Evaluating the IMCI counseling skills of professional nurses in a district of the North West Province, South Africa

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PREFACE AND DECLARATION

I, Marguerette-Francoisé Malan hereby declare that I understand both what plagiarism is and also that it is a serious offence to commit plagiarism. This includes copying from other people's work and also copying from any published work (including that in the university libraries or in any other library), or downloading and copying material from the internet. Failure to acknowledge a critical source correctly is also counted as plagiarism.

I pledge that the work I shall submit in my dissertation shall be solely my own, except where indicated, and that such indications shall be properly referenced according to departmental requirements.

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But Jesus called them unto him, and said,
suffer little children to come unto me, and forbid them not:
for of such is the kingdom of God. Verily I say unto you,
whosoever shall not receive the kingdom of Cod as a little
child shall in no wise enter therein.

Luke 18:16-17 KJV

ABSTRACT

INTRODUCTION

The Millennium Development Goal number 4 focuses on the reduction of under-5 child mortality with two-thirds by the year 2015 using the Integrated Management of Childhood Illness strategy. This strategy provides guidelines to improve health system support through case management skills, assessment process, provision of treatment, counseling and follow-up care to children under-5 of age, nevertheless not without its own challenges. These challenges include child malnutrition, HIV/AIDS, pregnancy and birth complications, under-5 illness, weak health systems and financial challenges still exists, with the main challenge imputed to malnutrition and therefore concluded that under-5 child mortality still persist after the introduction and implementation of the Integrated Management of Childhood Illness strategy. Assessment of ill under-5 children was frequently incomplete, resulting in the prescription of inappropriate medication. Lack of records contributed to the failure of child survival. The major challenge persisting is the poor level of counseling rendered which is the key to correct administration of medication, return dates to the clinic, advice on feeding and breastfeeding, signs and symptoms that needs immediate attention, referrals and the assessment of caregivers understanding after counseling. Rural areas in South Africa which include the North West Province do not show progress to meet the goal in reducing child under-5 mortality. The lack of information through counseling plays a determining role in the under-5 child mortality rate.

RESEARCH AIM AND OBJECTIVE

The aim of the study is to determine the current counseling practice of Professional Nurses in community health care centres in order to improve counseling provided by Professional Nurses to caregivers to decrease under-5 mortality based on the Integrated Management of Childhood Illness strategy. The objective of the study is to determine how Integrated Management of Childhood Illness counseling is currently

conducted in community health care centres in the Dr Ngaka Modiri Molema District of North West Province.

RESEARCH DESIGN

A quantitative, typical descriptive and observational design was used to meet the objective.

RESEARCH METHOD

A checklist was used to collect data. The checklist was developed from the Health Facility Survey on Outpatient Child Care by the Ministry of Health and Population, Egypt, and the WHO Regional Office for the Eastern Mediterranean countries. The counseling observation were ticket according to the checklist. The checklist were adapted to ensure applicability within the South African context.

RESULTS

The results revealed that IMCI counseling to the caregiver of an under-5 child, involves feeding, administering of medication and follow-up care advice. Counseling on feeding was conducted overall well and it seems that nurses know how to counsel caregivers regarding the nutrition of the under-5 child, although certain aspects were not addressed. All the observed IMCI case managements of the sick under-5 children who received oral medication, an explanation on how to give oral medication were given quite well. Attention to the caregiver's health during observed IMCI of the under-5 sick children counseling was not done. This could be due to the fact that in some of the CHC centres still use the 2011 IMCI guidelines. Information given when an under-5 sick child should return to CHC centre is not given to all caregivers. However all caregivers in all the participating CHC centres were informed that they should return to the clinic if the child becomes ill.

With observed IMCI case management, the researcher observed that more time was spent with the very ill under-5 children. The caregiver was not informed about the reason for referral in 1 observed IMCI case management. The total of very ill under-5

children were 3 out of 237 observed IMCI counselings, this is very low especially. The very sick under-5 children were directly taken to the nearest hospital which leads to overburden of these hospitals.

