UNIVERSITY OF ZAMBIA

SCHOOL OF MEDICINE
DEPARTMENT OF POST BASIC NURSING

A STUDY TO DETERMINE SOME OF THE FACTORS

ASSOCIATED WITH DIARRHOEAL DISEASES IN

UNDER FIVE CHILDREN IN LUSAKA URBAN.

A STUDY SUBMITTED TO THE DEPARTMENT OF POST BASIC NURSING, SCHOOL OF MEDICINE, IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE BACHELOR OF SCIENCE IN NURSING DEGREE

NURSING RESEARCH - NR 420

BY

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DECLARATION

I hereby declare that the work presented in this study for a bachelor of science degree in nursing has not be presented wholly or in part for any other degree and is not being currently submitted for any other degree.

Signed: _____
Candidate

Approved: _____ 5th '96
Lecturer

STATEMENT

I hereby certify that, this study is entirely the result of my own independent investigation. The various sources to which I am indebted are clearly indicated in the text and in the references.

Signed: _____ Candidate

DEDICATION

This study is dedicated to my husband, my sons Mazuba, Nchimunya, Lwendo, Luyando and my niece Mirriam.

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I would also like to thank the University Teaching Hospital Board of Management for granting me permission to go for further training at the University of Zambia-School of Medicine.

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ABSTRACT

Objective :- to identify factors associated with diarrhoeal diseases in under five children in Lusaka urban.

A cross-sectional survey was done in Lusaka urban. Data was collected using semi structured interview schedule. Data was collected between August and September 1996.

There are 22 urban health centres in Lusaka, out of these 10 were randomly selected using the lottery method.

The study comprised 100 women who brought children for under five clinic. Ten (10) women were picked from each clinic. The women included in this study were recruited after the midwife had screened, weighed and vaccinated the child. Verbal consent was obtained from the participants.

Fifty (50%) of the women reported that their children were having attacks of diarrhoea in the last four (4) weeks. Fifty (50%) percent of the women gained their knowledge on caring for a child with diarrhoea, through experience and 85% of respondents knew that diarrhoea can be prevented, whereas 25% did not have information on prevention

of diarrhoea. Sixty four percent (64%)of the respondents gave ORS as home treatment for diarrhoea, 16% used home remedy (mixed guava and mango leaves

boiled the fluid was given to the child). Out of the children who attended the clinic, 70% had diarrhoea and were on supplementary foods. Eighty four percent (84%) of the children who had diarrhoea were last fed by their mothers before the diarrhoeal attack. Forty nine percent (49%) of the children who had attacks of diarrhoea were reported to have had eaten left over meals. Sixty two percent (62%) of the children who had attacks of diarrhoea were from respondents who had a supply of treated water.

CHAPTER 1

1.0 INTRODUCTION.

Diarrhoea is one of the major causes of sickness and death especially among children. In Sub-Sahara Africa diarrhoeal diseases are recognised as major causes of morbidity and mortality, especially among infants not breastfed or during supplementation and weaning periods! The age at which specific incidences of diarrhoea deaths occurs varies with feeding practices in different societies and the rates are marked according to seasons. They could either be higher or lower depending on the season. The peak diarrhoea season is from September to March which coincides with the hot dry season (September - November) and the hot wet season (December - March).

In Zambia, diarrhoea is one of the major seven causes of death in both infants and children. Studies undertaken around the 1970's show that over 15 and 18% of infants and children respectively, died of diarrhoeal complexes.2 While indications are that it has become less in Europe and North America, in Africa it is the reverse. Diarrhoea is increasing in frequency not only in Africa but also in other tropical countries. This is particularly common in children who readily develop fluid and electrolyte imbalances and who often are precipitated into Marasmus or Kwashiorkor. These forms of malnutrition trigger off other diseases among children and are major causes of death.

Diarrhoeal diseases have been and continue to be among the major health problems in Zambia. In order to address this issue, the Zambian Government adopted the control of diarrhoea diseases programme (CDD) in 1982. The overall objective of this programme was to reduce first of all mortality and as a long term goal also reduce

diarrhoeal diseases in children under five years of age. In 1986, the CCD activities increased when the Ministry of Health accepted an operational plan and appointed the first programme manager. During the same year a secretariat was established. In 1987 the CCD programme appeared for the first time in the National Development Plan, which lists programme objectives, targets and a budget for the programme objectives. In 1990 guidelines for implementing a national CCD policy were developed.[3] The CDD programme emphasises improved case management, in the home and health facilities as the primary strategy for decreasing disease and mortality in children under five years of age. The fundamental strategy is good case management which includes four (4) key components; fluids, feeding, appropriate drug use and referral.[4] The fluid replacement component is very crucial in the early episodes of diarrhoea. The provision of oral re-hydration therapy (ORT) at house level especially among under fives assists in the reduction of hospitalisation except for severe cases. Consequently this will lead to a reduction in mortality rate of under five children resulting from diarrhoeal diseases.

The adoption of CCD programme indicates the importance government attaches to the problem of diarrhoeal diseases particularly as it relates to under five children. In order to effectively address the problem of diarrhoeal diseases among the under five children it is imperative the we understand the factors associated with diarrhoea as a way of preventing its occurrence.

The aim of this study was to look at the factors associated with the diarrhoeal diseases in under five children. This will enable us prevent diarrhoeal diseases more effectively.

1.2 Statement of the Problem

Diarrhoea is a major public health problem in Zambia. It is also believed to be associated with malnutrition. Diarrhoea is quite prevalent in Zambia and the number of cases and deaths due to diarrhoea is especially high in children below the age of five. An outstanding feature of acute diarrhoeal diseases in Zambia is the frequency of cases among infants and young children during and after weaning period. In 1993 diarrhoea incidence in Zambia of children under five years was 404 per population of 1000. Since then the diarrhoea incidence among the under five children in Zambia has been increasing steadily.[5] As for the University Teaching Hospital (U.T.H.) the situation is not much different from that of Lusaka Urban. In 1993 the diarrhoea incidence among under five children was 5 per population of 1000, where as in 1994 and 1995 the diarrhoea rate of occurrence among the under five children was 7 per population of 1000 and 13 per population of 1000 respectively (Note that U.T.H. incidence rate is based on Lusaka Urban population). Case fatality among the under five children suffering from diarrhoea still remains a major problem in Zambia. For example in 1993 the diarrhoea rate fatality for those under five years for U.T.H. was 45%, in 1994 it came to 17% and in 1995 it rose to 20%.[6] The situation of diarrhoea occurrences in Lusaka Urban shows that diarrhoea is still a public health problem. The available data for Lusaka shows that in 1993 incidents of diarrhoea was 628 per 1000 and in 1994 was 592 per 1000. The 1995 data though incomplete, shows a possibility of a further increase in diarrhoea incidents among under five children.[7]

The problem of diarrhoeal diseases ranks high on Ministry of Health priority in

Zambia. This is due to their frequency among all age groups and high mortality rates in infants and young children. This is clear from the figures indicates in the bulletin of health statistics 1989-1992. The trend of admitted cases and deaths during this period indicates the magnitude of the problem. The sample figures below indicate health bulletin of health statistics 1989-1992.

