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DEPARTMENT OF POST BASIC NURSING

NURSE'S KNOWLEDGE AND PRACTICES TOWARDS IMCI APPROACH WHEN CARING FOR CHILDREN IN LUSAKA URBAN, ZAMBIA

BY

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LIST OF ABBREVIATIONS

ACT	-	Artemisinin Combination Therapy
AIDS	-	Acquired Immune Deficiency Syndrome
CBOH	-	Central Board of Health
CFR	-	Case Fatality Rate
CSO	-	Central Statistical Office
ESARO	-	Eastern and Southern African Region
HIV	-	Human Immunodeficiency Virus
HMIS	-	Health Management Information Systems
HSSP	-	Health Services and Systems Programme
IEC	-	Information, Education and Communication
IMCI	-	Integrated Management of Childhood Illnesses
ITN	-	Insecticide Treated Mosquitoes Nets
MCH	-	Maternal Child Health
MDGs	-	Millennium Development Goals
MOH	-	Ministry Of Health
NHSP	-	National Health Strategic Plan
RTI	-	Respiratory Tract Infection
T.B	-	Tuberculosis
U5MR	-	Under – Five Mortality Rate
UN	-	United Nations
UNICEF	-	United Nations Children's Fund
USAID	-	United States Agency for International Development
UTH	-	University Teaching Hospital
UTI	-	Urinary Tract Infection
WHO	-	World Health Organization
ZARAN	-	Zambia Aidslaw Research and Advocacy Network
DHMT	-	District Health Management Team
G.N.C	-	General Nursing Council of Zambia

DECLARATION

I Alice Njovu Banda, hereby declare that the work in this study for the degree of Bachelor of Science in Nursing has not been presented either wholly of partially for any other degree and is not being currently submitted for any degree at the University of Zambia.

Signed:..... Date:.....21/04/09.....

(Candidate)

Signed:..... Date:.....21/04/09.....

(Supervisor)

STATEMENT

I hereby certify that this study is entirely the result of my own independent investigations and efforts.

The various persons and sources, to which I am highly indebted, are clearly acknowledged in the text and references

Signed: .....A. Barden.....

(Candidate)

DEDICATION

This research is dedicated to my father, Mr. L. Njovu without whose support and encouragement, I would not have reached this far.

To my son and my supportive, loving and caring husband, for inspiring all my life's endeavors. You give me reason to go on.

To my sister, for the moral support and care. You have always wanted me to succeed in my pursue of a Bachelor of Science in Nursing.

ABSTRACT

The Integrated Management for Childhood Illnesses (IMCI) is a strategy that provides integrated training and support for health workers on management of conditions such as pneumonia, diarrhoea, malaria, anaemia, malnutrition, measles and HIV/ AIDS infection. The strategy also targets the community by addressing child-related aspects of malaria control, nutrition, immunization and essential drug programme at community level. The prevalence of childhood illnesses demands that special attention be given to this strategy.

The aim of this study was to determine Nurse's Knowledge and Practice towards IMCI in the care of children. Literature review was done according to global, regional and national perspectives in regard to IMCI. The review showed that the IMCI strategy could improve performance of health workers including nurses to adequately assess sick children. Studies that have been conducted globally revealed that IMCI case management training significantly improved health workers performance particularly Nurses, as they performed as well as, and sometimes better than Medical Officers trained in IMCI. Additionally it was reveled by WHO that children receiving care from health workers trained in IMCI are likely to receive correct prescription for drugs than those receiving care from health workers not trained in IMCI. This was attributed to the fact that nurses trained in IMCI have knowledge in assessing children systematically and this reduces the chance of missing occult symptoms in a sick child.

To achieve the research objectives of the study, a descriptive quantitative research design was used. The study was conducted in Lusaka urban clinics. A sample size of 50 respondents, working in the three health centres were selected using simple random sampling method. The health centres included Kalingalinga, Chainama and Chelstone Clinics.

Data on knowledge and Practice of Nurses in line with IMCI was collected using a self-administrated questionnaire. Initially, a pilot study was conducted at the University Teaching Hospital in order to test the research instrument "questionnaire" which paved way for necessary changes to be made.

The data was collected between 7th and 30th September 2008. Thereafter, data was entered onto a data master sheet, and then analyzed manually. The information was later presented in frequency tables, bar charts and pie charts.

Majority of the respondents (44%) were within the age group between 30 and 40 years, 16% of the respondents were aged between 20 and 30 years, 22% of respondents were aged between 40 and 50 years and 4% of respondents were fifty (50) years and above. Most (26%) of the respondents had been in service for ten to fifteen years, followed by the other group of respondents (24%) who had served for fifteen to twenty years.

The study further revealed that the majority of respondents (66%) had medium knowledge, 22% had high knowledge and 12% had low knowledge on IMCI. Of those respondents who had high knowledge, majority (55.6%) were Registered Midwives. On the other hand, the findings showed that despite the respondents having high knowledge on IMCI, they had bad practices towards IMCI approach.

The following recommendations were made:

- The Nursing Schools should reconsider the component of IMCI training in their curriculum and institute changes that would help in enhancing nurse's practice in relation to IMCI and child care.
- The Lusaka District Management Team should work hand in hand with MOH to ensure that more nurses are trained in IMCI in order to achieve reasonable capacity building in child health provision, which would enhance efforts in the achievement of MDGs by the year 2015.
- The Management of health centres to put in mechanisms for follow-ups and supervision of nurses trained in IMCI in order to strengthen its implementation at the grass root level and support the staff in its implementation.

Key Words: Nurses, Knowledge, Practice and IMCI.

CHAPTER ONE

1.0 INTRODUCTION

1.1 BACKGROUND

Zambia is one of the African counties situated in the central part within the Sub-Saharan region covering an area of 152,612 square kilometers (Sqkms). It shares borders with the Democratic Republic of Congo and Tanzania in the north; Malawi and Mozambique in the east; Zimbabwe and Botswana in the south; Namibia in the south west and Angola in the west. Administratively, the country is divided into nine provinces and 72 districts (CSO, 2003). Of the nine provinces, two are predominantly urban namely Lusaka and Copperbelt provinces while the other seven are predominantly rural provinces.

According to the Ministry of Finance and National Planning 2007, the population stands at 10.7 million with the growth rate of 2.9% per year while, the fertility rate remains high at 5.9%. From the total population, 45.3% are children in the ages ranging 0 – 14 years (MOH/CBOH, 2003).

In Zambia, health services are provided by the government through the Ministry of Health (MOH), church institutions, traditional healers, mining and other industrial companies. The National health strategic Plan (NHSP) of 2006 – 2010 defines the framework within which both public and private service delivery is organized based on the Zambia Basic Health Care package (MOH, 2008) which is aimed at delivering health care services to all corners of Zambia. Health services in Lusaka District are provided by the biggest hospital in Zambia, the University Teaching Hospital (UTH) which offers first, second and third level health care services due to absence of a district and provincial hospital (UTH Action Plan, 2007). Other health service providers are the 22 health centres administered by the MOH, private owned clinics as well as traditional healers. Additionally, there is one specialized mental hospital (Chainama Hills Hospital, college for Mental Health Sciences) and a Dental clinic.

The late 1980s and 1990s witnessed a growing global concern about child health and the prospect of controlling illnesses and health problems affecting children in particular. Many tools have been adopted and implemented in a bid to effectively control childhood diseases that claim millions of lives of children worldwide. The Integrated Management of Childhood Illness (IMCI) approach is one of the tools prepared by World Health Organization (WHO) and United Nations Children's Fund (UNCEF) intended to meet the challenges of providing opportunities for implementation of preventive, promotive, curative and developmental interventions towards achievement of child health (MOH/CBOH, 2003). In a nutshell, it encompasses interventions for prevention and management of childhood diseases in health facilities and home care.

IMCI strategic plan for 2000 – 2005 reports that about 11 million children under five years of age die annually from common preventable diseases such as acute respiratory infections, diarrhea, malaria, measles and malnutrition. IMCI approach offers a set of interventions that promote rapid recognition and effective treatment of the above major killers of children under five of age. The approach promotes prevention of illness through improved nutrition (including breast feeding), vaccination and the promotion of insecticide treated materials. It also promotes the use of micro- nutrients such as vitamin A and iron therapy and deworming of the most vulnerable (WHO, 2002).

The government of Zambia through MOH adopted the concept of IMCI in 1995 as a vehicle to improve the management of sick children. The introduction of health reforms influenced the implementation of IMCI since one of the key elements is the integration of health programmes. As a result of this, IMCI was considered the best approach that could be used to assist health workers manage sick children using an integrated holistic approach. The concepts of cost effectiveness, rational use of drugs and reduction of mortality are attractive components that health reformers were willing to work with (MOH, 1999).

The aims of the IMCI strategy in Zambia are as follows:

- Improving the skills of health workers in the prevention and treatment of childhood illnesses.
- Improving the health systems to deliver quality care.
- Improving family and community practices in relation to child health.

WHO developed IMCI strategic plan in order to accelerate it's implementation to assist member states in the reduction of childhood morbidity and mortality through the implementation of interventions at various levels of the health system in Zambia especially at the district and community levels. At the level of community, the integration of this approach aims at preventing leading killer diseases (malaria, respiratory infections, diarrhea, measles and malnutrition) and behaviours by promoting and improving existing key family and community practices that are vital for child health, growth and development in a more coordinated way among partners that is, the family, community, MOH and various partners (MOH/CBOH, 2003).

Health workers knowledge and practices inline with the IMCI guidelines is essential in achieving the above goals hence the need to undertake this study in order to establish the extent to which the strategy is being utilized, identify any gaps in it's implementation and make recommendations so that ultimate child health can be achieved.

1.2 STATEMENT OF THE PROBLEM

The current focus of development worldwide in relation to child survival is the Millennium Development Goal number four (MDG-4) which aims to reduce global rate of infant and child mortality by two thirds by the year 2015. This is one of the challenges that Zambia has to realize through concerted effort by all involved inclusive of families, communities, the government through MOH and various partners locally and internationally.

Although still relatively high, child mortality rates in the country have shown signs of decline. Under five Mortality was 101 deaths per 1000 live births in 1992, increased to 197 deaths per 1000 live births in 1996 but declined markedly to 168 deaths per 1000 live births during the 2001 – 2002 demographic health survey. These figures are unacceptably high, hence the need to put in more efforts towards achieving the MDG number 4.

In the same vein, neo-natal mortality is estimated at 37 per 1000 live births while post neo-natal mortality is 58 per 1000 live births (CS0, 2003). According to the WHO(2001), malaria causes 18.2% of deaths followed by respiratory tract infections at 17.8% while diarhoea causes 14.1% of deaths and measles 6.3% of the total under five mortality. The under Five Mortality Rate (U5MR) or Child Mortality Rate indicates the probability of dying between birth and exactly five years of age expressed per 1000 live births and acts as a barometer of child health.

In Lusaka urban, the causes of Child Mortality have been seen to vary over a 3 year period. These include nutritional disorders, protein energy malnutrition, respiratory infections, diarrhea, meningitis, AIDS, Tuberculosis (T.B), cardiovascular diseases and genito-urinary tract infections (UTIs).

Table one illustrates the top causes of Under Five Mortality per 1000 admissions from the year 2004 to 2006.

Table 1: Top Five causes of Under Five Mortality in Lusaka urban from 2004-2006

(Total deaths per 1000 admissions)

	No.	**2006**	**2005**	**2004**
	1	Other nutritional disorders	Genital UTI	Other nutritional disorders
Deaths		3	1	2
Case Fatality Rate(CFR)		**500**	**250.0**	**250**
	2	PEM	Cardio vascular	AIDS
Deaths		9	1	12
CFR		**173.1**	**125.0**	**171.4**
	3	Pulmonary non infectious	PEM	PEM
Deaths		5	13	13
CFR		**82.0**	**117.1**	**83.8**
	4	AIDS	AIDS	TB
Deaths		5	5	9
CFR		**72.5**	**108.7**	**82.6**
	5	Diarrhoea non-bloody	Meningitis	Diarrhoea non-bloody
Deaths		78	8	104
CFR		**55.6**	**105.3**	**72.0**

Source; Lusaka District Health Action Plan and Budget (2006-2008)

The above table shows that nutritional disorders including malnutrition is a big problem killing children in Lusaka urban followed by genital urinary tract infections, then AIDS, meningitis,

T.B and lastly diarhoea. Despite the availability of Maternal and Child Health (MCH) services being provided in the district coupled with significant efforts and resources provided by the government towards combating these diseases, they remain the top killers of under five children hence the need for a wide knowledge base and good practices of health workers which are essential towards eradicating these diseases.

As earlier on mentioned, child morbidity is also prevalent in Lusaka district. According to Lusaka District Health Action Plan and Budget (2006 to 2008), the five top causes of morbidity of under five children include malaria, respiratory tract infection (RTI) -non pneumonia, non bloody diarrhea, pneumonia and skin infections. The Health Management Information Systems (HMIS) document (CBOH, 2004) shows that the top five causes of morbidity of children under the age of five include malaria (203.6), respiratory infections- non pneumonia (85), diarrhea 30.8 and pneumonia (21.3) at the national level.

Table two shows the causes of morbidity in the under five children in Lusaka urban.

Table 2: Top Five Causes of Morbidity (Under fives) in Lusaka urban

	No.	2004	Previous Year 2003	Year Before 2002
	1	Malaria	Malaria	Malaria
Cases		171,167	185,851	183,620
Incidence		**549.1**	**752.7**	**773.4**
	2	Non Pneumonia	Non Pneumonia	Non Pneumonia
Cases		125,695	171,682	135,640
Incidence		**403.2**	**695.3**	**571.3**
	3	Diarrhoea non bloody	Diarrhoea non bloody	Diarrhoea non bloody
Cases		92,978	140,092	128,677
Incidence		**298.3**	**567.4**	**542.8**
	4	Pneumonia	Pneumonia	Pneumonia
Cases		53,082	59,460	49,950
Incidence		**170.3**	**240.8**	**210.7**
	5	Skin Infections	Skin Infections	Skin Infections
Cases		26,623	31,257	33,905
Incidence		**85.4**	**126.6**	**142.8**

Source; Lusaka District Health Action Plan and Budget (2006-2008)

UNICEF (2005) states that child mortality and morbidity are directly related to poorly resourced, unresponsive and culturally inappropriate health and nutrition services, food insecurity, inadequate feeding practices , lack of hygiene and access to safe water or adequate sanitation, female illiteracy and early pregnancy. These factors are associated to cause disease

in children and when contact with health care providers is delayed, death ensues. CSO(2003) observed high under five mortality 222/1000 live births among uneducated women as compared to 142/1000 live births among educated mothers. There is further evidence as regards to infant mortality of about 133/1000 births among uneducated women as compared to 82/1000 births among the educated mothers. The report suggests that children born from mothers who have had no education are about one and half times likely to die before their fifth birth day as compared to those born from mothers who received primary or secondary education. Additionally, the Zambia Demographic Health Survey states that 70% of the population is food insecure hence the increase in malnutrition which is attributed to the worsening poverty levels, food insecurity as well as suboptimal infant and young child feeding practices(CSO,2003).

According to the Human Resources for Health Strategic Plan (2006), the MOH has a total health workers of 23, 176 against the recommended staff establishment of 49,360. This represents 47% deficit and translates into shortage of staff meaning that most health facilities are understaffed with approximately 23% of rural health centres operating without any qualified health workers (Mtonga, 2005). Considering the fact that IMCI is the most cost effective part of the basic health care package of public health interventions at Primary Health Care levels, staff shortages becomes a hindrance in the effective use of the strategy in achieving ultimate child health.

Additionally, by the end of June 2004, about 2064 health workers were trained in IMCI of which 1,024 were nurses (Mtonga, 2005). In view of the fact that many nurses have left the country and are still leaving, it is not known how many of those nurses trained in IMCI are still in the country and practicing the skills obtained from the training.

Furthermore, at the end of 2004, 38 out of 72 districts in the country were implementing IMCI. During the year 2005, districts included in the category of those implementing IMCI rose to 45 after several roll out trainings took place. With support from Health Services and Systems Program (HSSP), a review was undertaken to find out what districts were including in the action plans and budgets to ensure that IMCI remained on the agenda for child health. Through HSSP support, capacity was built at national level through the trainings of the primary health workers including nurses supported by WHO, UNICEF, CARE International and the MOH.

This was to promote a comprehensive IMCI implementation by all the districts in Zambia and by the end of 2007, this activity was scaled up to the rest of the provinces in line with the IMCI strategic plan (MOH, 2008).

Despite the fact that IMCI strategy has spread to all corners of Zambia, Child and Infant Mortality as well as Morbidity are still high hence the need to undertake this study in order to identify any gaps in the knowledge and practices of nurses whether they are in line with IMCI guidelines as well as to seek for solutions to the identified gaps.

The government has recognized the need to improve the quality of care of sick children in the first level referral hospitals. Therefore, the MOH conducted an assessment for the quality of care given to sick children in 13 district hospitals. The main objective of the assessment was to collect information on the quality of care given to sick children that exist in the country and to plan for improved care thereafter. The assessment revealed that most referral facilities are not well equipped to handle child care appropriately coupled with lack of supervision of health workers including nurses resulting in high Case Fatality Rate due to un acceptable practices (MOH, 2006). Therefore , there is need to improve the quality care of sick children through good practices in line with IMCI guidelines in order to reduce high under five mortality rates.

1.3 FACTORS AFFECTING KNOWLEDGE AND PRACTICE OF NURSES TOWARDS IMCI APPROACH

There are several factors that may influence Nurse's knowledge and practice towards IMCI Strategy.

1.3.1 SOCIO CULTURAL AND ECONOMIC FACTORS

1.3.1.1 Cultural Beliefs

Traditional beliefs play a role in influencing Nurse's behaviuors towards implementation of IMCI approach during the course of care for children. Traditionally, some women believe that they should stop breast feeding a child in the event of falling pregnant again, in case of not using any family planning method. This is contrary to the IMCI strategy which requires a child to be fed more than usual if breast feeding to

prevent the child from developing malnutrition. The practice deprives babies from needed nutrients posing a risk of developing nutritional disorders. When a nurse has such beliefs, it may affect the health education she might give to a care giver in such a situation.

1.3.1.2 Inadequate Salaries

The HIV/AIDS pandemic has left many children as orphans and there are about over half a million orphans living in Zambia (ZARAN, 2006). It is in our tradition as Zambians that we live as extended families and a nurse with a large family to take care of may fail to adequately meet the nutritional status of her children or dependants due to high cost of living considering meager salaries which nurses get. This might affect her as a nurse to put into practice on what she knows pertaining to disease prevention and health maintenance due to absence of material resources.

1.3.1.3 Personal Experience

Experience is the best teacher which implies that lack of it, may affect the way some Nurses may practice in the care of sick children which can result in failure of providing adequate health information to care givers of children while those Nurses with experience may be able to provide good health education to the care givers resulting into compliance with given instructions as IMCI involves giving Information, Education and Communication to clients.

1.3.1.4 Clinical Experience

Newly qualified nurses are more likely to have more information pertaining to IMCI because the programme has been incorporated into Registered /Enrolled Nurse's and Medical Licentiate's curriculum (Mtonga, 2005) as compared to those nurses who were trained before the inception and never been exposed to IMCI training. This may affect the use of IMCI concept.

