospital, especially in SC were 17.1% tried patent medicines (8.9 % in KD) and 8.9% tried traditional remedies (2.5 % in KD). This difference in the response of the two communities is significant, using χ^2 test ($0.01 > p > 0.001$) (see Table 25).

A similar pattern of response was elicited to the question: "What do you do when baby gets diarrhoea?" A vast majority in both

communities took the baby to the clinic/doctor/hospital (96 % in KD and 90 % in SC). 10.7 % from KD and 17 % from SC responded with giving clear fluids in combination with the above answer or separately. 14 % from SC would stop the feeds (nil from KD). 5.4 % from KD and 15 % from SC would try either traditional remedies or patent medicines, either alone or in combination with the other answers. (see Table 26). The difference in the response from the two communities was significant using the x2 test ($0.01 > p > 0.001$).

The vast majority attended ante-natal care for this pregnancy (78.7% in KD and 89 % in SC). The difference in the response of these two communities was not significant using x2 test ($0.10 > p > 0.05$) (see Table 27).

However the majority in KD began attending ANC clinic in the 2nd trimester (59.3 %) while 22 % began in the 1st trimester, and 16.9 % began in the 3rd trimester. In contrast in SC the majority first began ANC clinic in the 1st trimester (49.4 %), 46.1 % began attending in the 2nd trimester of pregnancy and only 2.2 % began in the 3rd trimester (see Table 28). This difference in the response of the two communities is significant using the x2 test ($p < 0.001$).

While only 7 % of the mothers from SC visited traditional healers for this pregnancy, 21.3 % of the mothers from KD did so. This difference in the response is significant using the x2 test ($0.01 > p > 0.001$) (see Table 29).

THE BIRTH, MORTALITY AND SPECIFIC MORBIDITY RATES
IN THE HOUSEHOLDS VISITED

On the question of the number of episodes of diarrhoea in this child in the last three months, 40 % from KD and 21 % from SC did have one or more episode of diarrhoea (see Table 30). This difference in response is significant using the χ^2 test ($0.01 > p > 0.001$). A further breakdown revealed that in KD while 60 % did not have diarrhoea, 25.3 % had only one episode, 8 % had two episodes and 6.7 % had three or more episodes. In SC while 79 % did not have diarrhoea, 18 % had one episode and 3 % had two episodes of diarrhoea (Table 31).

Twenty mothers (26.7 %) from KD and twentyfour mothers (24 %) from SC admitted that this child suffered from measles at some time in his or her life. This difference in the response is not significant using the χ^2 test ($p > 0.50$) (see Table 32).

Taking into account the total number of children born to the mothers interviewed (including those who passed away), the average number of children per mother is 3.3 in KD and 2.3 in SC.

The historic infant mortality (deaths under one years of age) in the households visited was 32.7/1000 for KD, and 13.0/1000 for SC, the average being 23.1/1000. The historic child mortality (deaths over one years of age) in the households visited was 12.3/1000 in KD, 8.7/1000 in SC, the average being 10.5/1000. The historic total child mortality in the households visited (deaths under one years plus deaths over one years) was 44.9/1000 in KD and 21.7/1000 in SC, the average being 33.6/1000.

ASSOCIATION BETWEEN AGE OF MOTHER AND BREAST FEEDING

The practice of breast feeding in the different age groups was examined (see table 33). In KD by and large breast feeding was popular. A further breakdown however revealed that 92.3 % of the 16-20 years old mothers did breast feed; 85 % of the 21-25 years old breast fed; 84.3 % of the 26-35 years old breast fed; and 100 % of the the 36+ years old breast fed (Figure 6).

In SC, there appeared to be an apparent association between breast feeding and age, as the incident of breast feeding appeared to increase with the age. 50 % of the 16-20 year olds breast fed; 76.7 % of the 21-25 year olds breast fed; 86.8% of the 26-35 year olds breast fed; and 72.7 % of the 36+ year olds breast fed (see table 34 and Figure 6).

ASSOCIATION BETWEEN THE EDUCATIONAL STANDARD OF MOTHER AND BREAST FEEDING

Examining the practice of breast feeding in relation to the highest educational standards of the mothers reached, it was ironic to note that the incidence of breast feeding appeared to drop with the rise in educatiuonal standards, with the exception of the few mothers in the post matric level in SC. A study of tables 35a and 35b & the bar diagram in figure 7 show in KD that 90 % of the mothers who had not gone beyond the std 5 level of education breast fed; 87.2 % of the mothers who had reached up to std 8 breast fed; and 83.3 % of the

mothers who had reached up to the matric level had breast fed. In SC, 83.3 % of those up to std.5 level breast fed; 78.2 % of those up to the std. 8 level breast fed; 66.7 % of those up the matric level breast fed; and 100 % of those in the post matric level breast fed.

ASSOCIATION BETWEEN AGE OF MOTHER AND KNOWLEDGE OF ORT

Table 36(a) and 36(b) looks at the association between age of the mothers and knowledge and practice of ORT for treatment of diarrhoea. In both communities, there was no positive correlation from observation.

ASSOCIATION BETWEEN EDUCATIONAL STANDARD OF MOTHER AND KNOWLEDGE OF ORT

Table 37(a) and 37(b) looks at the association between the highest education levels reached of the mothers and knowledge and practice of the ORT for the treatment of diarrhoea. In both communities there was no positive correlation from observation.

ASSOCIATION BETWEEN AGE OF MOTHER AND COMPLIANCE TO IMMUNIZATION

Table 38(a) and 38(b) and the bar diagram in figure 8 show the relationship between the ages of the mothers and their adherence to having their children fully immunised for age in both the communities. From observation, there did not appear to be any positive relationship between these two sets of observations in both the communities. There was a low compliance for their children being fully immunised for age

in the 16-21 year old age group in KD. There also appeared to be an increasing compliance to having their children fully immunised for age with advancing age of the mothers both in SC and KD.

ASSOCIATION BETWEEN EDUCATIONAL STANDARD OF MOTHER AND COMPLIANCE TO IMMUNIZATION

Table 39 (a) and 39 (b) and the bar diagram in figure 9 show the relationship between the educational status of the mothers and their compliance to have their children fully immunised for age in both the communities. Ironically in both communities, though more marked in SC, there appeared to be decline in the adherence to have their children fully immunised for age, with increasing level of educational standards reached.

ASSOCIATION BETWEEN THE RESPONSE OF MOTHER TO THE IMPORTANCE OF GROWTH MONITORING AND AGE AS WELL AS EDUCATIONAL STANDARD

Table 40 (a) and 40 (b) show the relationship between the ages of the mothers and their responses to the importance of growth monitoring in both the communities. Likewise table 41 (a) and 41 (b) show the relationship between the educational level of the mothers and their responses to the importance of growth monitoring in both the communities. In both these communities, no positive relationship could be ascertained between the age of the mothers and their responses to the importance of growth monitoring; and between the educational level of the mothers and their responses to the importance of growth monitoring.

FIGURE 6 : BAR DIAGRAM SHOWING THE PROPORTION OF THE MOTHERS WHO BREAST FED WITHIN THE DIFFERENT AGE GROUPS IN KWA NDENGEZI AND SHALLCROSS

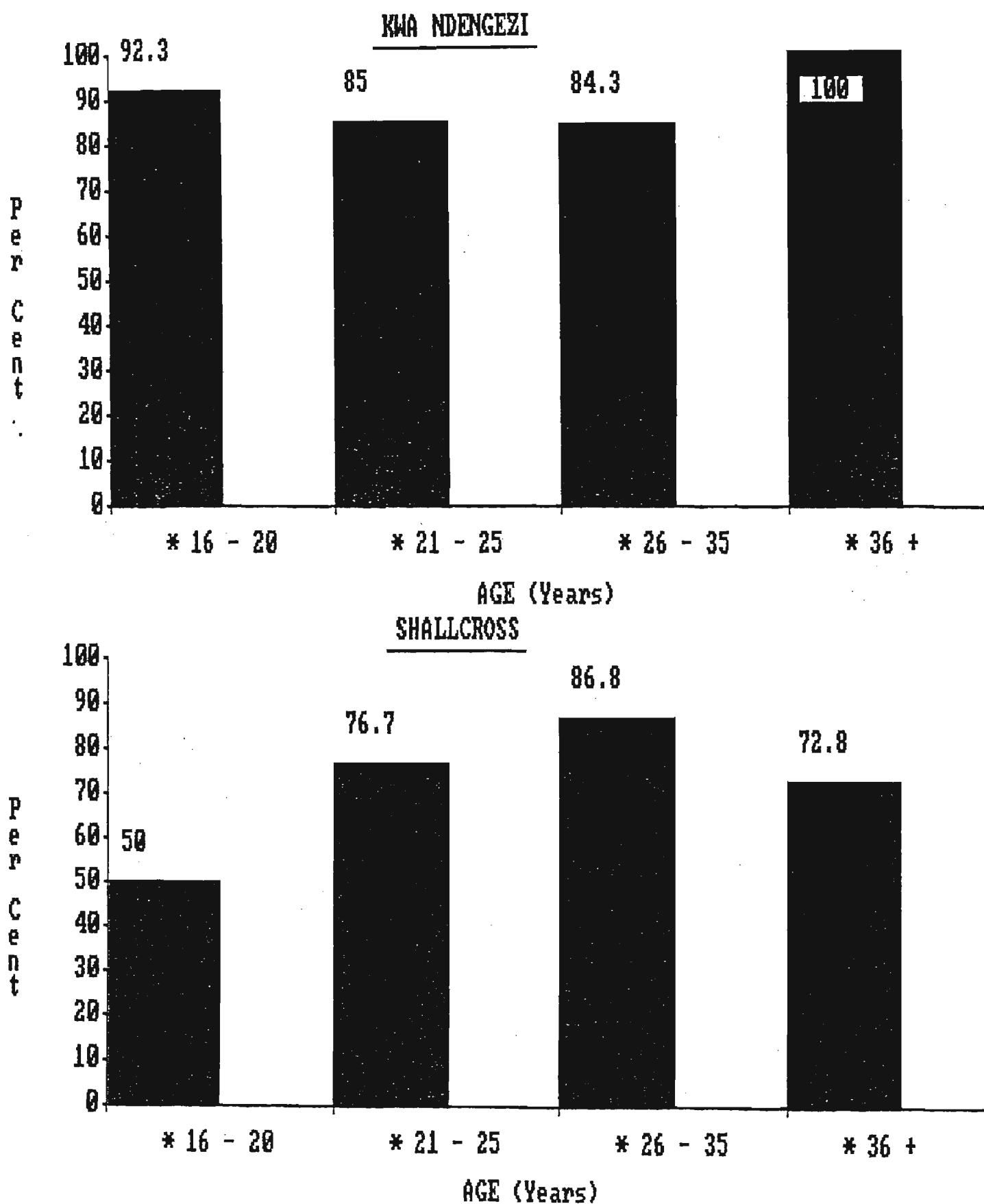


FIGURE 7 : BAR DIAGRAM SHOWING THE PERCENTAGE OF MOTHERS WITHIN THE SPECIFIC EDUCATIONAL LEVELS REACHED, WHO WERE BREAST FEEDING IN THE TWO COMMUNITIES.

