AN EVALUATION OF HEALTH EDUCATION COMMUNICATION ON INFANT AND CHILD MORBIDITY AND MORTALITY: A CASE STUDY OF CHELSTONE CLINIC IN LUSAKA.

By

Martha Sikwibele

A dissertation submitted in partial fulfillment
of the requirements for the degree of
Master of Communication for Development.

The University of Zambia

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DECLARATION

I, MARTHA SIKWIBELE....., declare that this dissertation:

a) Represents my own work

b) Has not previously been submitted for a degree at this or any other University: and

c) Does not incorporate any published work or material from another dissertation.

Signed:.....

Date: 24th May 2011

CERTIFICATE OF APPROVAL

This report of MARTHA SIKWIBELE.....is approved as fulfilling the partial requirements for the award of the degree of master of Communication for Development by the University of Zambia.

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24/05/2011

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ABSTRACT

The report explores the value of health education communication on infant and child morbidity and mortality. The rates of child mortality are too high in Zambia (102 per 1000 live births in 2009) compared to Singapore for example with a rate of 2.5 deaths per 1000 live births (www.healthbeatblog.org/2008/07). This situation should be addressed from all angles including the preventive measures such as those offered through communication. Conditions mostly affecting the under-five at Chelstone clinic are; pneumonia, malaria, diarrhoea, respiratory infections and malnutrition (Action Plan, 2009-2010:68).

Both quantitative and qualitative methods were used in collecting, analysing, and interpreting data. Convenience sampling was applied on the mothers who were readily available at the clinic and 100 standardised questionnaires were used to collect data. The researcher personally conducted the in-depth interviews with five health education providers. The participant observation approach was used for a period of three months. Data from the interviews was interpreted thematically and reconciled with what was observed. The software package for social sciences was used to analyse data from the questionnaires.

It was found that the messages which are taught are cardinal to the good health of infants and children. The general attitude towards health education was found to be positive and the knowledge levels of the messages discussed were generally above average regardless of the level of maternal education. Most importantly, the children of the women who attended the health education sessions did not have ailing health as their mothers incorporated most of what they learnt in their lifestyles. Health education communication, therefore, has a positive influence with regards to infant and child morbidity and mortality.

Dedicated to my children Natasha and Tabo who inspired me to undertake the study as I became deeply interested in health education.

ACKNOWLEDGEMENTS

I would like to express my deep gratitude to my supervisor Dr. E. Bwalya for his valuable guidance and contributions to the report. I would also like to thank the following lecturers: Mr. F. Muzyamba, Mr. K. Makungu and Mrs. Chibbonta for their support. Thanks also to the University of Zambia for providing the necessary facilities for my education and research. My gratitude also goes to the staff of Chelstone health centre particularly those from the departments of Mother and Child Health, and Nutrition. My special thanks go to Mr. Kalaluka the nutritionist for his professional advice and practical help during the period of attachment. Many thanks to the women who participated in the study and contributed to the success of my field work. I would also like to acknowledge my family for their love and support. Most importantly, I would like to acknowledge my Father in heaven for always being with me and making the study successful.

I would also like to express my deep gratitude to the Open Society Initiative for Southern Africa (OSISA), for awarding me the financial support for this project.

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ABBREVIATIONS

AIDS	Acquired Immune Deficiency Syndrome
ARV	Antiretroviral
CMR	Child Mortality Rate
FNDP	Fifth National Development Plan
HIV	Human Immunodeficiency Virus
IEC	Information Education and Communication
IYCF	Infant and Young Child Feeding
IMR	Infant Mortality Rate
MCH	Mother and Child Health
MDG	Millennium Development Goal
MoH	Ministry of Health
MTCT	Mother-to-Child Transmission
NPP	National Population Policy
PHC	Primary Health Care
PMTCT	Prevention of Mother-to-Child Transmission
UNICEF	United Nations International Children's Emergency Fund
UNPF	United Nations Population Fund
WFP	World Food Programme
WHO	World Health Organisation
ZDHS	Zambia Demographic Health Survey

INTRODUCTION

Women as mothers would be said to be nation builders. Women lay the foundation with the children they bear. The quality of the nation, therefore, depends on the quality of her children. The day a woman becomes a mother, she takes on a great responsibility which she must bear with the confidence that is born of knowledge and a feeling of adequacy. A pre-knowledge of the ways and means of coping with her task is an asset to every young woman.

In the past, it was a common practice for elderly parents to guide a new mother on the practices which are healthy in raising a new born infant and the under-five in general. In fact, when an expecting woman was about eight months pregnant, she would travel and stay with her mother or aunt until she delivered and the infant was about three months old. It should be noted, however, that sometimes it was the expecting woman's mother who travelled to her daughter's home.

However, things have changed nowadays. Women do not just belong to the kitchen any more, they have also assumed a number of responsibilities and activities. Some women are involved in formal employment, businesses, farming, organisations and of course the traditional house chores. Thus, the nature of life now demands that sometimes a new couple may have to leave the extended family members in the village and go to live in town where the couple may be working. This entails that the activities may be so complicated or involving such that the traditional ways of doing things may have to give

way to new ways. With such changes, it would be very difficult for expecting mothers to travel to their mothers to deliver. Moreover, most employers only grant maternity leave after a woman has delivered and besides there is improved medical care. Similarly, it is not always easy for their mothers to come and nurse their expecting daughters because in some cases, housing is also a problem, especially in towns like Lusaka. For example, in Kamanga shanty compound which is an annex and overspill of Chelstone township, it is normal to find about eight people occupying one room. This would make it hard for a mother in law to come and assist the inexperienced young mother. Hence, the bulk of work remains with the hospital or clinic.

To address such problems, the onus is now on the health workers at the clinics to teach the expecting mothers on how to raise up their children in a health manner and how to keep themselves well. It is against this background that health education communication has gained a prominent place especially in a new mother's life. Mothers are now empowered with all the information cardinal to infant and child health and survival from pregnancy until the child is five years and less susceptible to illnesses most common among the under-five.

In terms of infant and child morbidity and mortality, health education communication is on the preventive side as opposed to the curative side. As the old saying goes, 'prevention is better than cure.' If the activity of health education is accorded the importance it deserves, the rates of morbidity and consequently mortality, among the under-five would reduce. There are messages on breastfeeding for example, which is the first immunization for children and hence reduces mortality and eliminates malnutrition.

Malnutrition is a major underlying cause to child mortality and morbidity as a result of malaria, respiratory infections, diarrhoea, anaemia and HIV and AIDS. Similarly, messages on danger signs during pregnancy would help prevent the loss of an infant once the expecting woman is aware of them and seeks medical attention upon their on-set.

The study covered the topics and messages communicated through health education and how thorough they are discussed as well as the general awareness of the information shared. The report also discusses the women's response to the messages and whether health education sessions were regarded as useful or time-wasting. Levels at which children were affected by illnesses is also covered in this report together with the limitations towards practicing what is learnt.

CHAPTER ONE: BACKGROUND

1.1. WORLD HEALTH AND MORTALITY RATE

1.1.1. Health Disparities

Globally, there are health disparities which affect life expectancy as well as infant mortality. The United Nations Development Programmes (2004b:142) indicates that life expectancy at birth in high-income countries was at 78.3 years, in South and Central America it was at 70.5 years, in East and Southeast Asia it was at 69.8 years, in the Middle East and North Africa it stood at 66.3 years, in South Asia it was 63.2 and in Sub-Saharan Africa it was 46.3 years in 2004. According to the latest socioeconomic indicators released by the Central Statistics Office of Zambia, life expectancy at birth in the country has improved and was estimated at 51.3 years in 2010 (Zambia Review, 2010: 104).

Infant mortality also varies in the different regions of this world. According to Yankauer (1979: 853), in England in 1909, 120 out of every 1000 infants born alive died before attaining their first birthday. Similar conditions prevailed then in virtually all countries now labelled developed. Similar conditions prevail currently in most developing countries. Kerbo (2006:38) provides information showing that the death rate for children under-five varied from 7 in 1000 births in developed countries to 171 in 1000 births in Sub-Saharan Africa. One of the many reasons advanced for the striking decline in infant mortality in England during the twentieth century was improved nutrition (Yankauer,

1979: 853). This information suggests that nutrition plays a major role in sustaining the current infant mortality contrast between the developed and the developing world. It should be noted however that in the United States, one of the reasons advanced for the decline of infant mortality in the late 1960s was the widespread diffusion of family planning methods (Yankauer, 1979:853).

1.1.2. The Health of Children and Asset Ownership

Research suggests that while family assets have a positive effect on the well-being of children, it is the assets that belong to the mother that make the greatest difference (Agarwal, 2004:24). There is evidence from many parts of the world which shows that women, especially in poor households, spend most of the earnings they control on essential goods and services that serve the needs of the household particularly those of children. In contrast, men tend to spend a significant share of their earnings on personal goods such as alcohol and tobacco. In urban Brazil for instance, a study found that child survival probabilities improved markedly when asset income accrued to the mother than when it accrued to the father (Agarwal, 24).

The lack of property by women or property rights can also affect the welfare of children when HIV and AIDS threaten. In many countries especially Sub-Saharan Africa, the children of widows have been left destitute because customary inheritance laws disinherit the mothers, leaving them landless and homeless. The accessibility to both privatized assets, especially land and housing, and to community assets such as forests,

by women is often a key factor determining the survival, health, education and physical security of children, and especially of girls.

1.1.3. Health and Nutrition

It has been noted that health conditions are related to among other things, inefficient government, poverty, inequality, and hunger (Kerbo, 2006:38). He pointed out a study by the World Health Organisation of 2002 which calculated death rates for the ultimate cause of death rather than the immediate cause such as heart attack and cancer. In this study, lack of food was the number one killer in poor countries. The top ten killers in poor countries were due to lack of such things as safe drinking water, sanitation, or vitamins. The second leading cause of death in poor countries especially Africa was AIDS. Agarwal (1994:17) also alludes to the fact that children living in poverty are deprived of many of their rights. These rights include survival, health and nutrition, education, participation, and protection from harm, exploitation and discrimination.

Poverty threatens childhood by exposing millions of children to diseases that could be easily prevented or cured through inexpensive medicines and vaccines. Around seven out of every ten deaths among children under the age of five in developing countries could be attributed to a few main causes which are acute respiratory infections, diarrhoea, measles or malaria (Agarwal, 1994:17). He further noted that malnutrition contributes to about half of these deaths. Micronutrient deficiencies also play a role. A child deficient in vitamin A, for example, faces a 25 percent greater risk of dying. Even when it does not threaten life itself, malnutrition in early childhood can cause stunting or

disability and hinder brain development and the capacity of children to learn. This in turn hampers their ability to accrue skills that are critical to their life chances.

Zambia has not been spared from the scourge of malnutrition. Severe acute malnutrition prevalence was estimated at 2.2 percent in 2009 (World Health Organisation (WHO) – Zambia, 2009:2). The major causes included inadequate and inappropriate information on infant and young child feeding practices such as early or late introduction of complementary foods and in some cases, the use of foods that were nutritionally inadequate. Furthermore, breastfeeding was not practiced by more than 60 percent of mothers in Zambia (WHO-Zambia, 2009:2). Other major causes were high poverty levels and increase in food insecurity. HIV had also posed a great challenge to optimal infant feeding due to the possible risk of transmission of HIV to the child through breastfeeding.

To address the scourge, the Infant and Young Child Feeding mass campaign programme was launched in Zambia in February 2009. The then Minister of Health, Honourable Kapembwa Simbao launched the campaign which was specifically targeted at fighting malnutrition among children under the age of five. In his launch statement, Honourable Simbao stated that the country had in the recent past experienced an unprecedented increase in the number of malnutrition cases in under-five children especially in Lusaka District (WHO-Zambia, 2009:1). The WHO Representative, Dr. Olusegun Babaniyi stated that malnutrition was responsible for 60 percent of the 10.9 million children who died annually and two thirds of the children died as a result of inappropriate feeding practices mostly during the first year of life. He emphasised that nutrition was very

crucial for the health, development and survival of children. Nutrition is very critical for the under-five as they are prone to infections, disease and even death (National Population Policy, 2007:11). According to the 2007 Zambia Demographic Health Survey, 45 percent of the children surveyed were stunted, 15 percent were underweight and 5 percent were wasted. It was clearly shown that the child feeding patterns, prevalent feeding option(s) and living environment greatly determine the nutritional status of children, patterns of infectious diseases and mortality among young children.

In view of the foregoing discussion, it is clear that health and nutrition problems during childhood are the result of a wide range of factors, most of which relate to unsatisfactory food intake or severe and repeated infections, or a combination of the two. These conditions in turn, are closely linked to the general standard of living and whether a population is able to meet the basic needs such as food, housing, and health care.

1.2. ZAMBIA INFANT HEALTH AND MORTALITY RATE

In 1978, the World Health Organisation (WHO) had embarked on a policy of 'Health for All' by the year 2000 (Human development report, 2000:6). WHO identified Primary Health Care as a major strategy for achieving progress. The elements of Primary Health care were identified as being:

> Adequate water supply; adequate nutrition; safe sanitation; immunisation against diseases; maternal and child health; community participation in deciding and supporting preventive health plans; back-up referral service for training of health care workers and for health problems requiring more qualified care;

> treatment for cuts and common ailments and parental education in nutrition and preventive health methods (Human development Report, 2000:6).

It was from this declaration that countries especially developing countries like Zambia devised their health policies and programmes. In these programmes, emphasis was placed on maternal and childcare, family planning, nutrition and control of communicable diseases (Kalumba, 1992:10).

Being a tropical climate, Zambia is a victim of several endemic diseases like malaria and other parasitic diseases. Malaria directly causes many deaths each year in Zambia and pregnant women are at high risk. It is precisely for this reason that health centres including Chelstone clinic, give 3 doses of fancidar to a pregnant woman before she delivers her baby. Severe cases of malaria leave about 15 percent of the children who survive the disease with substantial neurological problems and learning disabilities (Todaro, 2009:407).

According to Kasali (Tiempo Climate Newswatch, 2009:1), more people suffer and die from diarrhoea in urban than in rural areas, with the highest incidence rates recorded for Lusaka. This maybe attributed to overcrowding and poor sanitation. He further notes that children under five years old carry much of the disease burden in Zambia. The incidence rates as shown by Kasali (2009:1) for malaria, respiratory infections, diarrhoea and pneumonia are 5.6, 5.1, 8.4 and 6.5 times higher, respectively, than rates for older people. The health status of under-five year old children in Zambia is below acceptable levels. According to UNICEF-Zambia, infant and under-five mortality rates were at 95

and 168 out of 1000 respectively, in 2002 (www.unicef.org/./zambia). According to the United Nations Statistics Division of 2008:41, children under-five mortality rate per 1000 in Zambia was at 102 in 2005. The targets for infant and under-five mortality rates for 2015 are 36 and 63 respectively (Zambia's Millenium Development Goals report, 2008:1). While interventions in some areas such as immunizations or insecticide treated bednets have been relatively effective, there is a disappointingly low coverage of services to treat pneumonia and diarrhoea.