1.3.1.5 Inadequate IEC

Care takers of children have the right to know the type of condition affecting the child and what course of action they should take in order to speed up recovery. Some Nurses may not be able to effectively communicate with children's care takers on certain issues

such as; when to return the child to the health facility, which danger signs they should observe in the child and the kinds of foods a child needs hence might influence negatively the outcome of a child's illness simply because the nurse did not give adequate information.

1.3.2 SERVICE RELATED FACTORS

1.3.2.1 Staffing Levels

Staffing levels at a health facility influences the quality of care given to sick children. Inadequate staffing may affect the way nurses execute their duties regardless of whether they have undergone the IMCI training programme or not resulting in not following guidelines due to a large number of children each nurse has to attend to.

1.3.2.2 Lack of Supervision

If nurses who have undergone IMCI training are not monitored regularly for quality of their work, they may relax and provide poor health services. Due to staff shortage in health facilities, there is increased demand on nurses time related to screening of a child which may compromise the quality of work produced.

1.3.2.3 Lack of Specialist Training

Nurses who have never undergone IMCI training lack knowledge concerning the care of children as required by the guidelines which may result in missing out important signs and symptoms that require further management and referral. This has consequences, such as complicating the outcome of a child's illness and death

1.3.2.4 Increased Disease Burden

HIV/AIDS affects everyone inclusive of children. According to CBOH (2001), there were 4,848 HIV/AIDS reported cases in under fives with the incidence of above 2.4 of Out Patient' Cases in the year 2001. Furthermore, there were 3,030 HIV cases among under fives with a Case Fatality Rate of around 240/1000 admissions.

Increased disease burden against a few staff readily available entails disparities between Nurse- Patient ratios. Ideally, a Nurse is supposed take care of about 4-6 patients in a

shift but due to staff shortages, Nurses take care of more than 15 patients per shift which may affect the quality of care given to sick children (UTH Action Plan, 2005).

1.3.2.5 Lack of Guiding Policy

Every institution has different policies that are put in place to guide the workers for the smooth running of operations within the institution. Any health institution with no deliberate Policy on IMCI may affect the practice of its workers including Nurses. According to Abdelrahman and Alfadi (2001), they reported that training in the IMCI management Skills in the health centres and rural hospitals was handicapped by the fact that some Doctors, Nurses and Medical assistants working in those facilities did not routinely implement the IMCI algorithm even if they were trained in IMCI standard case management. Lack of such a policy translates into some nurses enforcing the strategy while others may not.

1.3.2.6 Poor Conditions of Service

This is a key constraint to effective scaling up of human resources in Zambia. Over the past few years, there has been a massive exodus of health workers especially Nurses going abroad primarily due to low wages and benefits in the civil service as well as the general poor working environment (Ministry of Finance and National Planning, 2006). Performance of the few Nurses available may be affected due to low motivation as good working conditions with a good salaries are believed to motivate workers to work hard and vice –versa. Additionally, some Nurses may develop bad attitudes towards their work due to poor conditions of service resulting in high care giver turnover in health institutions where nurses have bad attitude towards work and clients.

1.3.2.7 Biases by Managers

Favouritisms by some managers towards certain Nurses might affect other Nurses who are not favoured thereby resulting into poor or negative attitudes towards work as they may feel not being appreciated no matter how much effort they put in. Those Nurses who are left out to attend workshops (such as IMCI training), may not put into practice the guidelines even though they may be aware due to frustrations and might leave the responsibility to those Nurses who certainly gets the manager's favours.

1.3.2.8 Inadequate Funding To Institutions

Lack of funding to health institutions may lead to failure of sending its health workers including Nurses for such important trainings (IMCI). This might create knowledge deficit on the part of Nurses pertaining to IMCI practices considering the fact that nursing as a body of knowledge is dynamic in nature and requires constant updating on new trends on health matters.

1.3.2.9 Inadequate Medical / Surgical Supplies

Availability of essential supplies and equipment in health facilities facilitates good care of children by Nurses. Where supplies and equipment lack, it is likely to influence the outcome of a child's illness. For instance, where a child requires rehydration therapy and all things are in place, such a child may be resuscitated and recover quickly as compared to a situation where a child requires it but no intravenous fluids are available, which may result in death of a child.

1.3.2.10 Lack of Knowledge or Training

Learning is a continuous process. There are instances in which some nurses who have been in service for along time may never have been exposed to in-service training of any kind including IMCI and this may disadvantage them in terms of knowledge pertaining to the strategy.

1.3.2.11 Professional Qualification

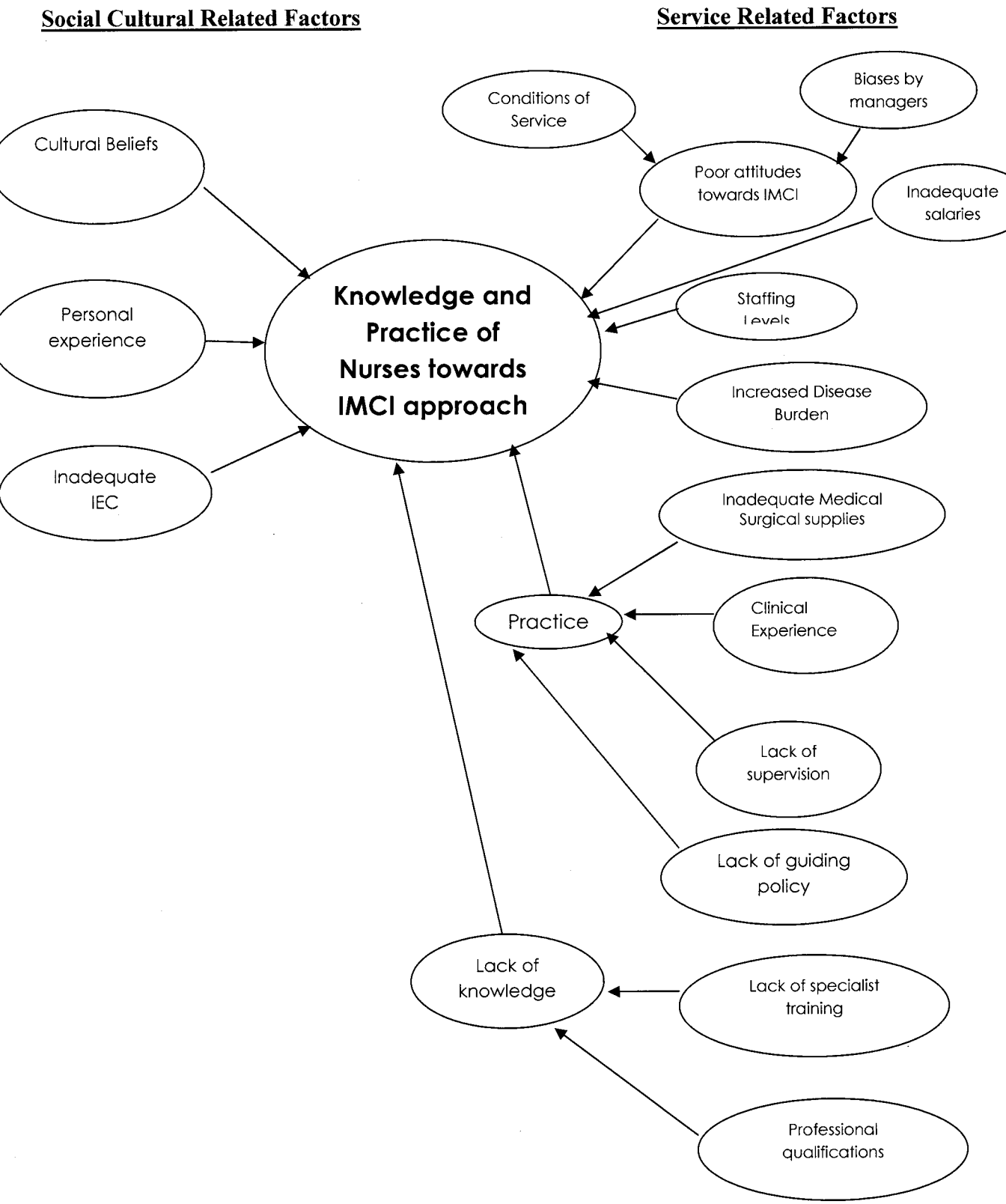
Specialist qualifications are very vital in delivery of child health services. Nurses with a specialty in midwifery have an advantage over those without the qualifications and are given priority for such trainings. Those nurses without such qualifications may never be sent for such training which can result in lack of knowledge concerning IMCI.

(xii) Poor attitude towards IMCI

Some nurses generally tend to have poor attitudes towards work meaning that they do not feel obliged to carryout certain tasks or procedures. In the same vein, some nurses may not follow guidelines that are in the IMCI despite being trained in the approach when caring for children.

Figure 1

1.4. DIAGRAM ANALYSIS OF FACTORS ASSOCIATED WITH NURSES KNOWLEDGE AND PRACTICE TOWARDS IMCI APPROACH



1.5 JUSTIFICATION

The information on knowledge and practice of Nurses towards IMCI approach is non existence in Zambia hence the need to undertake this study. The approach encompasses interventions for prevention and management of childhood illness in health facilities and home care. It's utilization by Nurses in caring for children is a vehicle in overcoming child and infant mortality in contrast with the projections based on an analysis by WHO in 1996 which indicated that the global burden of disease (malnutrition, malaria, respiratory infections, measles and diarrhea) would continue to be major causes of morbidity and mortality up to year 2020 (WHO, 2000). This study aims at finding out the knowledge base of Nurses and their practices whether or not they are consistent with IMCI guidelines for major child health interventions which would contribute to a reduction in the mortality and morbidity of children hence putting Zambia on track to meet the MDG 4. It is for this reason that the findings of the study would be used by health workers and policy makers as a stepping stone for re-affirming good practice which support and contribute to child health at the same time, identify gaps lacking so that the quality of health of children would be improved.

1.6 RESEARCH OBJECTIVES

The following are the objectives for this research.

1.6.1 General Objective

To determine Nurse's knowledge and practice towards IMCI approach in the care of children.

1.6.2 SPECIFIC OBJECTIVES

1.6.2.1 To determine the level of knowledge of Nurses pertaining to IMCI in the care of children.

1.6.2.2 To establish factors in the health service delivery system that influences Nurse's knowledge and practice in line with IMCI strategy in the care of children.

1.6.2.3 To assess Nurse's practices towards IMCI strategy.

1.6.2 To determine the actual socio-cultural factors affecting Nurse's towards IMCI strategy.

1.6.2. To make recommendations to all concerned authorities in regards to any alterations that may need to be effected in order to improve the practice of Nurses in line with IMCI strategy.

1.7 RESEARCH QUESTION

What factors influence knowledge and practice among Nurses towards IMCI approach in the care of children?

1.8 HYPOTHESIS

This is a statement of the predicted relationship between two or more variables, an educated or calculated guess by the researcher (Basavanthappa, 2006).The following hypotheses have been formulated in this study;

1.8.1 Nurses with high knowledge levels on IMCI strategy are likely to give good quality care to children, families and communities which contribute to good health as compared to those with little or no knowledge of IMCI approach.

1.8.2 Lack of knowledge as in regards to IMCI approach during the care of children lead to practices that contribute to high child morbidity and mortality.

1.9 OPERATIONAL DEFINITIONS

1.9.1 Knowledge

Level of understanding or awareness of a particular issue such as IMCI approach.

1.9.2 Practice

The ability to use IMCI guidelines correctly as one cares for children.

1.9.3. Infant Mortality

The ratio of the number of deaths in one year, of children less than one year to the number of live births in that year (Dorland's Illustrated Medical Dictionary,2003).

1.9.4 Child Morbidity

The number of deaths of children between one and five years of life (Dorland's Illustrated Medical Dictionary, 2003).

1.9. 5 IMCI approach

This is a strategy that was developed by WHO (Division of Child Health and Development) and UNICEF which focuses on the child as a whole rather than on a single disease or condition. Children often present with a number of sicknesses to the primary care practitioners and thus need to be managed in an integrated manner at home and in the primary health care facility (Eastern Mediterranean Health Journal, 2008).

1.9. 6

Nurse

A person who is especially prepared in the scientific basis of nursing and meet certain prescribed standard of education and clinical competence (Dorland's Illustrated Medical Dictionary, 2003).

1.9.7 Case Fatality Rate

The proportion of persons contracting a disease and die of that disease (Dorland's Illustrated Medical Dictionary, 2003).

1.9.8 Post Neo-natal Mortality

The ratio of the number of deaths in a given year, of children between the twenty eighth day of life and the first birth day.

1.9.9 Children – These are individuals less then five years of age that are taken care of by nurses.

1.9.10 Caring – This is looking after the sick children that are brought to a nurse in a health facility.

1.10 VARIABLES

A variable is an attribute or characteristic that can have more than one value such as height, weight and blood pressure (Dempsey and Dempsey, 2000). The variables that would be considered in this study include:

1.10.1 Dependant variable

This is a variable that changes as a result of manipulation of the independent variable. Examples include knowledge and practice.

1.10.2 Independent Variables

The variable that is a phenomenon in the experimental study used to test the hypothesis and is manipulated by the investigator to determine their relationship to observed phenomena (Basavanthappa, 2006). In this study, independent variables include the following:

- ✓ Cultural beliefs
- ✓ Personal experience
- ✓ Clinical experience
- ✓ Guiding policy
- ✓ Supervision
- ✓ Manager biases
- ✓ Conditions of service and salaries

TABLE3: Variables, Cut of Points and Indicators

Variables	Cut of points	Indicators	Questions
Knowledge	Good Average Poor	**Respondent who scores 7 – 10 on knowledge questions.** **Respondent scores 4-6 on knowledge questions about IMCI.** **Respondent scores below 4 on knowledge questions.**	**6 - 12 (These questions carry 1 score each)**
Practice	**Good** **Poor**	**Respondent follows stipulated guidelines in the approach when nursing children** **Does not follow IMCI guidelines at all times during care of children.**	**20 - 35**

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 INTRODUCTION

Literature on the knowledge and practice of nurses towards IMCI approach is non-existent in Zambia. The literature that is available looks at the context in which health workers are currently implementing IMCI. Therefore, the review aims at establishing what is known about the topic and tries to identify gaps in the existing literature so that the knowledge base and practice of nurses in line with the IMCI strategy can be re-enforced in order to achieve ultimate child health in line with the MDGs. The Source of literature used in the review includes text books, journals, studies done by fellow researchers and the internet.

According to UNICEF/ESARO (1999), IMCI is a broad strategy, with an overall objective of contributing to a reduction in child morbidity and mortality encompasses a range of interventions to prevent illnesses and reduce deaths from common childhood conditions, promote child health and development. The strategy combines improved management of common childhood illnesses with aspects of nutrition, immunization and other important factors influencing child health including maternal health. The literature review has been arranged and discussed according to global, regional and national perspectives respectively.

2.2 GLOBAL PERSPECTIVE

Since the late 1980s, improving child health and reducing child mortality as well as morbidity have been the key concerns of several international summits and conferences including the Millennium Summit which was held in 2000 (United Nations, 2000). One of the eight MDGs adopted following the millennium summit involves improving child health (MDG-4) as earlier on mentioned. Within the MDG monitoring framework, the international community committed itself to reducing the child mortality and morbidity and set a target of a deadline of three quarters between 1990 and 2015. Child mortality and morbidity are key indicators for monitoring progress towards achieving child health. According to a report by UNICEF, the total number of annual deaths among children

under the age of five (5) years dropped from 10 million to 9.7 million in the year 2006 representing 60 percent drop in the rate of child mortality since 1960. In 2006, child mortality was estimated at 72 deaths per 1000 live births (UNICEF, 2006). By then (1960) approximately 20 million children were dying every year, highlighting an important long term decline in the global number of under five deaths (UNICEF, 2007). However, the loss of 9.7 million young lives each year is unacceptable especially when many of these deaths are preventable.

TABLE 4: SHOWING UNDER -5 MORTALITY RATES FOR DIFFERENT COUNTRIES

UNDER 5 MOTALITY RATES (U-5 MR) Per 1000		
Countries of Africa	Countries of Americas	**Countries of Europe**
Ethiopia 174	Argentina 26	**France 9**
Gabon 132	Bolivia 91	**Sweden 6**
Kenya 107	Brazil 70	**Spain 8**
Sierra Leone 126	**Guatemala 69**	**Tajikistan 56**

Source: WHO World Report 1996.

UNICEF (2008) reports that almost 40% of all the under five deaths occur during the neonatal period (the first month of life) from a variety of complications. Of these neonatal deaths, around 26% account for all under-five deaths caused by severe infections. A significant proportion of these infections are caused by pneumonia, which kills more children than any other disease combined. Around 2 million children under-five years of age die from pneumonia yearly (1 in 5 deaths globally). Furthermore, diarrhoeal diseases account for 17% of under-five deaths where as malaria, measles and AIDS taken together are responsible for 15% of child deaths. Approximately, 70% of all childhood deaths are associated with one or more of the five conditions (malaria, measles, diarrhoeal, pneumonia and malnutrition) globally (Mtonga, 2005).

WHO and UNICEF with other partners have continued to support countries towards achievement of MDG-4. Initially, this support was targeting disease specific control programmes. Effective though these control programmes were, they did not generally establish clear ties with other components of health care. Instead, they helped to focus the attention of health workers on specific signs and symptoms of illnesses, which usually constituted the reasons why mothers sought care for their children. They did not establish a systematic assessment of other aspects of children's health; consequently, there was a general case of missed opportunities for immunization and management of other conditions, duplication of efforts and wastage of resources. Thus, World Health Assembly adopted the IMCI approach as a more cost effective approach for the survival and development of the child health (WHO, 2000).

Studies conducted in Brazil revealed that IMCI case management training significantly improved health worker's performance, (WHO, 2008). Particularly nurses trained in IMCI performed as well as, and sometimes better than medical officers trained in IMCI. Additionally, WHO revealed that children receiving care from health workers trained in IMCI are more likely to receive correct prescription for antimicrobial drugs than those receiving care from health workers not trained in IMCI (WHO, 2007). This can be attributed to the fact that nurses trained in IMCI assess sick children systematically and this reduces the chance of missing occult symptoms in a sick child.

According to UNICEF (2007), malaria causes more than a million of deaths worldwide yearly and up to 80% of these deaths occur in children under the age of five. Preventing malaria requires basic interventions such as sleeping under Insecticide treated Mosquitoe Nets (ITNs) and providing anti-malarial drugs for pregnant women and children with evident signs of the disease. ITN coverage has risen globally, due to international funding for malaria control. Furthermore, resistance to established anti-malarials was identified over the recent past years which led to a break through in treatment with artemisinin based combination therapies (ACTs) for strains of malaria that are multi drug resistant .

Many of these conditions (malaria, measles pneumonia, diarrhea and malnutrition) and diseases interact to increase child mortality beyond their individual impacts with under nutrition contributing to up to 50% of all child deaths. Certain conditions contribute to

child mortality among them unsafe water, poor hygienic practices and inadequate sanitation which are not only the causes of continued high incidence of diarrhoeal diseases, but are significant contributory factors in under-five mortality caused by pneumonia, neonatal disorders and under nutrition (malnutrition). Under nutrition is the main underlying factor for up to half of all deaths of children under five years of age. Improving nutrition and achieving MDG-1, which aims at reducing poverty and hunger, would greatly help avert child deaths from pneumonia, diarrhoea, malaria and measles. In short, it would reduce child and neonatal mortality.