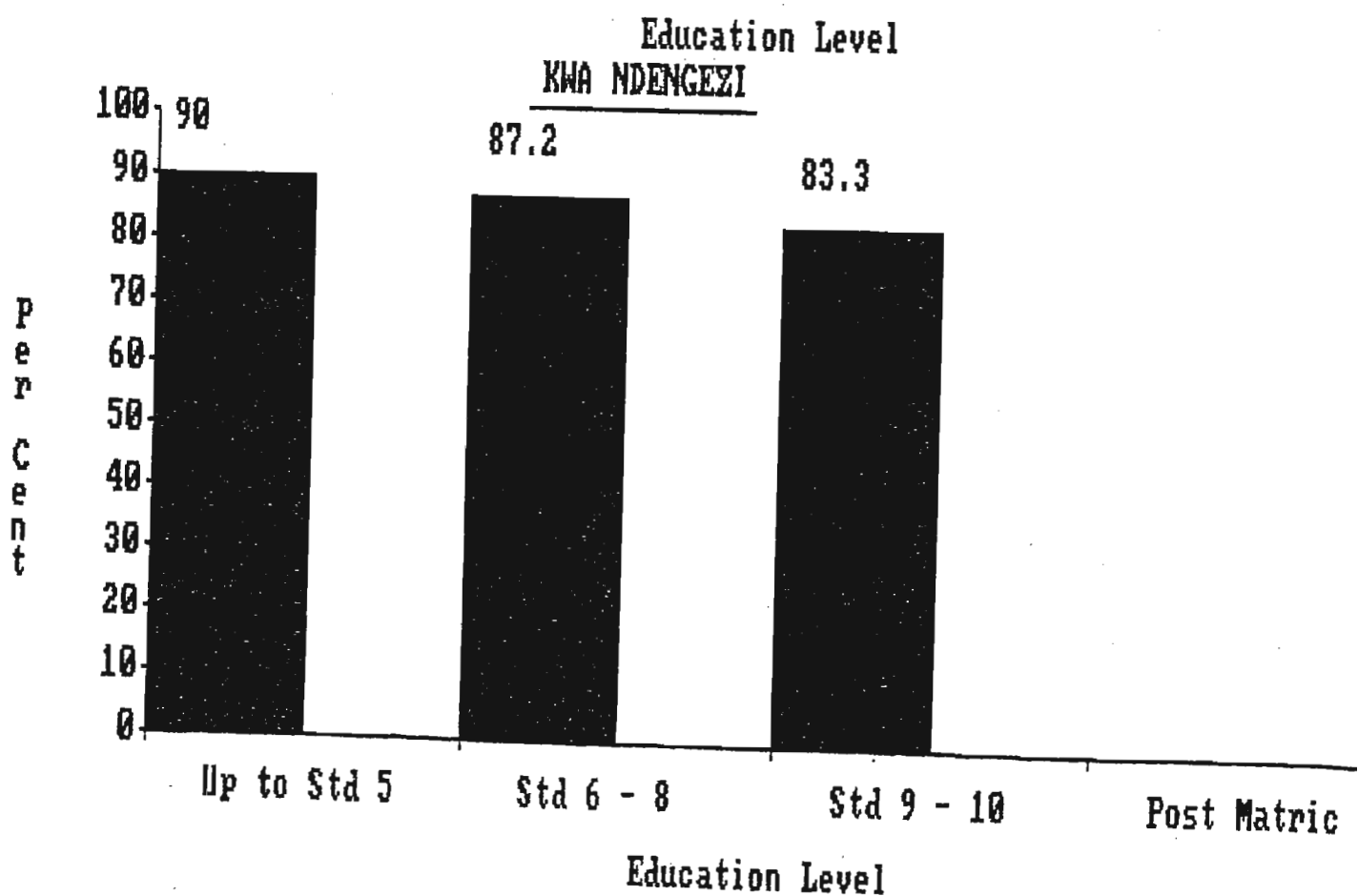
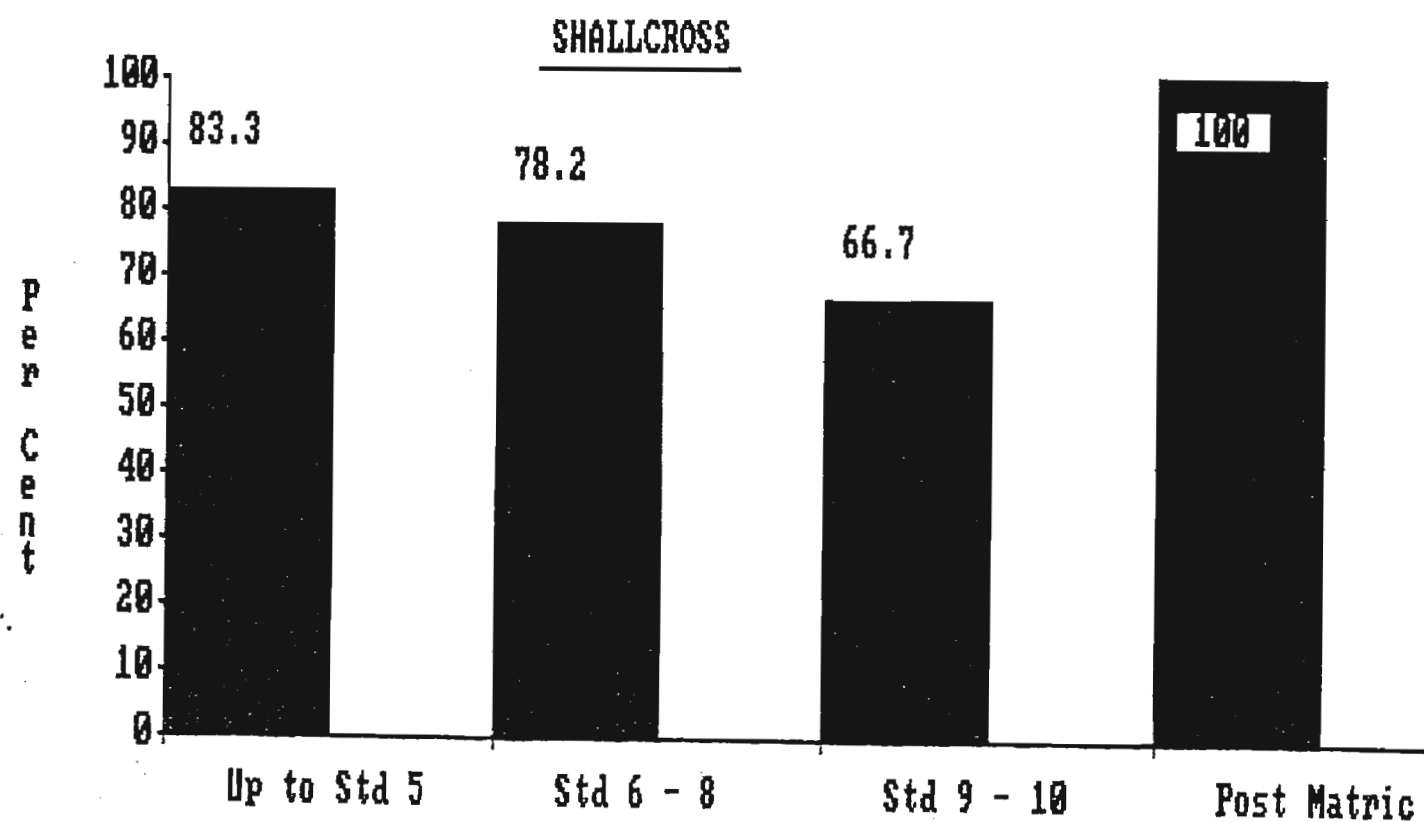
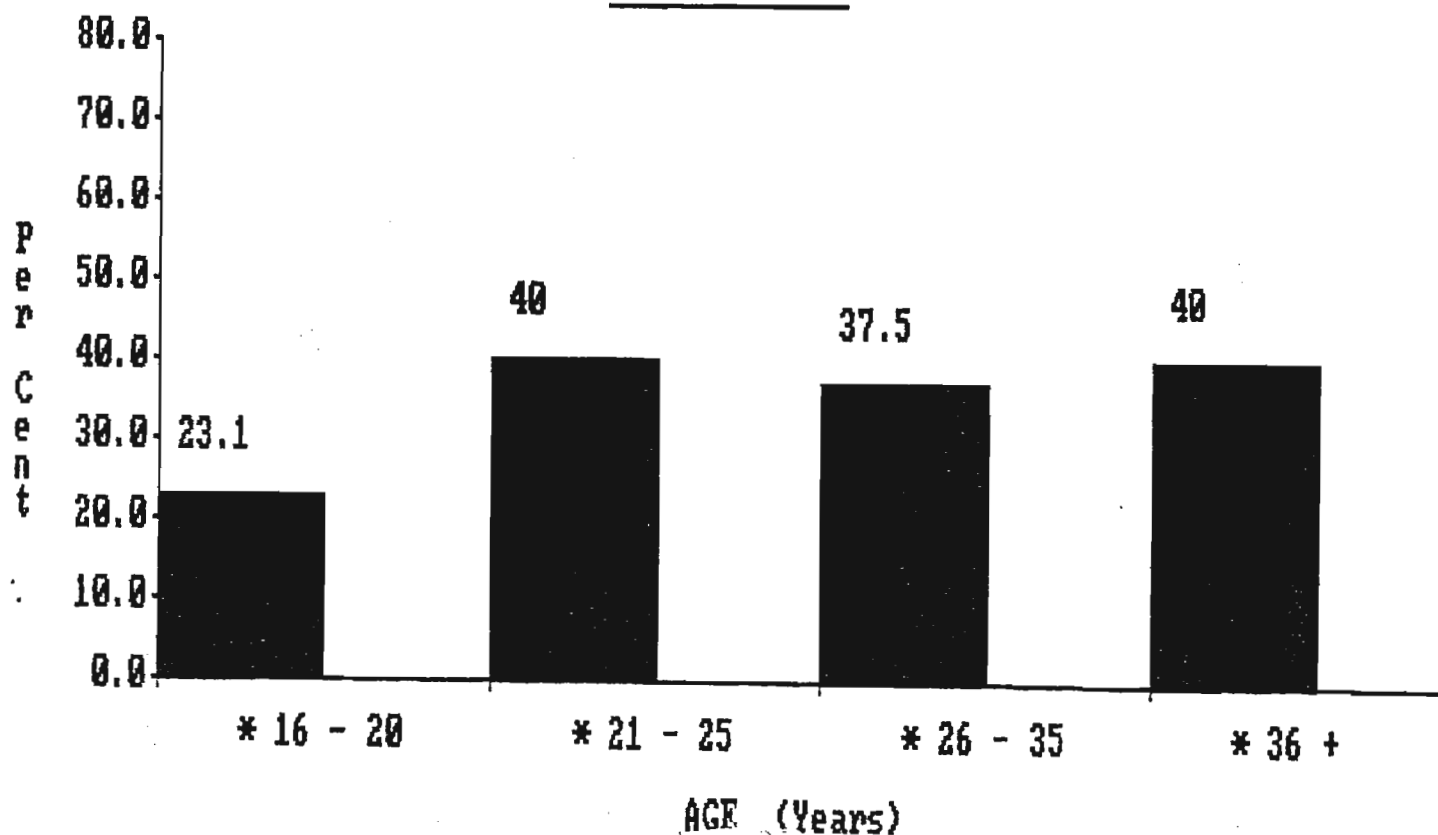


FIGURE 8 : BAR DIAGRAM SHOWING THE PERCENTAGE OF MOTHERS WITHIN THE SPECIFIC AGE GROUPS WHOSE CHILDREN WERE FULLY IMMUNIZED FOR AGE IN THE TWO COMMUNITIES.