1.3. PROFILE OF CHELSTONE HEALTH CENTRE

Chelstone clinic is a government health centre found in Lusaka District. It is managed by the administration of Lusaka District Health office. The clinic aims at the provision of quality health care to clients. The priority areas of health care delivery include malaria, HIV/ AIDS, Tuberculosis, water and sanitation, dental health, safe motherhood, epilepsy, oral care, child health and mental health.

Chelstone clinic has a catchment population of 71,953 and children under the age of five have a percentage of 20 percent, the actual figure being approximately 14,391 (Action Plan, 2009-2010:68). The top five causes of morbidity and mortality of all ages are; malaria, Tuberculosis, pneumonia, diarrhoea, and suspected HIV/AIDS. Conditions mostly affecting under-five children at the clinic are; pneumonia, malaria, diarrhoea, and respiratory tract infections (Action Plan, 2009-2010:68).

Chelstone clinic provides vital programmes to treat pregnant women living with HIV and to prevent Mother-to-Child Transmission (MTCT). These programmes include HIV testing during pregnancy, Antiretroviral (ARV) regimes for HIV positive pregnant women, prophylactic antibiotics and ARV for infants exposed to HIV in utero. Also included in these programmes is early infant diagnosis and treatment. It is argued that without treatment, half of all HIV positive babies will not live long enough to see their second birthday and a third will not see their first (www.unicef.org/./zambia).

Another very important activity carried out at the clinic is the Infant and Young Child Feeding programme which was launched in 2009. This programme focuses on the different feeding patterns of infants and children. Included in this programme is a cooking demonstration session every Wednesday afternoon where mothers are taught how to prepare nutritionally adequate food using the locally available food. These recipes are tailored to meet the financial capacity of the majority of the mothers. It should be noted that Chelstone is rated as a middle income township. Despite the provision of such measures and activities, malnutrition cases are still there as measured by the mid-upper arm circumference. This problem of malnutrition gave rise to the programme under the World Food Programme (WFP). In this programme, children suffering from malnutrition are given food while their growth rates are closely monitored. Once they retain to normal, as measured by the mid-upper arm circumference and weight, they are removed from the programme in order to create room for others. The family planning service is also provided by the department of the Mother and Child Health.

There is also an activity called the Outreach Programme which is offered at the clinic. In this programme, the health workers and the nutritionist go out in the community to provide the infants and the under-five children with the various services such as vaccinations and growth monitoring. It was discovered that some women shunned postnatal clinics basically because of their economic status. When some women could not afford what they considered decent clothing or even slippers, they found it hard to appear in public. Such women could only attend the clinics for the first two or three months after which they completely stopped. When investigated further, it was found that some of these women came from homes which were overcrowded whereby up to eight people lived within one room. These women unconsciously exposed their children to morbidity which could be prevented through immunisation. The activity is, therefore, an important one as it captures these children and provides them with various services which are cardinal to good health.

1.4. PROBLEM STATEMENT

Health education communication is another notable and very important activity provided at the clinic. Despite health education communication being carried out at Chelstone clinic, there was still a problem with regards to infant and child morbidity and mortality. Health education communication is an interactive activity where mothers and mothers-to-be are taught on the best health ways of raising children. The activity of health education is mandatory for all women who go there for antenatal and postnatal. The nature of the problem, therefore, had to do with the application of knowledge and skills acquired by the mothers and perhaps the communication strategies used by the staff.

Conditions mostly affecting the under-five children at the clinic are; pneumonia, malaria, diarrhoea, and respiratory tract infections. Malnutrition is also a problem despite the measures aimed at curbing it such as the cooking demonstration and the programme of the food voucher. It was with the understanding that health education communication is on the preventive side in terms of morbidity and mortality which necessitated the study. It also analysed the content as well as the method of communicating health messages. Hubley (1993:51) argues that a message will only be effective if the advice presented is relevant, appropriate, acceptable, and put across in an understandable way.

The effects of this public health activity of health education communication have never been evaluated which was why this study focused on the effectiveness of this activity on infant and child morbidity and mortality.

1.5. RATIONALE

The main justification of this study was to help find better ways to harness the extraordinary power of communication for the life saving interventions for the children. It was hoped by the researcher that the study would contribute to the literature on communication strategies in health education communication. This study contributed to one of the basic rights. The right to child survival is a basic human right for every living child. The study, therefore, helped particularly towards the prevention of diseases such as diarrhoea and malaria. In so doing, it ultimately helped to prevent diseases which

might have ended in death, thereby denying a child the right to good health and life. The study did, in this sense, contribute towards meeting the national health targets as set in the Fifth National Development plans (FNDP) and eventually the Millenium Development Goals (MDG) number four which calls for two- thirds reduction of the child mortality rate by 2015. The Ministry of Health (MoH) had put this MDG target for under-five mortality at 60 per 1000 live births (Action Plan, 2005-2006: 60)

CHAPTER TWO: METHODS AND MATERIALS USED

2.1. MAIN OBJECTIVE

The main objective was to contribute communication strategies to health workers as they educate the mothers.

2.2. SPECIFIC OBJECTIVES

The specific objectives were as follows:

1. To identify the various topics and messages taught during antenatal and postnatal clinics and how they were communicated and to determine how deep they were explored and discussed.
2. To assess the general awareness of the information shared.
3. To determine the women's response towards the topics discussed.
4. To evaluate whether those discussions were regarded as being useful or a waste of time by mothers.
5. To ascertain the levels at which the participants' children suffered and died from the illnesses discussed.
6. To ascertain the satisfaction levels of the staff conducting the health education sessions.
7. To determine the limitations towards practicing what was learnt.
8. To make recommendations on what was to be done in terms of communication methods used so that they are effective.

2.3. HYPOTHESIS

Health education through antenatal and postnatal communication decreases infant and child morbidity and mortality rates.

2.4. RESEARCH QUESTIONS

This research was an attempt to answer the following questions:

1. What were the main diseases taught during the health education sessions and where was emphasis placed?
2. Which other subjects were taught and how detailed were they communicated?
3. Were mothers satisfied, content and empowered with the information acquired?
4. Were the health education sessions viewed positively or negatively with regard to their usefulness?
5. Was knowledge gained and the skills acquired incorporated in child rearing?
6. What were the drawbacks faced by the staff as they communicated during the health education sessions?
7. What were the main problems that hindered mothers from practicing what was learnt from the health education sessions?

2.5. SAMPLING

2.5.1. Convenience Sampling

This was applied on mothers who were readily available at the clinic to participate in the study. These were the ones who were easily reachable rather than going after them from one house to another.

2.6. METHODOLOGY

2.6.1. Data Gathering Procedures

Considering the nature of this study, it was the intention of the researcher to employ the triangulation method in order to enrich the study and achieve the intended objectives. This study, therefore, made use of the following methods;

2.6.2. Quantitative Survey

Standardised questionnaires were used to collect data from mothers of children brought to the clinic. This was done by way of administering 100 questionnaires. The researcher not only administered the questionnaires but also guided and explained the questions to some mothers who were illiterate. This data was analysed using the software package for social sciences (SPSS).

2.6.3. In-depth Interviews

Five health education providers were interviewed. The interview allowed the researcher to follow up verbal leads and as such more data was obtained with greater clarity. The interviews were carried out at Chelstone health centre. The interview was scheduled for each respondent and each interview lasted for an hour. The researcher personally administered structured interviews and at the same time took down notes. The findings were analysed and interpreted thematically.

2.6.4. Participant Observation.

This method enabled the researcher to reconcile what was gathered from the interviews with what was seen and heard. This made it possible for accurate primary data to be collected since it is not always the case that interviewees reveal everything. This method was employed during the three months of attachments.

2.6.5. Limitation of the study

It was not possible to follow up individual respondents to their homes to assess their lifestyles in order to determine whether or not they adopted what was taught. Furthermore, such follow ups would only have been meaningful if undertaken over a period of time, such as months or even years, since human behaviour and practices cannot be determined in one day.

CHAPTER THREE: CONCEPTUAL AND THEORETICAL FRAMEWORK

3.1. CONCEPTUAL AND OPERATIONAL DEFINITION

3.1.1. Health Education Communication

This was defined as any intentional dissemination of information regarding maternal, infant and child health designed to achieve good health. It is the kind of communication which seeks to achieve some relatively permanent change in behaviour or disposition. Tones and Tilford (1994:24) rightly noted that health education is concerned with developing the awareness, knowledge, motivation, and skills of people using a whole range of approaches.

3.1.2. Morbidity

This was defined as the prevalence or incidence of illness, sickness, ill-health or disease among infants and children below the age of five (National Population Policy, 2007:3)

3.1.3. Mortality

Mortality was defined as the number of deaths of children under the age of five (National Population Policy, 2007:3).

3.2. THEORETICAL FRAMEWORK

3.2.1. The Knowledge Gap Theory

The knowledge gap theory, initially proposed by Tichenor, Donohue and Olien in the 1970s, suggests that the increase of information in society is not evenly acquired by every member of society (Severin and Tankard, 1988:286). One school of thought has suggested that the knowledge gap is due to basic communication skills and other factors associated with socioeconomic status (Ettema and Kline 1977, in Severin and Tankard, 1988:296). They further note that another school of thought suggests that the gap is due to differences in motivation and that children of lower socioeconomic status might acquire information just as rapidly as those of higher socioeconomic status when they are motivated to do so. The knowledge gap theory looks at the gap in terms of information between a group of better-educated people who know more about most things and those with low education who know less. Sometimes it is said that knowledge is power. Ironically, lower socioeconomic status people, defined partly by education level, have little or no knowledge about public affairs issues, are disconnected from news events and important discoveries, and usually are not concerned about their lack of knowledge. Mastin (1998:514) notes that individuals who do not frequently interact with information as a problem solver, or as a knowledge enhancer often do not perceive information as a valid commodity.

Highly educated people have access to knowledge and information. According to this theory, technology only sharpens the divide because not only do highly educated have resources to access it, such as the internet, but they also have the motivation or exposure to technology. The attempt to improve the lives of people with information through mass media might not always work the way this is planned. Mass media might have the effect of increasing the differential gap between members of social classes (Severin and Tankard, 1988:296).

This theory was picked because of the fact that in an informal learning situation such as the clinic, it was expected to meet women of different education levels. It was expected to find mothers of all ages ranging from paediatric mothers, such as teenagers, youths as well as elderly women. This followed that even their education levels differed, ranging from primary level, through secondary and college to university level. According to this theory, the education level which is the key differentiator tends to be linked to socioeconomic status. A key issue in disseminating information to mothers would be to determine how successfully differing subgroups access and retain health-related information. Health educators must, therefore, understand that people of higher socioeconomic status get their information in a different way from lower educated people. Lower educated people may lack access to information or skills to maximise its usefulness.

3.2.2. Theory of Reasoned Action and Planned Behaviour

The theory of reasoned action was formulated by Ajzen and Fishbein in 1980. This theory posits that the behaviour of a person is determined by his or her intention to perform the behaviour and that this intention is in turn, a function of his or her attitude toward the behaviour and his or her subjective norm (Ajzen and Fishbein, 2003:5). The theory of planned behaviour adds perceived behavioural control to attitude and subjective norm (Ajzen, 1991:182). This theory predicts deliberate behaviour since behaviour can be deliberative and planned.

The best predictor of behaviour is intention which is the readiness of a person to perform a given behaviour. This intention is determined by three things which are; their attitude toward the specific behaviour, their subjective norms, and their perceived behavioural control (Ajzen, 1991:182). Specific attitudes toward the behaviour in question can be expected to predict that behaviour. Similarly, the subjective norms of people or put another way, their beliefs about how people they care about will view the behaviour in question, are also needed to predict the intentions of someone. Finally, perceived behavioural control which are perceptions people have toward their ability to perform a given behaviour. These three predictors lead to intention. A general rule is that the more favourable the attitude and the subjective norm, and the greater the perceived control the stronger should the intention of a person to perform the behaviour in question.

This theory was picked for this study because of the usefulness it has in evaluation studies. It is important to determine whether mothers have negative or positive attitudes towards the behaviour which you would like them to adopt so as to come up with effective strategies. Equally important is the knowledge of their subjective norms. For

instance, some mothers might put the lives of their infants at risk by breastfeeding for longer than is required because they fear people may know they are HIV positive if they stop early. Concerning perceived behavioural control, some mothers may see themselves as being incapable of performing certain behaviours because they may hold negative attitudes towards those behaviours. This theory is, therefore, useful as it would provide useful information for the development of communication strategies.

3.2.3. Selective Attention, Perceptions and Retention

The theory of selective attention suggests that people will pay attention to the parts of a message that are not contrary to their strongly held attitudes, beliefs or behaviours and not pay attention to the parts of a message that are counter to strongly held positions which might cause psychological discomfort. Severin and Tankard (1988:153) note that there is evidence that people will pay attention to material that does not support their position if they believe it will be easy to refute. However, they will avoid information that is supportive of their position if it is weak.

Health education providers should be aware that people are capable of not paying attention to messages that counter their strongly held positions. Similarly, they must be aware that people pay attention to messages which matter to them. Messages should, therefore, be made important by using an important source once in a while such as a high profile person like a minister of health.

The theory of selective perception posits that people often interpret facts to suit their existing biases. People hear what they expect to hear. This suggests that the same information may carry different meanings for different people.

Once mothers have chosen messages to listen to, they perceive which things to retain because they may agree with what you are saying. Communicators would, therefore, do well to employ such activities as testimonials from primary sources and in this way mothers would be motivated to pay attention.

The theory of selective retention notes that people remember messages that support their opinion longer than they remember opposing messages, which often unconsciously are forgotten and set aside (Severin and Tankard, 1988:253). To ensure that the information disseminated is retained, health educators must give people a hard copy.

CHAPTER FOUR: LITERATURE REVIEW

Although antenatal care alone cannot prevent all obstetric emergencies (Vilar, 1997:10), the information provided by the health service provider on danger signs, diet, and planning for delivery is useful for the wellbeing of the child. There is also testing for anaemia, malaria and high blood pressure which are important for the successful management of pregnancies and the subsequent wellbeing of the child. Through antenatal and postnatal clinics, high risk pregnancies are identified and family planning messages are transmitted. Most importantly, child nutrition and health care information is disseminated to a large proportion of mothers. Promoting child survival involves: providing prenatal care and counselling, providing adequate delivery assistance, ensuring neonatal care including breastfeeding and information on proper breastfeeding practices, providing micronutrients and tetanus taxoid, reducing the number of low birthweight babies and those with other nutritional deficiencies (www.iwhc.org/index.php). Health education communication plays a vital role by being a channel through which most of this information is disseminated.

Anderson (1979:26) notes that the adoption of the desirable health behaviour is problematic because of the difficulty of changing lifestyles. To change attitudes, one needs to have really good Information, Education and Communication (IEC) campaigns

that contain messages that make people say, 'yes, that is about me and it's talking about all the things I am worried about' (Miller et al.,1996:121). In order to ensure reception of the intended message, health education messages have to be based on information obtained from the target population. Pretesting the same message on the same group helps in having a more correct and effective designed message (Piotrow et al., 1997:6). Most regard evaluation to determine the effectiveness of health education programmes and their worth as vital (Chirwa et al., 1990:1). The study sought to evaluate the effectiveness of health education communication on infant and child morbidity and mortality.