Keywords: Caregiver, Counseling, Integrated Management of Childhood Illness, Community Health Care Centre and Under-5 mortality rate

OPSOMMING

INLEIDING

Die “Millennium Doelwit” nommer 4 fokus op die vermindering van onder-5 kinder sterftes met twee derdes teen die jaar 2015. Ten einde die doelwit om die kinder onder-5 jaar doelwit te behaal is daar gefokus op die gebruik van die “Geïntegreerde behandeling van kindersiektes strategie”. Hierdie strategie voorsien riglyne aan professionele verpleegkundiges oor hoe om die gesondheidsorg sisteem te verbeter deur die verbetering van konsultasie vaardighede, assessering prosesse, voorsiening van behandeling, berading en opvolg sorg. Daar is steeds uitdagings soos wanvoeding, HIV/VIGS, swangerskap en geboorte komplikasies, kinder onder-5 jaar siekte toestande, swak gesondheid sisteme en finansiële beperkings wat die haalbaarheid van die implementering van die “Geïntegreerde behandeling van kindersiektes” strategie beïnvloed. Bevindinge dui daarop dat die assessering van siek onder-5 jaar kinders dikwels onvolledig gedoen is, met gevolglike voorskryf van ondoeltreffende behandeling en berading. Die afwesigheid van rekords het ook ’n bydrae gelewer tot stryd teen kinder sterftes. Die oorhoofse uitdaging wat die sukses van die strategie beïnvloed is die verskaffing van geen of min berading wat gedurende konsultasie van die onder-5 kind gelewer word. Berading is die sleutel tot die beperking van onder-5 kinder sterftes deur inligting te gee rondom toediening van medikasie, opvolg datums, advies oor bors- en voeding, tekens en simptome wat onmiddellike aandag verg en tydige verwysings na sekondêre gesondheidsorg instellings. Die begrip van die onder-5 kind se toesighouer na berading behoort deur middel van vrae, demonstrasie deur professionele verpleegkundige en self-doen aktiwiteite geëvalueer te word. Plattelandse areas in Suid-Afrika, wat die Noord-Wes Provinsie insluit, toon dat daar tans nie vordering is in die bereiking van die hierdie doelwit nie en die tekort aan voldoende inligting tydens berading speel ’n deurslaggewende rol in die stryd teen onder-5 kinder sterftes.

NAVORSINGS DOEL EN DOELWIT

Die doel van die studie is om te bepaal wat die bestaande berading praktyk van professionele verpleegkundiges in die gemeenskap gesondheidsorg sentrums is ten einde die berading wat voorsien word te verbeter in die Dr Ngaka Modiri Molema distrik van die Noord-Wes Provinsie. Hierdie berading is gegrond op die "Geïntegreerde behandeling van kindersiektes" strategie.

NAVORSINGS ONTWERP

'n Kwantitatiewe, tipiese beskrywende en waarnemings navorsings ontwerp is gebruik om die doelwit te bereik.

NAVORSINGS METODE

'n Kontrole vorm was gebruik om data in te samel. Die kontrole vorm was opgestel en gebruik deur die Gesondheid Fasiliteit Ondersoek van buitepasiënte kindersorg van die Ministerie van Gesondheid en Populasie in Egipte, en die Wêreld Gesondheid Organisasie streek kantoor van die Oos Mediterreense lande. Die data insamelings proses behels die waarneming van die berading tussen die professionele verpleegkundige en versorging van die onder-5 jaar kind tydens konsultasie. Die kontrole lys is gebruik om aan te dui watter aspekte van berading bespreek is tydens konsultasie.