KWA NDENGZI



SHALLCROSS

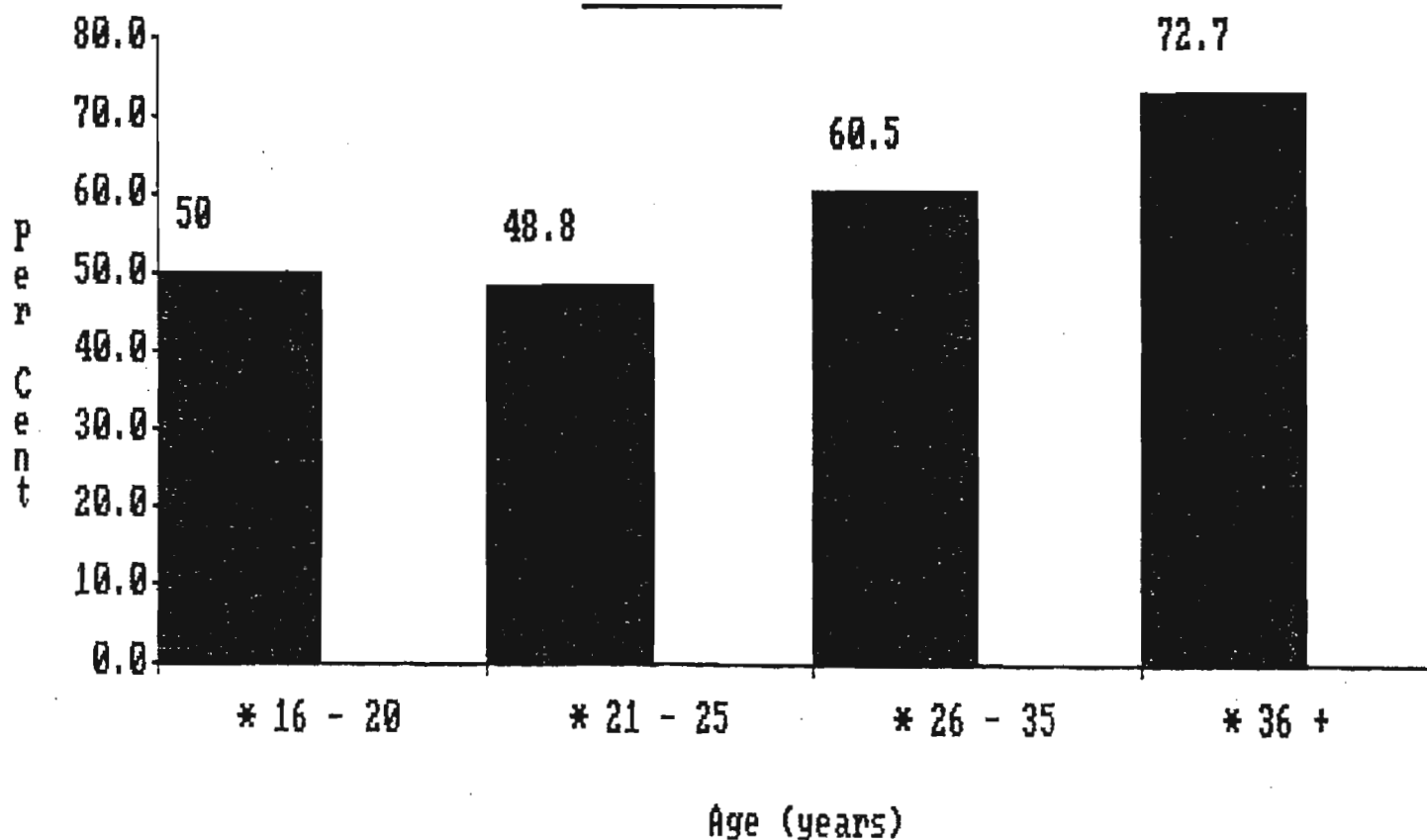
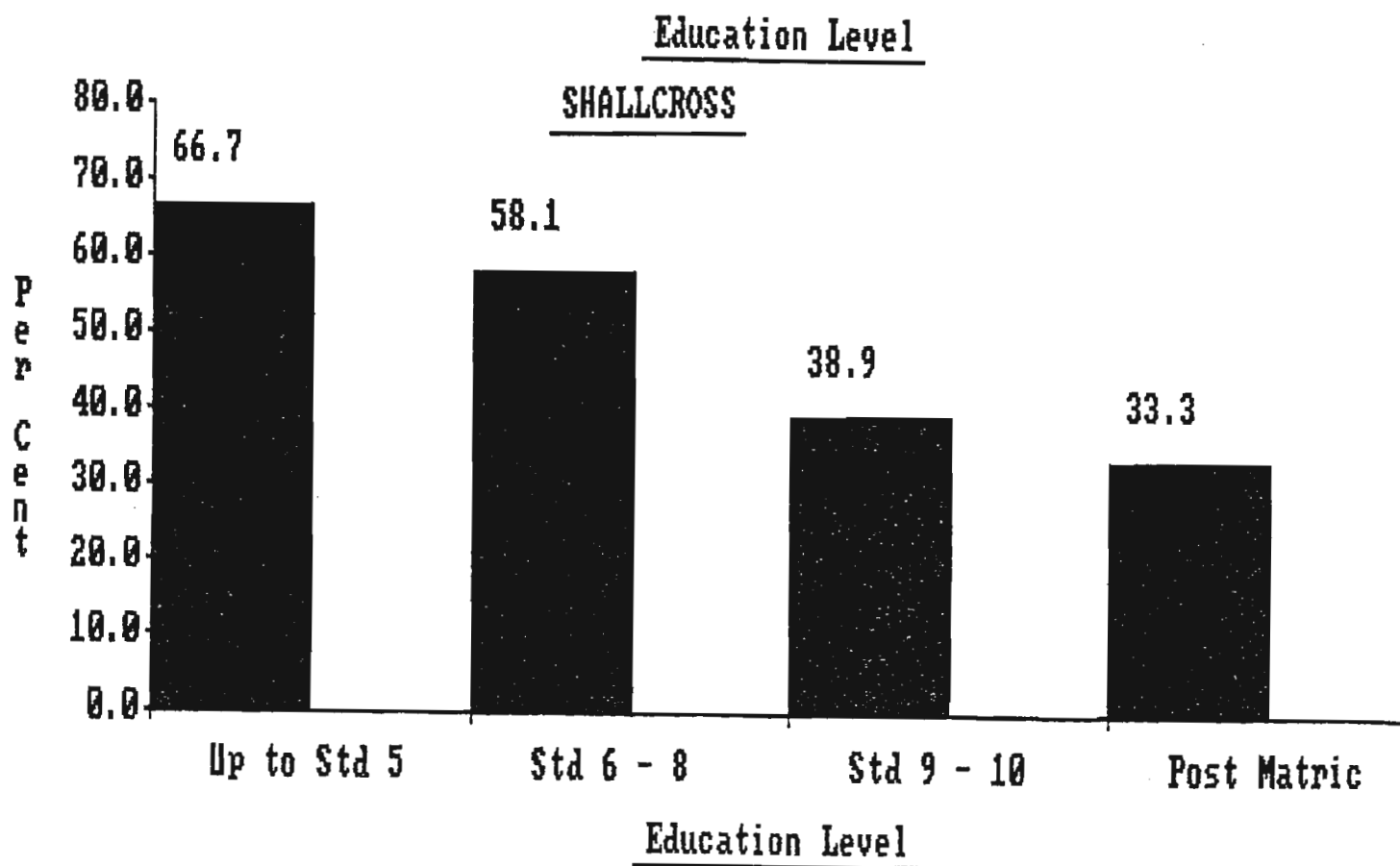
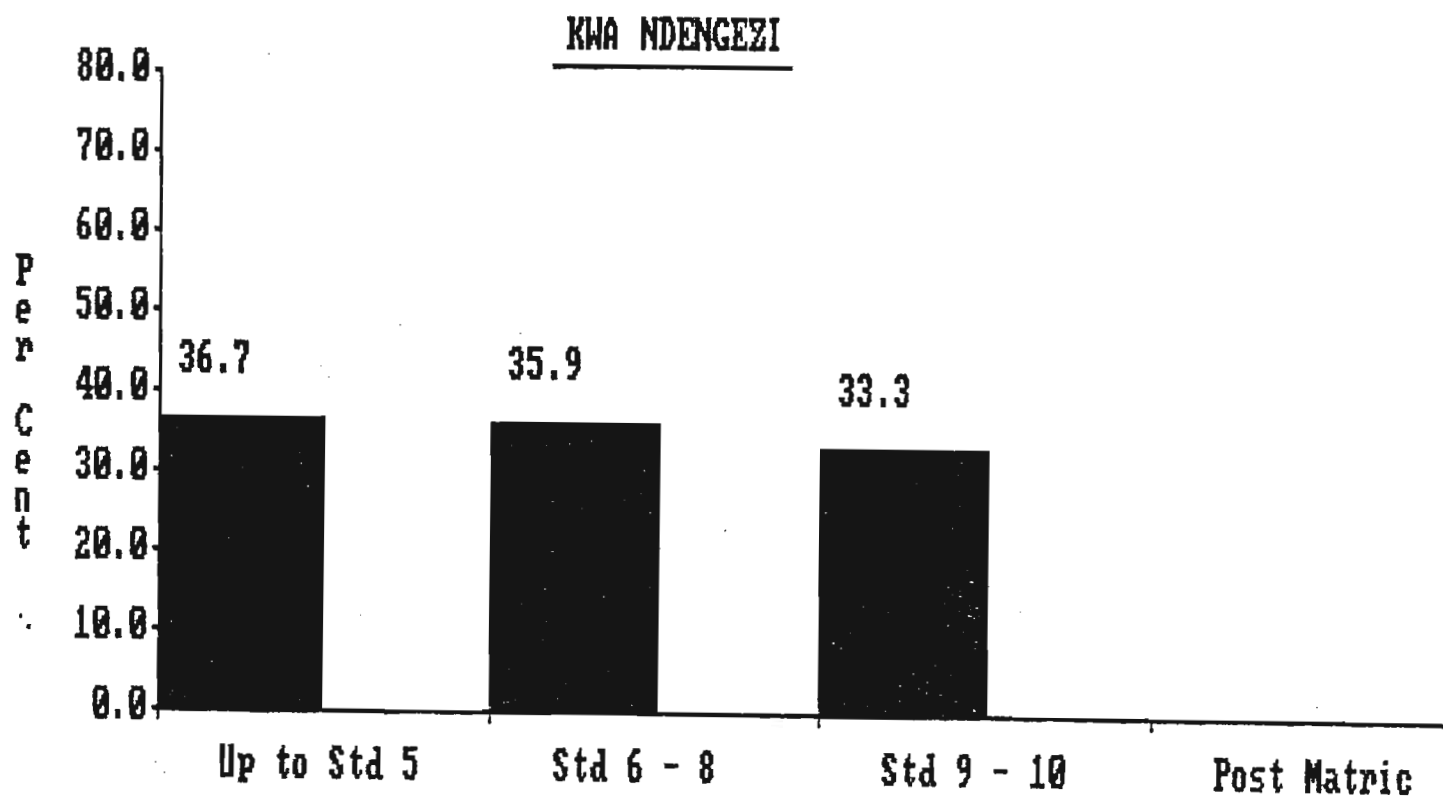


FIGURE 9 : BAR DIAGRAM SHOWING THE PERCENTAGE OF MOTHERS WITHIN THE SPECIFIC EDUCATIONAL LEVELS REACHED WHOSE CHILDREN WERE FULLY IMMUNIZED FOR AGE IN THE TWO COMMUNITIES.



DISCUSSION

INTRODUCTION

This survey was conducted only in the houses which included a child between the ages of one and two years of age, with the mother present and being the child minder herself. The reason why we chose only these homes where the mother herself was the child-minder was that we were anxious to ascertain the mother's awareness and implementation of GOBI. Furthermore the questions relating to the FFF, were directly relevant to the mother. Furthermore, many of the personal characteristics would not have been elicited by another child-minder. In brief, the key person in this survey was the mother.

However, mothers form only a certain percentage of the child-minders in any community. For example, in a survey carried out by Shuenyane E, et al, only 44 % of the infants were cared for by their mothers. The rest were cared for by a grandmother or adult relative, creche, paid nanny, or friend or neighbours. In other words more than half the children were being cared for by someone other than the mother. *10 In some situations, even minors or other siblings are delegated the task of child-minding.

It would be reasonable to assume that, by and large, a better and relatively superior child care would be administered by the mother than by another. It is her own child; she is more motivated and more concerned than another, and would therefore take a more keener interest in her child minding.

Hence, having restricted our survey only to these homes where

the mother herself is the child-minder, introduces a bias which however has been unavoidable and pre-calculated in order to get more adequate information.

CHARACTERISTICS OF MOTHERS

Regarding the personal characteristics of the mothers, their low level of educational standards stands out as a sore thumb. 52 % in KD and 55 % in SC received education only up to the junior high school level (up to std. 8). In addition, 40% in KD and 24% in SC reached only up to the std. 5 level (including those who did not receive any formal education).

The majority of the mothers first fell pregnant between the ages of 16 and 25 years (86.7 % in KD and 80 % SC).

In terms of family size, the small (one to two children) and medium (three to five children) size families are almost equally popular in KD (46.7% and 42.7% respectively). In SC however there is far greater prevalence of the small family size (62 %) compared to the medium family (38 %). However, 10.6 % of the KD mothers did have large families (six children or more); while none of the mothers interviewed in SC had large families.

It was most interesting to note that 50.7 % of the mothers in KD were unmarried compared to 1 % in SC. However many of the fathers in such situations took responsibility and supported the children.

KNOWLEDGE AND IMPLEMENTATION OF GOBI-FFF

Regarding the implementation of growth monitoring in the greater Durban area, unfortunately no uniform system is in practice. The various baby clinics are administered by either one of four health authorities, namely City Health, State Health, Kwa Zulu Health and Development and Service Board. Only State Health issues the "growth chart" or "road to health" cards which are kept by the mothers who are encouraged to bring the child regularly to the clinic for weighing—ideally once a month for the first year, once in two months for the second year of the child's life, once in three months for the third year, once a quarter for the fourth year and six monthly in the fifth year. Growth cards are given at the other clinics but retained by the sisters at the clinic. Needless to say this different approach by the different health authorities, independent of one another, and having different types of growth cards, is surprising to say the least and can be confusing and contrary to a uniform health system.