According to WHO (2007), South Asia has the highest level of under nutrition (42%) followed by Sub-Saharan Africa 28%, Middle East and North Africa 10%, Latin America and Caribbean with the least 7%. On the other hand, UNICEF reports that data compiled by the International Agency Group for Child Mortality estimation revealed that progress has been made in countries in every region of the world. Since 1990, children under-five mortality rate has declined from 45 deaths for every 1000 live births to 24 deaths per 1000 live births representing 47% in the reduction. India's under five-mortality rate has declined by 34%. The rates in six countries (Bangladesh, Bhutan , Bolivia , Eritrea, the Lao people's Democratic Republic and Nepal) have been reduced by 50% or more since 1990 although they still remain high (UNICEF, 2008). On the other hand, this trend has been known to occur at various levels of economic performance, although there is a broad relationship between economic growth and improvement in child mortality as well as morbidity. Of the 62 countries making no progress or insufficient progress towards attainment of the MDG-4, 75% are in Africa due to HIV/AIDS pandemic especially in sub-Saharan Africa where the HIV infection rate is high. Moreover, industrialized countries have a low mortality rate of six per 1000 live births as at 2006.

Studies that have been done reveal that IMCI has a tremendous effect on quality of care given to children in a bid to reduce child morbidity and mortality, (WHO, 2007). A study that was conducted in Cape Town to evaluate the effect of IMCI on quality of care revealed that marked improvement in assessment of danger signs in sick children took place. There was 72% improvement in assessment as opposed to 7%, which was the case before introduction of IMCI. Assessment of co-morbidity results showed (8.2 versus 5.2), rational prescribing showed 84% in improvement as compared to 62% before IMCI and

for starting treatment in the clinic was at 70% versus 40% before IMCI http://adc.bmj.com/cgi/content/abstract.90/4/39. The study shows how important IMCI is in the ideal management of children as it greatly adds to correct diagnosis and other related conditions, which may be missed at a health facility thereby preventing death and over coming child morbidity.

WHO and UNICEF in collaboration with other partners have been instrumental in galvanizing the international community towards co-ordinated actions for children and have supported efforts to reduce child morbidity as well as mortality. Focus has been placed on countries where the burden of under-five mortality is highest ,countries such as Bangladesh for instance . In a study carried out in Bangladesh, findings revealed that there were improvements in the quality of care of children in health facilities where IMCI had been introduced coupled with increase in use of health facilities and gains in the proportion of sick children taken to appropriate health care providers. These findings are being used to strength child health care nationally http://www.ncbi.nlm.nih.gov/pubmed/15519629?dopt=Abstract.

Table 5: showing progress in reducing child mortality by region observed from 1990 to 2006 and required for the period 2007 to 2015 to achieve MDG-4

UNDER-5 MORTALITY RATE			AVERAGE ANNUAL RATE OF REDUCTION		
	1990	2006	Observed (1990-2006)	Required (2007-2015)	Progress towards the MDG target
Sub-Saharan Africa	187	160	1.0	10.5	Insufficient progress
Eastern and Southern Africa	165	131	1.4	9.6	Insufficient progress
Eastern Africa	171	123	2.1	8.5	Insufficient progress
Southern Africa	125	146	-1.0	13.9	No progress
West and Central Africa	208	186	0.7	11.0	No progress
Central Africa	187	193	-0.2	12.6	No progress
West Africa	115	183	1.0	10.4	Insufficient progress
North Africa	82	35	5.3	2.8	On track
South Africa	123	83	2.5	7.8	Insufficient progress
East Asia / Pacific	55	29	4.0	5.1	On track
Latin American /Caribbean	55	27	4.4	4.3	On track
Central and eastern Europe	53	27	4.2	7.4	On track
Industrialized countries	10	6	3.2	6.6	On track
Developing countries	103	79	1.7	9.3	Insufficient progress
World	93	72	1.6	9.4	Insufficient progress

Source: UNICEF 2008 based on the work of the Inter-agency Group for Child Mortality Estimation

Countries with a negative Average Annual Rate of Reduction (AARR) indicate an increase in the under five-mortality rate and these include Djibouti and Sudan. Those on track indicate U5MR of less than 40 or the U5MR is 40 or more but the AARR in the under five-mortality rate observed for 1990 to 2006 is 4% or more. On the other hand, countries with insufficient progress have the U5MR of 40 or more and the AARR is less than 1%.

In 2003, concerned that progress on child survival towards achievement of the MDG-4 was behind schedule, a group of technical experts working on different aspects of child health came together for a workshop that was sponsored by the Rockefeller Foundation.

This spurred awareness from the public about the state of children and called for immediate action to translate knowledge into practice. The groups work is now being continued by a new coalition of scientists, policy makers, activists and health program managers in what is now called Count Down to 2015: Tracking progress in Maternal, Newborn and Child Mortality (UNICEF, 2007). The countdown gathers data on the progress countries are making in reducing the deaths of under-five children. Furthermore, it was recognized that although every region in the world needed to accelerate progress, countries with the greatest number or highest rates of under-five deaths should be prioritized. To this end, countdown to 2015 partners including UNICEF have identified 60 priority countries for child survival initiatives based on two criteria: countries with more than 50,000 deaths of children under-five and countries with an annual under-five mortality rate of at least 90 per 1000 live births (UNICEF, 2008).

Ironically, out of 191 countries, 129 countries are on track to achieving the MDG-4 having reduced the number of under-five mortality rate to below 40 per 1000 live births since 1990 meaning that they have already met the 2015 goal for reducing child mortality. About 35 countries are progressing at a slow rate that is insufficient to meet MDG-4 fully and on time but, 27 countries have registered little progress since 1990.

2.3 REGIONAL PERSPECTIVE

According to a report by UNICEF (2008), the rate of reduction in child mortality since 1990 has been remarkable in a number of regions. Child mortality rates have been roughly halved in East Asia and the Pacific, Central and Eastern Europe, the Commonwealth of Independent States, the Latin America and the Caribbean bringing the under-five mortality rate for each of these regions below 30 per 1000 live births by 2006. However, the African regions continue to account for the majority of millions of deaths of under-five children every year.

Despite the implementation of IMCI strategy in Africa, most countries continue to register high infant mortality rates ranging from 50 to 100 per 1000 live births and high U5MR ranging from 100 to 320 per 1000 live births (UNICEF/ESARO, 1999). The implementation of IMCI started in 1995 in the African region and as at 1998, the strategy was being implemented in 22 of the 46 countries at the district level and two incorporating improvements in family and community practices. The rest of the countries had started planning for the implementation of the strategy by 1999 (WHO, 2000).

In precise terms, child mortality in North Africa has reduced to 35 per 1000 live births in the year 2006 meaning that approximately 1 in 29 children died before reaching the fifth birthday. Contrary, the picture in the Sub-Saharan region including Sudan and Djibouti is heart wrecking for the fact that it has the highest rate of under-five mortality world wide as the child mortality was estimated at 160 per 1000 live births as at 2006 meaning that 1 in every 6 children failed to reach their fifth birthday. Although this fact provides an example of the vast differences in child survival between Sub-Saharan Africa and other parts of the world, it also shows that there is hope in the fact that some African countries have been able to sustain high annual rates of reduction in child mortality (UNICEF, 2008). Additionally, sub- Saharan region is the furthest behind schedule on most of the health related MDGs particularly MDG-4. The report further states that this is so because of deeply entrenched and civil conflict, inadequate physical infrastructure and low health system capacity.

Health workers in African countries are leaving their countries for greener pastures abroad. This has led to staff shortages in health institutions there by affecting the

performance of the available staff due to work over load. Hence, IMCI is affected by nurse's performance, which in turn depends on regular supervision, feedback and presence of a clear job description. In a study conducted in Kwazulu Natal on knowledge, attitude and practice of professional nurses working at Primary Health Care Level revealed that nearly 40% of nurses did not receive any supervision from the area manager supervisors, 68% of the nurses did not have any feedback on their working performance and 44% of the nurses did not receive any job description (Mariani etal, 2003). This is a similar situation in the Zambian context, which is mainly blamed on staff shortage but compromises the quality of care.

According to Haskins (2006), training of health workers in case management skills is a key to successful use of the IMCI strategy. This is done through 11 days course and it includes a follow up visit by a trainer. Studies have been conducted to assess the accuracy with which health workers including nurses use the IMCI strategy when caring for children. A health facility survey was conducted in South Africa by WHO, UNICEF and the department of the National Health to evaluate aspects of the implementation of the IMCI programme. The key objective of the survey was to obtain information on the quality of care that is given to sick children. The findings of this survey were that health workers assessed correctly for three danger signs in 63% of children observed and systematically checked for presence of cough, diarrhea and fever in 72% of cases .This meant that despite the health workers ,including nurses being taught about how to use the IMCI approach, they did not use the approach fully.

Another study conducted to assess whether nurses can use the IMCI nutrition algorithm to identify reliably severe protein malnutrition in Gambia, it was found that severe malnutrition was both under diagnosed by nurses trained in the use of IMCI in a clinic setting in Gambia calling for further development to improve detection in children as early recognition of severe malnutrition is important because standard management protocols can greatly reduce mortality http://adc.bmj.com/cgi/content/full/89/2/181.

Furthermore, a study titled IMCI and Equity conducted by Masanja etal (2005), in Tanzania revealed that six health indicators (under weight, stunting, measles, immunization, access to treated water and treated mosquito nets and treatment of fever

with antimalarials) improved significantly in IMCI implementing districts compared to non-IMCI implementing districts showing the relevance or importance of the approach. Therefore, training nurses and other health workers in IMCI could reduce child mortality and morbidity significantly.

The major causes of high U5MR in Sub-Saharan region according to WHO (2007), include neonatal diseases which account for more than one quarter of deaths, followed by pneumonia responsible for more than one fifth of child deaths. Malaria and diarrhoeal diseases account for 18% and 17% respectively. Others include AIDS particularly in the countries situated in Southern Africa and measles respectively. Available information from some countries in Eastern and Southern African regions indicates that 40-80% of all child deaths occur in homes without the child receiving any care from a trained health worker or attending a health facility. For example, more than 160,000 under five children in Tanzania die annually. Of these deaths, 80% occur at home and 46% of the children die without prior contact with the health facilities. It is important to note that 72% of these deaths are preventable or curable using strategies like IMCI (UNICEF/ESARO, 1999). Studies have shown that the guidelines for the IMCI can lead to appropriate management of sick children by health workers in first level health facilities (Karamagi etal, 2004).

According to a report by WHO – Regional Office for Africa in fulfilling its mandate to support scaling up of child interventions in order to contribute to under-five mortality reduction, one of the biggest challenges faced by IMCI throughout Africa is the mobilization of resources to maximize coverage.

However countries have put up measures in different ways to achieve this. For instance, Tanzania has necessitated the delivery of IMCI through its inclusion in the council's health plans. In another study conducted in Morocco by Naimoli etal (2000) in which an evaluation of health workers interventions to promote use of IMCI guidelines was undertaken, the study revealed that the quality of care was better in intervention Provinces where health workers had received in-service training with job aids in IMCI (79.7%) as compared to 15.5% before training. It concluded that exposure to IMCI guidelines was strongly associated with adherence to the guidelines

http://intqhc.oxfordjournals.org/cgi/content/full/18/2/134. Hence, the need to train nurses other health workers in IMCI.

2.4 NATIONAL PERSPECTIVE

In Zambia like the world at large, child health is one of the health priorities and an essential part of the Basic Health Care Package. The Government of Zambia through the Ministry of Health has the objective of reducing under-five mortality by 20% or by two-thirds from the current levels by the year 2015 in line with the MDGs (MOH, 2006). The Fifth National Development Plan 2006-2010 reports that Infant and U5MRs declined from 109 and 197 per 1000 live births in 1996 to 95 and 168 per 1000 live births in 2007 respectively. Despite this decline, there still exist a number of factors that hinder further progress among them brain drain, poor state of health facilities, inadequate drugs and medical supplies and high poverty levels, the report further states .

On the other hand, communities have a major responsibility to provide care to their children and in most cases; they have not been effectively involved or consulted in the development and implementation of programmes meant to address issues related to their children's health. UNICEF recommends that success in reducing childhood morbidity and mortality requires active meaningful participation by communities and partnerships between the health workers and households with support from their communities. Households need to be empowered with knowledge and skills regarding child health and development. In addition to an enabling environment, in the form of responsive health system and policies, communities need to be mobilized, (UNICEF, 2006). The above argument is supported by Abdelrahman and Alfadi (2001) who stated that success in reducing childhood mortality and morbidity, child health requires more than the availability of adequate health services staffed with IMCI trained health workers. As families have a major responsibility to care for their children, such success requires partnerships between health service providers, families and community organizations that influence family practices related to child health (WHO, 2000).

In a report prepared by the MOH/CBOH on Community IMCI, National Strategy for 2003-2005, states that linkages between the health system and the community have been established in 21 of the 31 IMCI implementing districts in Zambia. Entry into community

partnerships was done through initiatives such as malaria initiative, promotion of growth monitoring, provision of safe water and promotion of breast-feeding monitoring. All these initiatives support the IMCI whose overall aim is to manage sick children using an integrated holistic approach.

The major causes of child morbidity and mortality in Zambia are malaria, respiratory infection (pneumonia), diarrhoea, malnutrition and aneamia. HIV/AIDS is increasingly contributing to morbidity and mortality in children (HMIS, 2006).Malaria is one of the conditions which the IMCI strategy targets. Despite the significant efforts being made by the government and its partners, malaria has remained the leading cause of morbidity and mortality in Zambia accounting for 50% of all hospitalizations and outpatients attendances (HMIS, 2006). The challenge of malaria is compounded by several factors including low utilization of ITNs among children and pregnant women who are the prime concern for this programme. This is partly due to individual attitudes and cultural aspects where husbands are considered heads of households and therefore given priority as far as usage of ITNs is concerned. The other problem associated with use of ITNs is the misuse particularly for fishing coupled with inadequate education and measures to promote appropriate ways of using them especially in rural areas, which has led to shorter lives for ITNs than normally expected (MOH, 2006).If all health workers including nurses had the knowledge of the IMCI and put it into practice, this problem would greatly be reduced as the approach requires health education to be imparted unto the care takers and no child with evident signs and symptoms would go home without the right treatment.

In a study conducted by Siame (1999) on factors contributing to the low utilization of ITNs in malaria prevention, the study revealed that information on the use of treated bed nets has a bearing on their ultimate usage. The study found that 97% of people had knowledge on ITNs and of those who knew about them, 72% of them had knowledge on the usage while 28% had no knowledge and only 10% of the people interviewed use ITNs.

Another condition in which the IMCI approach is applied is pneumonia. According to MOH (2001), pneumonia and other acute lower respiratory tract infection is the second leading cause of childhood deaths in Zambia. CBOH (2001) showed that pneumonia accounted for 126.5 per 1000 admissions in 2002 and a case fatality of 73.4 per 1000

admissions during the same period. CBOH (2002) observed that pneumonia usually culminate as a complication of measles, pertusis, haemophilus influenza and other respiratory infections.

Furthermore, malnutrition is another health problem causing childhood morbidity and mortality and at the same time, the IMCI strategy is used to assess children with such a condition. UNICEF 1999 reports that 59% of the Zambian children are stunted, 18% severely stunted, 25% are underweight while 6% of the children are wasted. In a study done by Musonda (2000) on factors contributing to High Prevalence of Malnutrition among Under-Five Children, the findings revealed among others the following factors contributing towards high prevalence of malnutrition in Zambia include poor weaning methods, disease frequency, and poor maternal nutritional status, inadequate knowledge concerning nutrition by mothers and poor case management. Adequate nutrition must begin during pregnancy. Maternal under nutrition can have life long consequences for children including impaired prenatal growth, low birth weight and increased risk of developmental disabilities later in life (UNICEF, 2008).

Amidst all the problems that Zambian children face, there is a critical shortage of health workers who are vital in containing the above-mentioned problems. The MOH (2005) reveals that critical shortage of staff is compromising service delivery including implementation of IMCI. Furthermore, GNC (2001) states that the exodus of nurses and midwives in search of greener pastures had an adverse effect on the outcomes of patient care. Continuing decline in staffing levels and recruitment of nurses and midwives has seriously affected the delivery of these services at all levels. However, IMCI has been inco-operated into the curricular of health workers to ensure wide coverage of these workers who would achieve skill and knowledge in IMCI so that ultimate child health can be achieved. In addition, the other pre-service training concerning IMCI is employed at Chainama as well as Post Basic Nursing, University of Zambia. (Mtonga, 2005).

According to MOH/CBOH (2005), the national IMCI health facility survey of 2001 showed that the strategy could improve performance of health workers including nurses to adequately assess sick children. Initially, a baseline survey in 8 health centers was undertaken in 1996 before starting IMCI training which revealed that the case

management of sick children was not holistic which led to inadequate management of sick children. The survey revealed that only 29% of health workers asked a mother of a sick child if a child had a cough, 3% of health workers assessed for pneumonia while 30% of health workers assessed for dehydration. At a later stage, health workers at the same health facilities were surveyed 9 months after several IMCI training. This survey revealed that 69% of IMCI trained health workers asked how well the sick child was eating, while 75% assessed for pneumonia and 52% checked for dehydration in children with diarrhea. This survey showed that IMCI improves the practice of health workers when they receive the IMCI training hence the need to assess nurses' knowledge and practice towards IMCI in the Zambian context.

2.5. SUMMARY

A review of the literature has shown that no studies concerning knowledge and practice of nurses towards IMCI in managing children have been done especially in Zambia. However, from the literature available, studies have been conducted to evaluate how a job aids could be used to increase compliance by health workers with IMCI guidelines in Zambia. There is a correlation between the use of job aids for IMCI case management and compliance with IMCI guidelines among health workers http://www.qaproject.org/oper/orchildsurv/html.

It also has been realized that child health requires concerted efforts for most countries of the world to achieve the MDG-4. A few countries are on track towards realization of the MDG-4 of which Zambia is among those countries behind schedule of the target due to poor health facilities, under utilization of available health infrastructures especially in rural areas coupled with shortage of staff in health facilities ,just to mention but a few. The literature review has also revealed that nurses are vital in the implementation of IMCI that can be attained through community participation and good governance at all levels.

CHAPTER THREE

3.0 METHODOLOGY

Research Methodology is a system of studying which involve the identification of a research design, research tool, technique and sampling method to be used in the main and pilot study taking into account the ethical considerations.

This research was aimed at determining Nurse's Knowledge and Practice towards IMCI when caring for sick children.

3.1 RESEARCH DESIGN

A research design is the plan, strategy and structure of investigations of answering the research question. In general, it is an overall plan or blue – print the researchers use to carry out their study (Basavanthappa, 2003). In this study, a descriptive non-experimental quantitative study design was used.

Descriptive research is defined, as a non-experimental research design to discover new meaning and provide new knowledge when there is very little known about a phenomenon of interest (Dempsey and Dempsey, 2000).