RESULTATE

Data analise toon dat Geïntegreerde behandeling van Kindersiektes berading aan die versorger van 'n kind onder-5 jaar voeding, toediening van medikasie en opvolg versorgings advies insluit. Voeding berading was oor die algemeen goed uitgevoer en dit wil voorkom of professionele verpleegkundiges kennis dra oor die kennis wat aan die versorger van die onder-5 jaar kind rakende voeding gegee moet word, alhoewel sekere aspekte nie gehanteer was nie. In die waarneming tydens Geïntegreerde behandeling van kindersiektes konsultasie van onder-5 jaar siek kinders wat medikasie ontvang het is die versorgers redelike goed ingelig oor die

korrekte toediening van medikasie. Geen aandag is aan die gesondheid van die versorger gedurende die waargeneemde Geïntegreerde Hantering van Kindersiektes onder-5 jaar gegee nie. Dit kan toegeskryf word aan die feit dat nie alle Gemeenskap Gesondheidsorg Sentrums die Geïntegreerde Hantering van Kindersiektes se 2014 riglyne ontvang het nie en die 2011 se weergawe word steeds gebruik. Advies oor wanneer die onder-5 jaar kind moet terugkeer na kliniek is nie aan alle versorgers verduidelik nie, alhoewel die versorgers wat wel die Gemeenskap Gesondheidsorg Sentrums besoek het, wel kennis gedra dat hul moet terugkeer as die onder-5 jaar kind siek word. Gedurende Geïntegreerde behandeling van Kindersiektes konsultasie het die navorser waargeneem dat meer tyd aan baie siek onder-5 jaar kinders gespandeer was. In drie waargeneemde Geïntegreerde behandeling van onder-5 jaar siek kinders, het die professionele verpleegkundige nie voldoende berading gegee oor die rede waarom die onder-5 jaar kind verwys was nie. Die totale verwysings was 3 uit 237 waargeneemde Geïntegreerde Hantering van kinder siektes berading. Die ernstiger onder-5 siek kinders word direk na die naaste hospitaal geneem wat die lading van hantering op hierdie hospitale verhoog.

Sleutelwoorde: Versorger, Berading Gemeenskap Gesondheidsorg Sentrums, Geïntegreerde behandeling van Kindersiektes en onder-5 mortaliteit syfer

LIST OF ABBREVIATIONS

A

AIDS	Acquired Immunodeficiency Syndrome
AMHU NW	Area Military Health Unit North West

C

CHC	Community Health Care

H

HIV	Human Immunodeficiency Virus

I

IMCI	Integrated Management of Childhood Illness

M

MDG	Millennium Development Goal

N

NWU	North-West University

P

PHC	Primary Health Care
PHCW	Primary Health Care Worker

PN	Professional Nurse
PNs	Professional Nurses

R

RtHB	Road to Health Booklet

S

SANC	South African Nursing Council
SAMHS	South African Military Health Service

T

TB	Tuberculosis

U

UNICEF	United Nations International Children’s Emergency Fund

W

WHO	World Health Organization

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CHAPTER 1:

OVERVIEW OF THE STUDY

1.1 INTRODUCTION

The aim of the study is to determine the current counseling practices of PNs in CHC centres in order to improve counseling provided by PNs to caregivers to decrease under-5 mortality. This chapter offers an overview of the study. An introduction and background to the study is given. The background information assisted the researcher in identifying the problem statement and the aim, and to set an objective for the study. The researchers' assumptions are outlined in the following paragraphs and the research design and methods are briefly discussed. Steps taken by the researcher to ensure validity and reliability in the research study are outlined. Lastly the ethical considerations that guided the study are discussed in detail and the chapter ends with the layout of the dissertation.