The importance of growth monitoring cannot be over emphasized. Malnutrition in childhood can permanently affect mental and physical development. One of the most important causes of malnutrition is repeated infections, especially respiratory tract infections and diarrhoeal diseases. However, before malnutrition becomes manifest overtly, it can be detected by a sub-normal growth in the growth card. At that early stage it can be more cheaply and easily corrected with advice and correct nutritional habits. There are more than 200 growth cards in over 80 countries. *11 This association between diarrhoea and malnutrition is now quite well known and established. *12 That diarrhoea causes impairment of physical growth in length and weight

*13 could be due to vomiting, loss of appetite, loss of nutrients and malfunctioning of the gastro-intestinal tract. Severely malnourished children have a far higher mortality than their nutritionally better-off counterparts. *14

Locally, Coovadia et al, in a study of Negro children from birth to 12 years in the Durban area found that the older children in the study were generally lighter and shorter than and international standard (Harvard). *15 In a study in Soweto by Shuenyani et al of 1083 people of which 523 were children under 16 years of age, the authors found stunting compared with international standards (Harvard) occurred frequently at all ages and was more marked in the pre-school children. *16 "Recent evidence suggest that the growth of privileged children in developing countries does not differ importantly from these standards (of Europe and North America) and that the poorer growth so commonly observed in the underprivileged is due to social factors, among which the malnutrition-infection complex is of primary importance rather than to ethnic or geographical difference..." *17 It thus becomes disconcerting and significant that as much as 77.4% from KD and 30.7% from SC did not know the importance of growth monitoring in this study.

The importance of oral rehydration therapy (ORT) given to children who develop diarrhoea cannot be over emphasized. It could prevent dehydration, reduce the rate of hospitalisation *12,18 and decrease case mortality rate, especially early use of ORT. *18,19. It must be available in the house, and given immediately the symptoms develop, and frequently. However, the mother must be able to recognize diarrhoeal disease and especially when it becomes severe and

leads to dehydration. However, the majority of the mothers either did not know or mentioned a non-specific sign of weakness/listless as a sign of severity and dehydration (50.2 % average response of both communities). The implementation of the ORT was poor as only 21.3 % from KD and 14 % from SC knew how to make the solution.

The synergism of the three inter related major health problems of malnutrition, infection and unregulated fertility are quite well known.*20 However, the importance of exclusively breast feeding in substantially lowering morbidity and mortality rates, *21 susceptibility to infection, *22 severity of infection, and incidence of diarrhoeal and other infections is equally well known.*23. In addition, other advantages of breast milk include some degree of protection against conception *24 , some immunity from infection, emotional ties between mother and child *25, and its cost effectiveness *26. Thus it was disconcerting to note that 12 % of the KD mothers and 11 % from SC felt there was no difference between breast milk and its substitute, whilst 8 % from KD and 3 % from SC actually felt that substitute milk was superior to breast milk; and 12 % from KD did not know which was healthier. It was interesting to note a similar, though somewhat more marked, lack of knowledge regarding the value of breast feeding in a survey in Mexico, where 24% believed milk or formula made infants healthier (compared to breast milk), while 23% felt that what the child was fed made no difference *27. In addition 17.7 % of the KD mothers did not know why breast feeding was important whilst 5.2 % from KD said it was not important. However, the implementation of breast feeding was good (85 % from KD and 78 % from SC). The duration of breast feeding was longer in KD than in SC.

The fact that a high percentage of mothers (25.3% in KD and 18 % in SC) could not produce the immunisation card poses problems for assessment. However, even if one took only those cards that were seen the picture is not good. In KD only 48.2 % of these were fully immunized for age, while 44.6 % were partially immunised for age, and 7.2 % were not immunised. Likewise in SC, 68.3 % were fully immunised for age, and 31.7 % were partially immunised for age. Using the χ^2 test, the difference in response between the two communities is significant ($0.02 > p > 0.01$). (see table 42). These figures assume greater significance when one considers that we are dealing with urban communities (with a higher standards of living, education and awareness compared to a rural community). Partial immunization for age refers when there is either one or more vaccines not administered that should have been by that age. Also disconcerting was the fact that 20 % from KD and 11 % from SC did not know why immunisation was important. In addition 20 % of the mothers from KD and 16 % from SC did not know even one disease that was immunised.

The percentage coverage of BCG (in relation to the target group) was 91.1% in KD and 100% in SC. This favours well with the estimated percentage coverage figures for South Africa (Blacks 61.9%; Asians 36.5%; total 62.7%) *28. The percentage coverage for measles was 69.7% in KD and 91.5% in SC (the estimated coverage for South Africa: Blacks 61.4; Asians 92.8%; total 67.4%) *29. One reason why this situation appears so good in KD and SC, is that the percentages in this study are calculated only from those who could produce their immunization cards, and there would be greater compliance from these.

However, looking at it globally in South Africa, with regard to

the two compulsory immunizations of BCG and Polio, there is a decline observed.*30. The Black population is at the greatest risk. *31 This situation is regarded as dangerous. Due to their infectious nature these diseases are a hazard to the community. However, they are preventable; and we do have the armamentarium. This is where primary health care should begin and should come first. To be effective, the vaccine program must have a wide coverage so that herd immunity rises to levels beyond which epidemics become more and more unlikely. Thus there must be an unrelenting, relentless and broad-based offensive continually striving for full coverage. *32.

Family spacing is often seen as a means of population control. However it is a powerful lever for improving maternal and child health *33 and reducing infant and child mortality rates. Poor family spacing is also implicated as a causative factor in low birth weights * 34 ,35, poor mental development * 36 , birth defects * 37 , malnutrition *38 , adverse effects on older siblings, maternal depletion, and even maternal deaths * 39.

A close relationship between increased numbers of pregnancies with short birth intervals and increased risk of unfavourable outcome for both mother and child exist. *40. Hence family spacing can favourably affect the health, development and well being of a family. However as much as 39.3% in KD did not know the importance of family spacing. In addition, only 53.3 % from KD and 76 % from SC practised family spacing.

Whilst 78.7 % from KD and 89 % from SC did attend ANC, only 36 % from KD and 56 % from SC had their children fully immunised for age.

Is this poor immunisation practice due to lack of total health education given to mothers during their ANC visits, or inadequate education or lack of concern by the mothers.

Female literacy is not merely a reflection of living standards, but also a powerful independent force in its own right, in reducing the numbers of infant and child deaths. A study in Latin America showed mortality rate of children whose mothers had 10 or more years' of schooling was only one-third to one-fifth the rate of children whose mothers were illiterate; and this study concluded that maternal education was the most important factor *41. Hence education of girls is one of the best health investments which a developing community can make. In this study, up to 40% of the KD mothers and 24% of the SC mothers had received only up to standard 5 education (primary school including those who had received no education at all. Furthermore 52% of the KD mothers and 55% of the SC mothers had reached only up to standard 6, 7 or 8 educational level.

93.3 % from KD and 91 % from SC visited the doctor/clinics/hospital at the onset of illness (primary health care). This probably is the case. It could however be a biased answer as the subjects knew that they are being questioned by people who are linked to the orthodox source of health like the hospital, and therefore may have given a preferential mention of these sources.

There was a 40 % incidence of diarrhoea in KD and 21% in SC (one or more episodes) in the three months prior to the interview of the child concerned. This is an unusually high figure.

ASSOCIATIONS

Age and educational standards of the mothers were in turn looked at, in association with the practices of breast feeding, ORT, immunization and the knowledge of the importance of growth monitoring. Considering the limited numbers in this survey, the results obtained from looking at these associations, made the use of statistical tests such as chi square test, impracticable, as the numbers in the different cells of the tables were far too small. Condensing the categories would have masked many observations that were made. Hence, it was felt prudent not to do the latter; and leave the tables as they are with its multiple cells, but without the statistical analyses.

Looking at the association between age and breast feeding, at a glance, whilst breast feeding is popular in almost all age groups in KD, in SC on the other hand it was more prevalent in the older age groups.

It was ironic to note that in general the incidence of breast feeding appeared to drop with the rise in educational status of the mother. This finding is surprising. Could it mean that the more higher educated were influenced by mass media with breast milk substitute adverts which are very prominently displayed all over. Also noteworthy to remember is that people often appeal to and believe in higher authority; and many of the mass media with attractive advertisements become the "higher authority" to the masses. It may also be true to observe that there is a paucity in the dissemination

of health education. The rise in health standards at that educational level may be inadequate and disproportionate in terms of its comprehensiveness.

In this study, it was difficult to associate awareness and implementation of GOBI-FFF to birth, mortality and morbidity rates. The samples were too small to get IMR, crude birth rate, crude death rate and specific mortality and morbidity rates. Without these denominators, it was not possible to associate awareness and implementation of GOBI-FFF to birth, mortality and morbidity rates. However, the historic IMR and historic crude death rate were obtained.

C O N C L U S I O N S

1. In some areas there is a very encouraging picture, example in the area of breast feeding and immunisation practices. However in both these areas and especially in the latter, there is great room for improvement.
2. Regarding the marketting of breast milk substitutes, there should be more stringent control; and South Africa should join the growing number of nations that have brought in legal or voluntary codes to prevent the public promotion of breast milk substitutes. Eighteen such nations have already accepted this infant formular code while thirty four others are currently drafting legislation *42. In addition, breast feeding and the protection offered by it, should also be promoted. This knowledge must be available to all mothers who may be in doubt.
3. Marked ignorance prevails in some situations, example in the lack of awareness of the importance of growth monitoring and in their inability to make the oral rehydration solution for the initial management of diarrhoea in children.
4. Often, there is implementation of one or more factors of GOBI-FFF but without the proper or full understanding of why it should be so and the importance of it. This is possibly a reflection of the inadequate education on health, especially maternal and child health. The danger of the implementation of a practice without its proper understanding is that the practice may be discontinued eventually.

5. Meaningfull health education has either not reached the target groups or failed or not accepted by the community or has been very inadequate for the needs of the particular community, especially in KD. There is a need for more effective health education, especially education on maternal and child health. The mother and child are the key to the whole community and society. Their health status (positive or negative) is also reflected in the community. One should seriously consider the mass media for imparting of meaningfull health education, especially the radio and television as these are now extremely popular.

The professional nursing sister and the local clinic can play a more dynamic role in the dissemination of health information. Songs and posters and bill-boards can be used as vehicles for health education. If big attractive posters and bill-boards are displayed in almost every township and residential area encouraging people to poison themselves with alcohol and cigarettes, and which the authorities allow very freely, then similar sized attractive posters and bill-boards can display the virtues and advantages of breast feeding, immunisation and basic information on child and maternal health.

A cadre of primary health care workers need to be trained with rudimentary but meaningfull training . The education and training must be more relevant to the needs and tasks in primary health care. Coventional didactic training based on curricula evolved in the developed world would be inappropriate. *43 The training programmes should be flexible, adapted to local needs, under realistic conditions, and must be accompanied with in-service

training. *44.

Direct education to the child is not feasible. The mother therefore becomes the channel of communication, through her actions; that is, example of good habits and healthy living. She supplies safe water, nutritious food, proper disposal of waste, sees to breast feeding, immunisation, etc. *45. Hence the target of education should be mothers.

6. Maternal and child health (MCH) care services are poor in Kwa Ndengezi. The combination of the relatively poor clinic facilities; the inferior clinic services (as compared with other areas); the inadequacy of education in general and health education in particular; and the poor motivation on the part of the mothers; all add to a poor maternal and child health care services, utilization and outcome. In this context, it becomes highly significant to heed the words of the WHO expert committee on maternal and child health: " The objectives of maternal and child health (MCH) services begin with the immediate health problems of the mothers and children and extend to health throughout life and to community health. Through concern with child development and the health education of parents and children, the ultimate objective of MCH services is lifelong health. The effect of careful and informed mothering on the health of the entire family and the relation of family health to community health are important factors in individual, community and national development." *46

7. In order to accellerate the forward advancement of such basic

health measures as GOBI-FFF, and in order to provide motivation and incentives, certain quantitative targets should be considered to achieve these objectives. An example of this is when certain countries in the Americas had set a quantitative target in the mid seventies for 60-90 % coverage of total deliveries by trained health workers by 1980. *47 Similar quantitative targets relating to GOBI-FFF and to maternal and child health care in general need to be planned.