Currently, there is no research carried in Zambia which specifically looks at this topic. However, there are several studies which are very closely related to this study. For example, a study by Lyamba, Sitwala. J (2002) entitled, ''To determine the impact of health education on pregnant women who attend outreach clinics in Katete District.'' Data was collected in two months and the major finding was that the health educator and the topic for discussion were decided upon just before the session began. Among the recommendations were: improvement of maternal child health education materials and to find out whether staff levels affect planned delivery of health education. The study also pointed out that all aspects of maternal care were in need of improvement and that IEC materials were not available. This study assessed whether IEC materials affected the effectiveness of health education communication at Chelstone clinic.

A study by Dorothy Banda (1998) entitled, "Incorporation of child survival strategies among mothers in Zambia: a knowledge, attitude and practice survey," suggested that if

mothers receive effective health education, then they are likely to incorporate child survival strategies in child rearing which would decrease child mortality rates. The study found that the education levels of most mothers in that population sample were low. While some studies have shown that mothers' education status is perhaps the most important tool associated with child mortality and survival, this study argued that the majority of mothers would incorporate child survival strategies once they are made to understand that when they do this, their children will not die and will lead relatively healthy lives. It further found that lack of adequate information about the importance of growth monitoring, family planning, exclusive breastfeeding, oral rehydration therapy, malaria prevention, lack of knowledge about food stuffs essential for the growth of their children were some of the hindrances to positive attitude, knowledge and full incorporation of child survival strategies.

An important lesson that was learnt from these findings was that child survival strategies can be incorporated by all mothers once their importance is emphasized. This study, therefore, sought to find ways in which child survival strategies embedded in health education lessons could be emphasised and made understandable to mothers through effective communication strategies.

A research carried out in Dhaka, Bangladesh by the International Centre for Diarrhoeal Disease Research in 1985 indicated that there was an influence of maternal education on infant and child mortality in Bangladesh (Lindenbaum et al., 1985). Using survey, case study and historical data, the study focused on shifts in the meaning of education, psychological, social, and economic changes effected by maternal education, and the

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implications that these may have for the survival of infants and children, as well as for the women themselves. Education was treated as an empty category, its meaning spelled out by informants' opinions, and by observations of the day-to-day behaviour of educated and uneducated women.

The study of maternal education as a determinant of child survival traversed both social and biological domains. It rose the age of a woman at first marriage, protecting her from the risk of infant mortality associated with child bearing at a very young age. It also safeguards young women from performing exacting labours during their growing years. Observations indicated that education was a form of upward mobility for women, who ended up marrying economically secure husbands. The nutritional status of those women was thus relatively stable. In addition, educated women adopted bathing habits, standards of cleanliness and other forms of upper class hygiene behaviour. This pilot study indicated that the lives of educated women differed from those of uneducated women in a number of ways that could affect the survival chances of their infants and children. Suggestions for further investigations concerned the protective nature of education on the women and their general health and nutritional status, personal hygiene, survival rates, child health care and access to better information about quality medical care.

It should be noted that the use of maternal education in this research was beyond the conceptual definition of health education for this study. However, this review has been used because education, be it formal, informal or non-formal, has an influence on its receivers. In this case, this was more so because the nature and most likely the content,

are very similar as they both deal with maternal, infant and child care information. From this research, it was learnt that maternal education raises the chances of mother and child survival since mothers were more likely to adopt what they learnt. Furthermore, it was learnt that higher social status also increases the chances of survival as there is no poverty. However, a gap is identified since some things in life such as health education are offered to all classes of people hence the focus of this study.

Household socioeconomic status is important for child survival because it determines the amount of resources (such as food, good sanitation, and health care) that are available to infants (Millard, 1994: 245). Measures of socioeconomic status that are thought to be associated with infant mortality include: maternal and paternal education, household wealth, parental occupation, and rural or urban residence. Curtis and Steele (1996:142), who used Demographic Health Survey (DHS) data from Bolivia, Peru, Kenya, and Tanzania in their study of neonatal mortality, found that the level of maternal education was highly significant in all countries except Tanzania, where rural or urban residence was more important. Some studies have shown that even among the urban poor, certain groups are more susceptible to both biological and social risks than others. The very young and the very old tend to be more susceptible to infectious diseases. Harpham and others (1988:5) suggest that there are three groups of factors that are harmful to the health of the urban poor. Firstly, the direct effects of poverty such as low income, limited education, and insufficient diet. The second group of factors relate to the man-made conditions of living environment including poor housing, overcrowding, pollution and an increased exposure to infectious disease. The third factor involves social and psychological problems encompassing instability and insecurity. The excessive

vulnerability of the urban poor and their exposure to pathogenic agents means that infectious diseases and malnutrition are severe health problems in slums.

Desai and Alva (1998:72) used data from 22 countries participating in the first round of the DHS programme. They found that infant mortality was lower among educated women, and that although this effect attenuated with the inclusion of other socioeconomic factors in their models, maternal education remained significant. Lower infant mortality has been reported in households where toilets exist, where piped water is used, and where there is electricity (Madise and Diamond, 1995:97). Evidence from the DHS programme shows that in nearly all sub-Saharan African countries, infant mortality in rural areas is much higher than in urban areas. However, among poorer households in urban areas, child mortality can be as high as or higher than rural households (Madise and Diamond, 1995:97).

Educating girls and women is closely associated with better health, lower infant mortality, lower fertility, higher economic growth and environmental stewardship. In developing countries, each additional year of education is associated to five to ten percent decline in child deaths (www.iwhc.org/index.php). Some researchers have shown that infants born to teenage mothers are at risk of being born low birthweight babies and have a higher mortality rate. Experts suggest that education is second only to family planning in lowering family size. On the economic front, each one percent increase in female high school education is estimated to result in 0.3 percent increase in national economic growth (United Nations Population Fund, 2000:5). They are likely to invest their earnings in their family. Moreover, it is the perceptions of women on health,

disease, and appropriate care that form the basis of decisions since they are the closest at hand to make such decisions. The importance of this study can not be underestimated since it is from this health education communication that most of these perceptions are modelled.

Child-level demographic factors such as birth order, the length of the preceding birth interval, and the survival status of the preceding child have been shown to be strongly associated with infant mortality in Africa as well as Asia (Madise and Diamond, 1995: 100). They also noted that first and higher order births, those born after birth intervals of less than two years, and those whose previous siblings have died appear to have high risks of dying in infancy.

Sex differentials in infant mortality have been observed universally (Madise et al., 2003: 5). In the majority of the world regions, girls have lower mortality, at least for the first few months of life. Exceptions have been noted in some Asian countries. In India, girls are 30 percent more likely than boys to die before their fifth birthday and this is thought to be a result of son preference, which is manifest in lower spending on health for girls and higher prevalence of immunization among boys (Claeson et al., 2000:1199)

From the above discussion of literature available, it could be seen that a gap was left where there was no evaluation of health education communication on infant and child morbidity and mortality, hence the focus for this study.

CHAPTER FIVE: FINDINGS

5.1. Background Characteristics of Respondents

Making understandable messages requires full understanding of the target audience. Knowledge of their psychic, demographic, and social characteristics are vital in the interpretation of their behaviour.

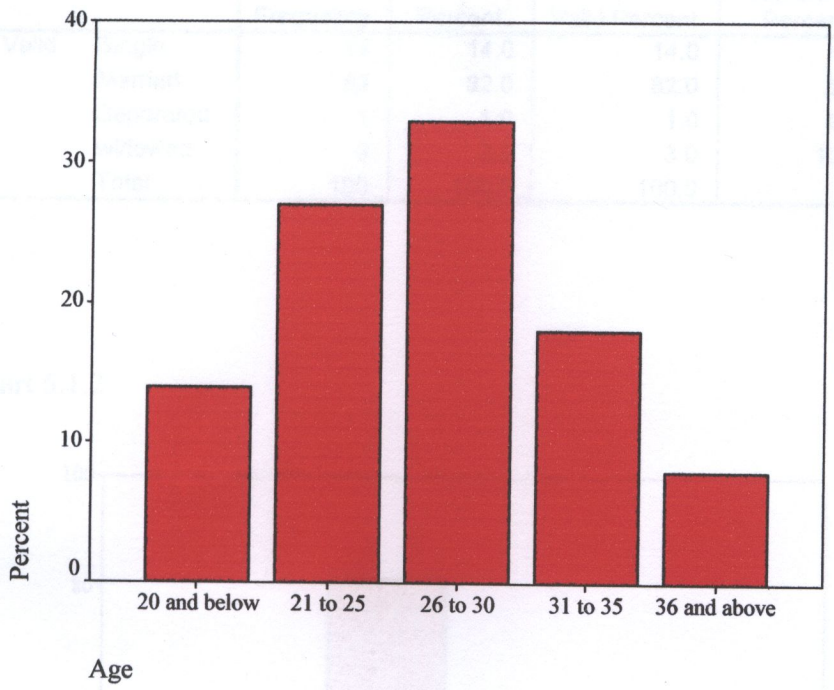
The majority of the mothers who were interviewed were aged 26-30 (33%), followed by those aged 21-25 (27%), 18% for those aged 31-35 and 14% for those aged 20 and below (see table 5.1.1 and the ensuing chart 5.1.1). It is interesting to note that women who were beyond there youth (at 8%) were still having children, as shown in the table. Similarly interesting are the young women who were becoming mothers at 20 years and below, therefore some mothers were actually teenage and paediatric mothers.

Table 5.1.1

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20 and below	14	14.0	14.0	14.0
	21 to 25	27	27.0	27.0	41.0
	26 to 30	33	33.0	33.0	74.0
	31 to 35	18	18.0	18.0	92.0
	36 and above	8	8.0	8.0	100.0
	Total	100	100.0	100.0	

Chart 5.1.1



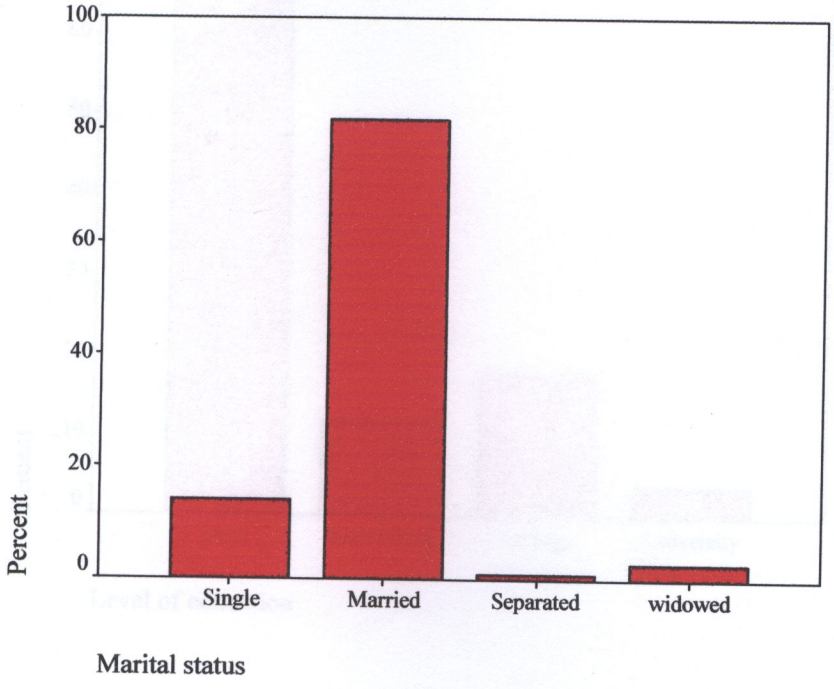
The majority of the respondents were married (82%), followed by those who were single at 14%, then 3% were widowed and 1% was on separation from her husband (see table 5.1.2 and chart 5.1.2)

Table 5.1.2

Marital status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Single	14	14.0	14.0	14.0
	Married	82	82.0	82.0	96.0
	Separated	1	1.0	1.0	97.0
	widowed	3	3.0	3.0	100.0
	Total	100	100.0	100.0	

Chart 5.1.2



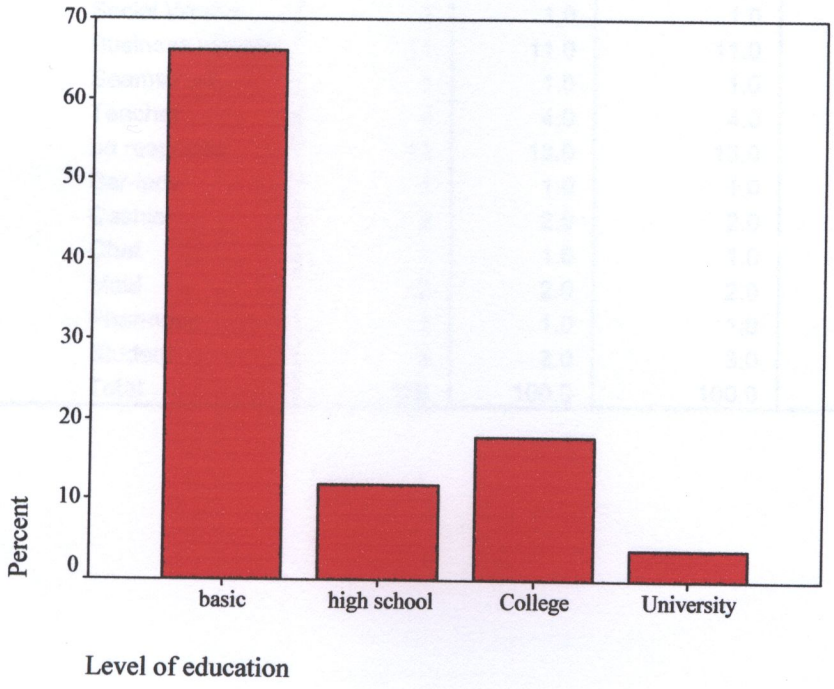
It is quite sad to note that the majority of the mothers at 66% had only gone as far as basic school in terms of formal education (see table 5.1.3 and the matching chart 5.1.3). 18% of the respondents had been to college, followed by those who had been to high school at 12% and only 4% had been to university.