Trend of admitted cases and deaths 1989-1992

	ADMITTED CASES				DEATHS			
Year	Under 1 year	1 - 14	15 years +	Total	Under 1 year	1 - 14	15 years +	Total
1982	12,248	13,141	13,810	39,199	583	628	331	1,542
1987	12,301	12,533	18,027	42,861	1,264	1,048	852	3,164
1992	9,689	13,271	27,057	50,017	1,352	1,767	2,190	5,309

The table above illustrates the high numbers of diarrhoeal diseases in the infants and young children.[8]

The nationwide diarrhoeal diseases survey carried out in 1986 reveals that there are 5.1 episodes of diarrhoeal diseases per child per year. If this figure is multiplied by the 1.8 million under five children in Zambia then the magnitude of the problem is evident (9.18 million cases).[9]

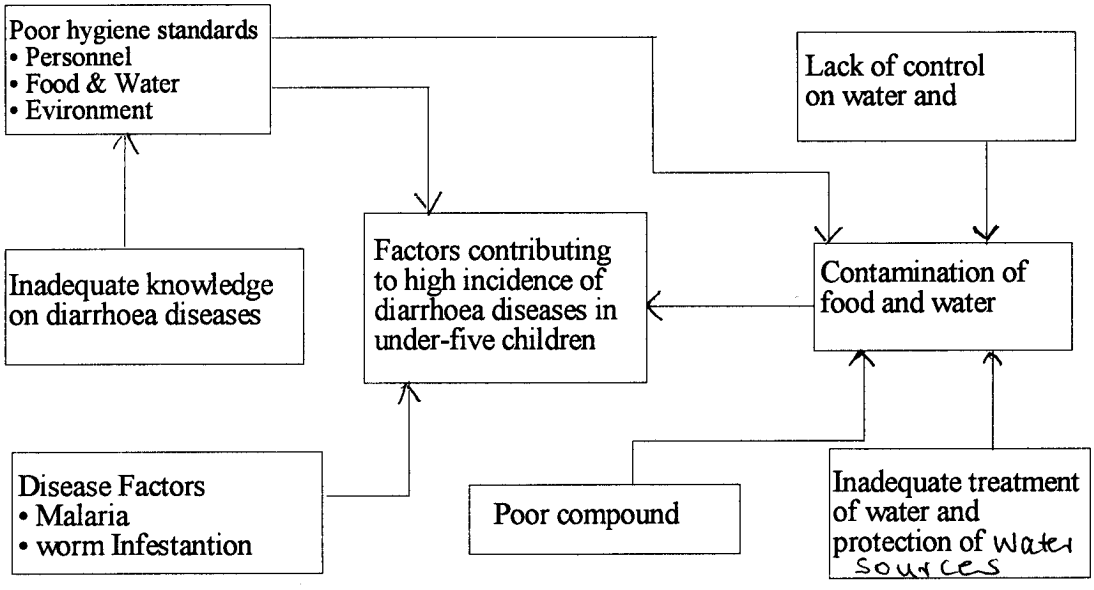
When the relationship of diarrhoea and malnutrition is considered, the extent of the problem is even clearer. Acute diarrhoea and protein energy malnutrition are responsible for us to 40% of admissions and 50% of all deaths in the paediatrics department at U.T.H. Lusaka.[10]

An outstanding feature of diarrhoeal diseases in the developing world is the frequency of cases among infants and young children during and after weaning period. It is estimated that 3.2 million deaths occur each year in those under five years. Overall, these children experience an average of 3.3 episodes of diarrhoea per year, but in some areas the average exceeds more than 3.3 episodes per year but in some areas the average exceeds more than 3.3 episodes per year. About 80% of deaths due to diarrhoea occur in the first two (2) years of life. Where episodes are frequent, young children may spend more than 15% of their days with diarrhoea.[11]

The presence of diarrhoea is assumed to be related to a number of factors among which are poor sanitation such as poor effluent disposal around the house, lack of latrines within the residential areas; where latrines exist, they remain uncovered creating an easy access for flies which later settle on foods that are later eaten by human beings including children. Poor hygiene practices such as failure by some individuals to wash their hands after using the toilet or before preparing food thereby contaminating the foods which are later eaten by children who later develop diarrhoea. Similarly poor water supply could also be one of the factors contributing to diarrhoeal diseases within the communities. In areas where piped water is available, water treatment is rarely or never done. When piped water is not provided, communities have only access to water through wells, a good number of them are unprotected. The scarcity of water can also directly contribute to diarrhoeal diseases in that people will or never wash their hand before preparing and eating foods. Diseases such as malaria, worm infestations etc. may also contribute to diarrhoeal diseases. Limited knowledge on dangers of diarrhoea has also partly played a role in promoting diarrhoeal diseases

among the communities. Below is a problem analysis diagram.

Figure 1: Problem Analysis Diagram



The prevention of diarrhoeal diseases therefore can be achieved through addressing the above factors and adopting effective preventive practices. The continued effective use of preventive measures will assist in the reduction of the diarrhoeal diseases among the under five children. Priorities for children are in keeping with the national health policy goal to achieve equity in health opportunities. This is amplified through one of the major national goals for Maternal and Child Health (M.C.H.). This goal is 'reduction of the infant mortality rate from the current level of 107 per 1,000 live births to 65 by the year 2,000 and 50 by the year 2,015 and reduction in the under five mortality rate from an estimated figure of 191 per 1,000 to 100 per 1,000 by the year, 2,000.[12] Some of the main strategies being implemented by the Ministry of Health to achieve the above goal together with specific targets for actions include the enhancing of environmental and personal hygiene practices, increasing access to safe water by

20% by the year 2,000 in both urban and rural areas. The other target for action is the provision of safe and adequate methods of excreta disposal to both urban and rural households (25% with flush toilets and 50% with access to pit latrines).[13] However the diarrhoea situation in the country has not improved.

In view of the above stated problem the researcher felt that in order to adequately address the incidence of diarrhoeal diseases in under five children there is need to carry out a research of factors associated with diarrhoeal diseases in Lusaka Urban. After asserting the factors that are associated with the diarrhoeal diseases in the under five in Lusaka Urban, the results will be used to design strategies and interventions that will reduce the incidence of diarrhoeal diseases and be included in the district action plans. The results will be used by Lusaka Urban District, Ministry of Health and other interested parties in the control of diarrhoea in the country.

1.3 The Purpose

The main purpose of this study was to establish the factors associated with the diarrhoeal diseases in under five children in Lusaka Urban.

And finally to ascertain what role the communities themselves can play in the control and prevention of diarrhoeal diseases in under five children.

1.4 Objectives.

1.4.1 General Objective.

To identify factors associated with diarrhoeal diseases in under five children in Lusaka urban, with the view of using the findings to design strategies that will reduce the incidence of diarrhoeal diseases in Lusaka Urban.

1.4.2 Specific Objectives

1. To determine the causes of diarrhoea in under five year children.
2. To determine the incidence of diarrhoea in under five children in Lusaka Urban.
3. To determine the level of knowledge on diarrhoea by the community.
4. To determine the influence of other diarrhoea symptom diseases (Malaria, Worm Infestation etc)on the incidence of diarrhoea.
5. To determine the relationship between level of personal hygiene standards in the community and the incidence of diarrhoeal diseases in Lusaka Urban.
6. To determine whether there is contamination of water sources and its effects on incidence of diarrhoea.
7. To determine whether there is contamination in the food sources and its effects on incidence of diarrhoeal diseases.
8. To determine the age group of the care giver to the under five children in the community

1.5. Hypothesis

1. Poor quality of water sources leads to high incidence of diarrhoeal diseases in children.
2. Poor hygiene standards at community level causes an increase in diarrhoeal diseases in children.
3. Ineffective information, education and communication contributes to increased incidence of diarrhoea in under five children.