R E C O M M E N D A T I O N S

1. There is a very powerful and urgent need for a more effective health education to be imparted to the community. In this regard the following points need to be considered.
 - (a) The emphasis should be on maternal and child health.
 - (b) The mass media such as the radio and TV should be considered.
 - (c) The professional nursing sisters and the clinic should get very much more involved.
 - (d) Songs, posters and bill-boards should be considered as vehicles for this education.
 - (e) Training of primary health care workers.
 - (f) Restructuring the curriculum and method of health education and training, to become more relevant to the local needs.
 - (g) The target of the education should be primarily the mothers.
2. The concept, implementation, promotion and advancement of maternal and child health (MCH) care services need to be dynamised and accelerated.
3. There should be legal or voluntary code to prevent the public promotion of breast milk substitutes; as well as more active promotion of breast feeding and the protection offered by it.
4. Certain quantitative targets should be planned in terms of achieving certain desired health objectives. This is best done by the authorities in consultation with the experts in the field.

A C K N O W L E D G E M E N T S

I am most grateful to the members of the Department of Community Health, University of Natal, especially Prof. D.D. Arbuckle and Dr. Kala Naidoo for their advice, practical suggestions and assistance in planning this research and in the preparation of this paper. My heartfelt thanks also go to the medical students of this university for their assistance in conducting the household survey. I hope they enjoyed it as much as I did. I would also like to thank Mr Hlope the township manager of Kwa Ndengezi; and Development and Service Board authorities administring Shallcross, for their assistance, willingness to co-operate and their encouragement.

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- (1) Grant J.P. The State of the Worlds' Children 1985. Unicef report 1985. p110.
- (2) Ibid p112.
- (3) Ibid p76.
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L I S T O F T A B L E S

ABBREVIATIONS: KD = Kwa Ndengezi.
 SC = Shallcross.

TABLE 1: AGE DISTRIBUTION OF MOTHERS IN KWA NDENGEZI AND SHALLCROSS (NUMBER AND PERCENT)

AGE (YEARS)	KWA NDENGEZI	SHALLCROSS	TOTAL
<21	13 (17.3)	8 (8)	21 (12)
21-	20 (26.7)	43 (43)	63 (36)
26-	32 (42.7)	38 (38)	70 (40)
36+	10 (13.3)	11 (11)	21 (12)
TOTAL	75 (100)	100 (100)	175 (100)

TABLE 2: THE RELIGIOUS BELIEFS OF MOTHERS INTERVIEWED IN KWA NDENGEZI AND SHALLCROSS (NUMBER AND PERCENT)

RELIGION	KWA NDENGEZI	SHALLCROSS	TOTAL
TRADITIONAL AFRICAN	3 (4)	0 (0)	3 (1.7)
HINDUISM	0 (0)	76 (76)	76 (43.4)
CHRISTIANITY	72 (96)	15 (15)	87 (49.7)
ISLAM	0 (0)	9 (9)	9 (5.2)
TOTAL	75 (100)	100 (100)	175 (100)

TABLE 3: THE HIGHEST EDUCATIONAL STANDARDS REACHED OF MOTHERS IN
KWA NDENGEZI AND SHALLCROSS (NUMBER AND PERCENT)

EDUCATION	KWA NDENGEZI	SHALLCROSS	TOTAL
UP TO STD. 5	30 (40)	24 (24)	54 (30.9)
STD. 6-8	39 (52)	55 (55)	94 (53.7)
STD. 9-10	6 (8)	18 (18)	24 (13.7)
POST MATRIC	0 (0)	3 (3)	3 (1.7)
TOTAL	75 (100)	100 (100)	175 (100)

TABLE 4: THE MARITAL STATUS OF MOTHERS INTERVIEWED IN KWA NDENGEZI
AND SHALLCROSS (NUMBER AND PERCENT)

MARITAL STATUS	KWA NDENGEZI	SHALLCROSS	TOTAL
MARRIED	34 (45.3)	98 (98)	132 (75.4)
SINGLE & DIVORCED/ SEPARATED/WIDOWED	41 (54.7)	2 (2)	43 (24.6)
TOTAL	75 (100)	100 (100)	175 (100)

TABLE 5: AGE DISTRIBUTION OF THE MOTHERS AT THE TIME OF THEIR FIRST PREGNANCY IN KWA NDENGEZI AND SHALLCROSS (NUMBER AND PERCENT)

AGE (YRS.) OF MOTHER DURING 1st PREGNANCY	KWA NDENGEZI	SHALLCROSS	TOTAL
<16	4 (5.3)	6 (6)	10 (5.7)
16-	45 (60)	50 (50)	95 (54.3)
21-	20 (26.7)	30 (30)	50 (28.6)
26+ / DON'T KNOW	6 (7.9)	14 (14)	20 (11.4)
TOTAL	75 (100)	100 (100)	175 (100)

TABLE 6: THE DISTRIBUTION OF THE SIZE OF THE NUCLEAR-FAMILY IN KWA NDENGESI AND SHALLCROSS NUMBER AND PERCENTAGE

NUMBER OF CHILDREN TO THE MOTHER	KWA NDENGEZI	SHALLCROSS	TOTAL
1-2 CHILDREN	35 (46.7)	62 (62)	97 (55.4)
3-5 CHILDREN	32 (42.7)	38 (38)	70 (40)
6+ CHILDREN	8 (10.6)	0 (0)	8 (4.6)
TOTAL	75 (100)	100 (100)	175 (100)

TABLE 7: INCOME OF HOUSEHOLDS IN KWA NDEANGEZI AND SHALLCROSS
(NUMBER AND PERCENT)

INCOME OF HOUSEHOLDS (RAND PER MONTH)	KWA NDENGEZI	SHALLCROSS	TOTAL
UP TO R150	22 (29.3)	2 (2)	24 (13.7)
R151 - R450	30 (40)	33 (33)	63 (36)
R451 - R800	14 (18.7)	39 (39)	53 (30.3)
R801 AND OVER	1 (1.3)	26 (26)	27 (15.4)
DON'T KNOW	8 (10.7)	0 (0)	8 (4.6)
TOTAL	75 (100)	100 (100)	175 (100)

TABLE 8: DISTRIBUTION OF RESDENTS PER HOUSE IN KWA NDEANGEZI AND
SHALLCROSS (NUMBER AND PERCENT)

RESIDENTS PER HOUSE	KWA NDENGEZI	SHALLCROSS	TOTAL
UP TO 3	7 (9.3)	12 (12)	19 (10.9)
4-6	27 (36)	58 (58)	85 (48.6)
7-10	26 (34.7)	24 (24)	50 (28.6)
11+	15 (20)	6 (6)	21 (12)
TOTAL	75 (100)	100 (100)	175 (100)

TABLE 9: DISTRIBUTION OF THE OCCUPATION OF THE FATHERS IN KWA NDENGEZI AND SHALLCROSS (NUMBER AND PERCENT)

OCCUPATION OF FATHERS	KWA NDENGEZI	SHALLCROSS	TOTAL
UNEMPLOYED	9 (12)	5 (5)	14 (8)
MANUAL UNSKILLED	18 (24)	18 (18)	36 (20.7)
MANUAL SKILLED	17 (22.7)	34 (34)	51 (29.1)
NON-MANUAL	14 (18.7)	40 (40)	54 (30.9)
NOT APPLICABLE	17 (22.7)	3 (3)	20 (11.4)
TOTAL	75 (100)	100 (100)	175 (100)

TABLE 10: DISTRIBUTION OF OWNERSHIP OF HOUSES IN KWA NDENGEZI AND SHALLCROSS (NUMBER AND PERCENT)

TYPE OF HOUSING	KWA NDENGEZI	SHALLCROSS	TOTAL
OWN HOUSE	11 (14.7)	40 (40)	51 (29.1)
RENTING	64 (85.3)	46 (46)	110 (62.9)
FLAT	0 (0)	14 (14)	14 (8)
TOTAL	75 (100)	100 (100)	175 (100)

TABLE 11: RESPONSE OF THE MOTHERS TO THE IMPORTANACE OF GROWTH MONITORING IN KWA NDENGEZI AND SHALLCROSS (NUMBER AND PERCENT)

RESPONSE TO THE IMPORTANCE OF GROWTH MONITORING	KWA NDENGEZI	SHALLCROSS	TOTAL
TO DETECT MALNUTRITION	0 (0)	13 (10.2)	13 (6.4)
TO DETECT CHRONIC ILLNESS	1 (1.3)	19 (15)	20 (9.9)
TO KNOW IF CHILD IS HEALTHY	16 (21.3)	56 (44.1)	72 (35.7)
DON'T KNOW AND OTHER REASONS	58 (77.4)	39 (30.7)	97 (48)
TOTAL	75 (100)	127 (100)	202 (100)

TABLE 12: KNOWLWDGE OF MOTHERS ON SIGNS OF DEHYDRATION IN KWA NDENGEZI AND SHALLCROSS (NUMBER AND PERCENT)

RESPONSE OF MOTHERS TO SIGNS OF DEHYDRATION	KWA NDENGEZI	SHALLCROSS	TOTAL
SUNKEN HEAD (FONTANELLE)	4 (4)	4 (2.8)	8 (3.3)
FLABBY SKIN (LOSS OF TISSUE TURGOR)	5 (5)	7 (4.9)	12 (4.9)
WEAK AND LISTLESS	39 (39)	42 (29.3)	81 (33.3)
DRY TONGUE AND MOUTH	2 (2)	4 (2.8)	6 (2.5)
OTHER	27 (27)	68 (47.6)	95 (39.1)
DON'T KNOW	23 (23)	18 (12.6)	41 (16.9)
TOTAL	100 (100)	143 (100)	243 (100)

TABLE 13: MOTHERS' KNOWLEDGE ON IMPORTANCE OF BREAST FEEDING
IN KWA NDENGEZI AND SHALLCROSS (NUMBER ANDPERCENT)

THE RESPONSE OF THE MOTHER TO THE IMPORTANCE OF BREASTFEEDING	KWA NDENGEZI	SHALLCROSS	TOTAL
HEALTHIEST	40 (41.7)	82 (38.3)	122 (39.4)
CLEAN	19 (19.8)	36 (16.8)	55 (17.7)
ECONOMICAL	10 (10.4)	33 (15.3)	43 (13.9)
CONVENIENCE	5 (5.2)	28 (13.1)	33 (10.7)
BONDING	0 (0)	25 (11.7)	25 (8.0)
OTHER	22 (22.9)	10 (4.7)	32 (10.3)
TOTAL	96 (100)	214 (100)	310 (100)

TABLE 14: MOTHERS KNOWLWDGE OF THE ASSOCIATION BETWEEN INFANT
FEEDING AND HEALTH (NUMBER AND PERCENT)

WHEN IS THE INFANT HEALTHIER?	KWA NDENGEZI	SHALLCROSS	TOTAL
ON BEING BREAST FED	51 (68)	86 (86)	137 (78.3)
ON BEING FED SUBSTITUTE MILK	6 (8)	3 (3)	9 (5.1)
THERE IS NO DIFFERENCE BETWEEN THE TWO	9 (12)	11 (11)	20 (11.4)
DON'T KNOW	9 (12)	0 (0)	9 (5.1)
TOTAL	75 (100)	100 (100)	175 (100)

Table 15: THE MOTHERS KNOWLEDGE OF THE IMPORTANCE OF IMMUNIZATION IN KWA NDENGEZI AND SHALLCROSS (NUMBER AND PERCENT)

THE MOTHERS RESPONSES TO THE IMPORTANCE OF IMMUNIZATION	KEA NDENGEZI	SHALLCROSS	TOTAL
PREVENTS CERTAIN DISEASES	60 (80)	89 (89)	149 (85.1)
DON'T KNOW	15 (20)	11 (11)	26 (14.9)
TOTAL	75 (100)	100 (100)	175 (100)

Table 16: THE MOTHERS KNOWLEDGE OF CHILDHOOD IMMUNIZATION IN KWA NDENGEZI AND SHALLCROSS (NUMBER AND PERCENT)