This study design was appropriate because it allowed describing objectively the nature of the situation and in this case, Nurse's knowledge and practice pertaining to IMCI concept. Quantitative study design is a method in which the study variables are pre-selected and defined by the investigator and data are collected, quantified and then, analyzed often with a view to establishing cause – effect relationship among variables (Dempsey and Dempsey, 2000).

This was chosen because the study involved use of structured procedure with the help of formal instrument, the questionnaire.

3.2 RESEARCH SETTING

This study was carried out at health centres inclusive Kalingalinga, Chainama and Chelstone. These health centres are under Lusaka District Health Management Team. The District has an estimated population of 1,676,321 (CSO, 2003). There are 27 health centres, 3 sub centres and three health posts all under the umbrella of MOH. Lusaka District, which is also capital city of Zambia, is situated in Lusaka province in the central part of Zambia covering a surface area of 360 square kilometers. The three health centers were chosen purposively because they also practice IMCI and a number of nurses who worked in these health centers had undergone the training.

3.3 STUDY POPULATION

A study population is defined as "the total group of individual people or things meeting the criteria of interest to the researcher (Dempsey and Dempsey, 2000). The study targeted nurses working in various departments at the three health centres (Kalingalinga, Chainama and Chesltone) including Maternal and Child Health, Out Patient Department and in patient departments as these are units where IMCI is applicable.

3.4. SAMPLE SELECTION

According to Polit and Hungler (1997), a sample is a subset of the population selected to participate in a research. Therefore, sample selection refers "to the process of selecting a portion of the population to represent the entire population", (Treece and Treece 1986). In reference to this research, a simple random sampling method was employed to ensure representativeness of the study population.

It comprised use of lottery method in which up to 50 respondents were selected. Of these, 17 respondents were required to participate in 2 of the health centres while 18 respondents were drawn from the third health centre. The names of those health workers who were in contact with under five children at each health centre was written down on pieces of paper, then put in a box that was shaken vigorously to ensure randomization before drawing them out of the box. The investigator administered 10 questionnaires to respondents each day for a consecutive five days.

3.5 SAMPLE SIZE

This is the number of subjects in a sample (Polit and Hungler, 1997). The sample will comprise of 50 respondents all of whom are nurses from the three health centres. The sample size was set at 50 considering limited time at hand.

3.6 DATA COLLECTION TOOL

A data collection tool / instrument is a device or a technique that a researcher uses to collect data (Polit and Hungler, 1997). For the purpose of this study, a self-administered questionnaire was used for data collection owing to the fact that all respondents were literate. However, questionnaires have disadvantages such as limited information gathering due to little time that the respondents might have. This was avoided by constructing questions that took about 25 - 30 minutes of answering.

3.7 VALIDITY

Validity is the degree to which an instrument measures what it is intended to measure (Polit and Hungler, 1997).

Validity was ensured through administering same questions contained in the questionnaire to all respondents. Additionally, respondents were randomly selected. This was preceded by a pilot study to pre-test the research instrument (questionnaire). Furthermore, content validity of the questionnaire was ensured as the investigator pointed out the authority for the use of content in the questions, which were formulated from the available literature. IMCI modules were used for construction of questions.

3.8 RELIABILITY

This is the degree of consistency and dependability with which an instrument measures the attribute it is designed to measure (Polit and Hungler, 1997). The instrument, if used by someone else in similar circumstances must be able to provide similar findings. This was achieved through using experts to scrutinize it and changes were effected as advised.

Furthermore, the questions were be simple to understand, clear, concise and sequentially arranged to increase reliability.

3.9 DATA COLLECTION TECHNIQUE

This is a method or way used to collect data to answer a research question (Treece and Treece, 1982).

Data was collected through administering questionnaires to respondents. To start with, permission to collect data at the named institutions was sought from the In-charges, thereafter consent of the respondents was also sought after and then data was collected. Self-administered questionnaires were to a group of respondents to complete the instruments at the same time. This approach has the advantage of maximizing the return and providing chance for both the researcher and respondents to clarify any possible misunderstandings.

3.10 PILOT STUDY

A pilot study is a small- scale version of the actual study conducted with the purpose of testing and potentially refining the research plan, sometimes called an exploratory study (Dempsey and Dempsey, 2000).

The pilot study gives fore sight into the strengths and weaknesses of the study design, sample size and data collection instruments thereby avoiding pitfalls and errors that may be costly in the actual study. The pilot study was done in the Paediatric Out-Patient department on five respondents.

3.11 ETHICAL AND CULTURAL CONSIDERATIONS

The investigator obtained written permission for collection of data for the pilot and actual study from the Executive Director at UTH and the Director at the District Health Office. No respondent was forced to participate in the study. To those who declined to participate, the researcher explained to them that they would not lose anything by participating and the findings were for the good of the health workers. Respondents were assured of confidentiality and anonymity, as they were not to be exposed to any physical

or emotional harm and no names were required. Confidentiality was ensured, as no one apart from the investigator would have access to the questionnaires. After analyzing all collected data in the questionnaires, they were destroyed. Anonymity was achieved by using serial numbers on the questionnaire without writing names or addresses on the questionnaires.

CHAPTER FOUR

4.0 DATA ANALYSIS AND PRESENTATION OF FINDINGS

4.1 INTRODUCTION

This chapter is focusing on data analysis and presentation of the information collected during the study. The main purpose of the study was to determine Nurse's Knowledge and Practices towards IMCI Approach when caring for children in Lusaka urban.

4.2 DATA ANALYSIS

Data analysis is the systematic organization and synthesis of research data and the testing of research hypothesis using those data (Polit and Hungler, 2001). Raw data was collected from fifty (50) respondents who participated in the study using self administered questionnaires.

After data was collected, the questionnaires were checked for consistency, completeness, uniformity and accuracy. Those questionnaires that were not complete were not taken into consideration for the study but were discarded. Analysis of data was done manually using both closed and open ended questions. Answers were categorized then coded and entered onto the data master sheet, then analyzed using scientific calculators. The datum are presented in the form of tables, pie charts and bar graphs so that one could get a summarized picture of the findings.

4.3 PRESENTATION OF FINDINGS

The findings of the study are presented in frequency tables, pie charts and graphs. The use of frequency tables is ideal as they summarize data using descriptive measures meaningfully and easy to understand. The data has been presented in three sections, that is, Section A, Section B and Section C.

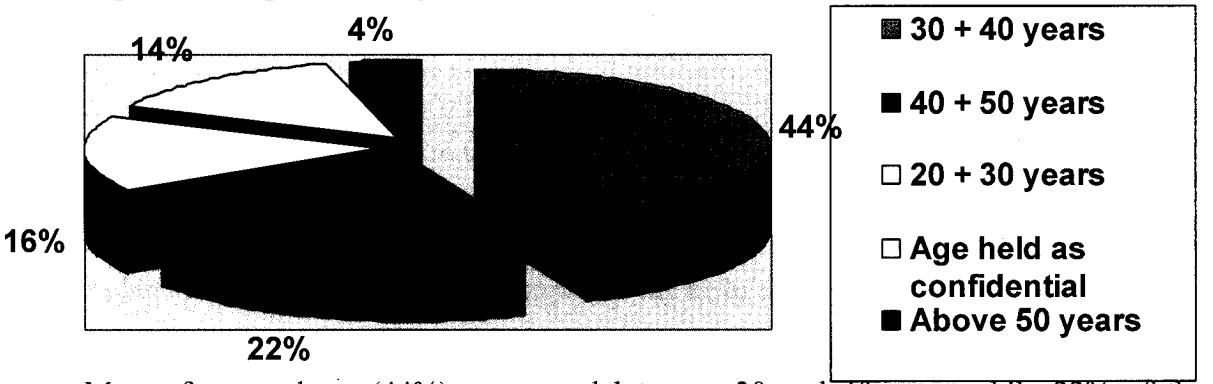
SECTION A: DEMOGRAPHIC DATA

Table 6: Respondent's' sex (n = 50)

SEX	FREQUENCY	PERCENTAGE
Female	45	90
Male	5	10
TOTAL	**50**	**100**

Majority (90%) of respondents were females while 10% of the respondents were males.

Figure 2: Respondents age distribution (n = 50)



Most of respondents (44%) were aged between 30 and 40 years while 22% of the respondents were aged between 40 and 50 years, 16% of the respondents were aged between 20 and 30 years and 4% of the respondents were 50 years and above. 14% of respondents did not disclose their age.

Table 7: Respondent's professional qualifications (n = 50)

QUALIFICATIONS	FREQUENCY	PERCENTAGE
Registered nurse	10	20
Enrolled nurse	23	46
Registered midwife	9	18
Enrolled midwife	8	16
TOTAL	**50**	**100**

Most of the respondents (46%) were Enrolled Nurses while 20% of the respondents were Registered Nurses (RN), 18% were Registered Midwives (RMs) and 16% of respondents were Enrolled Midwives (EMs).

Table 8: Respondent's religion (n = 50)

RELIGION	FREQUENCY	PERCENTAGE
Christian	50	100
Moslem	0	0
Hindu	0	0
Buddhist	0	0
TOTAL	**50**	**100**

All respondents (100%) were Christians.

Table 9: Respondent's years of employment or in service

YEARS IN SERVICE	FREQUENCY	PERCENTAGE
Less than one year	2	4
One year to five years	10	20
Five years to 10 years	11	22
10 years to 15 years	13	26
15 years to 20 years	12	24
Above 20 years	7	14
TOTAL	**50**	**100**

Twenty six percent (26%) of respondents had been in service for a period ranging between ten and fifteen years, 24% had served for fifteen to twenty years, 22% of the respondents had been in service for five to ten years. About 14% of respondents were in service for over twenty years and only 4% of the respondents were in service for less than a year.

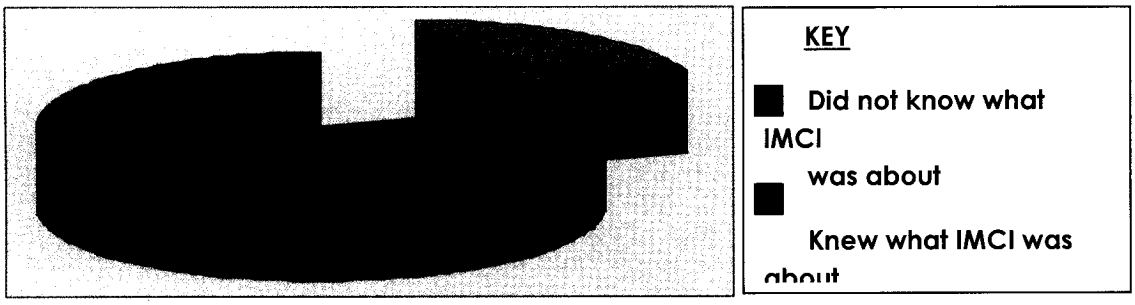
Table 10: Respondent's department of service

DEPARTMENT	FREQUENCY	PERCENTAGE
Out – Patient Department (OPD)	18	36
In-Patient Department	8	16
Maternal and Child Health (MCH)	15	30
Anti – Retroviral Therapy Department	9	18
TOTAL	**50**	**100**

Most of the respondents (36%) were working in the OPD department, 30% were in the MCH department, 18% were working in the ART department and 16% were working in the in-patient department.

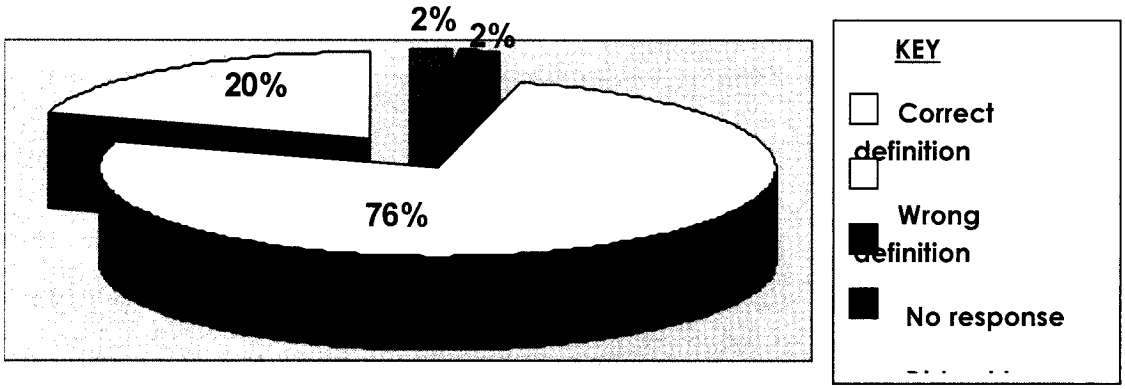
SECTION B: KNOWLEDGE

Figure 3: Respondent's knowledge of IMCI (n = 50)



The majority of the respondents (80%) said that they knew what IMCI was about and 20% of the respondents indicated that they did not know what IMCI was about.

Figure 4: Respondent's definition of IMCI (n = 50)



Majority of respondents (76%) defined IMCI as Integrated Management of Childhood Illnesses which is an approach used in managing ill children, 20% of the respondents defined IMCI as integrated management of children's infections, and 2% of the respondents gave no response and the other 2% said that they did not know how to define IMCI.

Table 11: Respondent's response on some of the traditional beliefs observed when caring for sick children (n = 50)

TRADITIONAL BELIEFS	FREQUENCY	PERCENTAGE
Let care takers give additional treatment (herbs)	1	2
When danger signs are present, additional treatment to be given (herbs)	2	4
In the event of falling pregnant again, stop breast feeding	1	2
Women should not breast feed if two days elapses without milk production after delivery	1	2
No response	45	90
TOTAL	**50**	**100**

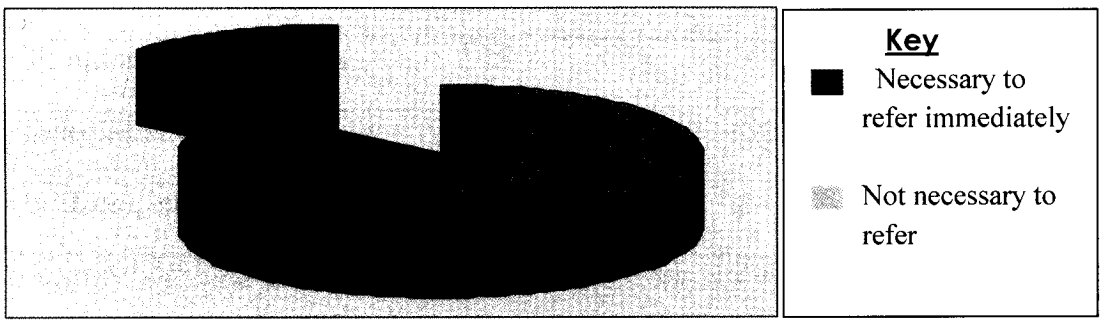
The majority of respondents (90%) indicated that they observed no traditional beliefs when caring for sick children, 10% of the respondents said that they had traditional beliefs in regards to child care.

Table 12: Respondents responses on the danger signs in a sick child according to IMCI

DANGER SIGNS IN A SICK CHILD	FREQUENCY	PERCENTAGE
Vomiting everything, convulsions, lethargy , child not breast feeding	15	30
convulsions, lethargy	23	46
Did not know	12	24
TOTAL	**50**	**100**

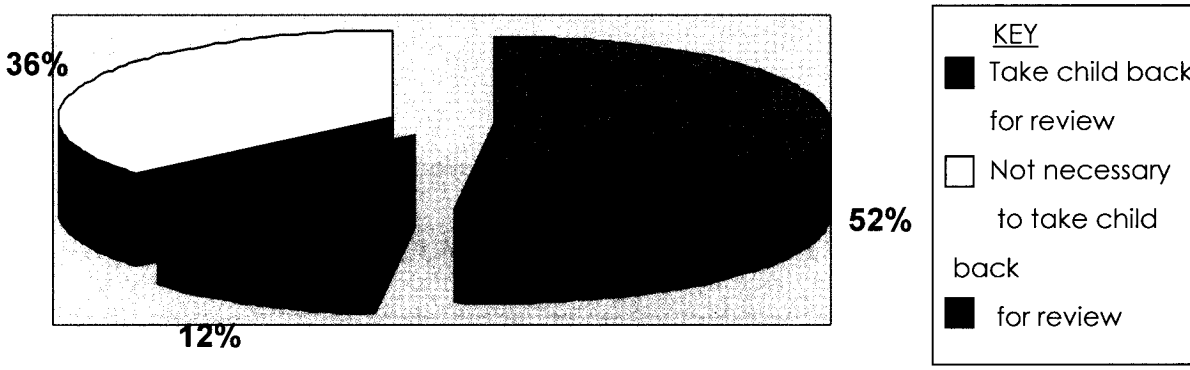
Most (46%) of the respondents knew some of the danger signs in a sick child, 30% knew all the danger signs and 24% of the respondents did not know the danger signs in a sick child.

Figure 5: Respondents response on a child who is unable to breast feed and vomiting everything as requiring immediate referral (n=50)



Eighty six percent (86%) of respondents said that it was correct for a child who is unable to breastfeed and vomiting everything to be referred immediately and 14% of the respondents said that it was not necessary for such a child to be referred.

Figure 6: Respondent's response on the stipulated period, a child with persistent fever must be taken back to a health facility for review



Over half of the respondents (52%) stated that a child must be taken back for review when fever persists, 36% of the respondents thought that there was no need of taking a child back to the health facility for review when fever persisted.

Table 13: Respondent's response on signs and symptoms of very severe febrile disease (n =50)

SIGNS AND SYMPTOMS OF VERY SEVERE FEBRILE DISEASE	FREQUENCY	PERCENTAGE
Neck stiffness, convulsions, lethargy	11	22%
Convulsions and neck stiffness	15	30%
Convulsions and lethargy	4	8%
Neck stiffness, lethargy	1	2%
Neck stiffness	1	2%
Lethargy	2	4%
Convulsions	14	28%
Fever	2	4%
TOTAL	**50**	**100**

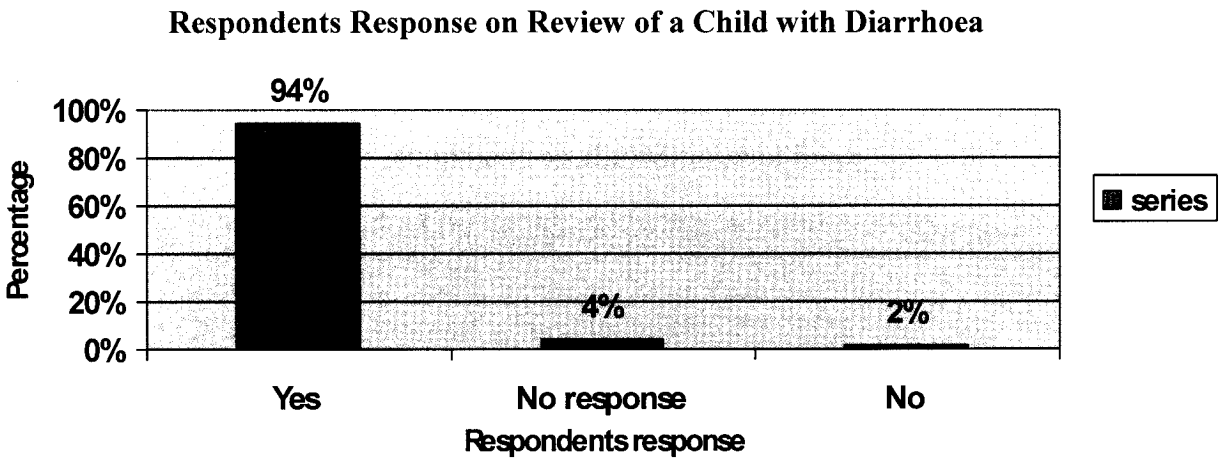
Twenty two percent (22%) mentioned all the signs and symptoms of very severe febrile disease, the rest of the respondents only stated some of the signs and symptoms of very severe febrile disease and 4% mentioned fever as one of the signs and symptoms of very severe febrile disease.