1.6. Variables

1.6.1. Dependent Variables

The dependent variable for the study is the incidence of diarrhoeal diseases in children under five years of age. The indicators for this variable is the incidence of diarrhoeal diseases in the under five children in the past four (4) weeks.

1.6.2. Independent Variable

An association between the dependent and the independent variables is examined in the study by:

1. Hygiene Conditions

   To determine whether hygiene have influence on the incidence of diarrhoeal diseases. The indicators used will be: proportions of households having and using pit latrines of flush toilets, type of water sources, home treatment of water (boiling), the proportions of household eating left over foods and proportions of respondents washing hands after using the toilet before preparing food and before feeding the child.

2. Traditional Practices and Beliefs

   To examine whether and how traditional practices influence the incidence of diarrhoea in children under five years of age. The following are identified as traditional practices influencing the incidence of diarrhoea in under five children.

   (a) *Weaning Habits*

   The indicators for this variable are:- proportion of mothers

weaning at the right time (i.e. between 3 to 5 months). The type of weaning foods given.

3. Knowledge on Diarrhoeal Diseases

The study is going to determine the association between the level of knowledge of the caretaker and the occurrence of diarrhoea in under five children in Lusaka Urban. The knowledge will include causes, prevention and home management of diarrhoea. The indicators for this variable will be the proportion of respondents who can define diarrhoea, mention the causes, know about methods of preventing diarrhoea and the proportion of mothers who know about home treatment of diarrhoea.

4. The Level of Treatment of Water Sources

Indicators will be availability of treated water

1.7. Definition of Terms

1. **Index Child:** refers to the person to whom the questionnaire is directed and should be a resident of Lusaka.
2. **Diarrhoea**: it is a disease characterised by frequent passage of abnormally loose of watery stool.
3. **Fatality:** is the misfortune especially one that causes death.
4. **Infant Mortality Rate:** is the number of infants (age 0 - 1) who die per 1,000 live births per year.
5. **Malnutrition:** this is any disorder of nutrition, it may be due to unbalanced or insufficient diet or due to defective assimilation or utilisation of foods.

6. **Morbidity:** refers to illness.

7. **Mortality:** refers to death

8. **Prevalence:** it is the total number of cases of disease in existence at a certain time in a designated area.

9. **Incidence:** means the rate at which a certain event occurs, as the number of new cases of a specific disease occurring during a certain period.

10. **Respondent:** the person (preferably a parent to the index child) answering questions about the index child and other questions on diarrhoea to the interviewer.

11. **Weaning:** weaning is changing to nourishment other than breast-feeding.

12. **Chibele:** two mothers that are feeding at the same time.

13. **Low Education:** means those who have no basic education and those who went to school up to grade seven.

14. **Higher Education:** from grade 8 to university level.

15. **Low Income Group:** those getting K60,000.00 and less per month.

16. **High Income Group:** those getting K61,000.00 and above per month.

CHAPTER 2

2.1. Literature Review

Diarrhoea may be defined as water and electrolyte malabsorption leading to accelerated excretion of intestinal contents.[14] The physiologic consequences of diarrhoea vary with its severity and duration, the age of the patient and his state of nutrition prior to the onset and presence or absence of associated symptoms. Acute diarrhoea may lead to dehydration and acid base disturbances, chronic diarrhoea leads to malnutrition.[15] The number of stools usually passed in a day vary with the diet and the person. The stools of a person with diarrhoea contain more water than normal, they are often called loose or water stools.[16] Mothers usually know when their children have diarrhoea. When diarrhoea occurs, a mother may say that the stools smell strongly or pass noisily, as well as being loose or watery. In many societies, diarrhoea is defined as three or more loose or watery stools in a day.

The diarrhoeal diseases are called so because the main symptoms in all of them is diarrhoea. They are transmitted through food, water and milk and have been contaminated either directly or indirectly by dirt hands, flies, dirt water or unclean utensils such as feeding bottles.[17] Infections of urinary tract and upper respiratory tract, especially otitis media are at times associated with diarrhoea although the actual mechanism remains obscure. Malnutrition may also lead to diarrhoea because of an increased occurrence of interracial infections in malnourished children.[18] Dietary causes of diarrhoea are numerous. Overfeeding of a colicky infant is a common example. Introductory of new foods such as fruit juices, egg yolk and vegetables can cause diarrhoea while spices and foods high in roughage are also frequent offenders.[19]

Diarrhoea is sometimes associated with malaria and worm infestation and these need treatment, weaning foods that have been prepared in unhygienic ways and stored for hours are often heavily contaminated and lead to diarrhoea.

Diarrhoeal diseases account for a high percentage of childhood morbidity and mortality in Zambia and are also a major cause of child malnutrition.[20] More than half of all illnesses and deaths among children are caused by germs which get into the child's mouth via food and water. In communities without safe refuse disposal, it is difficult for families to control the spread of germs.[21] In Zambia nearly 12% of all out-patient attendances among children are for diarrhoea and 6.5% of all reported deaths among children are due to diarrhoea (health Statistics 1980).[22] A diarrhoeal disease household case management survey done in Zambia in 1992 by the Ministry of health verified that diarrhoeal diseases continue to be among the most common causes of childhood morbidity in Zambia. In this same study the two weeks prevalence in urban (28.8%) and in rural areas (28.9%) clearly indicated that magnitude of the diarrhoea problem remained unchanged.

An encouraging result of the Ministry of Health survey (1992) was the high rate use of ORS in the last two weeks of the study (Urban 53% and Rural 40.6%). The national ORS production started at the General Pharmaceutical Limited, in Kabwe in May 1986. It is called "Madzi-a-Moyo" meaning "Water of Life". The calculated actual annual demand of ORS in Zambia is approximately 6 million sachets. The survey discovered that the majority of children with diarrhoea were in the age group 6 - 23 months, which is normal and expected pattern. Concerning the management of

episodes of diarrhoea, it was found that the ORS use rate had increased significantly, although there appeared to be serious problems identified in the ORS preparation and administration. The use of too little water and incomplete dissolution of sachet contents were among the most common problems identified.

The 1992 survey results suggested that there is still inappropriate drug use in diarrhoea treatment in Zambia for example, 37% of the children with diarrhoea in urban areas received anti-biotic treatment. Traditional medicine in Zambia is and continues to be an important factor in the home treatment of all diseases including diarrhoea.

Diarrhoea is very dangerous because it can cause under nutrition and make existing under nutrition worse. This is because a person with diarrhoea may not be hungry and mothers often make a mistake of not feeding a child while he or she has diarrhoea or even for some days after the child is better.[23] Dehydration which sometimes leads to death can be prevented usually in the home if the infected person drinks more fluids, such as rice water, fruit juice, weak tea or special home made sugar and salt solution and/or breast feeding should be increased.[24] Since the 1990 world summit for children it has been shown that putting children at the center of development strategy is not only a logical proposition but also a practicable one.[25] The world has the accumulated knowledge, the technologies and the communications capacities to protect normal growth and development of almost all children at relatively low cost. Reducing malnutrition and illiteracy are among the most achievable as well as most fundamental of development challenges.[26]

Food stuffs that are carelessly stored or improperly prepared can cause illness. Less obviously is the global scale of the problem, and the degree to which foot-borne illness associated with contamination of the food supply can harm a nations health and even its economy.[27] The fact that this problem affects all parts of the world made it less globally significant than outbreaks of other diseases which consequently receive more attention and greater resources than food safety.[28]

The joint FAO/WHO expert committee on food safety, which met in Geneva in 1993, noted that in 1980 there were 750 - 1,000 million episodes of acute diarrhoea in children aged under five in the developing world (excluding China).[29] Nearly five million children died, at the rate of ten diarrhoea deaths every minute of every day of every year.[30] A substantial number of these deaths are caused by food, directly by microbiological contamination and indirectly by reducing nutritional status in marginally nourished children.[31]

At the level of individual family units, food borne diseases can also be catastrophic. The experts who met at the joint FAO/WHO expert committee on food safety in 1983 looked for a method of hazard evaluation designed to elucidate all possible factors involved in the natural history of food borne diseases. They particularly examined those cultural practices and economic pressures which may lead to increasing hazard associated with food, but which could be modified within the context of culture and without causing any harm to society.