THE DISEASES IMMUNISED AGAINST	KWA NDENGEZI	SHALLCROSS	TOTAL
TUBERCULOSIS	35 (46.7)	45 (45)	80 (45.7)
POLIO	40 (53.3)	51 (51)	91 (52)
DIPHThERIA	19 (25.3)	17 (17)	36 (20.6)
TETANUS	12 (16)	10 (10)	22 (12.6)
WHOOPING COUGH	19 (25.3)	16 (16)	35 (20)
MEASLES	44 (58.7)	67 (67)	111 (63.4)
OTHER DISEASES	15 (20)	15 (15)	30 (17.1)
DON'T KNOW	15 (20)	16 (16)	31 (17.7)

Table 17: THE MOTHERS KNOWLEDGE OF THE IMPORTANCE OF FAMILY SPACING IN KWA NDENGEZI AND SHALLCROSS (NUMBER AND PERCENT)

THE MOTHERS RESPONSES TO THE IMPORTANCE OF FAMILY SPACING	KWA NDENGEZI	SHALLCROSS	TOTAL
MOTHERS HEALTH	7 (8.3)	17 (12)	24 (10.6)
BABY'S HEALTH	14 (16.7)	28 (19.7)	42 (18.6)
ECONOMIC REASONS	18 (21.4)	61 (43)	79 (35)
BETTER BREAST FEEDING	1 (1.2)	6 (4.2)	7 (3.1)
PREVENT MORE BABIES & AT WRONG TIMES	7 (8.3)	9 (6.3)	16 (7.1)
NOT IMPORTANT	4 (4.8)	7 (4.9)	11 (4.9)
DON'T KNOW	33 (39.3)	14 (9.9)	47 (20.8)
TOTAL	84 (100)	142 (100)	226 (100)

TABLE 18: THE MOTHERS KNOWLEDGE OF THE ABILITY TO RECONSTITUTE THE ORAL REHYDRATION SOLUTION (ORS) IN KWA NDENGEZI AND SHALLCROSS (NUMBER AND PERCENT)

THE RESPONSE OF THE MOTHERS TO BEING ABLE TO MAKE ORS	KWA NDENGEZI	SHALLCROSS	TOTAL
YES	16 (21.3)	14 (14)	30 (17.1)
NO	59 (78.7)	86 (86)	145 (82.9)
TOTAL	75 (100)	100 (100)	175 (100)

TABLE 19: THE DISTRIBUTION OF MOTHERS WHO BREASTFEED THEIR BABIES IN KWA NDENGEZI AND SHALLCROSS (NUMBER AND PERCENT)

DID YOU BREAST FEED THIS CHILD?	KWA NDENGEZI	SHALLCROSS	TOTAL
YES	66 (88)	78 (78)	144 (82.3)
NO	9 (12)	22 (22)	31 (17.7)
TOTAL	75 (100)	100 (100)	175 (100)

TABLE 20: THE DURATION IN MONTHS OF BREAST-FEEDING BY THE MOTHERS IN KWA NDENGEZI AND SHALLCROSS (NUMBER AND PERCENT)

THE NUMBER OF MONTHS THE CHILD WAS BREAST FED	KWA NDENGEZI	SHALLCROSS	TOTAL
LESS THAN 1	0 (0)	9 (11.5)	9 (6.3)
1-3	4 (6.1)	13 (16.7)	17 (11.8)
4-6	16 (24.2)	15 (19.2)	31 (21.5)
7-12	21 (31.8)	16 (20.5)	37 (25.7)
13-18	16 (24.2)	16 (20.5)	32 (22.2)
19+	9 (13.6)	9 (11.5)	18 (12.5)
TOTAL	66 (100)	78 (100)	144 (100)

TABLET 21: THE REASONS GIVEN FOR NOT BREAST-FEEDING THEIR BABIES IN KWA NDENGEZI AND SHALLCROSS (NUMBER AND PERCENT)

THE REASONS WHY THE MOTHERS DID NOT BREAST FEED	KWA NDENGEZI	SHALLCROSS	TOTAL
NO MILK	1 (11.1)	9 (40.9)	10 (32.3)
DID NOT WANT TO	3 (33.3)	3 (13.6)	6 (19.4)
WORKING	0 (0)	3 (13.6)	3 (9.7)
SOCIAL REASONS	2 (22.2)	3 (13.6)	5 (16.1)
OTHERS	3 (33.3)	4 (18.2)	7 (22.5)
TOTAL	9 (100)	22 (100)	31 (100)

TABLE 22: THE COMPLIANCE BY THE MOTHERS TO IMMUNISATION IN KWA KWA NDENGEZI AND SHALLCROSS (NUMBER AND PERCENT)

FINDINGS ON THE INSPECTION OF THE IMMUNISATION CARD	KWA NDENGEZI	SHALLCROSS	TOTAL
FULLY IMMUNISED FOR AGE	27 (36)	56 (56)	83 (47.4)
PARTIALLY IMMUNISED	25 (33.3)	26 (26)	51 (29.1)
NOT IMMUNISED	4 (5.3)	0 (0)	4 (2.3)
CARD NOT AVAILABLE	19 (25.3)	18 (18)	37 (21.1)
TOTAL	75 (100)	100 (100)	175 (100)

TABLE 23: THE COMPLIANCE OF MOTHERS TO FAMILY SPACING IN KWA NDENGEZI AND SHALLCROSS (NUMBER AND PERCENT)

ARE YOU PRACTISING FAMILY SPACING?	KWA NDENGEZI	SHALLCROSS	TOTAL
YES	40 (53.3)	76 (76)	116 (66.3)
NO	35 (46.7)	24 (24)	59 (33.7)
TOTAL	75 (100)	100 (100)	175 (100)

TABLE 24: THE DIFFERENT METHODS OF FAMILY SPACING PRACTISED IN KWA NDENGEZI AND SHALLCROSS (NUMBER AND PERCENT)

METHODS OF FAMILY SPACING PRACTISED	KWA NDENGEZI	SHALLCROSS	TOTAL
PILL	20 (50)	52 (68.4)	72 (62.1)
INJECTION	13 (32.5)	6 (7.9)	19 (16.4)
IUCD	4 (10)	5 (6.7)	9 (7.8)
CONDOM/BARRIERS	1 (2.5)	4 (5.3)	5 (4.3)
RYTHM	0 (0)	0 (0)	0 (0)
TUBAL LIGATION	2 (5)	8 (10.5)	10 (8.6)
VASECTOMY	0 (0)	1 (1.3)	1 (0.9)
TOTAL	40 (100)	76 (100)	116 (100)

TABLE 25: THE INITIAL PRIMARY HEALTH CARE SERVICES UTILIZED BY THE MOTHERS IN KWA NDENGEZI AND SHALLCROSS (NUMBER AND PERCENT)

THE RESPONSE OF THE MOTHER	KWA NDENGEZI	SHALLCROSS	TOTAL
TRY TRADITIONAL REMEDIES	2 (2.5)	11 (8.9)	13 (6.4)
TRY PATENT MEDICINES	7 (8.9)	21 (17.1)	28 (13.9)
VISIT THE DOCTOR/CLINIC/HOSPITAL	70 (88.6)	91 (74)	161 (79.7)
TOTAL	79 (100)	123 (100)	202 (100)

TABLE 26: THE MOTHERS BEHAVIOR TO DIARRHOEA IN THEIR CHILDREN IN KWA NDENGEZI AND SHALLCROSS (NUMBER AND PERCENT)

THE RESPONSE OF THE MOTHERS	KWA NDENGEZI	SHALLCROSS	TOTAL
	KWA NDENGEZI	SHALLCROSS	TOTAL
TREAT WITH TRADITIONAL REMEDIES	2 (2.4)	8 (5.9)	10 (4.6)
TREAT WITH PATENT MEDICINES	2 (2.4)	7 (5.2)	9 (4.1)
TAKE BABY TO CLINIC/DOCTOR/HOSPITAL	72 (85.7)	90 (66.2)	162 (73.6)
GIVE CLEAR FLUIDS	8 (9.5)	17 (12.5)	25 (11.4)
STOP FEEDS	0 (0)	14 (10.3)	14 (6.4)
TOTAL	84 (100)	136 (100)	220 (100)

TABLE 27: THE NUMBER OF MOTHERS WHO ATTENDED ANC DURING THE PREGNANCY IN KWA NDENGEZI AND SHALLCROSS (NUMBER AND PERCENT)

DID YOU ATTEND ANC FOR THIS PREGNANCY?	KWA NDENGEZI	SHALLCROSS	TOTAL
YES	59 (78.7)	89 (89)	148 (84.6)
NO	16 (21.3)	11 (11)	27 (15.4)
TOTAL	75 (100)	100 (100)	175 (100)

TABLE 28: THE TRIMESTER IN WHICH THE FIRST ANC VISIT WAS MADE BY THE MOTHER IN KWA NDENGEZI AND SHALLCROSS (NUMBER AND PERCENT)

THE FIRST VISIT TO THE ANC CLINIC	KWA NDENGEZI	SHALLCROSS	TOTAL
1ST TRIMESTER	13 (17.3)	44 (44)	57 (32.6)
2ND TRIMESTER	35 (46.7)	41 (41)	76 (43.4)
3RD TRIMESTER	10 (13.3)	2 (2)	12 (6.9)
DON'T KNOW	1 (1.3)	2 (2)	3 (1.7)
DID NOT ATTEND	16 (21.4)	11 (11)	27 (15.4)
TOTAL	75 (100)	100 (100)	175 (100)

TABLE 29: THE NUMBER OF MOTHERS WHO VISITED TRADITIONAL HEALERS DURING THE PREGNANCY IN KWA NDENGEZI AND SHALLCROSS (NUMBER AND PERCENT)

DID YOU VISIT A TRADITIONAL HEALER FOR THIS PREGNANCY?	KWA NDENGEZI	SHALLCROSS	TOTAL
YES	16 (21.3)	7 (7)	23 (13.1)
NO	59 (78.7)	93 (93)	152 (86.9)
TOTAL	75 (100)	100 (100)	175 (100)

TABLE 30: THE NUMBER OF EPISODES OF DIARRHOEA EXPERIENCED BY THE CHILD IN THE LAST THREE MONTHS IN KWA NDENGEZI AND SHALLCROSS (NUMBER AND PERCENT)

THE NUMBER OF EPISODES OF DIARRHOEA	KWA NDENGEZI	SHALLCROSS	TOTAL
NIL	45 (60)	79 (79)	124 (70.9)
ONE OR MORE	30 (40)	21 (21)	51 (29.1)
TOTAL	75 (100)	100 (100)	175 (100)

TABLE 31: THE EPISODES OF DIARRHOEA IN THE CHILD IN THE LAST THREE MONTHS IN KWA NDENGEZI AND SHALLCROSS (NUMBER AND PERCENT)

NUMBER OF EPISODES OF DIARRHOEA IN THE CHILD IN THE LAST THREE MONTHS	KWA NDENGEZI	SHALLCROSS	TOTAL
NIL	45 (60)	79 (79)	124 (70.9)
ONE	19 (25.3)	18 (18)	37 (21.1)
TWO	6 (8)	3 (3)	9 (5.1)
THREE OR MORE	5 (6.7)	0 (0)	5 (2.9)
TOTAL	75 (100)	100 (100)	175 (100)

TABLE 32: THE INCIDENCE OF MEASLES IN KWA NDENGEZI AND SHALLCROSS (NUMBER AND PERCENT)

DID THIS CHILD SUFFER FROM MEASLES?	KWA NDENGEZI	SHALLCROSS	TOTAL
YES	20 (26.7)	24 (24)	44 (25.1)
NO	55 (73.3)	76 (76)	131 (74.9)
TOTAL	75 (100)	100 (100)	175 (100)

TABLE 33: THE AGE DISTRIBUTION OF THE MOTHERS IN RESPECT OF BREAST FEEDING IN KWA NDENGEZI (NUMBER AND PERCENT)

AGE (YEARS)	BREAST FEEDING.		
	YES	NO	TOTAL
<16	0 (0)	0 (0)	0 (0)
16-	12 (16)	1 (1.3)	13 (17.3)
21-	17 (22.7)	3 (4)	20 (26.7)
26-	27 (36)	5 (6.7)	32 (42.7)
36+	10 (13.3)	0 (0)	10 (13.3)
TOTAL	66 (88)	9 (12)	75 (100)