Table 5.1.3

Level of education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	basic	66	66.0	66.0	66.0
	high school	12	12.0	12.0	78.0
	College	18	18.0	18.0	96.0
	University	4	4.0	4.0	100.0
	Total	100	100.0	100.0	

Chart 5.1.3



A person's occupation largely determines one's lifestyle such as what they eat and how frequent they eat. It was found out that 56% of the respondents were housewives, followed by 11% who said they were in business and 13% did not respond. The other

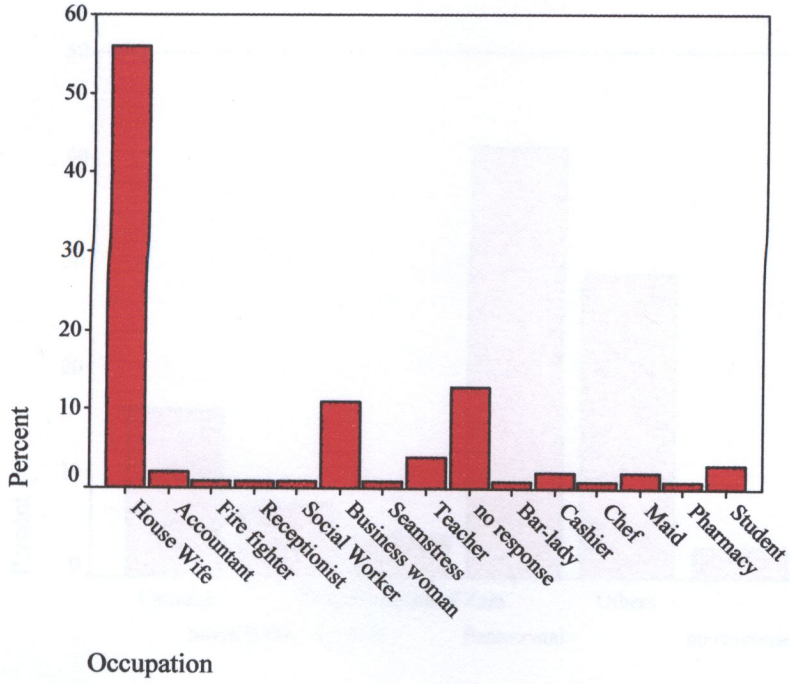
women had various jobs such as accountancy, bar-lady, cashier, chef and many others (see table 5.1.4 and the related chart 5.1.4).

Table 5.1.4

Occupation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	House Wife	56	56.0	56.0	56.0
	Accountant	2	2.0	2.0	58.0
	Fire fighter	1	1.0	1.0	59.0
	Receptionist	1	1.0	1.0	60.0
	Social Worker	1	1.0	1.0	61.0
	Business woman	11	11.0	11.0	72.0
	Seamstress	1	1.0	1.0	73.0
	Teacher	4	4.0	4.0	77.0
	no response	13	13.0	13.0	90.0
	Bar-lady	1	1.0	1.0	91.0
	Cashier	2	2.0	2.0	93.0
	Chef	1	1.0	1.0	94.0
	Maid	2	2.0	2.0	96.0
	Pharmacy	1	1.0	1.0	97.0
	Student	3	3.0	3.0	100.0
	Total	100	100.0	100.0	

Chart 5.1.4



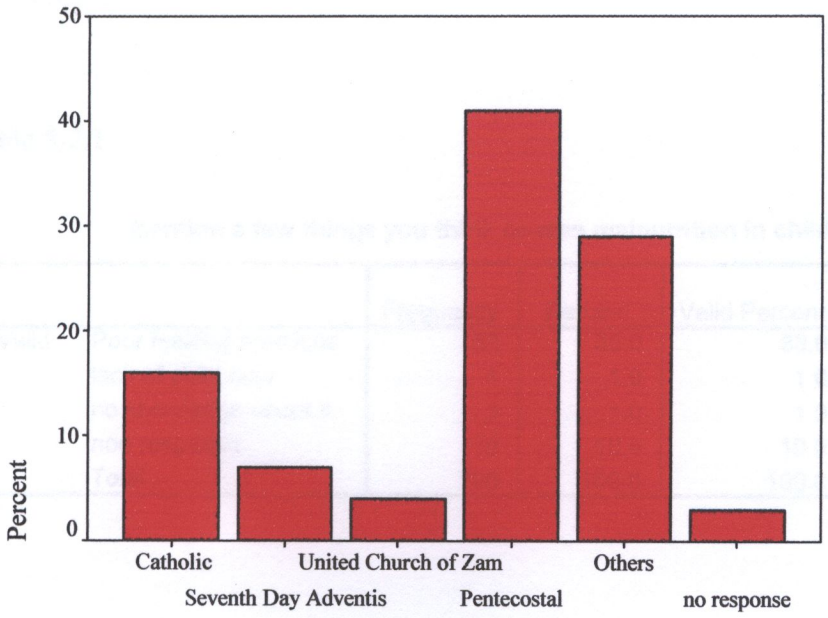
Almost all the women who were interviewed were religious with the majority being Pentecostal at 40%, followed by other churches at 29% and catholic at 16% (see table 5.1.5 and the equivalent chart 5.1.5). Only 2% of the women appeared not to be religious as they did not respond.

Table 5.1.5

Religious denomination

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Catholic	16	16.0	16.0	16.0
	Seventh Day Adventist	7	7.0	7.0	23.0
	United Church of Zambia	4	4.0	4.0	27.0
	Pentecostal	41	41.0	41.0	68.0
	Others	29	29.0	29.0	97.0
	no response	3	3.0	3.0	100.0
	Total	100	100.0	100.0	

Chart 5.1.5



5.2. Topics and messages taught and how thorough they are discussed

Major topics which were taught included; exclusive breastfeeding, hygiene, preparation of the nipple and of labour, danger signs, HIV and AIDS, Sexually Transmitted Illnesses (STIs), nutrition in pregnancy, exercises and malaria in pregnancy. Other messages included those on children's feeding patterns and family planning. For women to acquire meaningful knowledge which can be applied, messages need to be explored.

When asked to mention a few things the respondents thought could cause malnutrition in children, 88% mentioned poor feeding practices which indicated that they were knowledgeable (see table 5.2.1 and the corresponding chart 5.2.1). 10% did not respond,

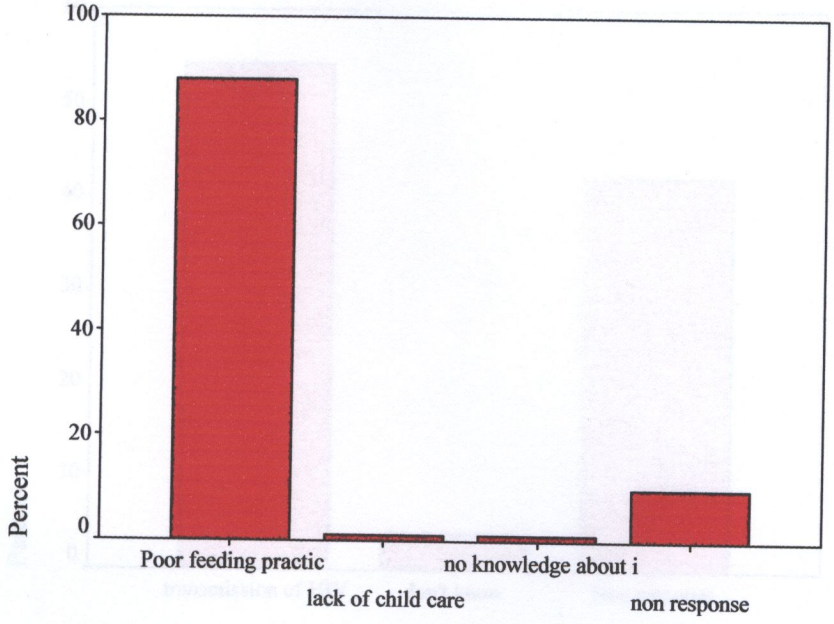
1% knew nothing about it while another one said lack of child care could cause malnutrition.

Table 5.2.1

Mention a few things you think causes malnutrition in children

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Poor feeding practices	88	88.0	88.0	88.0
	lack of child care	1	1.0	1.0	89.0
	no knowledge about it	1	1.0	1.0	90.0
	non response	10	10.0	10.0	100.0
	Total	100	100.0	100.0	

Chart 5.2.1



Mention a few things you think causes malnutrition in children

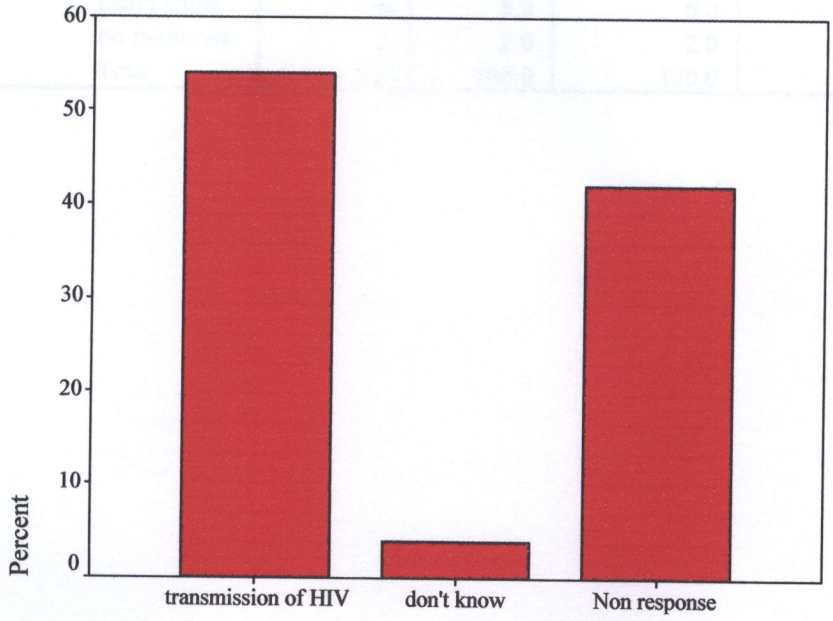
On HIV messages for example, 54% of the mothers understood what was meant by Mother-to-Child Transmission (see table 5.2.2 and chart 5.2.2). It should be noted that this percentage is barely more than half of the respondents implying that the others did not know what it meant.

Table 5.2.2

What do you understand by Mother-to-Child Transmission (MTCT) of HIV

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	transmission of HIV from mother to child	54	54.0	54.0	54.0
	don't know	4	4.0	4.0	58.0
	Non response	42	42.0	42.0	100.0
	Total	100	100.0	100.0	

Chart 5.2.2



Understanding of Mother-to-Child Transmission (MTCT) of HIV

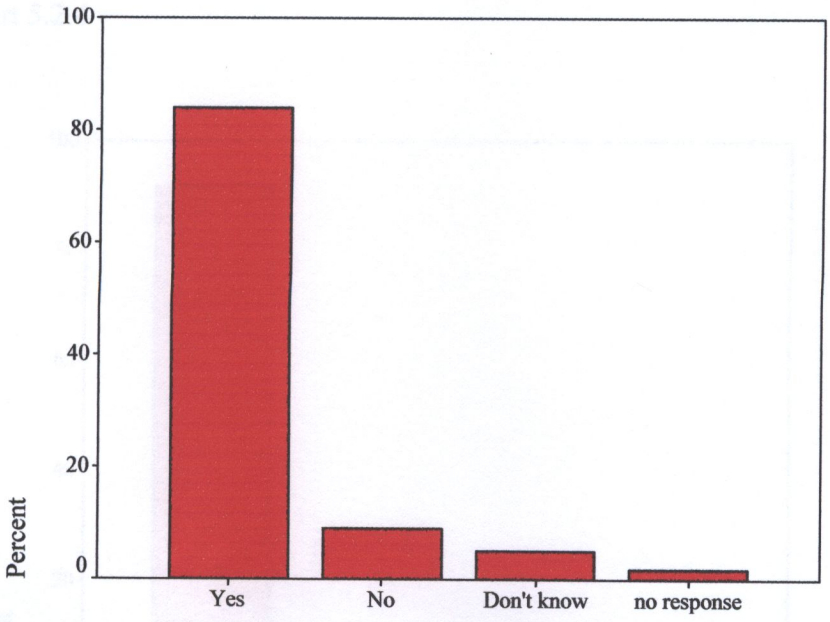
When asked whether HIV could pass through milk, an overwhelming majority (84%) acknowledged that it could pass (see table 5.2.3 and the matching chart 5.2.3). Similarly, the majority of the women, that is, (93%) and (91%) respectively, knew it could pass through a cracked nipple and direct contact between the mother's blood or vaginal fluids and the child's blood (see tables 5.2.4 and 5.2.5 and the follow-on charts 5.2.4 and 5.2.5 respectively).

Table 5.2.3

Can HIV pass through breast milk

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	84	84.0	84.0	84.0
	No	9	9.0	9.0	93.0
	Don't know	5	5.0	5.0	98.0
	no response	2	2.0	2.0	100.0
	Total	100	100.0	100.0	

Chart 5.2.3



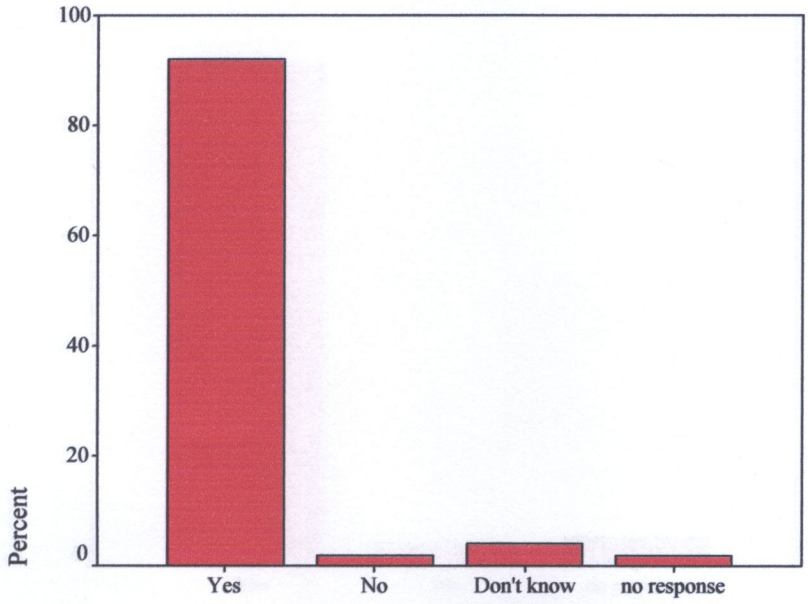
Can HIV pass through breast milk

Table 5.2.4

Can HIV be spread from a cracked nipple

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	92	92.0	92.0	92.0
	No	2	2.0	2.0	94.0
	Don't know	4	4.0	4.0	98.0
	no response	2	2.0	2.0	100.0
	Total	100	100.0	100.0	

Chart 5.2.4



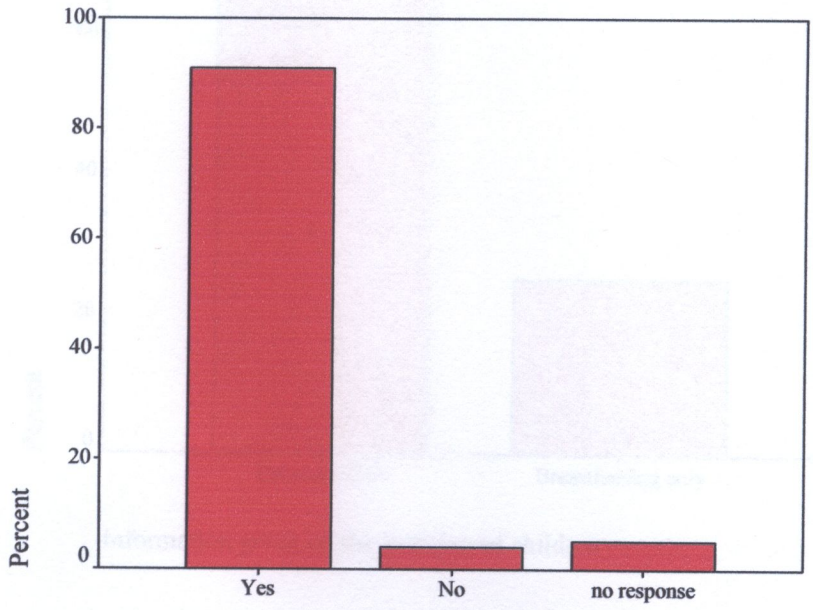
Can HIV be spread from a cracked nipple

Table 5.2.5

Can HIV pass through direct contact between the mother's blood or fluids and the child's blood

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	91	91.0	91.0	91.0
	No	4	4.0	4.0	95.0
	no response	5	5.0	5.0	100.0
	Total	100	100.0	100.0	

Chart 5.2.5



Can HIV be spread through blood and fluids during childbirth?