1.2 BACKGROUND AND PROBLEM STATEMENT

1.2.1 Background

Despite the decline of under-5 child mortality in first word countries, challenges such as counseling and education, integrated planning and monitoring of data still exist in reaching the Millennium Development Goal (MDG) 4 in developing countries. This may be due to socio-economic factors and lack of women empowerment (Lehohla, 2013:68). A target date was set by the Millennium Declaration to reduce under-5 child mortality by the year 2015. According to the United Nations (2007:4), child mortality declined globally, after the implementation of effective interventions such as the Integrated Management of Childhood Illness (IMCI) Strategy. This strategy provides guidelines to improve the case-management skills; assessment process and provision of treatment, counseling and follow-up care (World Health Organization (WHO), 2005(e):4). Although South Africa did implement immunisation coverage,

especially against measles, in order to reach the MDG4 by 2015, South Africa did not show any progress in meeting the target, due to the lack of information and counseling provided to the caregivers who take care of under-5 children (Sanders *et al*., 2012:59; United Nations Economic Commission of Africa, 2014:57). This study will focus on MDG 4, which focused on reducing under-5 child mortality with at least two thirds by the year 2015, using the IMCI strategy. This goal was however not reached and therefore a post-2015 development agenda was instituted to address the 2015 MDG targets that have not been achieved. This agenda scheduled for implementation in 2016 set sustainable development goal targets for the future (WHO, 2013(a):9). This strategy manages childhood illnesses by addressing appropriate home care counseling, timely treatment of complications for under-5 children, applying the expanded program on immunisation, infant and young child feeding, and counseling which includes feeding recommendations, caregiver's welfare and health, fluid intake during illness, the date when the caregiver should return to the clinic with the under-5 child for a follow up visit, administering of antibiotics, counseling regarding the treatment of infections at home and how to provide homecare for the sick under-5 child (WHO, 2013(a) & IMCI Booklet 2014:3). Therefore the IMCI strategy plays an important role in the management of childhood illnesses and is an important component to apply in order to increase childhood life expectancy, and it also provides an indication of the overall health and development of the community (Nannan *et al*., 2012:1). In this study the researcher will focus on the counseling component of the IMCI strategy.

A decline of more than 50% under-5 mortality has been observed globally, over the past twenty years. However, in Sub-Saharan Africa the incidence of under-5 mortality is still high with less than 30% reduction in under-5 mortality (Hill *et al*., 2012:8). Therefore, the MDG goal focusing on the reduction of under-5 mortality rate between 1990 and 2015 by two thirds (MDG 4) has been identified as the most difficult MDG to achieve, especially in Sub-Saharan Africa.

As part of the global picture, South Africa is also facing many challenges in its endeavour to reach MDG 4. South Africa was identified as one of the nine countries

in the world, which was identified with the highest rates of under-5 child mortality in 2004 as during that stage there was no decline in child mortality rates (Van den Bergh, 2009:2). According to Robertson (2006:258) South Africa also has other challenges regarding under-5 child health which includes improving peri-natal care, paediatric and child services, controlling over and under-nutrition and decreasing poverty in order to prevent conditions e.g. malnutrition and diarrhoea of which the latter are some of the leading causes of under-5 deaths. Tarwa *et al*. (2007:15) identified that the growth monitoring program in developing countries have not been successful, since children whose growth were faltering, had not been identified for interventions or the caretaker did not have the necessary knowledge to notice that the child was losing weight. This can be viewed as an indication that counseling, recommended in the IMCI strategy, was not adhered to.

In order to address under-5 child mortality and the above mentioned challenges the World Health Organisation (WHO) and the United Nations International Children's Emergency Fund (UNICEF), implemented the IMCI strategy during mid-1990. South Africa was one of the 43 countries who adopted the IMCI strategy as the standard of care since 1997, improving Professional Nurses (PNs) skills, strengthening health system support and improving family and community practices (Victoria *et al.,* 2006:792; Gouws *et al*., 2005:614; Horwood *et al*., 2009(a):1). IMCI which is a paediatric care management strategy, has the vision to improve health care services and promote health care cost savings. According to Victoria *et al.* (2006:792) the IMCI strategy was designed to address major causes of under-5 mortality which includes identification of danger signs, a child with a cough, diarrhoea, fever (meningitis, malaria and measles), ear and throat problems, nutrition and anaemia, HIV/AIDS infection and Tuberculosis. This strategy aims to equip PNs with skills to classify, manage, refer, do follow-up of children as well as give counseling to caregivers of under-5 children with either one or a combination of illnesses. According to Chopra *et al*. (2005:400) a large improvement was found in the assessment of children after implementing IMCI as well as a reduction of inappropriate antibiotic use and drug costs. Therefore, this strategy was implemented in CHC facilities which includes Community Health Care (CHC) centres