TABLE 34: THE AGE DISTRIBUTION OF THE MOTHERS IN RESPECT OF BREAST FEEDING IN SHALLCROSS (NUMBER AND PERCENT)

AGE (YEARS)	BREAST FEEDING.		
	YES	NO	TOTAL
<16	0 (0)	0 (0)	0 (0)
16-	4 (4)	4 (4)	8 (8)
21-	33 (33)	10 (10)	43 (43)
26-	33 (33)	5 (5)	38 (38)
36+	8 (8)	3 (3)	11 (11)
TOTAL	78 (78)	22 (22)	100 (100)

TABLE 35(a): THE ASSOCIATION BETWEEN THE EDUCATIONAL STANDARDS OF THE MOTHERS AND THE INCIDENCE OF BREAST FEEDING IN KWA NDENGEZI (NUMBER AND PERCENT)

EDUCATIONAL STATUS OF MOTHER	BREAST FEEDING		
	YES	NO	TOTAL
UP TO STD. 5	27 (36)	3 (4)	30 (40)
STD. 6-8	34 (45.3)	5 (6.7)	39 (52)
STD. 9-10	5 (6.7)	1 (1.3)	6 (8)
POST MATRIC	0 (0)	0 (0)	0 (0)
TOTAL	66 (88)	9 (12)	75 (100)

TABLE 35 (b): THE ASSOCIATION BETWEEN THE EDUCATIONAL STATUS OF THE MOTHERS AND THE INCIDENCE OF BREASTFEEDING IN SHALLCROSS (NUMBER AND PERCENT)

EDUCATIONAL STATUS OF THE MOTHER	BREAST FEEDING		
	YES	NO	TOTAL
UP TO STD. 5	20 (20)	4 (4)	24 (24)
STD. 6-8	43 (43)	12 (12)	55 (55)
STD. 9-10	12 (12)	6 (6)	18 (18)
POST MATRIC	3 (3)	0 (0)	3 (3)
TOTAL	78 (78)	22 (22)	100 (100)

TABLE 36(a): THE ASSOCIATION BETWEEN THE AGE OF THE MOTHERS AND THEIR KNOWLEDGE AND PRACTICE OF THE ORAL REHYDARION THERAPY (ORT) IN KWA NDENGEZI (NUMBER AND PERCENT)

AGE OF THE MOTHERS (YEARS)	DO YOU KNOW HOW TO MAKE THE ORT?		
	YES	NO	TOTAL
< 16	0 (0)	0 (0)	0 (0)
16-	3 (4)	10 (13.3)	13 (17.3)
21-	4 (5.3)	16 (21.3)	20 (26.7)
26-	9 (12)	23 (30.7)	32 (42.7)
36+	0 (0)	10 (13.3)	10 (13.3)
Total	16 (21.3)	59 (78.6)	75 (100)

TABLE 36(b): THE ASSOCIATION BETWEEN THE AGE OF THE MOTHERS AND THEIR KNOWLEDGE OF THE ORT IN SHALLCROSS (NUMBER AND PERCENT)

AGE OF THE MOTHERS (YEARS)	DO YOU KNOW HOW TO MAKE THE ORT?		
	YES	NO	TOTAL
<16	0 (0)	0 (0)	0 (0)
16-	1 (1)	6 (6)	7 (7)
21-	10 (10)	34 (34)	44 (44)
26-	1 (1)	37 (37)	38 (38)
34+	2 (2)	9 (9)	11 (11)
TOTAL	14 (14)	86 (86)	100 (100)

TABLE 37(a): THE ASSOCIATION BETWEEN THE EDUCATIONAL STATUS OF MOTHERS AND THEIR KNOWLWDGE AND PRACTICE OF THE ORT IN KWA NDENGZI (NUMBER AND PERCENT)

EDUCATIONAL STATUS OF THE MOTHERS	DO YOU KNOW HOW TO MAKE THE ORT?		
	YES	NO	TOTAL
UP TO STD 5	7 (9.3)	23 (30.7)	30 (40)
STD 6 - 8	9 (12)	30 (40)	39 (52)
STD 9 - 10	0 (0)	0 (0)	0 (0)
POST MATRIC	0 (0)	0 (0)	0 (0)
TOTAL	16 (21.3)	59 (78.7)	75 (100)

TABLE 37(b): THE ASSOCIATION BETWEEN THE EDUCATION STATUS OF THE MOTHERS AND THEIR KNOWLEDGE AND PRACTICE OF THE ORT IN SHALLCROSS (NUMBER AND PERCENT)

EDUCATIONAL STATUS OF THE MOTHERS	DO YOU KNOW HOW TO MAKE THE ORT?		
	YES	NO	TOTAL
UP TO STD 5	4 (4)	20 (20)	24 (24)
STD 6 - 8	7 (7)	48 (48)	55 (55)
STD 9 - 10	3 (3)	15 (15)	18 (18)
POST MATRIC	0 (0)	3 (3)	3 (3)
TOTAL	14 (14)	86 (86)	100 (100)

TABLE 38(a): THE ASSOCIATION BETWEEN THE AGE OF THE MOTHERS AND THEIR COMPLIANCE WITH IMMUNIZATION OF THEIR CHILDREN IN KWA NDENGEZI (NUMBER AND PERCENT)

AGE (YEARS)	INSPECTION OF THE IMMUNIZATION CARD				
	FULLY IMMUNIZED	PARTIALLY IMMUNIZED	NOT IMMUNIZED	CARD NOT AVAILABLE	TOTAL
<16	0 (0)	0 (0)	0 (0)	0 (0)	0(0)
16-	3 (4)	5 (6.7)	1 (1.3)	4 (5.3)	13(17.3)
21-	8 (10.7)	6 (8)	1 (1.3)	5 (6.7)	20(26.7)
26-	12 (16)	13 (17.3)	1 (1.3)	6 (8)	32(42.7)
36+	4 (5,3)	1 (1.3)	1 (1.3)	4 (5.3)	10(13.3)
TOTAL	27 (36)	25 (33.3)	4(5.2)	19(25.3)	75(100)

TABLE 38(b): THE ASSOCIATION BETWEEN THE AGE OF THE MOTHERS AND THEIR COMPLIANCE WITH IMMUNIZATION OF THEIR CHILDREN IN SHALLCROSS (NUMBER AND PERCENT)

AGE (YEARS)	INSPECTION OF THE IMMUNIZATION CARD				
	FULLY IMMUNIZED	PARTIALLY IMMUNIZED	NOT IMMUNIZED	CARD NOT AVAILABLE	TOTAL
<16	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
16-	4 (4)	1 (1)	0 (0)	3 (3)	8 (8)
21-	21 (21)	13 (13)	0 (0)	9 (9)	43 (43)
26-	23 (23)	10 (10)	0 (0)	5 (5)	38 (38)
36+	8 (8)	2 (2)	0 (0)	1 (1)	11 (11)
TOTAL	56 (56)	26 (26)	0 (0)	18 (18)	100(100)

TABLE 39(a): THE RELATIONSHIP BETWEEN THE EDUCATIONAL STATUS OF THE MOTHERS AND THEIR COMPLIANCE WITH IMMUNIZATION OF THEIR CHILDREN IN KWA NDENGEZI (NUMBER AND PERCENT)

EDUCATIONAL STATUS	INSPECTION OF THE IMMUNIZATION CARD				
	FULLY IMMUNIZED	PARTIALLY IMMUNIZED	NOT IMMUNIZED	CARD NOT AVAILABLE	TOTAL
UP TO STD 5	11 (14.7)	10 (13.3)	1 (1.3)	8 (10.7)	30 (40)
STD 6 - 8	14 (18.7)	12 (16)	3 (4)	10 (13.3)	39 (52)
STD 9 - 10	2 (2.7)	3 (4)	0 (0)	1 (1.3)	6 (8)
POST MATRIC	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
TOTAL	27 (36.1)	25 (33.3)	4 (5.3)	19 (25.3)	17 (100)

TABLE 39(b): THE RELATIONSHIP BETWEEN THE EDUCATIONAL STATUS OF THE MOTHERS AND THEIR COMPLIANCE WITH IMMUNIZATION OF THEIR CHILDREN TH SHALLCROSS (NUMBER AND PERCENT)

EDUCATIONAL STATUS	INSPECTION OF THE IMMUNIZATION CARD				
	FULLY IMMUNIZED	PARTIALLY IMMUNIZED	NOT IMMUNIZED	CARD NOT AVAILABLE	TOTAL
UP TO STD 5	16 (16)	6 (6)	0 (0)	2 (2)	24 (24)
STAD 6 - 8	32 (32)	12 (12)	0 (0)	11 (11)	55 (55)
STD 9 - 10	7 (7)	7 (7)	0 (0)	4 (4)	18 (8)
POST MATRIC	1 (1)	1 (1)	0 (0)	1 (1)	3 (3)
TOTAL	56 (56)	26 (26)	0 (0)	18 (18)	100 (100)

TABLE 40(a): THE RELATIONSHIP BETWEEN THE AGE OF THE MOTHERS AND THEIR KNOWLEDGE OF THE IMPORTANCE OF GROWTH MONITORING IN KWA NDENGWEZI (NUMBER AND PERCENT)

AGE (YEARS)	IMPORTANCE OF GROWTH MONITORING					
	TO DETECT MALNUT.	TO DETECT CHR. ILL.	ASSESS. OF HEALTH	TO DETECT ABNORMAL.	DO NOT KNOW	TOTAL
<16	0	0	0	0	0	0
16-	0	0	3 (4)	0	10 (13.3)	13 (17.3)
21-	0	0	3 (4)	0	17 (22.7)	20 (26.7)
26-	0	1 (1.3)	6 (8)	0	25 (33.3)	32 (42.6)
36+	0	0	4 (5.3)	0	6 (8)	10 (13.3)
TOTAL	0	1 (1.3)	16 (21.3)	0	58 (77.3)	75 (100)

TABLE 40(b): THE RELATIONSHIP BETWEEN THE AGE OF THE MOTHERS AND THEIR KNOWLEDGE OF THE IMPORTANCE OF GROWTH MONITORING IN SHALLCROSS (NUMBER AND PERCENT)

AGE (YEARS)	IMPORTANCE OF GROWTH MONITORING					
	TO DETECT MALNUT.	TO DETECT CHR. ILL.	ASSESS. OF HEALTH	TO DETECT ABNORMAL.	DO NOT KNOW	TOTAL
<16	0	0	0	0	0	0
16-	1 (0.8)	1 (0.8)	5 (3.9)	0	2 (1.6)	9 (7.9)
21-	6 (4.7)	7 (5.5)	25 (19.7)	0	16 (12.6)	54 (42.5)
26-	5 (3.9)	8 (6.3)	19 (15)	2 (1.6)	16 (12.6)	50 (39.4)
36+	1 (0.8)	3 (2.4)	7 (5.5)	0	3 (2.4)	14 (11)
TOTAL	13 (10.2)	19 (15.0)	56 (44.1)	2 (1.6)	37 (29.1)	127 (100)

TABLE 41(a): THE RELATIONSHIP BETWEEN THE EDUCATIONAL STATUS OF THE MOTHERS AND THEIR KNOWLEDGE OF THE IMPORTANCE OF GROWTH MONITORING IN KWA NDENGZEZI (NUMBER AND PERCENT)

EDUCATION STATUS	IMPORTANCE OF GROWTH MONITORING					TOTAL
	TO DETECT MALNUT.	TO DETECT CHR.ILL.	ASSESS.OF HEALTH	TO DETECT ABNORMAL.	DO NOT KNOW	
UP TO STD 5	0	0	8 (10.7)	0	22(29.3)	30(40)
STD 6-8	0	1 (1.3)	7 (9.3)	0	31(41.3)	39(52)
STD 9-10	0	0	1 (1.3)	0	5(6.7)	6 (8)
POST MATRIC	0	0	0	0	0	0
TOTAL	0	1(1.3)	16(21.3)	0	58(77.3)	75(100)

TABLE 41(b): THE RELATIONSHIP BETWEEN THE EDUCATIONAL STATUS OF THE MOTHERS AND THEIR KNOWLEDGE OF THE IMPORTANCE OF GROWTH MONITORING IN SHALLCROSS (NUMBER AND PERCENT)

EDUCATION STATUS	THE IMPORTANCE OF GROWTH MONITORING					TOTAL
	TO DETECT MALNUT.	TO DETECT CHR.ILL.	ASSESS.OF HEALTH	TO DETECT ABNORM	DO NOT KNOW	
UP TO STD 5	2 (1.6)	2 (1.6)	10(7.8)	0	11 (8.6)	25(19.6)
STD 6-8	9 (7)	10(7.8)	35(27.3)	2 (1.6)	19.(14.8)	75(58.5)
STD 9-10	2 (1.6)	5(3.9)	8(6.3)	0	8(6.3)	23(18.1)
POST MATRIC	0	2 (1.6)	3 (2.3)	0	0	5(3.9)
TOTAL	13(10.2)	19(14.9)	56(43.7)	2 (1.6)	38(29.7)	128(100)

TABLE 42: THE COMPLIANCE OF IMMUNIZATION FROM THE TOTAL OF IMMUNIZATION CARDS ACTUALLY INSPECTED IN KWA NDENGEZI AND SHALLCROSS (NUMBER AND PERCENT)

FINDINGS ON INSPECTION OF IMMUNISATION CARDS	KWA NDENGEZI	SHALLCROSS	TOTAL
FULLY IMMUNISED	27 (48.2)	56 (68.3)	83 (60.1)
PARTIALLY IMMUNISED & NOT IMMUNISED	29 (51.8)	26 (31.7)	55 (39.9)
TOTAL	56 (100)	82 (100)	138 (100)

Dr E DADARESEARCH PROTOCOL

TITLE: COMMUNITY AWARENESS OF GOBI-FFF AND ITS IMPLEMENTATION IN TWO URBAN COMMUNITIES.