5.3. General awareness of information shared

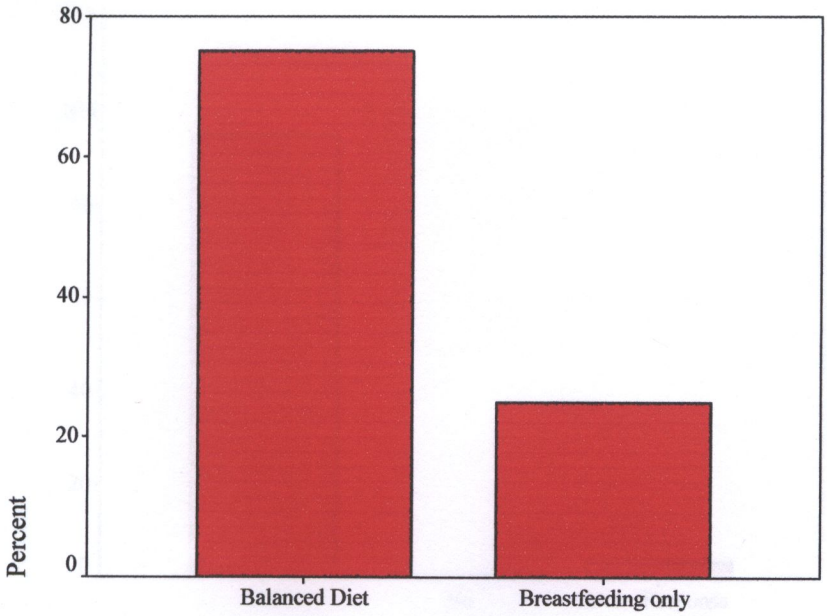
The general awareness of the information shared was overwhelming. For instance, 75% of the mothers were aware of the nutritionally adequate foods to feed the child once the period for exclusive feeding had passed (see table 5.3.1 and chart 5.3.1). However, 25% of the respondents were not aware of this information.

Table 5.3.1

Apart from breastfeeding what other information have you been given on the nutrition of children

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Balanced Diet	75	75.0	75.0	75.0
	Breastfeeding only	25	25.0	25.0	100.0
	Total	100	100.0	100.0	

Chart 5.3.1



Information given on the nutrition of children

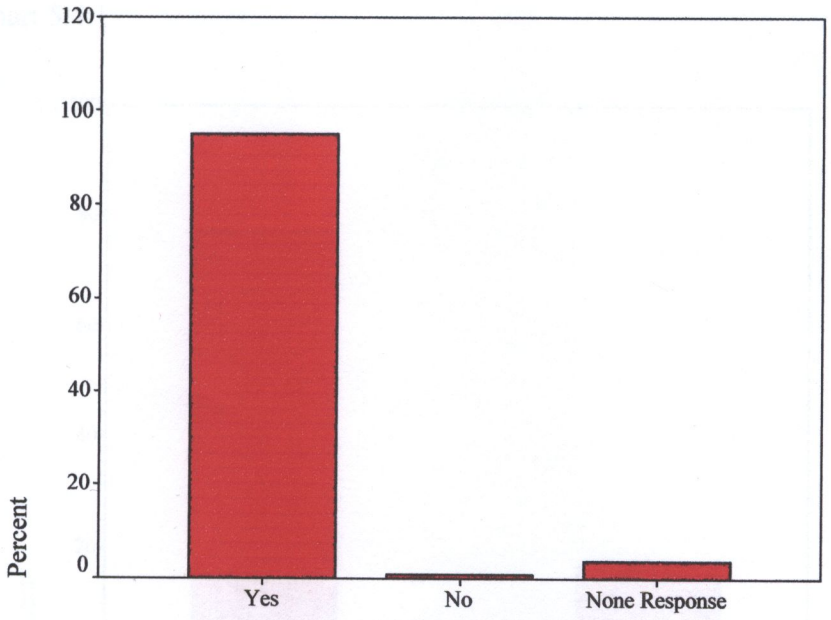
There was near-universal awareness (at 95%), of the monthly monitoring of children offered at the clinic (see table 5.3.2 and the resultant chart 5.3.2). This is critical to discovering conditions such as malnutrition.

Table 5.3.2

Are you aware of the monthly checking of children offered at this health centre

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	95	95.0	95.0	95.0
	No	1	1.0	1.0	96.0
	None Response	4	4.0	4.0	100.0
	Total	100	100.0	100.0	

Chart 5.3.2



Awareness of the monthly checking of children offered at the clinic

5.4. Women's response to the messages

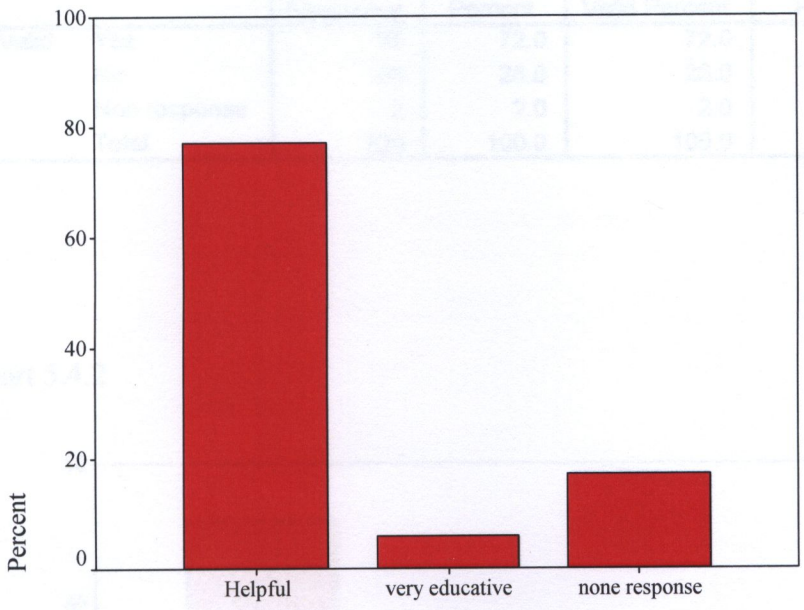
The women's response to the messages is critical for their impact.

Table 5.4.1

How do you view the lessons in relation to preventing illnesses and consequently death

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Helpful	77	77.0	77.0	77.0
	very educative	6	6.0	6.0	83.0
	none response	17	17.0	17.0	100.0
	Total	100	100.0	100.0	

Chart 5.4.1



Are the lessons relevant in terms of preventing illnesses and death

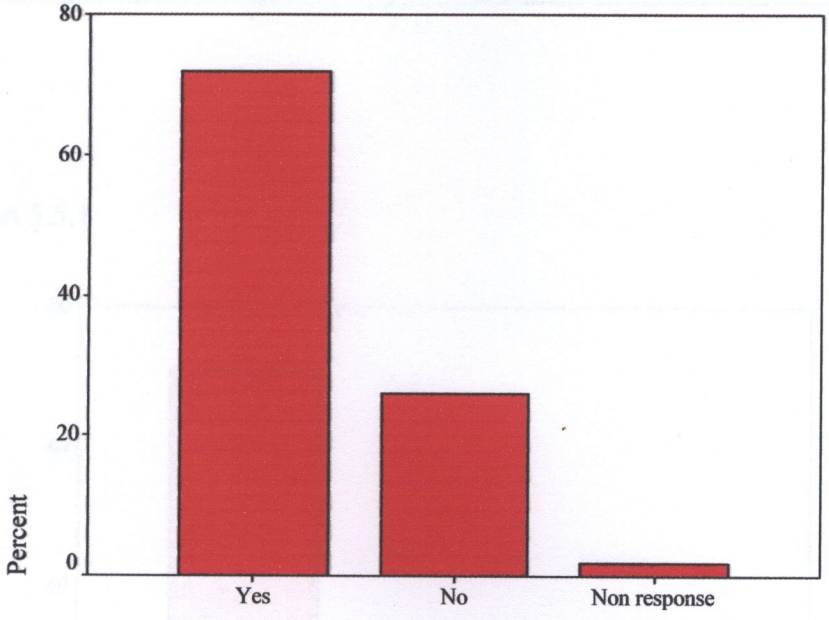
When asked how they viewed the lessons in relation to preventing illnesses and consequently death, 77% of the respondents regarded them as being helpful, 6% regarded them as being very educative while 17% did not respond (see table 5.4.1 and chart 5.4.1). This positive response would ensure that the mothers actually take what they learn seriously by applying the knowledge acquired in raising healthy children. On messages of exclusive breastfeeding for example, 72% of the respondents acknowledged that they exclusively breastfed their children for the first six months (see chart 5.4.2 and the subsequent chart 5.4.2). 26% of the respondents did not practice what they were taught and there was no response from 2% of the respondents.

Table 5.4.2

Do you exclusively breastfeed your children for the first six months

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	72	72.0	72.0	72.0
	No	26	26.0	26.0	98.0
	Non response	2	2.0	2.0	100.0
	Total	100	100.0	100.0	

Chart 5.4.2



Do you exclusively breastfeed your children for the first six months

5.5. Whether the discussions were regarded as useful or time-wasting by mothers

The attitude of the mothers towards the discussions is vital as it determines whether or not what is taught is adopted or simply ignored.

Table 5.5.1

How do you view health education sessions

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very useful	71	71.0	71.0	71.0
	Useful	28	28.0	28.0	99.0
	Non response	1	1.0	1.0	100.0
	Total	100	100.0	100.0	

Chart 5.5.1

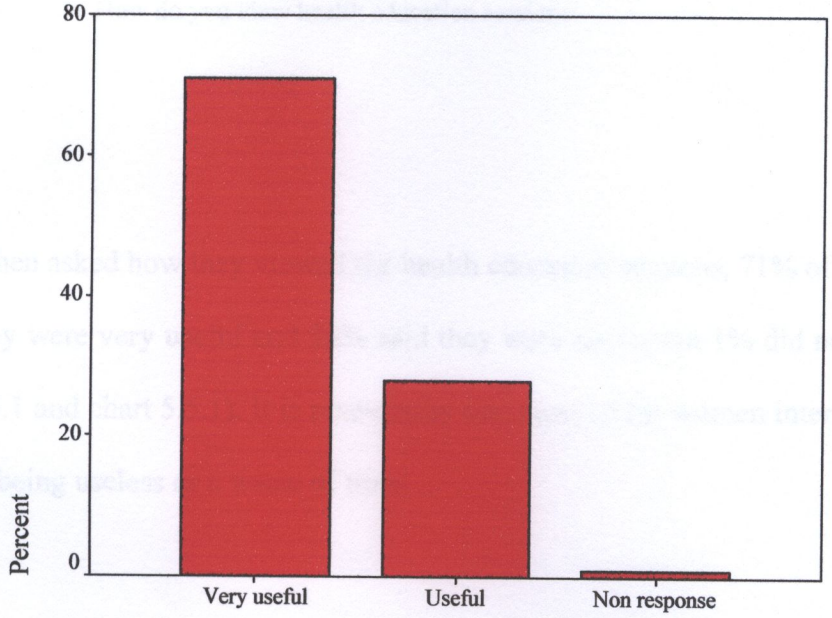
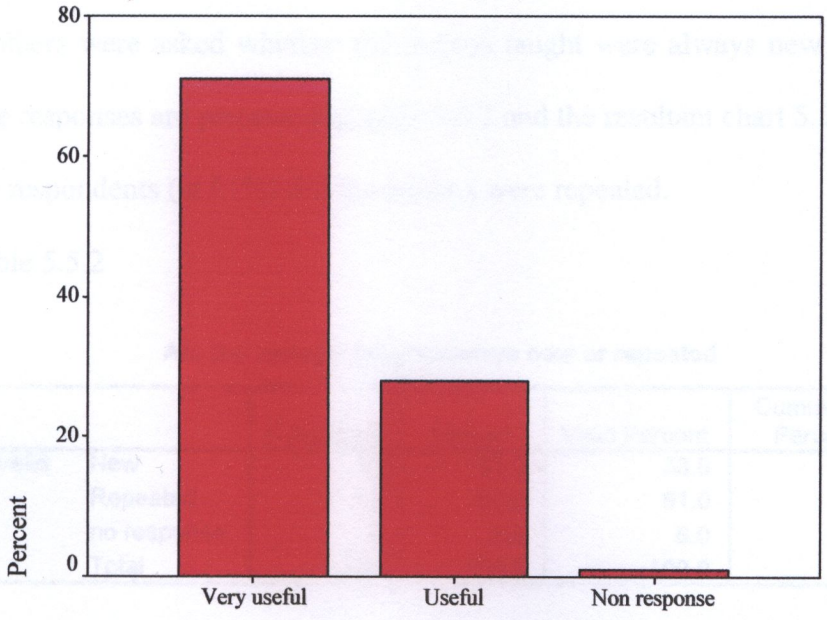


Chart 5.5.1



How do you view health education sessions

When asked how they viewed the health education sessions, 71% of the respondents said they were very useful and 28% said they were useful but 1% did not respond (see table 5.5.1 and chart 5.5.1). It is noteworthy that none of the women interviewed viewed them as being useless or a waste of time.

The various reasons for regarding them that way were as follows; some said the information helped them with general child care, others said they learnt new things with

regards to child health, others still, said they were able to prevent their children from acquiring HIV from them and the rest said health education helped them to prepare their minds for the responsibility of motherhood.