Can we really make much headway against diarrhoeal diseases today? This question is often asked because of the slow pace of improvement in socio-economic status, as well as water supplies and sanitation. Wherever these diseases are a major public health problem there is ample reason for concern. Although they are no longer a cause of anxiety in the industrialised countries, where such improvements have taken place.[32] They vie for the top most place in the first causes of childhood morbidity in the developing countries.[33] Each year, every child aged under three years in different areas of the developing world will suffer on average between 2 and 4 episodes of diarrhoea.

Diarrhoea diseases are also the single major problem of under fives, being responsible for one third or more of all deaths in this age group.[34] It is therefore not surprising that even those that survive are not always spared further suffering. Malnutrition in children generally begins during diarrhoea episodes due to food withdrawal, loss of appetite or malabsorption. Often there is no time or opportunity for the child to regain its original weight before another episode sets in: Again, under-nourished children suffer more frequently and more severely and thus the vicious cycle of diarrhoea malnutrition - diarrhoea is established.[35]

Another side of the problem is that about one third of the beds in children's hospitals in endemic areas are usually occupied by diarrhoea patients receiving expensive intravenous fluids, anti-biotics and other drugs (many of which are of doubtful value), thereby creating a heavy burden for the country's limited health budget. Unfortunately, deep rooted cultural and behavioural factors have led people to accept

episodes of diarrhoea as part of the normal process of growing up. They either behave like nothing can be done to prevent or cure diarrhoea, or they blindly follow harmful practices, such as starving the child, to "rest the bowels."

It is very important for the mother to know the meaning of diarrhoea. Only then can she decide and seek medical help. Although it is assumed that literate mothers know the germ theory of diarrhoea, they wrongly attribute diarrhoea to teething and breast feeding at the same time with another mother.

CHAPTER 3

3.1. Methodology

3.1.1. Research Design

The exploratory and descriptive method was used as study covered a cross section of the under five children in Lusaka Urban.

3.1.2. Research Setting

This study was conducted in Lusaka Urban. Lusaka is the capital city of Zambia and the sample was drawn from ten (10) different children's under-five health clinics. The population of under-five in Lusaka Urban, according to the 1990 census, is 133,250.

3.1.3 Study Population

The study population was mothers and caretakers of under-five children. The researcher was familiar with the city and found it easy to get access to the respondents.

3.2. Sample Selection Method and Approach

Lusaka Urban has twenty two (22) health centres. Owing to the large size of the city and the limited time the researcher had to finish the study, it was conveniently decided that only 10 of the 22 clinics be sampled. The ten (10) health centres were randomly selected using lottery technique method in order to give each health centre an equal chance of being included in the sample. One hundred (100) respondents were selected from the 10 clinics, 10 respondents from each. The respondents, mainly mothers, were interviewed as they came to the children's clinics for continuous assessment of growth and development of their children. Since this was a straight forward study, a

convenient sampling method was used to recruit the candidates. Convenient sampling method utilises readily available subjects and this was very a suitable method for the researcher because of the nature of the subjects to be included in the sample. The researcher took all the cases on hand until the desired sample was reached.

It was assumed in this study that the results obtained from the sample would be representative of the population in Lusaka Urban.

The following were the children's clinics included in the sample and the numbers of subjects from each:

1. Chilenje Clinic - 10
2. Kabwata Clinic - 10
3. Kamwala Clinic - 10
4. Makeni Clinic - 10
5. Mtendere Clinic - 10
6. Kalingalinga Clinic - 10
7. Chelstone Clinic - 10
8. Chipata Clinic - 10
9. Mandevu Clinic - 10
10. Matero Clinic - 10

Inclusion Criteria

1. All mothers/caretakers with children aged below five (5) years.

2. Parental/guardian consent obtained.

3. Living within Lusaka Urban.

Exclusion Criteria

1. Children aged five (5) and above.

2. Lack of Parental/Guardian consent.

3. Living outside Lusaka Urban.

3.3. Data Collection Technique and its Advantages

A structured interview questionnaire with open and close ended questions was used to collect data.

Advantage of Structured Interview Questionnaire

1. Suitable for use in illiterates.

2. Permit/Allow for clarification of questions.

3. Elicit higher response rate.

4. The interviewer can ask the respondents questions that were not included initially but that will add to the richness of the interview content. Such information may be added to the data, or it may be recorded by the interviewer for his own understanding of the situation.

5. In an exploratory study, the researcher may decide to use the interview technique to determine which questions would be most valuable in a questionnaire. Combining the questionnaire and the interview in the same study quite often enhances a research investigation.

6. The interview offers an opportunity to appraise the validity of the

report, because the interviewer is present to observe what is taking place verbal and non-verbal cues would be noted.

7. The interview is a suitable technique for revealing facts about complex emotional tasks or for thoroughly investigation the emotion that may underlie a response.

3.4. Ethical Consideration

Ethical consideration are important aspects which must be considered in the development of research methodology. In my questionnaire, some questions might have been sensitive and may have resulted in not getting intended information. Questions like level of education, occupation of husband and respondent. Also questions on whether they wash their hands after using the toilet.

In order to avoid offending the community, during the clearance to the local authority, the community was made to understand the purpose of the study through the Sister-in-Charge of the children's clinics included in the sample. Furthermore, the questions were asked in a very polite manner. This was done during the pre-test conducted at University Teaching Hospital paediatric department where the respondents did not feel offended and this was the same case in Lusaka Urban Children's Clinics despite the differences in cultural and traditional beliefs. Confidentiality of all respondents was ensured by releasing results to only relevant authorities.

3.5. Pre-test/Pilot Study

To evaluate research methodology, a pilot study was conducted at U.T.H. paediatric wards after getting permission from the Nursing Officer In-Charge. Ten (10) interviews were conducted to mothers/caretakers of children under five years. A structured interview questionnaire was used and assessing by the responses, the researcher had from the respondents, who was of the opinion that less difficulties would be encountered during the actual study. It was however, discovered that some questions which would bring out some points were missing and there was need to include them while, a few questions found to be irrelevant were removed. The respondents were very willing to participate and accepted most of the questions without hesitating.

CHAPTER 4

4.1. Analysis and Presentation of Data

This study was aimed at establishing factors associated with diarrhoeal diseases in under five children in Lusaka Urban.

Data was collected from one hundred (100) respondents from ten (10) Lusaka urban Health Centres. The respondents were mainly mothers who were taking children to the clinics for continuous assessment of growth and development

All interview schedules were checked for accuracy, completeness and consistency in responses. Responses from open ended questions were categorised and coded. All responses to variables were coded in nominal, ordinal and interval scales.

Analysis of data was by computer using EPI-INFO software. Descriptive statistics using frequency distribution and percentages were used in tabulating data

Data was presented in frequency and cross tabulated tables for easy interpretation and for the purpose of drawing meaningful inferences.