and Primary health care (PHC) clinics in South Africa (Horwood *et al*. 2009(a):1; South Africa Department of Health, 2011:1). This study will focus on the counseling that precedes at CHC centres, because these centres are larger, have more PNs and cover a larger population group than CHC clinics.

However, implementation of the IMCI strategy is not without its challenges. A major challenge, which is the focus of this study, is the poor counseling given to the caregivers of under-5 children. According to Chopra *et al.* (2005:400) counseling in the IMCI strategy focuses on a key message to the caregiver at home regarding the correct administration of medication, providing correct return date to clinic, advice on nutrition which includes feeding and breast feeding, signs and symptoms that need immediate attention, follow-up care, referral and thereafter assessing the caregiver's understanding of the counseling given. The failure in sufficient counseling to illiterate mothers and caregivers can contribute to poor health of the child and less compliance with medical instructions. Insufficient counseling of the caregivers of under-5 children by the PNs might be due to nurses focusing more on assessment, examination and treatment of the sick child as well as attending to the long waiting queues of patients waiting for health services (Chopra *et al.,* 2005:400; Mayer *et al*. 2004:441). A study conducted by Nkosi *et al*. (2012:100) supports the previous statement by mentioning that the main IMCI implementation difficulties experienced by PNs were lack of resources, staff shortage and the fact that IMCI is considered as a time consuming procedure, untrained staff and lack of supervision for untrained staff. These factors influence the counseling given to the caregivers since time, resources, attitude and shortage of PNs play a big role in the proper execution of the counseling.

For these reasons, the researcher who is a PN in North West Province conducts this research study in order to determine the current counseling practices of PNs in CHC centres with the aim to elicit information which could assist the Mother and Child directorate to improve counseling provided by PNs to caregivers to decrease under-5 mortality.

North West Province consists of four districts namely Bojanala District, Dr Ruth Mompati district, Ngaka Modiri Molema District and Dr Kenneth Kaunda District. These districts struggle with the same challenges as the rest of the country namely, limited formal education, unemployment, poverty and most of the under-5 deaths are accounted to HIV/AIDS (Bradshaw *et al.* 2008(c):5). According to Krug *et al.* (2004(a):54) a survey was done in Mafikeng sub-district of Ngaka Modiri Molema District, the capital town of North West Province, located close to the South African border with Botswana, to determine the factors contributing to under-5 mortality. The survey relied on patient records, clinical judgment and consensus opinion of doctors and nurses. Four hospitals were selected in Mafikeng sub-district for this study. According to Krug *et al.* (2004(b):204) the following modifiable factors had an influence on under-5 mortality namely, the Road to Health Card (RTHC) was not used appropriately (19%), insufficient notes (13%), no information whether the caregivers' have followed the treatment plan that was given to under-5 child (21%), delay in seeking health care (24%), caretaker did not realize the severity of illness (12%), lack of trained personnel and communication problems between the PN and caregiver. According to the same author, the failure of the implementation of IMCI strategy played a role in insufficient case management and monitoring which includes assessment, treatment, feeding, counseling and follow-up. The research report contained information of under-5 mortality, health profile of mothers, babies and children who died in abovementioned health facilities and gives also insight into quality of care recorded in the Mafikeng sub-district hospitals and CHC facilities.