Table 14: Respondent's response on signs of severe pneumonia

SIGNS OF SEVERE PNEUMONIA	FREQUENCY	PERCENTAGE
Chest in-drawing, stridor and tachycardia	12	24
Stridor and chest in-drawing	11	22
Tachycardia and chest in-drawing	8	16
Chest in-drawing	12	24
Stridor and Tachycardia	1	2
Tachycardia	5	10
Do not know	1	2
TOTAL	**50**	**100**

Twenty two percent (22%) correctly stated the signs and symptoms of severe pneumonia while the rest mention some of the signs and symptoms of severe pneumonia except for 2% of the respondents who did not know the signs and symptoms of severe pneumonia in a sick child.

Figure 7: Respondent's response on whether caretakers returned to the health facility when they observed increased diarrheal episodes in a child



Seventy four percent (74%) of respondents reported that care takers returned back to the health facility when they observed that diarrheal episodes increased in children, 4% of respondents did not give any response to this question and 2% of the respondents reported that care takers never went back to the health facility even after they realized that the child developed increased diarhoeal episodes.

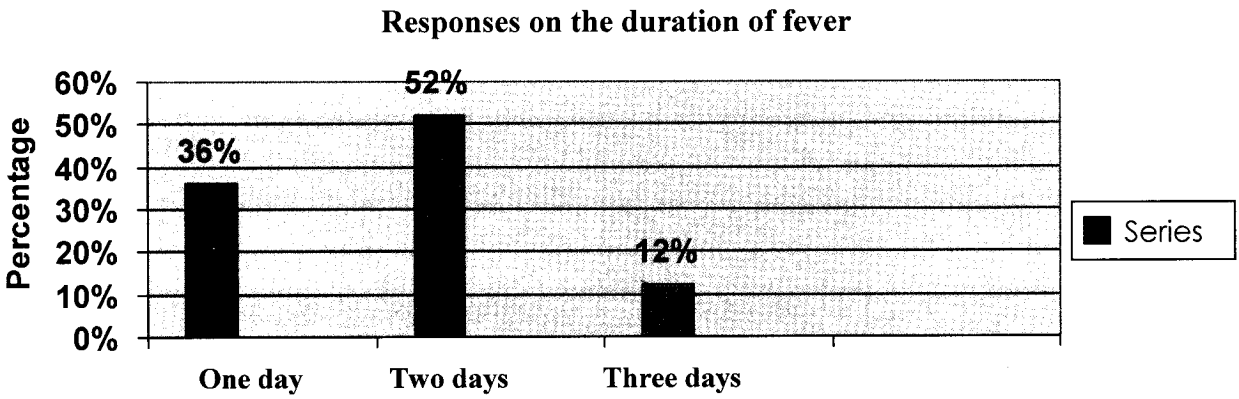
Table 15: Respondent's response on classification of severe persistent diarrhea (n =50)

CLASSIFICATION	FREQUENCY	PERCENTAGE
Diarrhoea of more than 14 days but dehydration is present on assessment	36	72
Diarrhoea of more than 14 days but with no dehydration on assessment	14	28
TOTAL	**50**	**100**

Most of the respondents (72%) classified severe persistent diarrhoea as diarrhoea of more than 14 days with presence of dehydration on assessment and 14% of the

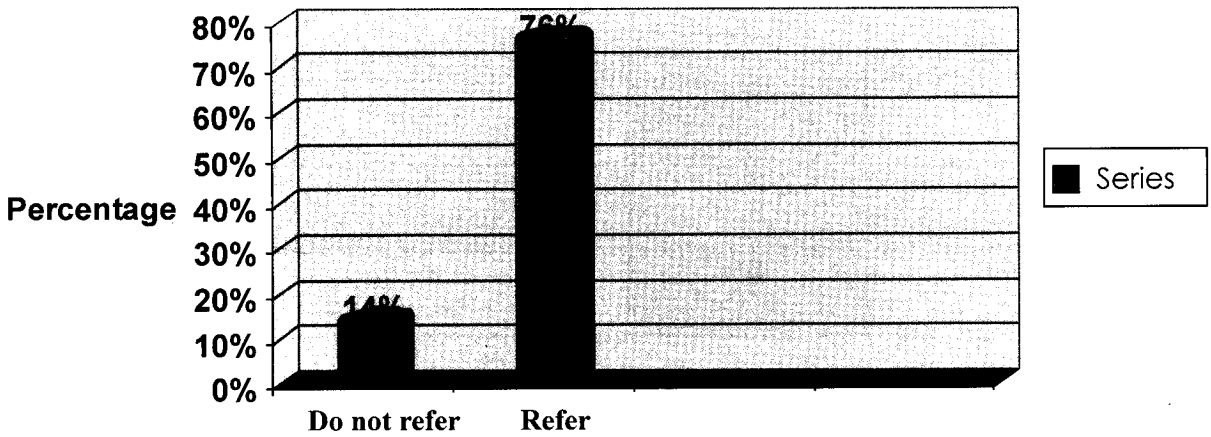
respondents classified severe persistent diarrhea as diarrhoea of more than 14 days but with no dehydration on assessment.

Figure 8: Respondents response on the duration of fever requiring that a child be brought back for review



Slightly more than half (52%) of respondents mentioned 2 days as the number of days in which a child on anti-malarial treatment has to be brought back for review in case fever persisted and 48% of respondents indicated one or three days as the duration of which fever must persist for a child to be brought back for review.

Figure 9: Respondents response on whether it was true to refer a child with a cough of more than 3 weeks



76% of respondents acknowledged the need for referring a child with a persistent cough while 14% reported that there was no need.

Table 16: Respondent's response on signs and symptoms that requires immediate review even after treatment

SIGNS AND SYMPTOMS	FREQUENCY	PERCENTAGE
Fever, feeding poorly	11	22
Cough, fever	9	18
Difficulties in breathing, feeding poorly	30	60
TOTAL	**50**	**100**

Majority of respondents (60%) stated that a child who is feeding poorly and develops difficulties in breathing requires immediate review.

Table 17: Respondents response on whether it was important to give IEC to a child's care taker

RESPONSE	FREQUENCY	PERCENTAGE
Yes	45	90
No	1	2
Did not know	4	8
TOTAL	**50**	**100**

The majority (90%) of respondents thought that IEC was an important aspect of care which must be given to a care taker of a child while (20%) of respondents stated that it was not always important to give IEC and 4% of respondents did not know.

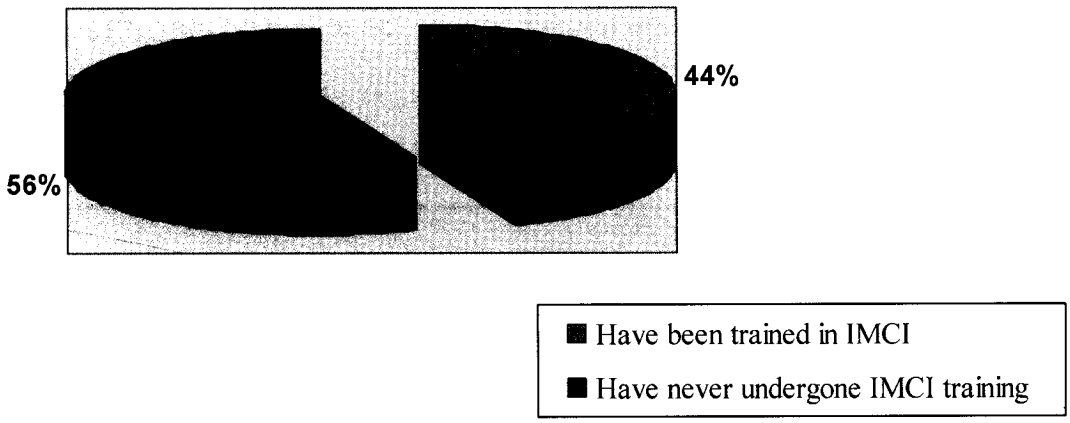
Table 18: Respondent's Total Scores on Knowledge Questions

SCORES	FREQUENCY	PERCENTAGE
High Knowledge	11	22
Medium Knowledge	33	66
Low Knowledge	6	12
TOTAL	**50**	**100**

Twenty two percent (22%) of respondents had knowledge in IMCI, 66% of respondent had medium knowledge on IMCI and 12% of respondents had low knowledge on IMCI.

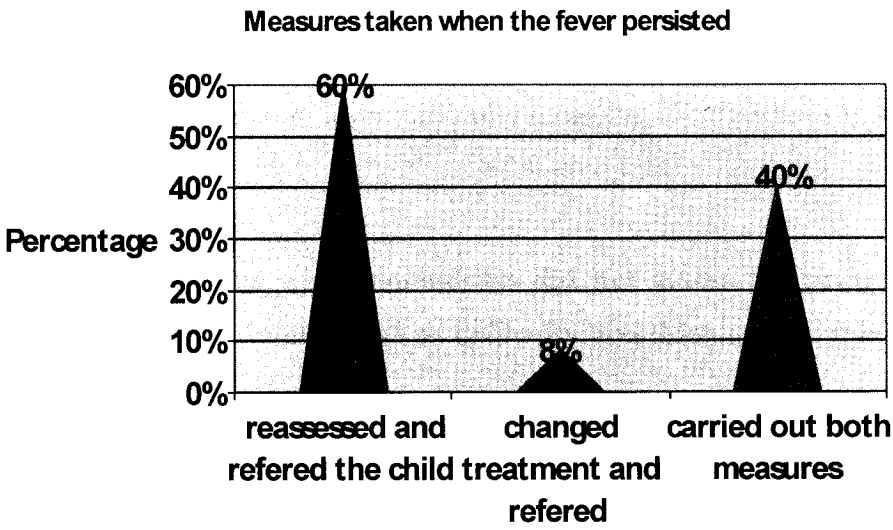
SECTION C: PRACTICE TOWARDS IMCI

Figure 10: Respondent's response on whether they had been trained in IMCI



56% of respondents reported that they have never undergone IMCI training while 44% of respondents stated that they had been trained in IMCI.

Figure 11: Measures that health workers took when a child was treated for malaria but fever persisted (n= 50)



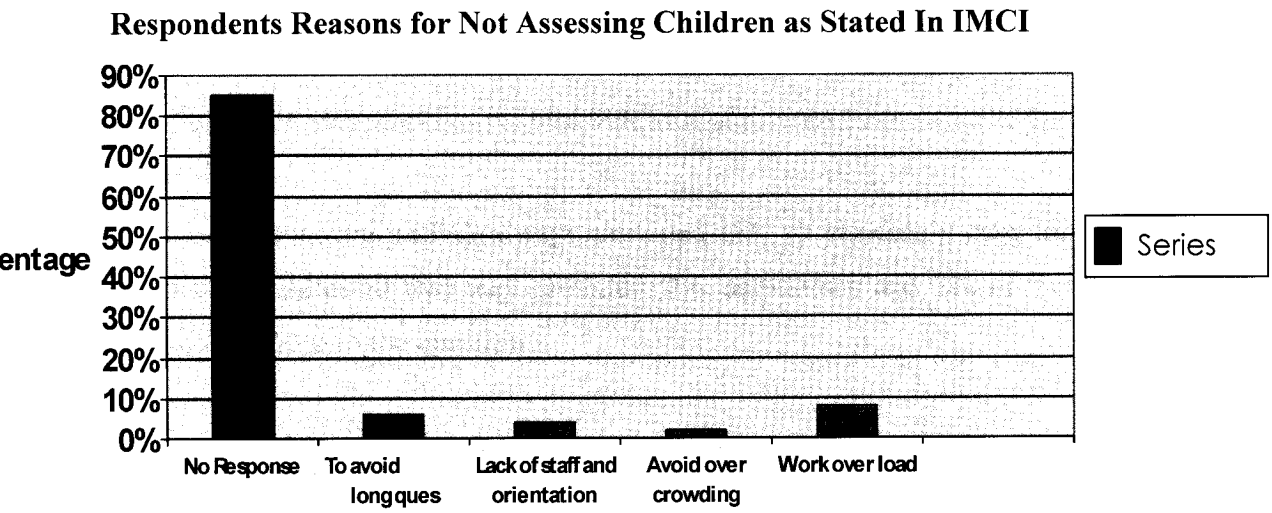
Sixty percent (60%) of the respondents stated that they reassessed and referred a child who had been treated for malaria but fever persisted, 8% of respondents said that they changed treatment and observed the child while 40% of respondents executed the both above measures.

Table 19: Respondents response on whether they asked for presence of signs and symptoms such as fever, cough or difficulty breathing and diarrhoea as stipulated in IMCI manual Not (n=50)

HOW OFTEN RESPONDENTS ASSESSED CHILDREN ACCORDING TO IMCI	FREQUENCY	PERCENTAGE
Always	40	80
Sometimes	9	18
Never	1	2
TOTAL	**50**	**100**

The majority of respondents revealed that they always assess children for presence of signs and symptoms such as fever, difficulty breathing or cough and presence of diarrhoea as required in IMCI, 18% of respondents stated that they only assess for the above signs and symptoms sometimes while 2% of respondents said that they do not assess for the presence of fever, difficulty breathing and diarrhoea at all.

Figure 12: Reasons why respondents did not assess for presence of signs and symptoms such as fever, cough or difficulty breathing and diarrhoea.



Multiple responses, totals does not add up to 50.

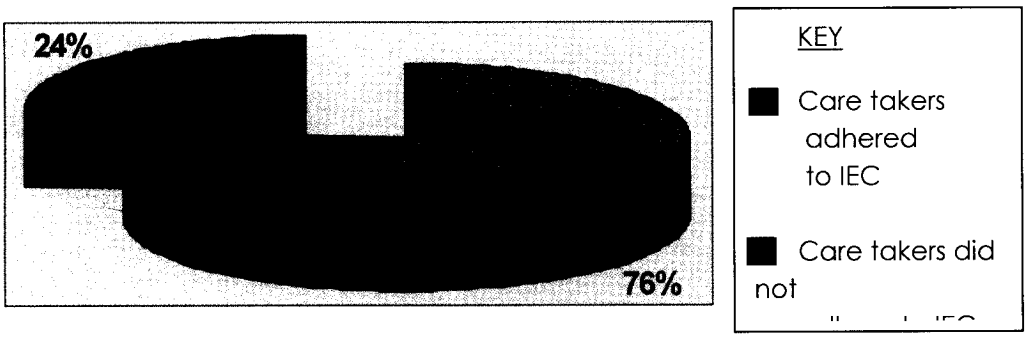
More than half (82%) of the respondents did not give any reasons why they do not assess for presence of signs and symptoms such as fever, cough or difficulty breathing and diarrhea, 6% of respondents alluded to avoidance of long queues as the reason for not assessing children as required by the IMCI approach, 4% of the respondents explained that lack of staff and orientation in IMCI matters to be the reasons for not assessing as required in IMCI and 8% of respondents said that the reason for not assessing as required by the IMCI approach was because of work over load.

Table 20: Respondents response on how often they gave IEC to children's care takers (n=50)

RESPONSE	FREQUENCY	PERCENTAGE
Always	41	82
Sometimes	8	16
Never	0	0
No response	1	2
TOTAL	**50**	**100**

Most of respondents (82%) always provided IEC to children's care takers, 16% of respondents indicated that they provided IEC sometimes and 2% of the respondents gave no response to the question.

Figure 13: Respondents response on whether care takers adhered to the given IEC (n = 50)



A large number (76%) of the respondents indicated that care takers adhered to the IEC that was given to them and 24% of respondents showed that care takers did not adhere to the given IEC.

Table 21: Respondents response on reasons why care takers did not adhere to given IEC (n = 50)

REASONS	FREQUENCY	PERCENTAGE
Ignorance / illiteracy	4	8
No response	40	80
Young age of mothers and forgetfulness	2	4
Inadequate information is sometimes given	1	2
Care takers are busy looking for money	3	6
TOTAL	**50**	**100**

The majority of respondents (80%) did not respond to this question, 8% of respondents indicated that ignorance or illiteracy of care takers made them not to follow given IEC and 4% of respondents attributed non adherence to given IEC to the young age of mothers/care takers or being forgetful. About 2% of respondents indicated that inadequate information was given to care takers which made them not to adhere to the given IEC and 6% of respondents showed that mothers/care takers engaged themselves in small businesses which made them fail to follow the instructions as they are busy most of the times.

Table 22: Respondents response on whether they assessed children with diarrhoea as stipulated in the IMCI (n =50)

RESPONSE	FREQUENCY	PERCENTAGE
Yes	50	100
No	0	0
Total	**50**	**100**

All respondents (100) indicated that the assessed children with diarrhoea as stipulated in IMCI approach.

Table 23: Respondents response on whether the asked care takers about the presence of blood in stool when assessing children

RESPONSE	FREQUENCY	PERCENTAGE
Yes	49	98
No	1	2
Total	**50**	**100**

Ninety eight percent (98%) of respondents said that they asked care takers whether or not there is blood in the child's stool and only 2% of respondents revealed that they did not ask the care takers about presence of blood in stools.

Table 24: Respondent's response on whether they assessed the general condition of a child with diarrhea (n = 50)

RESPONSE	FREQUENCY	PERCENTAGE
Yes	49	98
No	1	2
TOTAL	**50**	**100**

Almost all respondents (98%) indicated that they assessed the general condition of a child with diarrhoea while 2% of the respondents revealed that they did not assess the general condition of a child with diarrhoea.

Table 25: Respondent's response on whether they checked for sunken eyes in a child with diarrhea (n = 50)

RESPONSE	FREQUENCY	PERCENTAGE
Yes	49	98
No	1	2
TOTALS	**50**	**100**

Most of the respondents (98%) showed that they assess for sunken eyes in a child with diarrhoea and only 2% revealed that they did not assess for sunken eyes in a child with diarrhea.

Table 26: Respondent's response on whether they offered fluids to drink to a sick child with diarrhea as required in IMCI (n = 50)

RESPONSE	FREQUENCY	PERCENTAGE
Yes	47	94
No	3	6
TOTAL	**50**	**100**

The majority of respondents (94%) indicated that they offered a sick child fluids to drink when assessing and 6% of respondents said that they did not offer sick children fluids to drink on assessment.

Table 27: Respondent's response on advise they gave to a care taker of a child with diarrhea.