TABLE I

DEMOGRAPHIC DATA FREQUENCIES

1.	**EDUCATIONAL LEVEL OF RESPONDENTS**	**FREQUENCIES**	**PERCENTAGES**
	None	5	5
	Primary	54	54
	Secondary	37	37
	College/University	4	4
	TOTAL	**100**	**100%**
2.	**OCCUPATION OF RESPONDENTS**		
	Nothing	52	52
	Self Employed	31	31
	Formal Employment	14	14
	Other	3	3
	TOTAL	**100**	**100%**
3.	**INCOME OF RESPONDENTS**		
	Less than K60,000	83	84.6
	K61,000 - K99,000	9	9.2
	k100,000 - K159,000	3	3.1
	K160,000 and more	3	3.1
	TOTAL	**98**	**100%**
4.	**MARITAL STATUS OF RESPONDENTS**		
	Single	13	13
	Married	80	80
	Separated	4	4
	Divorced	2	2
	Widowed	1	1
	TOTAL	**100**	**100%**
5.	**AGE OF RESPONDENTS**		
	15 - 19 Years	17	17.1
	20 - 24 Years	37	37.4
	25 - 29 Years	27	27.3
	30 - 34 Years	12	12.1
	35 - 39 Years	3	3.1
	40 - 44 Years	1	1.0
	45 - 49 Years	2	2.0
	TOTAL	**99**	**100%**

Table 1: Shows the distribution of frequencies according to the category of the demographic data. For the educational level of the respondents, the table shows that majority of the respondents 54% had primary education, 37% had secondary education, 5% no education at all and only 4% had college educational level. As for the Occupational level, table 1 illustrates that majority of the respondents (52%) were doing nothing for a living, 31% were self employed, 14% are in formal employment and the other 3% are still in colleges. The income levels of the respondents were as follows 84.6% were getting less than K60,000 per month, 9.2% were getting K61,000 - K99,000 per month, 3.1% were getting K100,000 - K159,000 per month and only 3.1% were getting more than K160,000 per month. The table also indicates that majority of the respondents (80%) were married, 13% were single, 4% were separated, 2% divorced and 1% was widowed. The age range of the respondents according to this table was 15 - 49 years. 37.4% were 20 - 24 years 27.3%, 25 - 29 years old, 17.1% 15 - 19 years, 12.1% 30 - 34 years 3.1% 35 - 39 years, 2% 45 - 49 years and 1% 40 - 44 years old.

Two of the respondents in table 1 did not give their income ranges.

TABLE 2:

DEMOGRAPHIC DATA IN RELATION TO DIARRHOEA INCIDENCE

1.	**EDUCATION LEVEL OF RESPONDENTS**	**DIARRHOEA**	**PERCENTAGE**
	None	2	4
	Primary	26	52
	Secondary	21	42
	College/University	1	2
	TOTAL	**50**	**100%**
2.	**OCCUPATION OF RESPONDENTS**		
	Nothing	27	54
	Self Employed	17	34
	Formal Employment	5	10
	Other	1	2
	TOTAL	**50**	**100%**
3.	**INCOME OF RESPONDENTS**		
	Less than K60,000	44	88
	K61,000 - K99,000	4	8
	K100,000 - K159,000	1	2
	K160,000 and more	1	2
	TOTAL	**50**	**100%**
4.	**MARITAL STATUS OF RESPONDENTS**		
	Single	5	10
	Married	40	80
	Separated	4	8
	Divorced	1	2
	Widowed	0	0
	TOTAL	**50**	**100%**
5.	**AGE OF RESPONDENTS**		
	15 - 19 Years	7	14
	20 - 24 Years	18	36
	25 - 29 Years	18	36
	30 - 34 Years	4	8
	35 - 39 Years	2	4
	40 - 44 Years	0	0
	45 - 49 Years	1	2
	TOTAL	**50**	**100%**

Table 2: Demographic Data in Relation to Diarrhoea Incidence.

For the educational level of the respondents, the table shows that majority of the children (52%) with diarrhoea were from respondents with primary educational level, 42% from respondents with secondary educational level. As for the occupational level, table 2 illustrates that majority of the children with diarrhoea (54%) were from respondents who were doing nothing for a living, 34% of diarrhoea incidences were from self employed respondents and 2% of diarrhoea incidences from respondents who were still in college. The Diarrhoea incidences according to income levels were as follows:- 88% of children with diarrhoea were from respondents who were getting less than K60,000 per month, 8% of children from respondents who were getting K61,000 - K99,000 per month, 2% from respondents who were getting K100,000 - K159,000 per month and another 2% respondents who were married, 10 from respondents, 8% of diarrhoea children were from separated respondents and 2% from divorced respondents. Table also shows that 36% of the children with diarrhoea were from respondents whose age ranged from 20 - 24 years, another 36% of children with diarrhoea were from respondents whose age ranged 25 - 29 years, 14% were from respondents whose ages ranged 15 - 19 years and other 2% of children with diarrhoea were from respondents whose age range was 45 - 49 years.

When looking at low education and income in relation to diarrhoea it was found that 52% of children with diarrhoea were from respondents who had low education and low income levels, while there was no diarrhoea case from low education high income level respondents. When looking at high education and income it was discovered that majority of children with diarrhoea 50% were from high educated but low income level respondents and only 40% were from high educated, high income level respondents.

TABLE 3:

RESPONDENT'S SOURCE OF KNOWLEDGE ABOUT DIARRHOEA

SOURCE OF INFORMATION	FREQUENCY	PERCENT
Media	1	1%
Health Worker	18	18%
Neighbour	5	5%
Friend	3	3%
Just knows	9	9%
From experience	50	50%
Others	14	14%
TOTAL	**100**	

This table revealed that 50% of respondents got their information on diarrhoea from experience, followed by 18% from Health Workers and 1% from the media.

When asked on whether diarrhoea can be prevented, 85% of the respondents said that it can be prevented, 8% of the respondents said it cannot be prevented while 7% of the respondents said they did not know whether diarrhoea can be prevented

TABLE 4:

KNOWLEDGE ON THE PREVENTION OF DIARRHOEA IN RELATION TO DIARRHOEA INCIDENCE

CAN DIARRHOEA BE PREVENTED

		YES	NO	DO NOT KNOW	TOTAL
DIARRHOEA	Yes	40 (47.05%)	7 (87.5%)	3 (42.8%)	50
	No	45 (52.9%)	1 (12.5%)	4 (57%)	50
	TOTALS	**85**	**8**	**7**	**100**

This table shows that 87.5% of the respondents who said diarrhoea cannot be prevented had children with diarrhoea, 47.05% of those who said it can be prevented had children with diarrhoea were from respondents who did not know whether diarrhoea can be prevented.

TABLE 5:

RESPONDENTS TREATMENT OF DIARRHOEA AT HOME

DIARRHOEA TREATMENT AT HOME	FREQUENCY	PERCENTAGE
Give ORS	64	64%
Consult health Worker	20	20%
Use home remedy	16	16%
TOTAL	**100**	**100%**

This table indicates that 64% of respondents treat diarrhoea with ORS, while 20% consult the health worker with 16% using home remedy.

When respondents were asked on whether they wash hands after using the toilet. 98% said yes they wash hands after using the toilet and 2% said they do not wash hands after using the toilet.