Therefore, from the above mentioned discussion it is clear that there is a lack of proper counseling of the caregivers of under-5 children and it is for the utmost importance to address this issue. The problem statement, research questions and objectives of the study are derived from the above mentioned background.

1.2.2 Problem statement

Literature reviewed for this proposal shows evidence that under-5 mortality still presents to be a problem in South Africa despite interventions being implemented to

improve the reduction of under-5 mortality. Effective and preventative measures were implemented through the IMCI strategy to prevent and manage under-5 mortality. Evidence based assessment, treatment, effective and affordable usage of drugs, checking immunization and counseling of the caregivers regarding usage of medication at home, when it is necessary to return to the clinic with the under-5 child, that feeding at home has been made possible by the implementation of clinical guidelines (WHO, 2005:3). The challenge however remains that PNs failed to ask for the RtHB, which resulted in weight that was not plotted, under-5 children not assessed and the issue addressed in this study - possible inadequate counseling given by PNs to caregivers regarding the appropriate return period to the CHC facility (Chopra *et al.* 2005:399; Tarwa *et al*., 2007:15d). A study undertaken in the Mafikeng region, to answer the question, "Why children die", revealed not only the challenges with regard to under-5 mortality in hospitals but also communication problems between the PN and caregiver which resulted in influencing the counseling process and therefore failed in the execution of the IMCI strategy (Krug *et al.,* 2004(c):204).

Based on the rationale and background the following research questions are posed:

How is IMCI counseling currently conducted in CHC centres in the North West province?

1.3 AIM AND OBJECTIVES OF THE STUDY

1.3.1 Aim of the study

The aim of the study is to determine the current counseling practices of PNs in CHC centres in order to improve counseling provided by PNs to caregivers to decrease under-5 mortality.

1.3.2 Objectives of the study

The specific research objective is:

Objective 1: To determine how IMCI counseling is currently conducted in CHC centres in North West province.

1.4 RESEARCHER ASSUMPTIONS

Polit and Beck (2012:720) define assumptions as true principle based on logic without the need of proof. In this study the researcher will base her study on ontological and methodology assumptions. Polit and Beck (2014:7) and LoBiondo-Wood and Haber (2006:134), explain ontology assumption as a real world that exists, the nature of reality together with the laws of nature. It is therefore understood as the inescapable and ultimate reality that we are all part of. The ontology assumption in this study is based on a Christian paradigm built on the foundation of the Trinity as defined by traditional Christian thought. It provides a rational foundation for science, religion and a philosophical alternative view of reality, mind and spirit. Unity refers to a state of being undivided. The Trinity is united through the Father, the Son and the Holy Ghost whereas awareness, will and reason are united as reality and function together as one. Therefore the researcher views the health assessment process, treatment and care, and counseling, as a united process that cannot be divided. The diagram below illustrates the unity of three processes in the IMCI strategy that cannot function without one another.

The following meta-theoretical, theoretical and methodological assumptions define the framework within which the researcher conducted this study.

1.4.1 Meta-theoretical Assumptions

The researcher views the participants in this study from a Christian perspective. The children under-5 is viewed in the sense of their vulnerability and love which is the basis of the Christian beliefs and will therefore form the foundation of this research study.

- **Human being, in this study the under 5 child**

God created man as a unique human being. A man who is in community with a woman can be seen as united as one, through the love for one another. The gift given to mankind by God is a child. In the Christian religion, an under-5 aged child is valued as a vulnerable and pure human being without sins, and who is not in the position to take care of the self.

In this study, human being refers to the child from his birth date until he/she is five years of age, the caregiver who is responsible for the under-5 child's well-being and the PN who is responsible to assess and treat the child including the counseling given to the caregiver.

- **Health**

From early times in the Bible, God gave constitutive directives to humankind to maintain optimal health. The researcher believes that health care constituted from the teachings and the healings of Jesus Christ. Health is seen as a holistic well-being of a human being which is in this study an under-5 child who is cared for by a caregiver. It is the caregiver's role to ensure optimal health of an under-5 child, and to use discretion when it is necessary to seek health care.