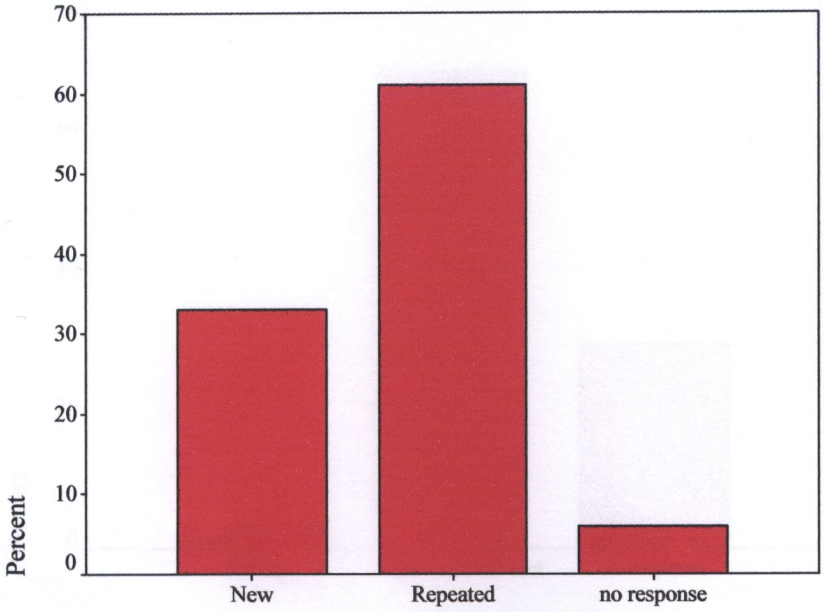
Mothers were asked whether the lessons taught were always new to them or repeated. The responses are presented in table 5.5.2 and the resultant chart 5.5.2. More than half of the respondents (at 61%) felt the lessons were repeated.

Table 5.5.2

Are the lessons taught always new or repeated

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	New	33	33.0	33.0	33.0
	Repeated	61	61.0	61.0	94.0
	no response	6	6.0	6.0	100.0
	Total	100	100.0	100.0	

Chart 5.5.2



Are the lessons taught always new or repeated

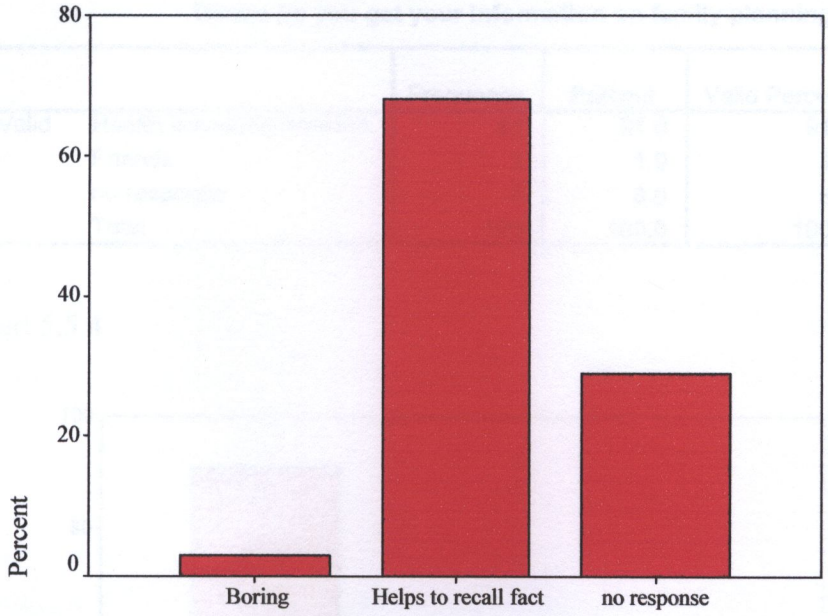
The category 'repeated' was further explored. An overwhelming majority at 68% attested that this helped them to recall facts which may have been forgotten and 4% said the lessons were boring (see table 5.5.3 and chart 5.5.3).

Table 5.5.3

If the lessons are repeated, how do you view them

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Boring	3	3.0	3.0	3.0
	Helps to recall facts which may have been forgotten	68	68.0	68.0	71.0
	no response	29	29.0	29.0	100.0
	Total	100	100.0	100.0	

Chart 5.5.3



If the lessons are repeated, how do you view them

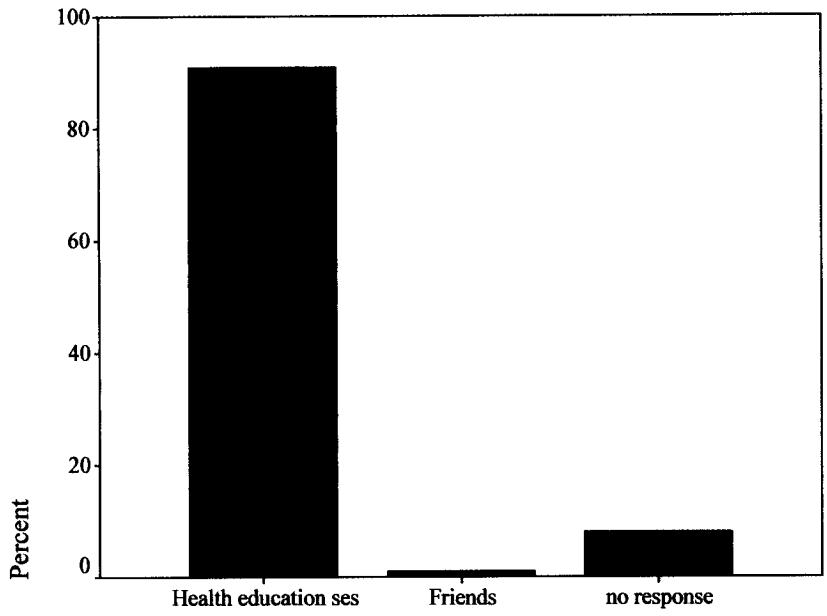
It is said that the use of family planning helps to prevent infant and child mortality. When asked where the mothers got the information on family planning, 91% said they got it during the health education sessions and only 1% said she got it from friends (see table 5.5.4 and resultant chart 5.5.4). The category 'no response' was further asked where they got the information on family planning from and they said they did not use any of the methods offered at the clinic.

Table 5.5.4

Where do you get your information on family planning

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Health education session	91	91.0	91.0	91.0
	Friends	1	1.0	1.0	92.0
	no response	8	8.0	8.0	100.0
	Total	100	100.0	100.0	

Chart 5.5.4



Where do you get your information on family planning

When asked at what age they thought children should be started on complementary food, an overwhelming majority (85%) stated 6 months implying that their attitude has been accustomed to exclusive breastfeeding. This was followed by mothers represented by 5% who thought 4 months was alright, then 4% said at 5 months and another 4% said at

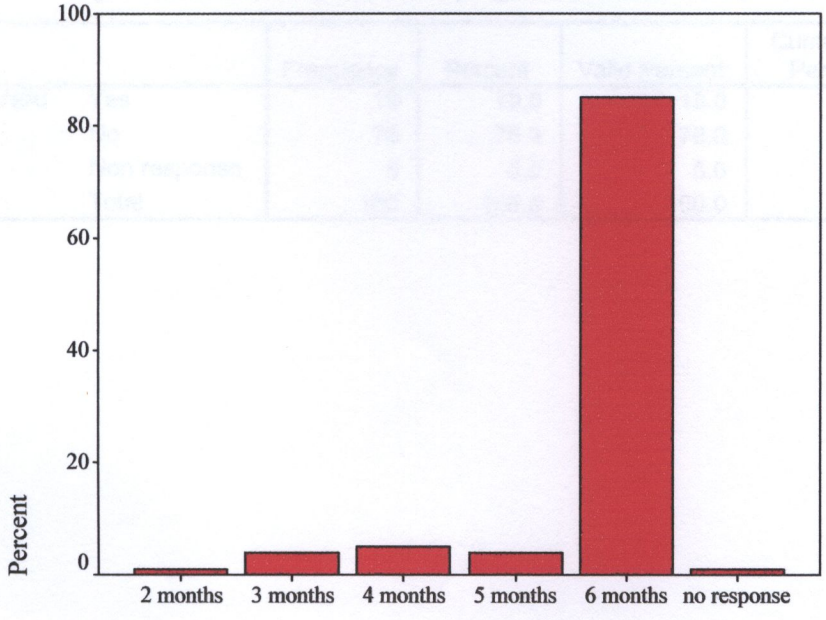
3 months whereas 1% said the child could be started on complementary food at 2 months (see table 5.5.5 and chart 5.5.5).

Table 5.5.5

At what age do you think your children should be started on complementary food

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2 months	1	1.0	1.0	1.0
	3 months	4	4.0	4.0	5.0
	4 months	5	5.0	5.0	10.0
	5 months	4	4.0	4.0	14.0
	6 months	85	85.0	85.0	99.0
	no response	1	1.0	1.0	100.0
	Total	100	100.0	100.0	

Chart 5.5.5



When should complementary food be introduced

5.6. Levels at which children were affected by illnesses

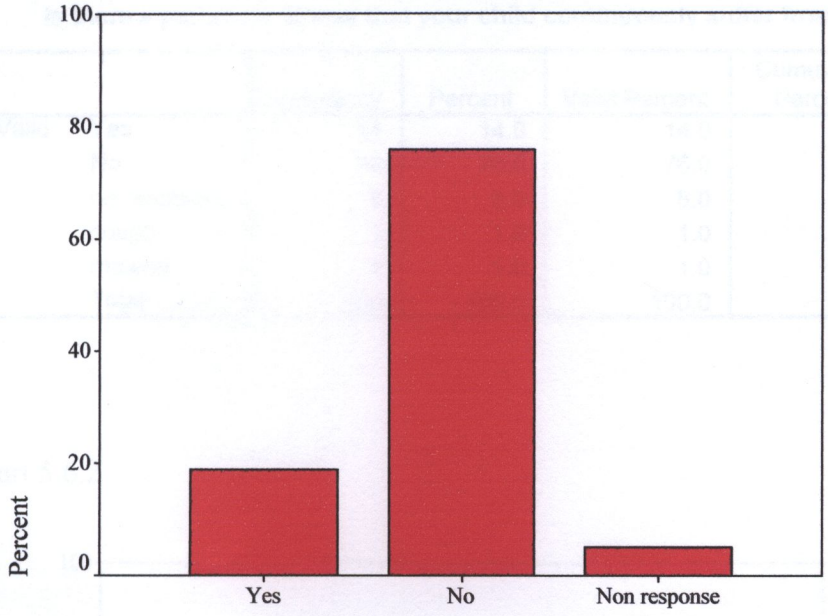
The whole purpose of health education communication is to disseminate information to achieve good health or illness related health. When asked whether the respondent's children were on the programme of the food voucher, 76% of the respondents said their children were not on the programme (see table 5.6.1 and the corresponding chart 5.6.1). This implied that their children had no malnutrition. However, 19% of the respondent's children were on that programme implying they had malnutrition.

Table 5.6.1

Is your child currently under the programme of the food voucher

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	19	19.0	19.0	19.0
	No	76	76.0	76.0	95.0
	Non response	5	5.0	5.0	100.0
	Total	100	100.0	100.0	

Chart 5.6.1



Is your child currently under the programme of the food voucher

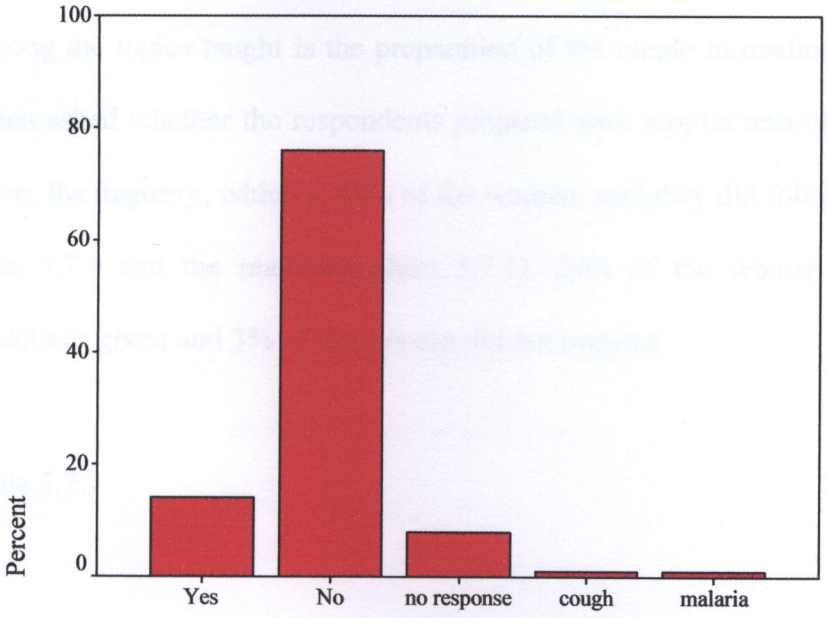
The respondents were asked whether their under-five children had ailing health and the responses are presented in table 5.6.2 and the resultant chart 5.6.2. About three-quarters of the respondent's children had no ailing health. 14% of the respondent's children had ailing health and 8% of the mothers did not respond. Of those who did, 1% said that their children usually had cough and the other 1% said that their children usually had malaria.

Table 5.6.2

Is there a particular illness that your child continuously suffer from

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	14	14.0	14.0	14.0
	No	76	76.0	76.0	90.0
	no response	8	8.0	8.0	98.0
	cough	1	1.0	1.0	99.0
	malaria	1	1.0	1.0	100.0
	Total	100	100.0	100.0	

Chart 5.6.2



Is there a particular illness that your child continuously suffer from?

The illnesses which were mentioned by the women as conditions troubling the under-five most were flu and cough, malaria and fever, and diarrhoea. Similarly, malaria and diarrhoea were mentioned as the illnesses which cause most deaths in children. Measles, malnutrition and pneumonia were also mentioned as conditions which cause most deaths

in children. Other women said any illness could cause death so long it was severe and one woman said infidelity of husband could also cause death in children. Severe atmosphere was also mentioned by a woman as the cause of her child's death as well as HIV and AIDS. It is interesting to note that three women pointed at traditional medicine as the cause of death.

5.7. Limitations towards practicing what is learnt

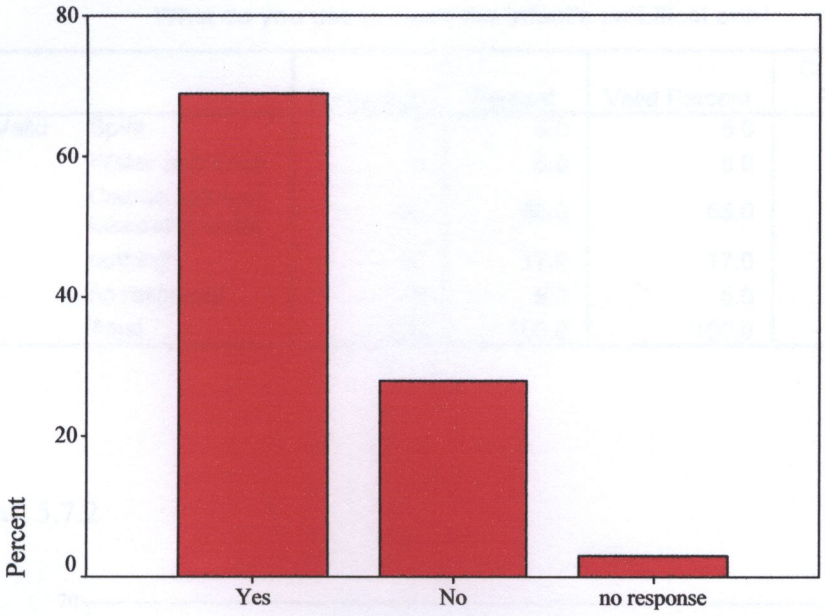
Among the topics taught is the preparation of the nipple in readiness for breastfeeding. When asked whether the respondents prepared their nipples according to the guidelines given, the majority, which is 69% of the women, said they did follow the guidelines (see table 5.7.1 and the matching chart 5.7.1). 28% of the women did not follow the guidelines given and 3% of the women did not respond.