ADVICE GIVEN	FREQUENCY	PERCENTAGE
Give plenty of fluids	44	88
To continue breast feeding the child	9	18
Emphasize good hygiene	18	36
Continue with treatment	3	6
No response	1	2
Observe child at home	11	22
Give plenty of feeds	12	24
Teach about when to return to the health facility	10	20

Multiple responses, totals does not add up to 50

Most of respondents (88%) said that they advised care takers of children with diarrhea to give plenty of fluids, 24% of the respondents indicated that they advised care takers to give a lot of feeds while 36% of respondents mentioned that they emphasized on good hygienic practices. Furthermore, 22% of respondents indicated that they advised the care takers to observe the children at home, 18% of the respondents showed that they advised care takers to continue with breast feeding, 20% of the respondents taught the care takers on when to return the child to the health facility, 6% of the respondents advised caretakers on the need of continuing the treatment at home and 2% of respondents did not give any response at all.

Table 28: Respondent's response on measures taken when intravenous fluids are not available at their health institution and there is a sick child in need

MEASURES TAKEN	FREQUENCY	PERCENTAGE
Insert an N.G tube for fluids and refer the child	20	40
Give fluids (ORS) and refer the child	26	52
Just refer to the child to another health facility	4	8
TOTAL	**50**	**100**

More than half (52%) of respondents did not give a correct response as they indicated that they gave fluids (ORS) and referred the child, 20% of the respondents correctly executed their duty as they inserted the Nasal gastric tubes for fluids before referring children and 8% of the respondents indicated that they referred children before instituting any measures.

Table 29: Respondent's response on whether they had ever experienced problems in the use of IMCI approach (n=50)

RESPONSE	FREQUENCY	PERCENTAGE
Yes	20	40
No	28	56
No response	2	4
TOTAL	**50**	**100**

More than half (56%)of the respondents said that they had never experienced any problems in the use of IMCI approach, 40% of the respondents admitted having encountered problems in the use of IMCI approach and 4% of the respondents did not give any response to the question.

Table 30: Respondent's response on the suggestions that should be included or excluded in the IMCI approach

SUGGESTIONS	FREQUENCY	PERCENTAGE
Train more health workers in IMCI	38	76
Build more infrastructures for implementation of IMCI	3	6
Include HIV component in IMCI	4	8
Integrate IMCI with HMIS reporting system	1	2
Integrate IMCI with malnutrition management protocols	8	16
MPS to be carried out on all children with fever to avoid drug wastage	10	20
Provide basic needs in clinics for implementation of IMCI	2	4
Review to be increased from 2 days to 5 days for decongestion purposes	3	6

Multiple responses, totals do not add up to 50.

The majority of respondents (76%) suggested that more health workers, nurses in particular should be trained in IMCI, 20% of the respondents suggested that MPS should be checked on all children with fever in order to avoid anti-malarial wastage, 16% of the respondents indicated that IMCI should be integrated with malnutrition management protocols while 8% of the respondents suggested the need of including

.4 STATISTICAL ANALYSIS AND PRESENTATION OF FINDINGS

CROSS TABULATION TABLES

Cross tabulations show relationship between variables.

Table 32: Respondent's knowledge level in relation to professional qualifications

KNOWLEDGE	PROFESSIONAL QUALIFICATIONS				TOTAL
	Registered Nurse	Enrolled Nurse	Registered Midwife	Enrolled Midwife	
Low	3 (30%)	0 (0%)	1 (11.1%)	2 (25%)	**6**
Medium	5 (50%)	19 (82.6%)	3 (33.3%)	6 (75%)	**33**
High	2 (20%)	4 17.4%	5 (55.6%)	0 (0%)	**11**
TOTAL	**10**	**23**	**9**	**8**	**50**

Half of the Registered Nurses (50%) had average levels of knowledge, 30% had low levels of knowledge and 20% had high levels of knowledge on IMCI. The majority of the Enrolled Nurses (82.6%) had average levels of knowledge and 17.4% had low levels of knowledge. Most of the Registered Midwives (55.6%) had high levels of knowledge and it is the only group with the highest level of knowledge. 33.3% had average levels of knowledge and 11.1% had low levels of knowledge. The majority (75%) of Enrolled Midwives had average levels of knowledge and 25% had low levels of knowledge.

Table 33: Respondent's knowledge level in relation to years of service

KNOWLEDGE	YEARS OF SERVICE						TOTAL
	Less than 1 year	1-5 years	5-10 years	10 -15 years	15- 20 years	Above 20 years	
Low	1 (50%)	1 (20%)	0 (0%)	0 (0%)	2 (16.7%)	2 (28.6%)	**6**
Average	1 (50%)	4 (80%)	7 (63.6%)	10 (76.9%)	8 (66.6%)	3 (42.8%)	**33**
High	0 (0%)	0 (0%)	4 (36.4%)	3 (23.1%)	2 (16.7%)	2 (28%)	**11**
Total	**2**	**5**	**11**	**13**	**12**	**7**	**50 (100%)**

Fifty percent (50%) of respondents who had worked for less than a year had low levels of knowledge and the other 50% of respondents had an average knowledge. The majority (80%) of respondents who had been in service for 1 - 5 years had average knowledge and 20% had low levels of knowledge. Sixty-three point six percent (63.6%) of respondents who had been in service for 5 – 10 years had average knowledge while 36.4% of respondents had high levels of knowledge.

For those respondents who had been in service for about 10 – 15 years, 76.9% of them had average knowledge, 23.1% of the respondents had high levels of knowledge and for

the respondents who had been in service for 15 – 20 years, the majority (66.6%) had an average level of knowledge, 16.7% of the respondents had low levels of knowledge, 16.7% with high levels of knowledge. Forty–two point eight percent (42.8%) of respondents who had been in service for over 20 years had average level of knowledge, 28.6% of the respondents in the same category had low levels of knowledge while the other 28% of respondents had high levels of knowledge.

Table 34: Respondents practice in relation to professional qualifications

PRACTICE	PROFESSIONAL QUALIFICATION				TOTAL
	Registered Nurse	Enrolled Nurse	Registered Midwife	Enrolled Midwife	
Good	3 (30%)	8 (34.8%)	5 (55.6%)	3 (37.5%)	19
Poor / bad	7 (70%)	15 (65.2%)	4 (44.4%)	5 (62.5%)	31
TOTAL	**10**	**23**	**9**	**8**	**50 (100%)**

70% of Registered Nurses had bad practice and 30% had good practice. Two thirds (65.2%) of Enrolled Nurses had bad practice and only 34.8% had good practice. The majority of Registered Midwives 55.6% had good practice and 44.4% had bad practice. Most of the Enrolled Midwives (62.5%) had bad practice and 37.5% had good practice.

Table 35: Respondents practice in relation to their years in service

PRACTICE	YEARS OF SERVICE						TOTAL
	Less than one year	1 – 5 years	5 – 10 years	10 – 15 years	15 – 20 years	Above 20 years	
GOOD	0 (0%)	1 (20%)	5 (45.5%)	4 (30.8%)	4 (33.3%)	2 (28.6%)	16
BAD	2 (100%)	4 (80%)	6 (54.5%)	9 (69.2%)	8 (66.7%)	5 (71.4%)	34
TOTAL	**2**	**5**	**11**	**13**	**12**	**7**	**50 (100%)**

All (100%) of respondents who had served less than a year had bad practice. Majority of respondents (80%) who had been in service for 1 - 5 years had bad practice, 20% had good practice. Fifty-four point five percent (54.5%) of respondents who had been working for 5 – 10 years had bad practice and 45.5% had good practice. Most of respondents who had served for 10 – 15 years had bad practice and 30.8% had good practice. Two thirds (66.7%) of respondents who had worked for 15 – 20 years had bad practice, 33.3% of respondents had good practice. Most of respondents (71.4%) who had served for over 20 years had bad practice while 28.6% of them had good practice.

Table 36: Respondents knowledge level in relation to practice

KNOWLEDGE	PRACTICE		TOTAL
	GOOD	BAD	**11**
High	5 (45.5%)	6 (54.5%)	
Average	14 (42.4%)	19 (57.6%)	**33**
Low	2 (33.3%)	4 (66.7%)	**6**
TOTAL	**21 (42%)**	**29 (58%)**	**50 (100%)**

Forty-five point percent (45.5%) of the respondents who had high levels of knowledge had good practice and 54.5% with bad practice. 42.4% of the respondents with an average level of knowledge on IMCI had good practice and more than half (57.6%) of respondents had bad practice. Thirty-three point three percent (33.3%) of respondents who had low levels of knowledge on IMCI had good practice while the majority (66.7%) of the respondents had bad practice.

CHAPTER FIVE

5.0 DISCUSSION OF FINDINGS

5.1 INTRODUCTION

This chapter discusses the research findings. The purpose of the research study was to determine nurse's knowledge and practice towards IMCI approach in Lusaka urban based on analysis of responses from fifty(50) nurses sampled from Kalingalinga, Chainama and Chelstone clinics respectively. The study population comprised of nurses working at the above-mentioned institutions.

5.2 DISCUSSION OF EACH VARIABLE

5.2.1 DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

Table 6 on page 39 showed that the majority of respondents (90%) were females and only 10% were males. This explains female dominance of the nursing profession in general at the same time showing that the males are slowly taking up nursing as a career promoting issues of gender. The disparity could be due to the fact that 75% of available places in nursing schools in a Zambian situation are offered to female students and the other 25% to males students (General Nursing Council of Zambia, 2004).

The findings of the study showed that the majority of the respondents (44%) were within the age group between 30 and 40 years, 16% of the respondents were aged between 20 and 30 years (figure 2 page 39). It indicates that nurses within these age groups are more likely to have been exposed to IMCI information because of its incorporation into the Registered and Enrolled Nursing curricular. Twenty- two percent (22%) of respondents were aged between 40 and 50 years and 4% of respondents were fifty (50) years and above. Fourteen percent (14%) of respondents did not disclose their age probably due to the fact that some people consider age as being confidential. This shows that there were more middle-aged nurses than older or younger nurses in Lusaka Urban Districts Clinics.

Table 7 on page 40 showed that 46% of the respondents were Enrolled Nurses and 20% were Registered Nurses. Eighteen percent (18%) were Registered Midwives and 16% were

Enrolled Midwives. This means that health facilities constitute a large number of Enrolled Nurses than any other group of nurses. This can be attributed to the fact that there are many schools for Enrolled Nurses (15) than Registered Nursing Schools (8) in the country GNC (2006). It could also be attributed to the fact that most of the Registered Nurses have left and are still leaving the country for greener pastures due to poor conditions of service in our institutions. Furthermore, the results indicated that despite having more Enrolled Nurses than Registered Nurses, Enrolled Midwives were fewer than Registered Midwives. It can be due to shortage of staff in health institutions which has resulted into sending a few nurses to schools at a time. This is supported by MOH (2006) who stated that exodus of staff from the public health service to competitive local, regional and international labour markets has continued resulting into shortfall of staff by 50%.

Considering religion of respondents, (table 8 page 40), the findings showed that all respondents were Christians which can be attributed to the fact that the first missionaries to come to Zambia were Christians. This could have influenced Zambians to convert to Christianity. It can be in line with the Zambian constitution, which states that Zambia is a Christian nation and this was declared by the Second Republican President, Dr Fredrick Chiluba (Christian Council Act, (2005).

The findings of this study revealed that 26% of the respondents had been in service for ten to fifteen years, 24% had been in service for fifteen to twenty years, 22% had served for a period of five to ten years and 20% had worked for one to five years. Fourteen percent (14%) of the respondents had been in service for more than twenty years and 4% had worked for less than a year (table 9 page 41). This implies that the majority of nurses had served for ten to fifteen years. This could be due to the fact that most of the younger nurses have left for greener pastures to other countries in search of good conditions of service. This is supported by GNC (2001) who stated that huge numbers of nurses and midwives have migrated to other countries in search of greener pastures and Lusaka district was among the worst affected. It also implies that the majority of nurses would be in service for a long period of time before reaching their retirement age which requires them to undergo refresher courses among them IMCI training in order to keep them abreast with new changes in the approach. For example, the inclusion of HIV/AIDS management of children

as this age group (under five children) has not been spared by the pandemic. Initially, when the approach was introduced, the component of HIV / AIDS was not there and those nurses who underwent the IMCI training at that time were not exposed. This explains why some nurses recommended that this component be inco-orporated into the IMCI training. This is supported by Haskins (2006) who stated that initially, IMCI only addressed acute respiratory tract infection, malaria, diarrhoea, malnutrition, measles, ear infection. HIV was only assessed through a short section dealing with the above conditions within IMCI algorithm and did not come out on it's own as other conditions.

The study also revealed that thirty–six percent (36%) of the respondents worked in the OPD department, 30% were in the MCH department, 18% were working in the ART department and 16% were in the In-patient department (table 10 page 41). This indicates that the OPD is a busy department that requires more staff than any other department for implementation of the IMCI approach as more time is required to be spent on assessing children. However, the In-patient department is under staffed which indicates high nurse-patient ratios resulting into overload of work on a few nurses available. This is supported GNC (2001) who stated that there is increased work load to the remaining staff in health institutions as a result of mass exodus to other countries resulting into burn out and frustrations.

SECTION B

5.2.2 RESPONDENT'S KNOWLEDGE ON IMCI

Figure 3 on page 42 Showed that 80% of the respondents indicated that they had knowledge on IMCI and 20% of the respondents showed that they had no knowledge on IMCI. This could mean that those who had knowledge on IMCI might have undergone IMCI training or might have acquired knowledge through reading. It could also be due to the fact they gained this knowledge whilst at the schools of nursing especially those that graduated in the recent past years. For those nurses who indicated that they had no knowledge of IMCI, it could mean that their reading culture is poor as it is widely known that most nurses do not continue to keep abreast with new information after graduation. This trend affects nurses' delivery of quality health services and also tarnishes the image of

the nursing profession because of the notion which says 'knowledge is power'. CSO (2003) established that knowledge is a precondition of major utilization of any given service.

The findings in figure 4 on page 42 revealed that 76% of respondents correctly defined IMCI, 20% of the respondents gave a wrong definition of IMCI, 2% gave no response and the other 2% indicated that they did not know how to define IMCI. This could mean that nurses have less interest in reading widely because the concept of IMCI in Zambia has been scaled up to all provinces in line with the IMCI strategic plan (MOH, 2008). This remains a challenge for nurses who should take up responsibility of equipping themselves with knowledge on issues affecting the health system such as the IMCI approach.

With regards to traditional beliefs, table 11 page 43, the findings revealed that the majority (90%) of respondents had no traditional beliefs and 10% of the respondents indicated that they had traditional beliefs pertaining to child care in relation to IMCI. This is encouraging to note that three quarters of the respondents had no traditional beliefs regarding child care but still, the 10% is worrying especially beliefs such as not breast feeding the newly born if the mother does not produce breast milk within two days of delivery. Such a belief is harmful to the well being of the baby. These results reveals that though the majority of health workers are not hampered with traditional beliefs about child care, some health workers need further education in order to acquire a hundred percent awareness about the right knowledge which is extremely vital as they are care givers. The probability of such a health worker misleading the community is very high.

On knowledge of danger signs in a sick child, the study revealed that 46% of the respondents had adequate knowledge as they were aware of some of the danger signs, 30% knew all the danger signs and 24% had no idea (table 12 page 44). This could mean that children with danger signs were kept at centres for long periods before being referred thereby delaying rightful treatment. These results shows that health workers have low interest in knowing more about IMCI matters because danger signs in a child are a basis of referral to the next level translating into a child receiving quality health care according to individual needs. It calls for need to train all nurses in the management of childhood illnesses so that they can all be aware of the danger signs that require referral and

immediate attention in order to serve children's lives hence, contributing to a reduction in both child morbidity and mortality. This is in line with what Chopra et' al (2005) found in a study on Effects of an IMCI Intervention on Quality of Care across Four Districts in Cape Town, South Africa. The study demonstrated that there was a marked improvement in assessment of danger signs in sick children (70% before intervention verses 72% afterwards).

Responding to a question regarding a child who is unable to breastfeed and vomiting everything as requiring immediate referral, the study revealed that 86% of respondents agreed that it was appropriate for a child to be referred immediately and 14% of the respondents said that it was not necessary for a child to be urgently referred (figure 5 page 44). This could mean that most of the health workers realized the need for co-ordination of activities in relation to child care in order to reduce morbidity and mortality associated with cases whereby a child is unable to breast feed and vomiting everything. However, there is need for retraining health workers in order to equip them with information that would make them be vigilant and take immediate actions in order to save children's lives. This is supported by CBOH (2005) who stated that the major objective of IMCI training is to train frontline health workers in assessing, classifying and referring sick children with illnesses.

The findings in figure 6 on page 45 showed that 52% of the respondents indicated that a child on anti-malarial treatment, must be taken back for review when fever persisted, 36% stated that there was no need for review and 12% gave no response which could mean that they did not know what to do in such situations or simply, did not want to answer. This could imply that there is need to re-educate nurses and re-train them in IMCI for them to adequately manage children with malaria as this disease continues to account for half of OPD attendances and hospitalizations of cases among children under the age of five years of age (CBOH, 2004). Realization of symptoms such as persistent fever is important as nurses can use this to educate children's caretakers on the need of going back to the health facility to facilitate continuity of rightful treatment. This is supported by MOH (2001) in which the national IMCI health facility survey of 2001 revealed that the strategy improves

performance of health workers including nurses in assessing sick children and consequently health education that caretakers receive.

Findings in table 13 on page 45 revealed that 22% of the respondents stated all the signs and symptoms of very severe febrile disease correctly, 74% of respondents knew some of the signs and symptoms of a child with a very severe febrile disease and 4% of the respondents did not know. This could mean that there is need to address the issue of empowering nurses with skills of IMCI training as sick children mostly present with signs and symptoms of more than one condition. Nurses need to be prepared in assessing signs and symptoms of the most common conditions, not simply those of a single illness to correctly give a right diagnosis for a child which provides an opportunity of giving correct medications hence a reduction in unnecessary hospitalizations. This is in accordance with the findings of the study conducted by Kapobe (2008), on Nurses Knowledge and Practice Towards Malaria Case Management in Lusaka. The study found that 62% of respondents knew some signs and symptoms of uncomplicated malaria while 38% knew all the signs and symptoms of uncomplicated malaria.

The findings in table 14 page 46 showed that 86% and 48% of the respondents respectively, knew the signs and symptoms of severe pneumonia in a child and 46% of the respondents did not know the signs and symptoms of severe pneumonia. This could mean that nurses need to identify the few, very sick children with just a cough or severe pneumonia who need treatment with antibiotics but if they do know, it translates into commencing children anyhow on antibiotic therapy who does not require it. This can result into resistance to antibiotic therapy. Being frontline health workers it might also lead to negligence on the part of nurses simply because of ignorance on signs and symptoms of pneumonia leading to inadequate treatment of a child with this disease. These findings are similar to a study conducted by Chopra et' al on the Effect of IMCI Intervention on Quality of Care Across Four Districts in Cape Town. The study demonstrated that there was an increase in rational prescribing of drugs (62%before versus 84% after IMCI intervention).

This study also revealed that more than two thirds (94%) of the respondents were of the opinion that children's caretakers returned to the health facilities when they observed

increased diarrhoeal episodes in a child, 2% reported that care takers never went back to the health facilities and 4% of the respondents did not give any response figure 7 page 47. This could mean that the information that health workers give to care takers pertaining to diarrhoea is adequate as care takers realize the dangers associated with diarrhoea. However, there is still need for health workers to re-emphasize the IEC they give to children's caretakers in order to build the skills of caretakers and enhance knowledge in caring for sick children regarding to diarrhoea.