1. DEFINITION OF PROBLEM:

Lack of information on community awareness and implementation of GOBI-FFF in the African and Indian community in Natal.

2. DEFINITION OF OBJECTIVES

1. To ascertain the level of knowledge of mothers of the importance of Growth Monitoring, Oral Rehydration Therapy, Breast Feeding and Immunisation. (GOBI)
2. To ascertain the level of knowledge of mothers of FFF.
3. To ascertain the level of implementation of GOBI-FFF in the households visited.
4. To ascertain the personal characteristics of mothers.
5. To ascertain socio-economic circumstances in households visited.
6. To identify any associations between the personal characteristics of mothers, the Socio-Economic circumstances and level of awareness and implementation of GOBI-FFF.
7. To ascertain birth, mortality and specific morbidity rates in households visited.
8. To identify associations, if any, between awareness and implementation of GOBI-FFF and birth, mortality and specific morbidity rates.
9. To submit recommendations, where appropriate, in respect of inter-ventive programmes directed to the reduction of morbidity and mortality and to the implementation of family spacing.

3. COLLECTION OF DATA:(a) DEFINITION OF CRITERIA :

1. GOBI: As defined by the World Health Organisation (WHO) GOBI is an abbreviation for:
 - a) Growth Monitoring.
 - b) Oral Rehydration Therapy.
 - c) Breast Feeding.
 - d) Immunisation.
2. FFF: As defined by the World Health Organisation (WHO) FFF is an abbreviation for:
 - a) Female Education, that is, the literacy status of the mother.
 - b) Family spacing.
 - c) Food supplementation.
3. INDIAN COMMUNITY: Refers to the urban community of Shallcross situated about 30km west of Durban.
4. AFRICAN COMMUNITY: Refers to the urban community of Kwa Ndengezi which is situated about 35km west of Durban.
5. CHILD-MINDER: Refers to any member of the household who is delegated the responsibility of looking after the child. In the event of there being more than one person being responsible for the care of the child, then the child-minder would be the one who is most with the child and has the most dominant influence.
6. CHILD: A child between the ages of one and two years of age is considered for the purpose of this study.

7. SOCIO-ECONOMIC STATUS: The following categories based on household income, are defined as follows:

- Category
1. Up to R150.00 per month.
 2. Between R151.00 and R450.00 per month.
 3. Between R451.00 and R800.00 per month.
 4. R801.00 and over per month.

8. Personal characteristics of mother:

Include age, education level, marital status and parity.

9. Specific Morbidity rate;

This refers to illness due to Gastro Enteritis and Measles.

3(b) Selection of sample and Control groups:

SAMPLE: Fifty (50) houses in each of the two communities will be selected for inclusion in the study. Sampling will be done by systematic selection from clusters. The houses must contain a child between the ages of one and two years of age, with the mother present and being the child minder herself. In the event of these criteria not being met, then the house immediately next door will be selected.

CONTROL: For the purposes of this decriptive study, a control group will not be drawn. However, comparisons will be made internal to the study.

3(c) Determination of Methods of data collection:

A household survey will be conducted in which each household included in the study will be visited and the mother interviewed. A standardised questionnaire will be administered by fully trained and briefed interviewers, and relevant information elicited.

3(d) Elimination of bias:

- i) There will be random sampling of houses included in the study.
- ii) Interviewer bias will be reduced by the use of standardised questionnaire.
- iii) There will be adherence to defined criteria.
- iv) Fully briefed and trained personnel will administer the questionnaire

3(e) SETTING OF TIME BARRIERS

- i) Completion of Research Protocol and Questionnaire 20.4.85
- ii) Obtaining of authorities 30.4.85
- iii) Completion of Collection of Data 30.6.85
- iv) Collation, analysis and evaluation of data 31.7.85
- v) Submission of dissertation 30.8.85

3(f) Appraisal of Literature and other available information on the problem.

Appraisal of literature and other available information on the problem will be made continuously on an outgoing basis, up to the time of publication of the findings.

4. Collation of collected data:

This will be made by the Researcher. Purpose-designed collation sheets will be used.

5. Evaluation of inter-relationships of the data:

Analysis will be undertaken manually.
Standard statistical procedures will be used.

6. Advancement of Hypotheses:

Hypotheses will be advanced in terms of the factors associated with awareness and implementation of GOBI-FFF.

7. Recommendations made of methods of intervention:

Recommendations will be advanced, where appropriate, in terms of interventive programmes directed to the reduction of morbidity and mortality and promoting family spacing.

Publication of Findings:

This paper will be submitted to the University of Natal in partial fulfilment of the examination for the Part I Master of Medicine course in community Health for 1985, in a format for publication in the Medical Press.

COMMUNITY SURVEY ON GOBI-FFF

JUNE 1985

STUDY NO.

COMMUNITY

(1. Kwa Ndengezi 2. Shallcross)

QUESTIONNAIRRE

(A) PERSONAL DETAILS OF MOTHER

1. Name
2. Address/'Phone
3. Age
4. Religion (1. Traditional African/ 2.Hinduism/ 3. Christianity/
4. Islam/ 5. Other (Specify) ...
5. Highest educational standard reached (Up to Std5. 2. Std 6-8.
3. Std 9-10. 4. Post Matric).
6. Marital status of mother (1. Married/ 2. Single/ 3. Divorced or
separated or widow)
7. Age at time of first pregnancy of mother
8. Number of children of mother
9. Birth order of this child

(B) GOBI

10. Do you know why it is important to know how fast your child is
growing?
 - i. To detect malnutrition _ _ _ _ _
 - ii. To detect chronic illness _ _ _ _ _
 - iii. To know if child is healthy _ _ _ _ _
 - iv. Do not know _ _ _ _ _
 - v. Other reasons (specify)
11. What do you do when baby gets diarrhoea?
 - i. Treat with traditional remedies _ _ _ _ _
 - ii. Treat with patent medicines _ _ _ _ _
 - iii. Take baby to clinic, doctor or hospital _ _ _ _ _
 - iv. Other (specify)

12. If the child has diarrhoea, how will you know if the child becomes very sick and has lost lot of water from its body?
- i. Sunken head (fontanelle) _ _ _ _ _ ☐
 - ii. Flabby skin (loss of tissue turgor) _ _ _ _ _ ☐
 - iii. Dry tongue and mouth _ _ _ _ _ ☐
 - iv. Weak and listless _ _ _ _ _ ☐
 - v. Dont know _ _ _ _ _ ☐
 - vi. Other sign (SPECIFY) ☐

13. Do you know how to make the sugar-salt solution (oral rehydration solution) for diarrhoea in children?
- 1. No
 - 2. Yes. 8 teaspoons of sugar with $\frac{1}{2}$ to 1 teaspoons salt in a litre of water which has been boiled and cooled. ☐

14. Did you breastfeed this child? (1. Yes/ 2. No) ☐

15. If not, why not? (1.No milk/ 2. Did not want to/ 3. Working/ 4. Social reasons/ 5. Not applicable/ 6. Difficulties e.g. retracted nipple; painful (specify) ☐

16. If you breastfed, for how many months was the child breastfed? ☐

17. If breastfeeding was stopped within the first three months, Why? (1. No milk/ 2. Did not want to/ 3. Working/ 4. Social reasons/ 5. Not applicable/ 6. Difficulties e.g. retracted nipple; painful (specify) ☐

18. Are infants healthier?
- 1. On being breast fed.
 - 2. On being fed a substitute for breastmilk.
 - 3. There is no difference between the two.
 - 4. Dont know ☐

11/11/2011

□

11/11/2019

11

11/11/2011

11/11/2011

□

11/11/2011

11/11/2019

□

100

10/10/2016

114

□ □ □ □ □

114

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(C) FFF

25. Are you practising Family Spacing? (1=Yes, 2=No) ☐
26. If yes, what methods are you using?
(1= Pill, 2=Injection, 3=IUCD, 4=Condom or Barriers, 5=Rhythm,
6=Tubal Ligation, 7=Vasectomy, 8=Not Applicable) ☐
27. Why is Family Spacing important?
- | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|--------------------------|
| 1. For the mother's recovery and health | - | - | - | - | - | - | - | - | <input type="checkbox"/> |
| 2. Promotes baby's health | - | - | - | - | - | - | - | - | <input type="checkbox"/> |
| 3. Economic reason | - | - | - | - | - | - | - | - | <input type="checkbox"/> |
| 4. For proper and more complete breast feeding | - | - | - | - | - | - | - | - | <input type="checkbox"/> |
| 5. Don't know | - | - | - | - | - | - | - | - | <input type="checkbox"/> |
| 6. Other reasons (specify) | - | - | - | - | - | - | - | - | <input type="checkbox"/> |
28. Did you attend antenatal care (ANC) for this pregnancy? (1=Y, 2=N) ☐
29. If yes, at which month of pregnancy was your first visit to the antenatal clinic? (1=1st to 3rd month, 2=4th to 6th month, 3=7th month onwards, 4=Don't know) ☐
30. Did you visit traditional healers for this pregnancy? (1=Y, 2=N) ☐

(D) MORBIDITY AND MORTALITY

31. Number of episodes of diarrhoea in the last 3 months in this child? ☐
32. Did this child ever suffer from measles? (1=Y, 2=N) ☐
33. Throughout the mother's life:
- | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|--------------------------|
| (a) Number of children born | - | - | - | - | - | - | - | - | <input type="checkbox"/> |
| (b) Number of children surviving | - | - | - | - | - | - | - | - | <input type="checkbox"/> |
| (c) Number of children died, who were less than a year old | - | - | - | - | - | - | - | - | <input type="checkbox"/> |
| (d) Number of children died, who were over a year old | - | - | - | - | - | - | - | - | <input type="checkbox"/> |
| (e) Number of still-births, (deaths in the last 3 months of pregnancy) | - | - | - | - | - | - | - | - | <input type="checkbox"/> |
| (f) Number of miscarriages (deaths in the 1st 6 months of pregnancy) | - | - | - | - | - | - | - | - | <input type="checkbox"/> |

(E) SOCIO-ECONOMIC FACTORS

34. Income of household, per month (1=Up to R150, 2=R151-R450, 3=R451-R800, 4=R801 and over) ☐
35. Total number of persons living in this house, and dependent on the above income. ☐
36. Occupation of father (1=Unemployed, 2=Manual unskilled, 3=Manual skilled, 4=Non-manual, 5=Not applicable) ☐
37. Housing (1=Own, 2=Renting, 3=Flat)
38. At the onset of illness (Primary Health Care)
- | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|--------------------------|
| 1. Do you try traditional remedies | - | - | - | - | - | - | - | - | <input type="checkbox"/> |
| 2. Do you try patent medicines | - | - | - | - | - | - | - | - | <input type="checkbox"/> |
| 3. Do you visit the doctor, clinic or hospital | - | - | - | - | - | - | - | - | <input type="checkbox"/> |