Table 5.7.1

Do you prepare your nipple according to the guidelines given during the health sessions

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	69	69.0	69.0	69.0
	No	28	28.0	28.0	97.0
	no response	3	3.0	3.0	100.0
	Total	100	100.0	100.0	

Chart 5.7.1



Do you prepare your nipples according to the guidelines given?

The various reasons which were given for not following the guidelines were as follows: some said it was because of sheer laziness, others said they had no time as they were working mothers, others still, said the nipples got clean on their own and others did not give any reason.

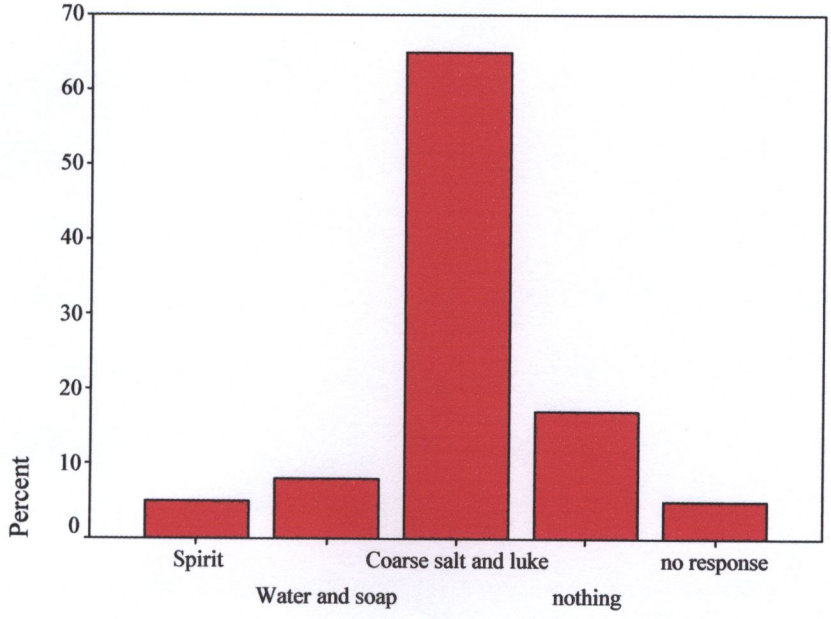
When asked what the women used to clean their infant's umbilical cords with, many of them (65%) used coarse salt and lukewarm water which was what was taught. This was followed by those who did not use anything at 17%, then those who used water and salt followed at 8%. 5% of the respondents used spirit and 5% did not respond (see table 5.7.2 and the equivalent chart 5.7.2).

Table 5.7.2

What do you use to clean the infant's umbilical cord

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Spirit	5	5.0	5.0	5.0
	Water and soap	8	8.0	8.0	13.0
	Coarse salt and lukewarm water	65	65.0	65.0	78.0
	nothing	17	17.0	17.0	95.0
	no response	5	5.0	5.0	100.0
	Total	100	100.0	100.0	

Chart 5.7.2



What do you use to clean the infant's umbilical cord

Mothers were also asked whether the health education sessions changed their lifestyles in any way and more than three quarters (78%) said it had (see table 5.7.3 and the

The women who had said their lives had changed were further asked to elaborate what had changed about their lives. Many of them said they incorporated exclusive breastfeeding and said their children were healthier. While others had incorporated the messages on their children's feeding patterns particularly after the stage for exclusive breastfeeding, some adopted hygiene practices which were taught. Most importantly, others commended the lessons as their children were prevented from acquiring HIV from them as they adhered to what was taught.

CHAPTER SIX: DATA INTERPRETATION

6.1. Topics and messages discussed and how deeply they are explored

The first topics looked at the very first time an expecting woman attends antenatal clinics includes HIV and AIDS, Sexually Transmitted Illnesses, diet of a pregnant woman, exercises and malaria in pregnancy. Other activities included HIV counselling and mandatory testing of HIV and syphilis. The women who were found to be HIV positive had further sessions of counselling. The main lessons for those attending antenatal clinics were taught and completed within two working days, specifically on Tuesday and Wednesday afternoons of two consecutive weeks. The main messages covered on Tuesday included: exclusive breastfeeding, expression of breast milk, early initiation of complementary food and the importance of colostrum. On Wednesday afternoons, the main messages covered during the antenatal session included: personal hygiene, preparation of the nipple, preparation of labour and danger signs.

Other messages included in Health Education Communication particularly during postnatal clinics included messages on child care, family planning, cervical cancer and children's feeding patterns. Other activities covered during postnatal included programmes such as the Infant and Young Child Feeding.

The sessions started around 14:00 hours and ended around 17:00 hours or beyond depending on whether the mothers understood what was being taught or not. All these messages were carried out through interactive health sessions which allowed for topics

and messages to be explored deeply. For example on messages to do with HIV, about half of the mothers (54%) understood what was meant by Mother-To-Child Transmission of HIV. This knowledge level reveals that about half of the mothers did not understand the meaning of Mother-to-Child Transmission of HIV. The fact that a good percentage (42%) of the mothers did not respond could mean they did not really understand the terminology. It could also have something to do with the illiteracy levels as was shown by some of the women's expressions on their faces when the question was asked.

It was interesting to note that most of the mothers really understood the details of the topics which were taught. As has been shown already, a substantial number of women did not understand what was meant by Mother-to-Child Transmission of HIV, ironically, they understood the details related to it. Most women (84%) knew HIV could be spread through a mother's breast milk to the child. Furthermore, more than 90% of the mothers knew HIV could be spread through a cracked nipple of the mother to the child and also through direct contact between the mother's blood or vaginal fluids and the child's blood. This implies that despite the illiteracy levels being high, women understood the message. This is because the lessons at the clinic are taught in the local language.

6.2. The general awareness of the information shared

The general awareness of the information shared such as on the appropriate feeding practices and the monthly monitoring of children, was overwhelming. 75% of the mothers acknowledged that apart from messages on exclusive breastfeeding, they had

been given information concerning their children's feeding patterns. Inadequate and inappropriate information on infant and young child feeding coupled with poor feeding practices such as early or late introduction of complementary foods and in some cases the use of foods which were nutritionally inadequate are among the major causes of malnutrition. All these practices particularly during the first year of life increase the chances of getting malnutrition. Malnutrition is a threat to child health. It is a major underlying cause to child mortality and morbidity as a result of malaria, respiratory infections, diarrhoea, anaemia and HIV and AIDS.

The 75% of mothers were able to understand these messages owing to the channel of communication which was in local language. It should be noted that the majority were knowledgeable regardless of maternal education and they were able to elaborate more on the feeding patterns. Similarly, there was near-universal awareness, at 95%, of the importance of the monthly monitoring of children. Every mother likes to know how her child is developing. In addition, all mothers are encouraged to take their children for monitoring which mostly involves weight monitoring as well as provision of such vitamins as vitamin A and other immunisations.

6.3. Women's response to the messages discussed

The way the women responded to the messages discussed as well as the satisfaction levels towards what was discussed was critical to their impact. In short, if the response was negative and the satisfaction levels were low, then the messages were less likely to have any impact at all. It was a commendable thing that more than three quarters (77%)

of the respondents felt that the lessons were helpful in relation to preventing illnesses and consequently death. Another 6% of the respondents responded positively and regarded the lessons as being very helpful. Since the lessons were appreciated with regards to preventing illnesses, it follows that the response towards what was taught would be positive.

An overwhelming majority (72%) of the respondents exclusively breastfed their children for the first six months indicating that the response to that particular message was positive. Their response was positive, following that even their infants responded well and never had illnesses such as diarrhoea, which are associated with early initiation of complementary food. A minority of the respondents which was represented by 26% of the mothers, however, did not exclusively breastfeed for the first six months. This means that even after they were given this information together with the benefits which go with this practice, their attitudes were still negative. They still did not have intentions of carrying out this practice of exclusive breastfeeding.

6.4. Whether the lessons were regarded as useful or time-wasting

It was very important to know whether the lessons were regarded as useful or time-wasting by mothers. Their attitudes were crucial to determining whether or not what was taught would be adopted or ignored. It was interesting to find out that none of the women who were interviewed regarded the lessons as useless or time-wasting altogether. An overwhelming majority of the respondents which was represented by 71% regarded them as being very useful while 28% of the respondents regarded them as

being useful. Only one mother did not respond. The various reasons for regarding them that way were as follows; some said the information helped them with general child care, others said they learnt new things with regards to child health, others still, said they were able to prevent their children from acquiring HIV from them and the rest said health education helped them to prepare their minds for the responsibility of motherhood.

To further measure the attitudes of the mothers towards the lessons, they were asked whether they viewed them as being new or repeated. It was assumed that some mothers might have negative attitudes and probably carry that attitude of saying 'we are sick and tired of hearing that.' The findings however proved different. Over half of the mothers felt that the messages which were repeated were for their benefit. They attested that this helped them to recall facts which would have been forgotten hence the repetition of some topics served as a way of refreshing the women's memories and keeping them updated. A few mothers, represented by 33%, felt that most of what they learnt was new to them and hence, they found the sessions to be very educative. The former were most likely mothers already and had attended similar sessions before while the latter were most likely going to be mothers for the first time hence they found everything to be new. In this sense, health education communication plays a very special role in orienting new mothers to prepare for the responsibility of motherhood by educating them on good healthy habits with the aim that they raise healthy children. This is especially important considering the current social setup where experienced elderly women may not be living with the younger inexperienced mothers to guide them with safe child rearing.

It is said that the use of family planning helps to prevent infant and child mortality. Child level demographic factors such as the length of the preceding birth interval have been shown to be strongly associated with infant mortality in Africa (Madise and Diamond, 1995:100). An overwhelming majority of the mothers, represented by 91%, got the information on family planning during the health education sessions and only one mother said she got it from friends. The rest of the mothers said they did not use any of the methods offered at the clinic. It should be noted that the mothers who got family planning information from the clinic actually acted on it and used the various methods offered there. In the same way, those who did not respond were quick to point out that they did not use any of the methods offered and opted for natural methods.

Finally, as a way of finding out whether the mothers considered health education as a worthy activity as well as searching their attitudes, they were asked the best age they thought complementary foods should be introduced. It was amazing to discover that 85% of the mothers mentioned 6 months implying that their attitudes had actually been accustomed to the practice of exclusive breastfeeding so they most likely adopted these practices in their lifestyles. The rest of the mothers mentioned 5 months, 4 months, 3 months, and 2 months as the ages at which complementary foods should be introduced. It was a good thing that these were represented by only 15% of the mothers meaning that very few mothers still held negative attitudes towards the messages which were taught.

6.5. Levels at which children were affected by illnesses

The whole purpose of health education communication is to disseminate information to achieve good health or illness related health. The ultimate aim is for children to grow without having unnecessary illnesses but rather, with good health. Most of the respondent's children, represented by 76%, were not on the programme of the food voucher. This implied that their children had no malnutrition. The mothers most likely practiced what was taught on messages to do with exclusive breastfeeding and the nutrition of children. However, 19% of the respondent's children were on that programme implying they had malnutrition. Since the mothers had been given adequate and appropriate information on infant and young child feeding coupled with good feeding practices such as the right age for the introduction of complementary food, it is likely that the children who had malnutrition came from families which were restrained financially. They could not afford to buy nutritionally adequate foods since most of the mothers were mere housewives and some of their husbands did not have jobs but depended on piece work for their livelihood.

Good health among other things means that children are relatively free of illnesses. About three-quarters of the respondent's children had no ailing health hence they were relatively free of illnesses. The good health could be explained in part due to the application of what was taught in health education sessions. However, about a quarter of the respondent's children had ailing health and one of them complained that her child had an endless cough while the other complained that her child usually had malaria. It

should be noted that the causes of ailing health could also be due to other factors beyond health education such as the season.

The illnesses which were mentioned by the women as conditions mostly troubling the under-five were flu and cough, malaria and fever, and diarrhoea. Similarly, malaria and diarrhoea were mentioned as the illnesses which cause most deaths in children. Measles, malnutrition and pneumonia were also mentioned as conditions which cause most deaths in children. Other women said any illness could cause death so long it was severe and one woman said infidelity of husband could also cause death in children. Severe atmosphere was also mentioned by a woman as the cause of her child's death as well as HIV and AIDS. It is interesting to note that three women pointed at traditional medicine as the cause of death in children.

6.6. Limitations towards practicing what is learnt

Among the topics taught is the preparation of the nipple in readiness for breastfeeding. The nipple is prepared by rinsing with warm water and then applying blue seal Vaseline so that it becomes soft. This exercise begins in the sixth month of pregnancy and is done once in a week. When it is prepared accordingly, cracks would never develop on the nipple and if the mother is HIV positive, the chances of the virus being passed to the infant are greatly reduced. The majority of the women, represented by 69%, did follow the guidelines for the preparation of the nipple. The application of this guideline partly explains the reduction of Mother-to-Child Transmission of HIV. 28% of the women did not follow the guidelines given. The various reasons which were given for not following

the guidelines were as follows: some said it was because of sheer laziness, others said they had no time as they were working mothers, others still said the nipples got clean on their own and others did not give any reason.

The whole essence of health education is that mothers adopt good healthy habits and incorporate them in their lifestyles. More than three quarters, represented by 78% of the mothers attested to the fact that their lifestyles had been changed by the sessions. This entails that they actually tried out some of the messages in their lives and found that their children were healthier. However, 13% of the women said the sessions had no impact on them meaning that they only attended the sessions for formality sake but did not believe that the messages taught would actually work. They still held negative attitudes and did not seem to have intentions to change.

Many of the women who had said their lives had changed said they incorporated exclusive breastfeeding and said their children were healthier. While others had incorporated the messages on their children's feeding patterns particularly after the stage for exclusive breastfeeding, some adopted hygiene practices which were taught. Most importantly, others commended the lessons as their children were prevented from acquiring HIV from them as they adhered to what was taught.

6.7. Discussion of the interview

The health education providers who were interviewed had various years of experience in that work. One of them had been providing health education since 1983, while the others had been at the job for ten years, seven years, five years and one year. Despite that difference in the number of years at the job, the interviewees generally described the response from the mothers they educated as being overwhelming. However, two counsellers who were also involved with the Prevention of Mother-to-Child Transmission (PMTC) described the response as being initially quite negative and characterized by denial and shyness. The researcher actually observed one incidence of denial where a pregnant girl was found HIV positive. The counselling session which is offered prior to testing the HIV status failed to have an impact on her and she was cited as being among those who find it hard to accept. It was said that with encouragement, support, and more dissemination of information, the response from HIV positive pregnant women became positive in about 95 percent of the cases. The women were willing to know more and were committed to practicing what they were advised especially with regards to medication so as to ensure the safety of their infants.