TABLE 6:

WHETHER RESPONDENTS WASH AND BEFORE FEEDING THE CHILD

Wash hands before feeding the child

		YES	NO	SOMETIMES	TOTAL
	YES	39 (7.8%)	4 (14%)	7 (14%)	50
	NO	34 (6.8%)	2 (8%)	14 (28%)	50
	TOTALS	**73**	**6**	**21**	**100**

The majority of respondents (78%) whose children had diarrhoea did wash hands before feeding the child, while 8% were from mothers who did not wash hands and only 14% who had diarrhoea were from respondents who washed hands sometimes.

When respondents were asked whether they wash their hands before preparing meals, 82% of them said they wash hands before preparing meals, while 18% of them said they do not wash their hands before preparing meals.

TABLE 7: DO BREASTFEED

Give Supplementary Food

		YES	NO	TOTAL
	YES	39 (70%)	3 (30%)	42
	NO	26 (46%)	12 (80%)	38
	TOTALS	**56**	**15**	**80**

The majority of children (70%) who had diarrhoea were on supplementary foods compared to only 20% of the diarrhoea children who were not receiving supplementary food.

TABLE 8:

PERSON WHO LAST FED THE CHILD BEFORE HE/SHE HAD DIARRHOEA

		MOTHERS	GRANDMOTHER	OTHER	TOTAL
DIARRHOEA	YES	42	2	6	50
	NO	0	0	50	50
	TOTALS	**42**	**2**	**56**	**100**

Table shows that out of 50 children who had diarrhoea 42 of them were last fed by mothers, 2 were last fed by the grandmother and 6 were last fed by other (Sister Brother or Aunty).

TABLE 9:

PERSON WHO NORMALLY FEEDS THE CHILD.

		MOTHERS	NANNY	GRAND-MOTHER	OTHER	TOTAL
DIARRHOEA	YES	43	0	2	6	50
	NO	39	3	2	50	50
	TOTALS	**82**	**3**	**4**	**11**	**100**

This table shows 86% of children who had diarrhoea are normally fed by mothers, 4% normally fed by grandmothers and 10% normally fed by other (Brother, Sister or Aunty)

When respondents were asked whether they eat leftover meals, 94% of them said they eat leftover meals and only 6% said they do not eat leftover meals. When comparing the proportion of children with and without diarrhoea among respondents who said they eat leftover meals 49% of respondents had children with diarrhoea and 51% had children without diarrhoea. Similarly when comparing the proportion of children with and without diarrhoea among respondent who said they do not eat leftover meals 66.7% of respondents had children with diarrhoea and 33.3% had

children without diarrhoea.

When respondents were asked about preparation of leftover foods 95% of them said they warm it before eating and only 5% said they eat it cold. When looking at the proportion of children with and without diarrhoea among respondents who said they eat leftover food cold 40% of them had children with diarrhoea and 60% had children without diarrhoea. Similarly when comparing proportion of children with and without diarrhoea among respondents who said they warm leftover food before eating, 49% of them had children with diarrhoea and 51% of them had children without diarrhoea.

When respondents were asked whether their drinking water is treated or not 56% of them said their drinking water is treated, 41% of them said they did not know and 3% said no. When looking at the proportion of children with and without diarrhoea among respondents who said their drinking water is treated 55% of them had children with diarrhoea and 45% of them had children without diarrhoea. Similarly when looking at the proportion of children with and without diarrhoea among respondents who said they did not know whether their water was treated 44% of them had children with diarrhoea and 56% had children without diarrhoea. Among respondents who said their drinking water was not treated 33% of them had children with diarrhoea and 67% of them had children without diarrhoea

TABLE 10: RESPONDENTS KNOWLEDGE ON DIARRHOEA

	FREQUENCIES	PERCENTAGE
What is Diarrhoea?		
Watery stool	55	55
Loose stool	9	9
Don't know	36	36
TOTAL	**100**	**100**
What are the causes of diarrhoea		
Drinking unboiled water	10	10
Eating contaminated leftover food	26	26
Uncooked food	10	10
Dirty surrounding	14	14
Over feeding	3	3
Teething	18	18
Don't know	19	19
TOTAL	**100**	**100**
Can diarrhoea be prevented		
Yes	85	85
No	8	8
Don't know	7	7
TOTAL	**100**	**100**
How can diarrhoea be prevented		
Maintain good hygiene	24	24
Giving ORS	24	24
Boil drinking water	13	13
Eating well cooked food	4	4
Keeping surrounding clean	7	7
Don't know	28	28
TOTAL	**100**	**100**

TABLE 11: RESPONDENTS WEANING HABITS

	FREQUENCIES	PERCENTAGE
At what age did you start giving supplementary foods		
1 to 3 months	20	25.0
4 to 6 months	54	67.5
7months and above	4	5.0
Don't know	2	2.5
TOTAL	**80**	**100**
Types of foods given		
Nshima	43	43
Porridge	42	42
Fruits	7	7
Other	8	8
TOTAL	**100**	**100**

As can be seen from tables 10 and 11, respondents' knowledge, attitudes and practices on diarrhoeal diseases were quite varied, weaning and feeding habits were nutritionally poor, indicating that diarrhoeal preventive measures have not been adequately implemented in the communities of Lusaka.

CHAPTER 5

5.0. Discussion of Results

Diarrhoeal diseases continue to be a leading cause of childhood morbidity and mortality in developing countries and it has remained necessary to identify important associated factors so that adequate intervention programmes can be established.[37] In this study the researcher attempted to identify the factors associated with high incidence of diarrhoeal diseases in Lusaka Urban. The study was conducted during the dry season which was between the months of August and September, 1996 in Zambia. Water is often scarce in the city during this period and the sanitary condition is generally poor.

The variables that the researcher found to be significant as factors associated with diarrhoeal diseases were:- the mothers education level, low income, supplementary foods, poor hygiene practices by the person feeding the child, person who last fed the child, poor knowledge on the causes of diarrhoea, poor preparation of drinking water and poor hand washing before feeding the child. The other significance to note is that of the 100 respondents interviewed, 50% of them had children with diarrhoea and this is quite worrying to the health authorities.

Table 1 on page 24 shows the demographic data frequencies. It can be seen from this table that majority of the respondents had low education. Five (5%) had no education, fifty four (54%) had primary education, thirty seven (37%) had secondary education and only for (4%) had college education. It can also be seen from the same table that majority of the respondents (52%) were doing nothing for a living, 31% self employed respondents

ere 14%, formal employment while 3% were still studying at college. It has been served that the majority of the respondents were getting less than K60,000.00 per onth and these have been classified as low income group, 9.2% of the respondents were ting between K61,000.00 and K99,000.00 per month. From what can be observed in table, the 50% diarrhoea incidence rate among the 100 respondents interviewed would attributed to the low education and poor economic status of the majority of the spondents. This assertion is supported by the findings in table 2 which shows that jority of the respondents (52%) who had children with diarrhoea had low education la, 88% of the children with diarrhoea were from respondents whose income was less K60,000.00 per month. These findings are also supported by Nazer's study findings 1982 on acute diarrhoea in developing countries which revealed that illiteracy, poor io-economic conditions are some of the factors causing the prevalence of diarrhoea in developing world. Similarly singh et (1992) reported in his study that children born parents of poor socio-economic conditions determined by occupation status suffered nificantly more often from diarrhoea as compared to children born from parents of her socio-economic status. It was observed from this study that majority of the ldren with diarrhoea 36% were from respondents whose ages ranged from 20 - 29, this ng could be attributed to low levels of literacy since most of the respondents in this dy hard low levels of education. This is supported by hodges (1993) in his study of rhoeal diseases in early childhood. Which states that "sustainable prevention and rol of diarrhoeal diseases in developing countries depends upon increasing levels of literacy especially of women.