Table 15 on page 47 showed that 72% of respondents gave a correct classification of severe persistent diarrhoea as diarrhoea of more than 14 days with presence of dehydration on assessment and 14% of the respondents failed to classify severe persistent diarrhoea. This showed that majority of respondents were aware about the classification of severe persistent diarrhoea. Health workers who are knowledgeable about diarrhoea related illness are more likely to institute correct therapy than those who are not aware. It is a worry because all nurses are supposed to know. This is supported by Naimoli et'al (2000) who conducted a study on Effects of IMCI on Health Care Quality in Morocco and found that health workers followed guidelines more carefully when they perceived a child more vulnerable with certain classifications of illnesses such as diarrhoea.

Figure 8 on page 48 showed that 52% of respondents gave the correct number of days (2 days) in which a child on anti–malarial treatment has to be taken back to a health facility for review in case fever persisted and 48% of respondents answered wrongly as they indicated one or three days as the duration of which fever must persist in a child and be taken back to a health facility for review. This is worrying because health workers provide health education to mothers and this could mislead caretakers. It can be attributed to the lack of visual aids at health facilities to help nurses in the delivery of information. This is supported by CBOH (2005) who stated that visual aids inavailability hampered efforts of health workers to deliver health information to the community.

The findings on figure 9 page 48 revealed that 76% of respondent's acknowledged the need for referring a child with a persistent cough while 14% reported that there was no need of referring a child with a persistent cough. This could mean that the majority recognizes the

need for referral while only 14% of respondents did not see the need; this has implications on the health service delivery. It could also mean that education received by health workers is inadequate meaning that the curriculum in nursing schools needs to be enhanced especially pertaining to childhood diseases such as pneumonia and other respiratory diseases. According to CSO (1996) acute lower respiratory tract infection is among the top ten causes of hospital admissions and infant mortality in Zambia. Mostly ,deaths are as a result of pneumonia. Early diagnosis through recognizing signs and symptoms by health workers can prevent such deaths hence, they should be familiar with these signs and symptoms.

The findings in table 16 page 49 Showed that 60% of respondents stated correctly that a child who is feeding poorly and develops difficulties in breathing requires immediate review while the rest of the respondents gave incorrect signs and symptoms that required immediate review in a child. It showed that majority of health workers recognized serious signs and symptoms that require interventions, but 40% for health workers not to know is very high for those who did not know signs and symptoms in a seriously ill child. This highlights importance of continued education for health workers in form of clinical meetings, refresher courses etc. This could mean that having health workers who are conversant with signs and symptoms would translate into instituting correct measures. This is supported by the findings of a study conducted in Morocco that there was a positive relationship between the number of main signs and symptoms in a child with health worker's performance (Naimoli, 2000).

Table 17 on page 49 revealed that 90% of respondents thought that IEC was an important aspect of care, which must be given to a care taker of a child while 2% of respondents stated that it was not always important to give IEC and 4% of respondents did not know. This means that majority of health workers understand the importance of IEC. However, it is regrettable that others do not know while a few think that it is not important to give IEC to children's caretakers as it can result into not adequately treating children at home by caretakers. This is supported by MOH (2001) who stated that IMCI seeks to strengthen understanding between health workers and caregivers to ensure that children are treated adequately at home.

The findings of the study revealed that 22% of the respondents had high knowledge about IMCI, 66% had medium knowledge and 12% had low knowledge about the concept (table 18, page 50). This implies that there were overall low to medium levels of knowledge on IMCI among nurses. For IMCI to succeed, the levels of knowledge among nurses ought to be high as they are the frontline health workers. This is a challenge to the government and any employer of nurses. It entails the need to improve the quality of education that nurses undergo. According to CBOH (2005), IMCI pre service training has been inco-orperated in RN and EN school curriculum, Chainama College and Post Basic Nursing Curriculum. This should facilitate enhancement of knowledge about the IMCI concept.

SECTION C

5.2.3 RESPONDENT'S PRACTICE TOWARDS IMCI

Concerning responses on whether or not nurses have ever undergone IMCI training, 50% of the respondents said that they had never been trained in IMCI while 44% reported that they had been trained in IMCI (figure 10, page 51). This can be attributed to shortage of staff in health institutions, a situation which allows for one or two nurses to be trained at a time. It can also be as a result of financial constraints in health institutions. This is supported by CBOH (2005) who stated that one of the major challenges and constraints that were being faced in scaling up IMCI in Zambia was inadequate financial investment in IMCI and other child health strategies. It could mean that a large proportion of nurses have never undergone formal IMCI training. These findings are supported by the study conducted by Mbaya et'al (2000) on Health Service Factors that influence Knowledge, Attitude and Practice (KAP) of Nurses towards HIV/AIDS. The study revealed that health service factors that influence the KAP that were approved by many nurses are, lack of adequate information by personnel due to absence of refresher courses, seminars and lack of in-service promotions. This result agrees with the findings of the study that there are low to medium knowledge levels on IMCI amongst nurses which under scores the importance of training. It highlights the disadvantage of choosing a few nurses to be trained while others are not but in actual sense, do perform the same work.

Figure 11, page 51 of the study revealed that 60% of the respondents indicated that they re-assessed then referred a child who had been treated for malaria but fever persisted, 8% of respondents said that they changed treatment and observed the child and 40% of the respondents said that they executed both measures. This finding is reassuring because the majority (60)of respondents did the right thing. That is, they were able to institute the right measures. On the other hand, the other proportion of nurses carried out measures, which were not correct and can be attributed to lack of knowledge pertaining to referral of a child with malaria. The other reason can be that of lack of transport to ferry patients to another health care facility and the fact that when referral has been arranged for a child, it is not an assurance that the child would go wherever it has been referred to. This is supported by MOH (2001) who stated that there was need of re-enforcing the skill of referral amongst health workers even though prescribing it does not guarantee that the child would go to the next level of care.

The findings in table 19, page 52 showed that majority (80%) of respondents always assessed children for presence of signs and symptoms such as fever, difficulty breathing or cough and presence of diarrhoea as required in IMCI, 18% stated that they only assessed for the above mentioned signs and symptoms at times while 2% of respondents reported that they did not assess for the signs and symptoms at all. This can be due to the fact that the majority performed these assessments because of being required by the approach to carry them out or because they were required to do these assessments in their area of allocation. This is supported by a study conducted by Curtale (2000) on analysis of the Effects of a Nutrition Education Intervention that was specifically designed to reduce vitamin A deficiency and Utilization of Community Health Volunteers. It was reported that Community Health Volunteers who were associated with the Nutrition Education Intervention program showed an improved ability to detect and treat a range of common diseases as compared with community health volunteers not associated with the intervention.

The study further revealed in figure 12 page, 53 that 8% of respondents attributed to work over load as the reason for not assessing the signs and symptoms such as fever, cough or difficulty breathing and diarrhoea, 6% of respondents said that they wanted to avoid long queues while 4% of the respondents gave the reason of lack of staff orientation to IMCI

strategy as the reason for not assessing for the above mentioned signs and symptoms. Eighty-two percent of respondents did not give any response. This is unacceptable because when reasons are given, it creates opportunity for implementers to address the concerns. For instance, those who gave reasons such as lack of staff orientation in IMCI, work overload long queues it would enable the government through the MOH to address theses issues.

The results also showed that 82% of the respondents always provided IEC to children's caretakers, 16% of the respondents only gave IEC to children's caretakers sometimes and 2% of the respondents gave no response to the question (table 20, page 54). This shows that the over whelming majority were able to give IEC at every contact with caretakers while a few number of nurses did not always provide IEC. It could be attributed to the fact that some nurses may be lacking skills in communication, hence affect the communication process. It can also be attributed to inadequate staffing levels in health institutions which results into work overload on a few staff available leading to non execution of certain aspects of care such as IEC.

Figure 13, page 54 revealed that 76% of the respondents indicated that care takers adhered to the IEC that was given to them and 24% of respondents stated that caretakers did not adhere to the given IEC. It could mean that about a quarter of care takers did not adhere to given IEC. The danger of not adhering to the given instructions is that the child's life would be at stake hence the need for health workers to put in measures so that caretakers would adhere to the given instructions. This result could be attributed to the low education levels of the caretakers who in most cases do not probe further on issues they do not understand and in the end ignore the advice. The findings are in line with the study conducted by Hamwiibu (2008) on Assessment of IEC Given to HIV/AIDS Patients in Medical Clinics at UTH. The findings were that 80% of respondents who attended primary education had inadequate IEC and 66.7% of respondents who attended secondary education had adequate IEC.

The findings in table 21, page 55 showed that 8% of the respondents attributed ignorance or illiteracy as the reason for non adherence of care takers to given IEC, 4% of respondents blamed the young age of care takers or being forgetful as the reason for non adherence and

2% indicated that some health workers gave inadequate information to care takers which made them not to adhere to IEC. Six percent (6%) of the respondents showed that care takers engaged themselves in small businesses as they were busy most of the times which made them fail to follow the given instructions. However, 80% of the respondents did not respond to this question, which could mean that they did not know the reasons why care takers did not adhere to given instructions. Health workers need to strengthen their communication skills through training especially in nursing schools so that they can impart health information that can be used by caretakers.

The findings of the study in table 22, page 56 were that all (100%) of the respondents assessed children with diarrhoea as stipulated in IMCI approach. This means that nurses were able to utilize the knowledge that they have on diarrhoea and were applying the IMCI algorithm in assessing children as required in this illness (diarrhoea). It showed the importance that nurses attach to diarrhoea and the effects it has on child health.

Table 23 on page 56 revealed that 98% of the respondents reported that they asked care takers whether or not there was blood in the child's stools and 2% of the respondents indicated that they did not ask the care takers about presence of blood in stools. This could mean that a large proportion of nurses assessed for presence of dysentery in children because this illness is a common diarrhoeal related condition in Lusaka district. Assessment of blood in stools ensures early identification of dysentery, which allows for application of preventive measures along with treatment.

Table 24, page 57 showed that 98% of respondents assessed the general condition of a child with diarrhoea and 2% of the respondents revealed that they did not assess the general condition of a child with diarrhoea. It could mean that majority of respondents were able to assess the general condition of children with diarrhoea. Among other things that are looked for include lethargy or unconsciousness, restlessness and irritability. It signifies the hydration status of the child with diarrhoea and enables a nurse to institute measures.

The findings of the study showed that 98% of the respondents indicated that they assessed for sunken eyes in a child with diarrhoea and only 2% of the respondents revealed that they

did not assess for sunken eyes in a child with diarrhoea, table 25, page 57. This can be attributed to the fact that the majority of respondents were knowledgeable about the dangers of dehydration in a child and as health workers, they needed to carryout this assessment to ascertain any dehydration which allows them to execute fluid therapy. As health workers, they are expected to follow standard case management protocols for diarrhoeal disease.

Table 26, page 58 showed that the majority of respondents (94%) offered fluids to a child with diarrhoea when assessing and 6% of the respondents did not offer sick children fluids to drink on assessment. This means that majority of respondents were able to institute the right measures, which allows them to see the severity of dehydration in a child with diarrhoea. On the other hand, the other proportion of nurses who did not offer fluids to a sick child to drink signified that some health care providers were not applying IMCI procedures in assessing and managing sick children. This entails the need to improve the quality of IMCI skills and the child health services provided.

According to table 27, page 58, the study also revealed that 88% of the respondents advised care takers of children with diarrhoea to give a lot of fluids, 36% of respondents emphasized good hygiene, 24% of respondents suggested giving a lot of feeds and 22% advised care takers to observe the child with diarrhoea at home. Furthermore, 20% of the respondents taught care takers about when to return to the health facility, 18% of the respondents mentioned that they advised care takers to continue breastfeeding a sick child, 6% emphasized the need for care takers to continue with treatment and 2% never gave a response to the question. This could mean that the fluid replacement in a child with diarrhoea is very important as was advised by the majority of the respondents. It can also mean that there exist some gaps in the aspect of giving IEC to care takers as shown by the 2% of the respondents who did not provide answers to the question. This can be attributed to nurse's inadequate knowledge about diarrhoea as well as low morale of nurses to give IEC. This is supported by MOH (2001) who stated that while skills are important and any deficiencies need to be improved upon during training. Increasing workload and low morale of health workers is a major factor for failure to give IEC.

Table 28, page 59 showed that 52% of the respondents stated that they gave fluids (ORS) and referred a child in need of I V fluids in cases where IV fluids were not available at their institution, 40% of the respondents firstly inserted NG tubes for fluid administration before referring the children and 8% of the respondents indicated that they referred children straight away before instituting any measures. This means that the majority of nurses did not put in right measures before referring a child except for the 40% of the respondents. It showed that the majority of nurses might endanger the life of a seriously ill child.

The findings in table 29, page 60 showed that 56% of the respondents reported that they had never experienced any problems in the use of IMCI approach, 40% of the respondents said that they had encountered problems in the use of IMCI approach and 4% did not give a response to the question. It is encouraging to note that the majority did not experience any problems in the use of IMCI. It can be attributed to the fact that part of nurses training enables them to follow medical orders hence do not see problems with the approach. This is supported by Naimoli et'al (2000) who indicated that nurses are trained and socialized to follow medical orders. This can result in following everything stipulated in the IMCI approach without noticing problems which can be a similar behaviour. On the other hand, the significant fraction of respondents who experienced problems of IMCI highlights the need for the implementers of IMCI to find out what these problems are so that corrective action can be taken. The problems can be due to the time factor needed in assessing children or the procedures that one is expected to follow when assessing, classifying and treating illnesses in a sick child.

Table 30, page 61 showed that 76% of the respondents suggested that more nurses should be trained in IMCI, 20% of the respondents said that blood slides should be checked for MPs on all children with fever and 16% of the respondents mentioned that IMCI should be integrated with malnutrition management protocols. Another 8% of the nurses suggested that HIV component should be included in IMCI, 6% stated that the review of children must be increased from the current 2 days to 5 days to decongest the health institutions, another 6% said that more health infrastructure should be built for IMCI implementation, 4% suggested that the MOH should provide all basic necessities for implementation of IMCI. Lastly, 2% of the respondents mentioned that IMCI should be integrated with the

HMIS reporting system. This could mean that 8% of the respondents did not know that there is a component of HIV in IMCI and this further calls for these nurses to be engaged in a good reading culture.

Table 31, page 62 showed that the majority (60%) of respondents had poor practice towards IMCI approach and 40% of the respondents had good practice. It implies that the majority of nurses were not practicing IMCI as it is recommended. The bad practices could be attributed to the low levels of knowledge that the nurses have on IMCI. The other reason could be that of poor staffing levels in all health institutions which affect the nurse-patient ratios thereby compromising the time factor because IMCI requires a considerable amount of time to be spent on a child during assessment, classification and treatment of illnesses in a child.

More than half (55.6%) of Registered Midwives had high levels of knowledge while half (50%) of the Registered Nurses had medium levels of knowledge on IMCI, table 32, page 63. This can be attributed to the fact that the curriculum for Midwives may be superior to that of Registered Nurses in terms of content because midwifery covers issues on child health in a more detailed form than the Registered Nurse's which looks at the general issues.

The findings of the study (table 33, page 64) revealed that the majority of respondents who had worked for 5 to 10 years had average knowledge on IMCI while 36.4% had high knowledge. It is the only group with the highest levels of knowledge. This was followed by 28% of respondents who had been in service for over 20 years even though the other 42.8% in this group had average levels of knowledge on IMCI. Sixteen point seven percent (16.7%) of the respondents who had been in service for 15 to 20 years had high levels of knowledge on IMCI, 66.6% had average levels of knowledge while the other 16.7% in this group had low levels of knowledge, 23.1% of the respondents who had served for 10 to 15 years had high levels of knowledge and the majority (76.9%) in this category were within average in terms of knowledge levels. Those respondents who had been in service for 1 to 5 years had the majority (80%) with average levels of knowledge and the other 20% with low levels of knowledge. Finally, half of respondents who had served for less than a year had

average levels of knowledge while the other half had low levels of knowledge. This could mean that those who had served for lesser years recently graduated and had low levels of knowledge on IMCI. This showed that the quality of education on IMCI in nursing schools need to be reviewed and upgraded. It could also mean that the longer the service period, the higher the knowledge level on IMCI.

Table 34, page 65 showed that majority (55.6%) of Registered Midwives had good practice and 44.4% had bad practice towards IMCI. Most (70%) of the Registered Nurses had bad practice and 30% had good practice. Sixty-two point five percent (62.5%) of Enrolled Midwives had bad practice and 37.5% had good practice towards IMCI. This agrees with the findings of this study which showed that the Registered Midwives had high levels of knowledge on IMCI, which probably made them practice in line with the IMCI guidelines.

Table 35 page 66 showed that respondents who had served 5 to 10 years had good practice towards IMCI. This was followed by 33.3% of respondents who had been in service for 15 to 20 years. Thirty point eight percent (30.8%) of respondents who had been in service for 10 to 15 years also had good practice. All (100%) of respondents who had served for less than a year had bad practice and majority of respondents (80%) who had been in service between 1 to 5 years had bad practice. Seventy one point four percent (71.4%) of respondents who had served for over 20 years, also had bad practice. This could be attributed to low knowledge on IMCI. It showed that there was no relationship between the number of years one had served and the practice in line with IMCI.

The findings in table 36, page 67 showed that 54.5% of respondents with high knowledge levels on IMCI had bad practice while 57.6% of respondents with medium knowledge had also bad practice but 33.3% of the respondents with low knowledge had good practice. This could mean that there was no relationship between levels of knowledge and practice because respondents with high knowledge had bad practice. The expectation is that with high knowledge levels on IMCI, one has to practice better but the opposite was the observed. This finding is line with the study that that was conducted by Siame (1999) On Factors Contributing to Low Utilization of ITNs on Malaria Prevention in Zambia. The study found that 97% of people interviewed had knowledge on ITNs but only 72% of the

them had knowledge on the usage while 28% had no knowledge about the use and only 10% of the participants used ITNs.

5.4 IMPLICATIONS OF THE FINDINGS TO THE HEALTH CARE SYSTEM

The findings of the study revealed that 70% of Registered Nurses, 65.2% of Enrolled Nurses and 44.4% of Registered Midwives had bad practice. This can be attributed to lack of supervision in various units where they are working as well as lack of training in IMCI concept. This calls for Lusaka District Management Team to provide technical interventions in order to sustain IMCI clinical performance. There is need for health care providers to be trained in IMCI skills and retrain them because the quality of care for child health activities can be judged by the availability of trained personnel in IMCI.

The study also showed that all (100%) respondents who had served for less than one year had bad practice, 80% of the respondents who had been in service for 1 to 5 years had bad practice and over half (54.5%) of the respondents who had served for 5 to 10 years had bad practice. This implies that there is need for nursing schools to put in follow up mechanisms that would ensure that graduating students perform according to what they are taught and expectations. There is no research that been done on recently graduating students to evaluate their performance. Therefore, with these research findings, there is need to ensure that more researches are done in order to improve nurse's performance at places of work in line with IMCI. Additionally, it implies that the Lusaka District Management Team need to strengthen in service training for nurses in IMCI.

The study further revealed that those respondents (45.5%) who had high levels of knowledge on IMCI had good practice, while 54.5% had bad practice. This findings implies that adherence to the IMCI guidelines is poor among health workers despite the fact that one had undergone the IMCI training. This entails that all those involved in IMCI training including MOH need to improve quality of IMCI skills and child health services provided.