Most of the health education providers with the exception of one, expressed the need for materials particularly flipcharts and physical objects in both number and types. The health educators who have specialized in PMTC noted that it was not easy to teach crowds and that there was a drawback with regards to the rooms. In fact, the researcher observed that there was practically no confidentiality with regards to the women who were found HIV positive. The counsellors sometimes had in-depth sessions with them in

the same room as those who were found HIV negative. This has an adverse effect of reduced co-operation from the group. The other drawback which was faced under the PMTC was that it was not easy to achieve the intended outcomes in some cases because of the financial status of some mothers. They said some mothers who were in employment were at an advantage as they were able to buy infant formula continuously and thus avoided mixed feeding. Mixed feeding increases the chances of infecting the child. The other drawback which was noted was that the clinic usually ran out of instruments such as those for measuring the haemoglobin level. It is vital that the haemoglobin level of a pregnant woman is checked occasionally because when it is too low, the woman might die in childbirth which would put the infant, if it survives, at risk.

All the interviewees acknowledged that the content was sufficient to prevent infant and child morbidity and mortality. They also admitted that they have a syllabus which guides their lessons. Health educators teach what is in the syllabus although some noted that they occasionally placed emphasis on what was high in the disease profile.

It was also made known that all the interviewees were generally satisfied with their work. The satisfaction came from seeing the good health of the children as well as the expecting mothers.

CHAPTER SEVEN: CONCLUSION AND RECOMMENDATIONS

The rates for child mortality in Zambia are too high (102 per 1000 live births in 2009) compared with other countries such as Singapore with a rate of 2.5 deaths per 1000 live births (www.healthbeatblog.org/2008). The rates for infant and child morbidity and mortality should, therefore, not be left unattended to but be reduced by all means possible.

Health education communication is one of the ways through which infant and child morbidity and mortality could be reduced. It was with the understanding that health education communication is on the preventive side in terms of morbidity and mortality that the study sought to contribute communication strategies to antenatal and postnatal clinics. Health education communication is basically designed to achieve good health or illness related learning. It is concerned with developing the awareness, knowledge, motivation and skills of people using a whole range of approaches. Moreover, the opportunity for feedback and modification of messages afforded by this kind of communication offers greater potential for communicating complex messages and influencing behaviour.

In particular, the case study had the following objectives:

1. To identify the various topics and messages taught during antenatal and postnatal clinics and how they were communicated and to determine how deep they were explored and discussed.
2. To assess the general awareness of the information shared.

3. To determine the women's response towards the topics discussed.
4. To evaluate whether those discussions were regarded as being useful or a waste of time by mothers.
5. To ascertain the levels at which the participants' children suffered and died from the illnesses discussed.
6. To ascertain the satisfaction levels of the staff conducting the health education sessions.
7. To determine the limitations towards practicing what was learnt.
8. To make recommendations on what was to be done in terms of communication methods used so that they are effective.

All the topics and messages taught were tailored to the good health of the mother and her child and they were explored thoroughly. It was discovered that awareness of the information shared was not only high but near-universal too.

Despite the response towards certain messages being positive, some women still clung to misconceptions over some messages. For instance, although 72% of the mothers exclusively breastfed their children for the first six months, others still assumed that an infant could not survive solely on breast milk.

The study revealed that the attitude of the mothers towards health education communication was positive as they did not view the activity as time wasting. Even after they had learnt the same topics before, they did not find it to be boring but regarded it as a way of being reminded of facts which may have been forgotten.

The respondent's children were not affected much by illnesses and did not have ailing health although about 19% of the respondent's children had malnutrition.

Sometimes mothers did not practice what was learnt because of financial constraints as well as sheer laziness and the fact that some mothers were working women hence did not have much time for certain practices. For example, exclusive breastfeeding is encouraged for the first six months but this does not correspond to the period for maternity leave which is three months.

In view of the findings, it is recommended that:

- Since most mothers have only gone up to basic school, drama and theatre approaches could be employed when disseminating information. Also, mothers who are literate should be encouraged to be reading posters which have been put up for them.
- The Television set which is there can be used to demonstrate the benefits of adopting certain practices. Messages whereby the target audience watch themselves through video tend to be more effective. Mothers should be involved in producing educative films or plays based on health education messages which would be watched and incorporated in some lessons.
- Testimonials should be encouraged and used during the sessions so that mothers become convinced that some practices are really beneficial.

- Once in a while, a well-known high profile person such as an honourable minister of health should be invited to deliver some messages so as to give the messages much importance.
- Messages should sometimes be linked to individuals whom the mothers admire so as to increase their motivation to listen as they wish to become like that person.
- The bandwagon technique can be used on the mothers by implying that certain practices such as exclusive breastfeeding are widely used.
- Churches can be lobbied by the health educators to make the mothers' norms and values towards adopting practices like the use of family planning, strong as 98% of the mothers were religious.
- A survey study should be carried out between Chelstone clinic and another clinic where health education communication is ignored or phased out so as to really find out the value of these lessons with regards to infant and child morbidity and mortality.
- The Government of Zambia could collaborate and work hand in hand with service providers so that the Ministry of Health could be posting these infant serving messages on cell phones of the citizens.
- Printing and free distribution of fliers and brochures. These are easy and fast to look at and dispose them of. They could be distributed in public places.
- Since social network sites such as facebook are gaining so much popularity, a page could be opened on the internet so that women share on the benefits of some messages and practices.

BIBLIOGRAPHY

Agarwal, B. 1994. A Field of One's Own: Gender and Land Rights in South Asia. Cambridge: University Press.

Agarwal, B. 2004. Children's welfare and mother's property in the state of the World's children 2005: childhood under threat, Carol Bellamy, ed. UNICEF 2004.

Ajzen, I. 1988. Attitudes, Personality and Behaviour. Milton-Keynes, England: Open University Press.

Ajzen, I. and Fishbein, M. 2003. Questions raised by a reasoned action approach: Reply to Ogden. Health Psychology.

Anderson, C.D.1979. Health Education in Practice. London: Groom Helm.

Banda, Dorothy. 1998. Incorporation of child survival strategies among mothers in Zambia: a knowledge, attitude and practice survey. Master Thesis. University of Zambia.

Chelstone Health Centre. Action Plan 2009-2010. Ministry of Health.

Chirwa, B. U and Phiri, N. 1990. Awareness and knowledge of AIDS in Zambia. Vol-5.1, Oxford University Press.

Claeson, M., E.R. Bos, T. Mawji, and I. Pathmanathan. 2000. Reducing child mortality in India in the new millennium. Bulletin of the World Health Organisation, 78.

Curtis, S. T,. and K. Steele. 1996. Variations in familial neonatal mortality risks in four countries. Journal of Biosocial sciences, 28.

Desai, S. and S. Alva. 1998. Maternal Education and Child Health: is there a strong causal relationship? Demography, 35.

Ettema, J .W. and Kline. 1977. 'Knowledge gap' in Severin, W. J and J.W. Tankard, Jr. 1988. Communication theories: Origins, methods, uses. 2nd edition. Longman: New York.

Harpham, T., Lusty, T. and Vaughan, P. 1988. In The Shadow of the City: Community Health and the Urban Poor. Oxford University Press.

Hubley, J. 1993. Communicating Health. An action guide to health education and health promotion. London: Macmillan education limited.

Kalumba, K. 1992. National Health Policies and Strategies. (Health reforms MOH) GRZ, Oct 1992.

Kasali, George. 2009. 'Adaptation and health in Zambia' in 'Tiempo climate newswatch.'

Kerbo, H. R. 2006. World Poverty: Global Inequalities and the Modern World System. New York: McGraw-hill.

Lindenbaum, S., Chakraborty, M. and Elias, M. 1985. The influence of maternal education on infant and child mortality in Bangladesh. International center for Diarrhoeal Disease Research.

Louella, Morgan-Jarvis (ed.). 2010. ZAMBIA REVIEW. 11th ed. Lusaka: Directory Publishers of Zambia.

Lyamba, Sitwala. J. 2002. A study to determine the impact of health education on pregnant women who attend outreach clinics in Katete district. Master Thesis. University of Zambia.

Madise, N.J., Banda, E.M., and Beyana, K.W. 2003. Infant Mortality in Zambia: Socioeconomic and Demographic Correlates.

Madise, N. J and I. Diamond. 1995. Determinants of infant mortality in Malawi: An analysis to control for death clustering within families. Journal Biosocial sciences, 27.

Mastin, T. 1998. Employee's understanding of employer-sponsored retirement plans, a knowledge gap perspective. Public Relations Review 24 (4).

Millard, A. 1994. A causal model of high rates of child mortality. Social science and medicine. Vol 38, Issue 2.

Miller, J. and Wolff.J. 1996. Management strategies for improving family planning services. Newton: FPMD.

Ministry of Finance and National Planning. 2007. National Population Policy. Lusaka.

Piotrow, T., P. Kincacid, C.D., Rimon II, G.J. and Rinehart, W.1997. Health communication. Praeger: Connecticut.

Severin, W. J., and Tankard, J. W. Jr. 1988. Communication Theories. Origins, Methods, Uses. 2nd edition. Longman: New York.

Todaro, Micheal, P. and Smith, Stephen. C. 2009. Economic Development. 8th edition. India: Dorling Kindersley pvt ltd.

Tones, K and Tilford, S. 1994. Health Education: Effectiveness and Equity. London: Chapman and Hall.

Vilar, J. and Bergsjo. 1997. Scientific Basis for the Content of Routine Antenatal Care. Aota Obstetrica et Gynecologica Scandinavia, 76.

Yankauer, A. 1979. Infant Mortality and Morbidity in the International Year of the Child. Vol 69. No. 9. Public Health.

hdr.undp.org/../hdr2000

http://www.unfpa.org

www.ncbi.nlm.nih.gov

www.iwhc.org/index.php

www.tiempocyberclimate.org/newswatch

www.unicef.org/./zambia

www.who-zambia.co.zm

www.zamstats.gov.zm

www.healthbeatblog.org/2008

APPENDICES

APPENDIX A: QUESTIONNAIRES FOR MOTHERS

1. What is your age?
   i) 20 and below
   ii) 21 to 25
   iii) 26 to 30
   iv) 31 to 35
   v) 36 and above

2. Marital status
   i) Single
   ii) married
   iii) separated
   iv) divorced
   v) widowed

3. How many children do you have?.....

4. How many are under five years of age? .....

5. Highest level of education attained
   I) Primary
   II) Secondary
   III) College
   IV) University

6. Occupation (please specify)
   .....

7. Occupation of husband (please specify)
   .....

8. Residence.....

9. What is your denomination?
   i) Catholic
   ii) Seventh Day Adventist
   iii) United Church of Zambia
   iv) Pentecostal
   v) Others (please specify)

10. Briefly mention the kind of topics which you have been taught during the health education sessions
    .....
    .....

.....

11. How do you view health education sessions?
    i) Very useful
    ii) Useful
    iii) Not useful
    iv) Useless

12. Explain your answer in question 11
    .....
    .....
    .....

13. Are the lessons taught always new to you or repeated?
    i) New
    ii) Repeated

14. If repeated, how do you view them?
    i) Boring
    ii) Helps to recall facts which may have been forgotten

15. How do you view the lessons in relation to preventing illness and consequently death.....
    .....

16a. Where do you think these lessons should be conducted from?
    i) Clinic
    ii) Community outreach site
    iii) Church
    iv) Market
    v) School

16b. Why is this location most convenient for you?
    .....
    .....

17. Where do you get your information on family planning?
    i) Health education sessions
    ii) Family members
    iii) Friends

18. How has family planning helped you?
    .....

19a. Do you exclusively breastfeed your children for the first six months?
    i) Yes
    ii) No

If YES proceed to Question 19e.

19b. If no what options have you put in place towards your infant feeding?

i) Porridge
ii) Infant formula
iii) Cow's milk

19c. Who gives you this information?

i) Friends
ii) Health educator
iii) No one

19d. Is this information helping you, that is, how has your child responded?.....

.....

.....

19e. At what age do you think your children should be started on complementary food?

i) 2 months
ii) 3 months
iii) 4 months
iv) 5 months
v) 6 months

19f. At what age do you stop breastfeeding your children?

i) 0-6 months
ii) 7-12 months
iii) 13-18 months
iv) 19-24 months
v) 2 years and a few months after

20a. At what age do you stop taking your children for under five monthly monitoring?

i) At 1 year
ii) At 2 years
iii) At 3 years
iv) At 4 years
v) At 5 years

20b. Why do you stop at that age?

.....

.....

21a. Apart from breastfeeding, what other information have you been given on the nutrition of children?

.....

.....
.....

21b.Mention a few things you think causes malnutrition in children.....
.....

21c. Are you aware of the monthly checking of children offered at this health centre?
i) Yes
ii) No

21d. Is your child currently under the programme of the food voucher?
i) Yes
ii) No

22a. What do you understand by Mother-to-Child Transmission (MTCT) of HIV?
.....
.....

22b. When can a baby contract HIV from its mother?
i) During pregnancy
ii) During childbirth
iii) During breastfeeding
iv) During all the above stages
v) Don't know

22c. Can HIV pass through breast milk?
i) Yes
ii) No
iii) Don't know

22d. Can HIV be spread from a cracked nipple?
i) Yes
ii) No
iii) Don't know

22e. Can HIV pass through direct contact between the mother's blood or vaginal Fluids and the child's blood?
i) Yes
ii) No
iii) Don't know

23. Mention a few danger signs during pregnancy which could endanger the infant's life.....
.....
.....

24a. Do you prepare your nipple according to the guidelines given during the health

sessions

i) Yes

ii) No

If YES proceed to Question 25

24b. If no, what hinders you from doing it?

i) sheer laziness

ii) no time i.e. working mother

iii) they get clean on their own

iv) no reason

25. What do you use to clean the infant's umbilical cord?

i) Spirit

ii) Water and soap

iii) Coarse salt and lukewarm water

26a. Have the health education sessions altered your lifestyle in any way?

i) Yes

ii) No

If NO proceed to Question 27

26b. If yes, how have you incorporated what you have learnt?

.....

.....

27a. Is there a particular illness that your child continuously suffer from?

i) Yes

ii) No

27b. Mention the illnesses which trouble you most in this community

.....

.....

27c. What illnesses do you think cause most deaths in children?

.....

.....

APPENDIX B: INTERVIEW GUIDE FOR HEALTH EDUCATION PROVIDERS

1. For how long have you been teaching?
2. Briefly describe the kind of response you get from those you educate?
3. Are there any material or teaching aids that you feel are needed to assist in your communication?
4. What kind of drawbacks do you face if any?
5. Do you think the content is sufficient to prevent infant and child sickness and death?
6. Is there any syllabus which guides your lessons?
7. Please mention the major topics which make up the syllabus?
8. Do the lessons correspond to what is high in the disease profile?
9. Briefly explain the satisfaction you get from teaching these lessons and ultimately saving lives?