were 14%, formal employment while 3% were still studying at college. It has been observed that the majority of the respondents were getting less than K60,000.00 per month and these have been classified as low income group, 9.2% of the respondents were getting between K61,000.00 and K99,000.00 per month. From what can be observed in this table, the 50% diarrhoea incidence rate among the 100 respondents interviewed would be attributed to the low education and poor economic status of the majority of the respondents. This assertion is supported by the findings in table 2 which shows that majority of the respondents (52%) who had children with diarrhoea had low education levels, 88% of the children with diarrhoea were from respondents whose income was less than K60,000.00 per month. These findings are also supported by Nazer's study findings in 1982 on acute diarrhoea in developing countries which revealed that illiteracy, poor socio-economic conditions are some of the factors causing the prevalence of diarrhoea in the developing world. Similarly singh et (1992) reported in his study that children born of parents of poor socio-economic conditions determined by occupation status suffered significantly more often from diarrhoea as compared to children born from parents of higher socio-economic status. It was observed from this study that majority of the children with diarrhoea 36% were from respondents whose ages ranged from 20 - 29, this finding could be attributed to low levels of literacy since most of the respondents in this study hard low levels of education. This is supported by hodges (1993) in his study of diarrhoeal diseases in early childhood. Which states that "sustainable prevention and control of diarrhoeal diseases in developing countries depends upon increasing levels of adult literacy especially of women.

The study also showed the respondents' source of knowledge (table 3) about diarrhoea was mainly from experience. It revealed that 50% of respondents knew about diarrhoea through experience compared to 18% respondents who knew through a health worker. This finding implies that there is need for more effort in educating the public on diarrhoea from the health workers in order to improve the standard of living in the community and to re-educate the community in control and prevention of diarrhoea diseases. As shown in table 4 page 29 respondents are aware that diarrhoea can be prevented, but their children are still suffering from it, implying that they know that it can be prevented. However, it was gratifying to know that majority of the respondents (64%) had good knowledge on diarrhoea treatment at home (table 5) page 30.

When respondents were asked whether they wash hands before feeding the children (table 6) on page 31 it was discovered that inspite of the respondents washing hands before feeding the child a good number of them 78% had children with diarrhoea and when respondents were asked whether they wash their hands before preparing meals, 82% of them said they wash their hands before preparing meals. These results on hand washing is an indication that respondents know that it is good to wash hands before preparing meals and before feeding the child, and why there were many cases of diarrhoea even though they washed hands could be that their hands were not adequately washed or were washed without soap.

Table 7 page 31 shows that there were more cases of diarrhoea (70%) among children who were breast feeding and at the same time receiving supplementary food than among the children who were breast feeding but receiving no supplementary food (20%).

Similarly out of 80 children who were breast feeding 42 of them (53%) had diarrhoea. This finding is supported by Oni 1996 who stated that the highest rates of diarrhoea in developing countries occur when infants are given fluids or foods to supplement breast feeding. It has been further reported in previous research by Oni in (1996) that infants on mixed diet of breast milk and other foods have about twice the incidence of diarrhoea experienced by exclusively breast fed children in the same setting and that children who received no breast feeding have even higher rates. The need to supplement breast milk with other nutritious foods to maintain optimal growth and the likely-hood that these foods will result in diarrhoea has been called the "weanings" dilemma.[41]

In table 8 and 9 page 32, it was discovered that children fed or normally fed by mothers had more diarrhoea than children being fed by grand mothers or by sisters and brothers. The explanation to this could be that many mothers still are unable to understand the linkage between hygiene practices and the diarrhoea diseases in children.

One of the most interesting finding in this study is the significantly higher risk of diarrhoea among children of mothers who eat left over meals. It was observed that there were more children with diarrhoea from respondents who eat left over meals. The possible explanation for this result could be that probably mothers make a preparation for a whole days feeding in the morning. The left-over at feeding is kept to be re-fed to the child at a later time, usually without any re-heating. Given the unhygienic environment of most house holds, such food can be subject to contamination.

The study also revealed that there were more children with diarrhoea from respondents

who were drinking treated water than from respondents who did not drink treated water and from those who did not know whether their water was treated. In this finding there is a probability that the water is not treated and it is contaminated on the source of the storage equipments are contaminated.

5.1. Implications on Diarrhoea Prevention and Control

The first implication of this study is that health education has not been effective in the prevention and control of diarrhoea diseases in terms of reducing diarrhoea cases in the community. This is evidenced by 50 cases of diarrhoea out of 100 subjects interviewed. Also in terms of creating awareness about diarrhoea, it has been found that majority of the respondents know about diarrhoea through experience and not from health workers. This implies that there is need to revise health education methods in order to impart knowledge on the prevention and control of diarrhoeal diseases to the community.

From the findings of this study the researcher discovered that the person who last fed the child before the diarrhoea and who normally feeds the child is the mother. The implication again here is that there is need to intensify health education to mothers of under-five children on food preparation and good feeding habits through effective channels of communication like radio, drama and door to door campaigns.

It has also been discovered that there is a relationship between low education, low income and diarrhoea incident. There is need to equip the health personnel who are always in contact with the community with more knowledge on the

relationship between low education, low income and diarrhoea incidence. This will enable them to utilise the little resources they have in the most effective way.

Another implication of this study is that people are aware that diarrhoea can be prevented, but they still fail to prevent it. Income could still be a contributing factor and the community need sensitisation on how best to utilise the little resources that they have.

In addition to the above implications, it has been observed that each individual has a social responsibility and the potential to participate in the control and prevention of diarrhoeal diseases. Therefore, there is need for good team work to be created between health members and the community for survival.

CHAPTER 6

6.1. Conclusion

The findings of this study have revealed that low income, low education and supplementary food are the associated or contributing to the diarrhoeal diseases in Lusaka Urban. The study also showed that mothers can define and describe diarrhoea, however the awareness about etiology and the importance of germs in its causation was low. The majority of the mothers attributed diarrhoea to teething, milk of pregnant mothers (i.e. breast feeding while one is pregnant) and others attributed diarrhoea to two (2) mothers feeding at the same time.

The study findings also revealed that diarrhoeal diseases incidence rate is quite alarming in Lusaka Urban, 50 out of 100 respondents interviewed had children with diarrhoea in the last four (4) weeks as at the time of the interview. An effective programme to reduce the incidence of diarrhoea in Lusaka Urban must be based on adequate knowledge of those socio-economic environmental, behavioural and cultural factors that constitute high risk of diarrhoea in the community. Improved sanitation, water supply and health education are undoubtedly the most effective long term solution in the control of diarrhoeal diseases. Much depends on the training of health personnel to realise that.

.2. Recommendations

1. There should be diarrhoeal diseases awareness campaign to educate mothers on dangers of childhood diarrhoea and how to prevent it, through proper hygiene especially food.

2. There should be a further exploration study to look at the physical demonstration on preparation of left-over food, instead of getting data from the clinics.

3. There is need for further research on how the community store their drinking water.

3. Limitations of the Study

1. It was not possible to conduct the study on a larger sample size due to the limited time in which the study was to be completed and submitted to the University of Zambia

2. Due to the type of method used, some units may have been over selected and others under selected.

3. The researchers had to travel to all the selected health centres several times which increased the cost of the time and transport.

The results from this study could not be generalised to all under-five children with diarrhoea because the sample was restricted to Lusaka Urban

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APPENDIX 1

8th August, 1996

The Executive Director of Health,
District Health Management Board,
P.O. Box 50001,
LUSAKA.