5.5 CONCLUSION

The purpose of the study was to evaluate Nurse's Knowledge and Practice towards IMCI Approach in Lusaka urban. The study unit comprised of nurses working in areas where children are nursed. The most significant findings were that there were gaps in the knowledge and practice of nurses towards IMCI concept. It is hoped that relevant authorities will improve the implementation of IMCI concept at all levels of health care especially the one's concerned with child health and will utilize the information.

With regard to knowledge levels of nurses on IMCI, the study revealed that only a small fraction of them had adequate knowledge and the majority had low to medium knowledge on IMCI despite the fact that IMCI has been implemented for some years in Zambia , that is ,since 1996. The study also revealed bad practice amongst nurses towards the IMCI concept. The high level of knowledge has no impact on one's practice as it was shown by the fact that those respondents (66%) who had high knowledge, majority of them (54.5%) had bad practice.

It can therefore be mentioned that the main objective of the study has been achieved in that the evaluation of nurse's knowledge and practice towards IMCI approach has been accomplished. Therefore, it can be concluded that high levels of knowledge on IMCI is not associated with good practice hence the hypothesis has been rejected.

5.6 RECOMMENDATIONS

5.6.1 The General Nursing Council of Zambia

Since the study findings has revealed that recent graduating students had bad practice, there is need for GNC to reconsider the component of IMCI training in the curriculum for all nurses and institute changes that would help in enhancing nurse's practice in relation to IMCI and child care.

5.6.2 The Lusaka District Management Team

- DHMTs should work hand in hand with MOH to ensure that more nurses are trained in IMCI to achieve reasonable capacity building in child health provision, which would enhance efforts in the achievement of MDGs by the year 2015.
- The DHMTs should put in mechanisms for follow-ups and supervise nurses trained in IMCI to strengthen implementation of the concept at the grass root level and support the staff in its implementation.

5.6.3 The Ministry Of Health

The MOH should support operations research in order to find solutions to observed deficiencies in nurse's practice towards the concept.

5.6.4 FURTHER RESEARCH

Further research is required in the areas mention below:

- Further research should include exploring nurses attitudes and experiences towards IMCI approach, to determine the factors that influences there practice according to the strategy in the area of child health.
- A bigger study involving a larger sample should be conducted to enable generalization of the findings.

5.7 LIMITATIONS OF THE STUDY

- The sample size was limited due to time constraints. Therefore, this study may not be generalized countrywide.

- In spite the interviewers reassuring the participants of anonymity and that the findings would be used to their advantage, some participants could not still participate fully which was evidenced by not answering some questions. This could have led the researcher to get biased information.
- There are few studies that have been done on IMCI in Zambia, which made it difficult for the researcher to make comparisons with others to determine differences.

5.8 DISSEMINATION AND UTILIZATION OF FINDINGS

A copy of research report will be submitted to the department of Post Basic Nursing and to the Medical Library each for use as references by students and researchers. Another copy of the research findings will be submitted to the sponsors of the study (USAID).

The researcher will organize a workshop for nurses at Kalingalinga, Chelston and Chainama Clinics respectively to discuss the research findings. Summary of findings would be sent to the Lusaka DHMT Health Office and MOH to facilitate for implementation of recommendations.

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APPENDENCES

APPENDIX 1

QUESTIONNAIRE FOR NURSES

THE UNIVERSITY OF ZAMBIA
SCHOOL OF MEDICINE

TOPIC: A STUDY TO DETERMINE KNOWLEDGE AND PRACTICE OF NURSES TOWARDS IMCI APPROACH WHEN CARING FOR CHILDREN

DATE:.....

PLACE /LOCATION:.....

SERIAL NUMBER:.....

INSTRUCTIONS

1. Do not write your name on the questionnaire
2. Answer all the questions
3. Use a pen to fill in the questions
4. Put a cross (X) in the box next to the correct answer of your choice

SECTION A: SOCIAL - DEMOGRAPHIC DATA

Official use only.

1. Sex
   (a) Male
   (b) Female

2. Indicate your professional qualifications (Specify).
   (a) RN
   (b) EN
   (c) RM
   (d) EN

3. What is your religion
   (a) Christian
   (b) Moslem
   (c) Hindu
   (d) Buddhist
   (e) Others (specify) .....

4. How long have you been working as a nurse?.....

5. Which department are you currently working in?
   (a)OPD
   (b)In-patient
   (c)MCH
   (d)Others (specify).....

SECTION B: KNOWLEDGE ON IMCI

6. Do you know what IMCI is ?
   (a) Yes
   (b) No

7. If yes to question (7), what is IMCI?

_____

_____

_____

_____

Official use only

8. Do you have any traditional beliefs pertaining to the care of children in line with the IMCI guidelines?
   Specify:.....
   .....
   .....
   .....

9. The following are the danger signs that you look for in a sick child.
   Put a "x" where applicable
   (a) Fever
   (b) Vomiting everything
   (c) Convulsions
   (d) Lethargy
   (e) Diarrhea
   (f) Jaundice
   (g) Child , not breast feeding
   (h) Irritability

10. A child who is unable to breast feed and vomiting everything needs immediate referral
    (a) True
    (b) Not true

11. How long should the fever persist in a child on treatment for malaria be brought back to a health facility to be reviewed according to IMCI
    (a) 1 day
    (b) 2 days
    (c) 3 days

12. When do you qualify a child as having very severe febrile disease? Mark where applicable
    (a) A child has neck stiffness
    (b) A child has convulsions
    (c) A child is lethargic
    (d) Others .....

Official use only

13. You classify a child as having severe pneumonia or very severe disease when the following are present (put "x" where applicable)
    (a) Chest in-drawing
    (b) Stridor in a calm child
    (c) Fast breathing of 50 breaths per minute or more in a 2 to 12 months old child

14. Do care takers return to the health facility when they observe that a child with diarrhoea has increased episodes?
    (a) Yes
    (b) No

15. In IMCI, a child is classified as having severe persistent diarrhea when the child has been:
    (a) Having diarrhea for 14 days or more but there is no evidence of dehydration on assessment
    (b) Having diarrhoea for 14 days or more and there is presence of dehydration on assessment

16. When you treat a child for malaria and the fever persist and is present for a week, what measures do you take as a health worker?
    (a) Re-assess the child and refer
    (b) Change medication and observe
    (c) Carry out both of the above measures

17. If a child has a cough of more than 3 weeks, you refer the child
    (a) True
    (b) Not true

18. After treatment, you advise the caretakers to return immediately if the child has any of the following signs (mark where applicable).
    (a) Develops fever
    (b) Develops a cough
    (c) Develop difficulty in breathing
    (d) Breast feeding poorly

19. It is always necessary to give IEC to a sick child's care taker when going home
    (a) True
    (b) Not true

SECTION C: PRACTICE

official use only

20. Have you ever undergone IMCI training?
    (a) Yes
    (b) No

21. How do you care for a child with severe febrile disease?
    (a) Give a dose of quinine, antibiotic, dextrose and Paracetamol then observe the child for improvement
    (b) Give a dose of quinine , antibiotic, dextrose and Paracetamol then refer the child.
    (c) Refer the child to a doctor or another health facility

22. When a sick child is brought to you as a health care provider, do you always ask for presence of the signs and symptoms (fever , cough or difficult breathing and diarrhea) as required by the IMCI
    (a) Yes, I always do
    (b) Sometimes I do
    (c) Never

23. If the answer is sometimes or never to question "22", what are some of the reasons why you do not assess for presence of the above symptoms
    .....
    .....
    .....
    .....

24. How often do you give IEC to a child's care taker
    (a) Is it always
    (b) Sometimes
    (c) Never
    (d) Others (specify).....

25. Do the care takers adhere to the information or instructions that you give in regards to continuation of care at home
    (a) Yes
    (b) No

Official use only

26. If the answer is "No" to question (25), what do you think are some of the reasons?

.....

.....

.....

.....

27. Do you assess children with diarrhoea for dehydration, blood in stool, frequency etc. as stipulated in IMCI?
    (a) Yes
    (b) No

28. When you ask the care taker about presence of diarrhoea in a child, do you always ask the following questions?
    - How long has a child been having diarrhoea
      Yes
      No
    - Is there blood in the stool
      Yes
      No

29. In assessment of a child with diarrhoea, do you always ask about the general condition of the child?
    (a) Yes
    (b) No

30. Do you always look for sunken eyes, offer the child fluids to drink
    (a) Yes
    (b) No

31. Do you offer the child fluids to drink
    (a) Yes
    (b) No

32. What advise do you give a care taker of a child with diarrhoea?

.....

.....

.....

.....

33. If the intravenous infusions are not available at your institution, what other measures to do you take when there is a sick child in need of it, in such instances ?

.....
.....
.....
.....

34. Have you ever experienced any problems in the use of IMCI approach?
(a) Yes
(b) No

35. Suggest anything you would like to be include or excluded in IMCI approach

.....
.....
.....
.....

Thank you for your cooperation.
End of questionnaire

Official use only

APPENDIX II

WORK SCHEDULE

ACTIVITY	TIME DATES	FRAME DURATION	RESPONSIBLE PERSON
Research Proposal development	22nd August – 21st September, 2008	4 weeks	Principal Investigator
Finalize Research Proposal	28th September – 1st October, 2008	4 days	Principal Investigator
Clearance From Research Ethics	2nd – 3rd October, 2008	2 days	Principal Investigator
Formulation of Data Collection Tool	4th – 6th October, 2008	3 week	Principal Investigator
Pilot Study	7th October, 2008	1 day	Principal Investigator
Data Collection Tool Amendments	8th October, 2008	1 day	Principal Investigator
Data Collection	9th – 17th October, 2008	8 days	Principal Investigator
Data Analysis	18th October – 1st November, 2008	2 weeks	Principal Investigator
Draft report to PBN	17th November – 1st December, 2008	2 weeks	Principal Investigator
Report Writing	1st – 22nd December, 2008	3 weeks	Principal Investigator
Finalize Report And Dissemination of Findings	23rd December – 12th January, 2008	3 weeks	Principal Investigator
Monitoring and Evaluation	Continuous	Continuous	Principal Investigator
Discuss recommendations / plans of action with school management	12th – 26th January, 2009	2 weeks	Principal Investigator

APPENDIX III

GANTT CHART **2008-2009**

ACTIVITY	RESPONSIBLE PERSON	AUG 2008	SEPT 2008	OCT 2008	NOV 2008	DEC 2008	JAN 2009	FEB 2009
Research Proposal development	Principal Investigator	↔	↔					
Finalize Research Proposal	Principal Investigator		↔	↔				
Clearance From Research Ethics	Principal Investigator			↔				
Formulation of Data Collection Tool	Principal Investigator			↔				
Pilot Study	Principal Investigator			↔				
Data Collection Tool Amendments	Principal Investigator			↔				
Data Collection	Principal Investigator			↔				
Data Analysis	Principal Investigator			↔	↔			
Report Writing	Principal Investigator				↔	↔		
Finalize Report And Dissemination of Findings	Principal Investigator					↔		
Discuss recommendations / plans of action with Nurses	Principal Investigator					↔	↔	
Monitoring And Evaluation	Principal Investigator							

APPENDIX IV

BUDGET

STATIONARY	UNIT	UNIT COST	TOTAL COST
Reams of Paper	5	35,000	175,000
Pens (box)	1	20,000	20,000
Rubber	4	I,000	4,000
Note books(Each)	4	5,000	20,000
Tipex (Box)	3	10,000	30,000
Stapler	1	80,000	80,000
Perforator	1	150,000	150,000
Scientific calculator	1	150,000	150,000
Flip charts	3	50,000	150,000
Markers	12	5,000	60,000
Steeples(Box)	1	10,000	10,000
Box Files(Each)	2	30,000	60,000
Small Folders	10	2,000	20,000
Field Bag	1	250,000	250,000
Folder Clips	10	1,500	15,000
Paper Glue	1	15,000	15,000
Bostick	2	15,000	30,000
Disks(CD-ROM)	10	3,000	30,000
Memory Stick 2G	1	250,000	250,000
Diary	1	80,000	80,000
Manilla Paper	5	1,000	5,000
		SUBTOTAL:	**K1,454,000**
SECRETARIAL SERVICES			
Questionnaire Typing	10 pages	3,000	30,000
Check List Typing	10 pages	3,000	30,000
Research Proposal Typing and Binding	1	350,000	350,000
Research Report Writing	1 x 60 pages (60)	3,000	180,000
Questionnaire printing	10 x 50(500)pages	3,000	1, 500,000
Check List Printing	10 x 50 (pages500)	3,000	1, 500,000
Binding of Research Reports	6 copies	50,000	300,000
Research Report Photocopying	6 x 60 pages (360)	3,000	1, 080, 000
		SUBTOTAL:	**K 4, 790, 000**
PERSONNEL			
Transport Allowance during Research Activities	20 days	30,000 x 2	1,200,000
Transport to and from Research Areas	2	150,000	300,000
Snacks for Respondents	65	5,000	325,000
INFORMATION DISSEMINATION			
Hall Hire for Dissemination	1	250,000	250,000
LCD Hire for Dissemination	1	150,000	150,000
Refreshments	40	5,000	200,000
		SUBTOTAL	**K 2, 425,000**
		TOTAL	**K 8, 669, 000**
		CONTIGENCY 10%	**K 866, 900**
GRAND TOTAL: **K9, 525, 900. 00**			

APPENDIX V

BUDGET FOR THE RESEARCH STUDY

BUDGET JUSTIFICATION

1. **Stationery**

   Stationery was required for typing research proposal and typing the final research report. There was need for a printer and ink cartridge for the work to be printed, paper for photocopying, scientific calculator for analyzing the data, clips and folders for filing research documents. Pens and pencils were used for writing especially the pencils for filling in the questionnaires. Erasers and correction fluids were purchased for use in erasing errors. Files and bags were needed for use in storing the questionnaires during the data analysis period.

2. **Secretarial services**

   Funds were used for typing and photocopying services. The flash discs were used for data storage. Other funds were used for binding the research proposal and the final copy of the research.

3. **Personnel**

   Finances for transport to and from the study site were used during the process of collection of data. Lunch allowance was given to participants in the research study. Part of the money was used in conducting workshops for the purpose of disseminating of research findings to the nurses and management at the named institutions as this is mandatory for the researcher.

10% contingency was to cater for any rise in the prices during of the implementation of the study.

The University of Zambia
School of Medicine
Department of Post Basic Nursing
P. O Box 50110
Lusaka.
1st October 2008

The Executive Director

University Teaching Hospital

UTH P/B RW1X

Lusaka.

UFS: The Head of Department
School of Medicine
Department of Post Basic Nursing
P. O Box 50110
Lusaka.

Dear Sir,

RE: PERMISSION TO CONDUCT A PILOT STUDY

I am a 4th year student at the above mentioned institution pursuing a Bachelor's Science in Nursing Degree. In partial fulfillment of this programme. I am required to conduct a research study. The title of my topic is; "knowledge and Practice of Nurses towards IMCI Approach when Caring for Children". The findings of the study will be used by health workers and policy makers for re-affirming good practice, which supports and contribute to child health and identify gaps lacking so that the quality of health of children would be improved.

I am, therefore requesting for permission to carryout a pilot study on nurses at your institution in particular Out-patient Department, before my main study, which will be conducted in Lusaka District.

Yours faithfully,

A. Banda

Alice Njovu Banda.

The University of Zambia
School of Medicine
Department of Post Basic Nursing
P. O Box 50110
Lusaka.
1st October 2008.

The Director
Lusaka District Management Team
Lusaka.

UFS: The HEAD OF Department

School of Medicine

Department of Post Basic Nursing

P. O Box 50110

Lusaka.

Dear Sir/Madam

RE: PERMISSION TO CONDUCT A STUDY

I am a 4th year student at the above mentioned institution pursuing a Bachelor's Science in Nursing Degree. In partial fulfillment of this programme, i am required to conduct a research study. The title of my topic is; "knowledge and Practice of Nurses towards IMCI Approach when Caring for Children".

I am, therefore requesting for permission to carryout a study on nurses at Kalingalinga, Chainama and Chelstone Clinics respectively from 6th to 17th October 2008. The findings of the study will be used by health workers and policy makers for re-affirming good practice which supports and contribute to child health and identify gaps lacking so that the quality of health of children would be improved.

Yours faithfully,

A Banda

Alice Njovu Banda.

The University of Zambia
School of Medicine
Department of Post Basic Nursing
P.O Box 50110
Lusaka

1st October 2008.

The Executive Director
University Teaching Hospital
P/B RW/1X
Lusaka

1) Attach Proposal please.

UFS: The Head of Department
School of Medicine
Department of Post Basic Nursing
P.O Box 50110
Lusaka

2) Approved

Dear Sir,

RE: **PERMISSION TO CONDUCT A PILOT STUDY**

I am a 4th year student at the above mentioned institution pursuing a Bachelor's Science in Nursing Degree. In partial fulfillment of this pogramme. I am required to conduct a research study. The title of my topic is; "Knowledge and Practice of Nurses towards IMCI Approach when Caring for Children". The findings of the study will be used by health workers and policy makers for re-affirming good practice which supports and contribute to child health and identify gaps lacking so that the quality of health of children would be improved.

I am, therefore, requesting for permission to carryout a pilot study on nurses at your institution in particular Pediatric Out-Patient Department, before my main study which will be conducted in Lusaka district.

Yours faithfully,

A. Banda

Alice Njovu Banda.

The University of Zambia
School of Medicine
Department of Post Basic Nursing
P.O Box 50110
Lusaka

1st October 2008.

The Executive Director
University Teaching Hospital
P/B RW/1X
Lusaka

1) Attach Proposal please.

UFS: The Head of Department
School of Medicine
Department of Post Basic Nursing
P.O Box 50110
Lusaka

2) Approved

Dear Sir,

RE: **PERMISSION TO CONDUCT A PILOT STUDY**

I am a 4th year student at the above mentioned institution pursuing a Bachelor's Science in Nursing Degree. In partial fulfillment of this pogramme. I am required to conduct a research study. The title of my topic is; "Knowledge and Practice of Nurses towards IMCI Approach when Caring for Children". The findings of the study will be used by health workers and policy makers for re-affirming good practice which supports and contribute to child health and identify gaps lacking so that the quality of health of children would be improved.

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Yours faithfully,

A. Banda

Alice Njovu Banda.

P.O. Box 50827
Lusaka
Tel: +260 - 211- 235554
Fax: +260 - 211- 236429

In reply please quote
No.....

Republic of Zambia

MINISTRY OF HEALTH
LUSAKA DISTRICT HEALTH MANAGEMENT TEAM

....., 2008

The In-Charge
Kalingalinga Health Centre / Chelstone Health Centre.
BOX 50827
LUSAKA.

Dear Madam,
PRACTICAL/ RESEARCH: ~~MR/MISS~~/MS ALICE NJOVU BANDA

Be informed that permission has been granted to the above named student to be attached to your Health Centre for practicals/research.

However, this must be done with minimal disruption to the day to day activities at the health centre.

Your usual cooperation will be appreciated.

Yours faithfully,

DR. M.KABASO
CLINICAL CARE EXPERT
FOR/DISTRICT DIRECTOR OF HEALTH