UFS. The Head,
Department of Post-Basic Nursing,
P.O. Box 50110,
LUSAKA.

Dear Madam,

RE: PERMISSION TO CARRY-OUT A RESEARCH STUDY

I am a fourth year student at the above named institutio enrolled in a Bachelor of Science in Nursing degree programme As part of the requirement to complete training I have to carry out a research study. The Title of my study is: FACTOR ASSOCIATED WITH HIGH INCIDENCE OF DIARRHOEAL DISEASES IN LUSAK URBAN (in under-five children).

I will collect data between 12th August 1996 and 30th Augus 1996. Part of the study includes an administration of structure interview questionnaire to mothers of under-five children i Lusaka Urban Clinics. I am therefore asking for permission t administer the structured interview questionnaire.

I will be very grateful if my request will be favourabl considered.

Yours faithfully,

Josephine M. Himonga
POST BASIC NURSING STUDENT

LUSAKA
Tel: 252480 (Temporary)
Telex.....

REPUBLIC OF ZAMBIA

MINISTRY OF HEALTH

LUSAKA URBAN DISTRICT HEALTH MANAGEMENT TEA

9th August 1996

Mrs Joseph M Himonga
Post Basoc Nursing Student
LUSAKA

Re: RESEARCH STUDY

Authority has been granted for you to carry out a research study on Factors associated with high incidence of Diarrhoeal Diseases in Lusaka Urban under Five Clinics.

I wish you every success and please avail to us your findings.

Dr. R Kumwenda Phiri
DISTRICT DIRECTOR OF HEALTH

APPENDIX 3

UNIVERSITY OF ZAMBIA

SCHOOL OF MEDICINE

DEPARTMENT OF POST BASIC NURSING

STRUCTURED INTERVIEW SCHEDULE ON FACTORS ASSOCIATED WITH HIGH INCIDENCE OF DIARRHOEAL DISEASE IN LUSAKA URBAN

STRUCTURED INTERVIEW SCHEDULE

Questionnaire No.....

Place of Interview.....

Date.....

INSTRUCTIONS TO INTERVIEWERS

1. Introduce yourself to respondents
2. Explain the purpose of the interview
3. TICK in the box next to your answer, or write in the space provided
4. Do not omit any questions
5. Assure the respondents confidentiality of their respones
6. Do not write anything in the official coluumn

SECTION A. DEMOGRAPHIC DATA

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1. How old were you on your last birthday?..... [ ]

2. Where do you live?..... [ ]

3. What is your marital status?

01 - Single	[ ]	
02 - Married	[ ]	
03 - Separated	[ ]	[ ]
04 - Divorced	[ ]	
05 - Widowed	[ ]	

4. What is your educational background?

01 - None	[ ]	
02 - Primary	[ ]	[ ]
03 - Secondary	[ ]	
04 - College/University	[ ]	

5. What do you do for your living?

01 - Nothing	[ ]	
02 - Self employment	[ ]	[ ]
03 - Formal employment	[ ]	
04 - Other (Specify).....	[ ]	

6. What is your monthly income?

01 - Less than K59,000	[ ]	
02 - K60,000 - K1000,000.00	[ ]	
03 - K101,000.00 - K159,000.00	[ ]	[ ]
04 - K160,000.00 and above	[ ]	

FOR OFFICIA

USE ONLY

7.1 What does your husband do for a living?

01 - Nothing [ ]

02 - Self-employment [ ] [ ]

03 - Formal employment [ ]

04 - Other (specify) [ ]

7.2 If question 7 is not applicable move to question 9.

8. What is his monthly income?

01 - Less than K59,000 [ ]

02 - K60,000 - K1000,000.00 [ ]

03 - K101,000.00 - K159,000.00 [ ] [ ]

04 - K160,000.00 and above [ ]

SECTION B. KNOWLEDGE

9. What is diarrhoea?

.....

.....

10. Where did you learn it from?

01 - Media [ ]

02 - Health Worker [ ] [ ]

03 - Neighbour [ ]

04 - Friend [ ]

05 - Just knows [ ]

06 - From experience [ ]

* 07 - Other specify [ ]

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11. What do you think are the causes of diarrhoea?

.....

.....

12. How do you treat diarrhoea at home?

01 - Give child ORS	[ ]	
02 - Take the child to Health centre	[ ]	[ ]
03 - Take the child to traditional healer	[ ]	
04 - Home remedy (specify).....	[ ]	

13. Can diarrhoea be prevented?

01 - Yes	[ ]	
02 - No	[ ]	[ ]
03 - don't know	[ ]	

14. If answer is yes to question 13, explain how diarrhoea can be prevented?

.....

.....

.....

SECTION C. PRACTICES

15. Do you have a toilet at home?

01 - Yes	[ ]	[ ]
02 - No	[ ]	

16. If answer is yes to question 15, what type of toilet do you have?

01 - Buckets	[ ]	
02 - Pitlatrine	[ ]	[ ]
03 - Flushable	[ ]	
* 04 - Other specify	[ ]	

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17. Do you wash your hands after using the toilet?

01 - Yes	[ ]	[ ]
02 - No	[ ]	
03 - Sometimes	[ ]	

18. If answer is No to question 17, explain why?

.....

19. Do you eat left over meals?

01 - Yes	[ ]	[ ]
02 - No	[ ]	

20. If answer is No to question 19, how do you prepare it before eating?

01 - Eat it cold	[ ]	
02 - Warm it before eating	[ ]	[ ]
03 - Other (specify)	[ ]	

21. Do you wash your hands before giving them to the child?

01 - Yes	[ ]	[ ]
02 - No	[ ]	

22. Do you wash your hands before feeding the baby/child?

01 - Yes	[ ]	[ ]
02 - No	[ ]	

23. If answer is no to question 22, explain why?

.....

.....

24. Is the child breast feeding?

01 - Yes	[ ]	[ ]
02 - No	[ ]	

25. If answer is No to question 24, how long did the child breast feed?

.....

26. What method did you use to take the baby off the breast?

.....

27. Do you give supplementary foods to your child?

01 - Yes [ ] [ ]

02 - No [ ]

28. If answer is yes to question 27, what supplementary foods is the child receiving?

.....

.....

29. At what age did you start giving supplementary food to your child?

.....

30. Where do you et your water from?

01 - Tap [ ]

02 - Borehole [ ]

03 - Open well [ ] [ ]

04 - Stream [ ]

05 - Other (Specify)..... [ ]

31 Is your water treated?

01 - Yes [ ]

02 - No [ ] [ ]

03 - Don't know [ ]

32. Do you boil your drinking water?

01 - Yes [ ]

02 - No [ ] [ ]

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33. How often do you prepare your drinking water?

01 - Daily [ ]

02 - After each day [ ] [ ]

03 - Other, specify [ ]

34. When do you consider water unfit for drinking?

.....

35. In your opinion how best can diarrhoea be prevented?

.....

SECTION D. INCIDENCE

36. Has your child had any diarrhoea in the last one month?

01 - Yes [ ]

02 - No [ ] [ ]

37. If answer is yes to question 38 - How many times?.....

38. What food was given to the child before it fell sick?

.....

39. Who was the last person to feed the child before it became sick?

01 - Mother [ ]

02 - Nanny [ ] [ ]

03 - Grandmother [ ]

04 - Other (specify) [ ]

40. Who normally feeds the child?

01 - Mother [ ]

02 - Nanny [ ] [ ]

03 - Grandmther [ ]

04 - Other specify [ ]

APPENDIX 4

City Of Lusaka:Health Centres