- **Environment**

God created a human being with the ability to plan and to create construction that will satisfy his environmental needs. In the early times before Christ the church was not only utilized as a place to serve God but is was also used as a place to assist the sick. In this study, this environment will consist of Primary Health Care Centres (CHC centres), where the counseling process between the PN and the caregiver of under-5 child will be observed.

- **Nursing**

From early times nurses learned the art of nursing through observation and caring of the sick. Egenes (2009:2) indicates that nurses who formed into groups in the early Christian era, dealt with charity, service to others and self-sacrifice that was in harmony with the early Christian teachings. Nursing is therefore observed as a process whereby preventative and curative care takes place through a patient-centred approach. The PN observes an under-5 child as a vulnerable and perfectible creation of God that is in need of assistance to ensure optimal health and prevention of mortality. Through love, optimal care and proper counseling to caregiver, as recommended by the IMCI programme, it might be possible to achieve the goal to reduce under-5 mortality.

1.4.2 Theoretical Assumption

The theoretical assumptions include the central-theoretical argument, which includes the conceptual definitions and theories of this research study.

1.4.2.1 Central theoretical argument

In this study the IMCI strategy serve as a theoretical basis to determine the current counseling practices of PNs in CHC centres in a district of the North West Province to improve counseling provided by PNs to caregivers in order to decrease under-5 mortality (See chapter 2.4 for detailed discussion about IMCI strategy).

1.4.2.2 Conceptual definitions

Caregiver

A caregiver is a term used to refer to any person providing mothering activities to an under-5 child. It can therefore be viewed as any person who takes responsibility in the care of a child for example a mother, father, relative or guardian (Madau, 2010:5; WHO, 2004:6).

Counseling

Counseling can be described as an art and a science based on the knowledge of human behaviour and strategies like structure and objectivity used during counseling (Okun & Kantrowitz, 2008:13). According to the same authors, counseling is also an art based on personality, values, skill and giving of necessary knowledge (Okun & Kantrowitz, 2008:13). In this study counseling refers to PNs giving the necessary knowledge to caregivers of under-5 children to take care of their children at home as required by the IMCI strategy.

Integrated Management of Childhood Illness

IMCI is an integrated approach that was instituted to improve the PNs performance, ensuring support of under-5 health through implementation of health systems and the intensification of family practices with the focuses on the well-being of the under-5 child which includes assessment, treatment and care, and counseling (Malimabe, 2007:7; Victoria *et al.* 2006:792; WHO, 2014(a):3).

Community Health Care Centre

A CHC Centre, which is the focus of the researcher's study, is a primary service level where CHC consultations is done in order to promote health and prevent illnesses to a community. In these centres under-5 children are assessed, receive care and treatment, and counseling is given by the PN to the caregiver. Counseling depends on the nature of the illness and also focuses on identification of danger signs and symptoms, feeding, management of illness at home, correct administration of medicine and appropriate return date to the CHC centre (Clark, 2003:173).

Professional Nurse

A PN is a Nurse who is qualified and registered to practice nursing (SANC, 2005:25). In this study the PN is a nurse who is registered at the SANC and working in the CHC Centre.

Under-5 mortality rate

Under-5 mortality rate describes the deaths among children from birth date to five years of age, divided by the numerical value of live births and articulated as the rate per 100, in an under-5 year population of a particular year (Clark, 2003:213; Maleshane, 2012:12).

1.5 RESEARCH DESIGN AND METHOD

An overview of the research design and method is provided to orientate the reader to this study.

1.5.1 Research design

In this study the researcher use a quantitative, observational and typical descriptive design to meet the objective (Botma *et al.,* 2010:111). According to Polit and Beck (2010:351) observational design includes the direct observation of events in order to discover the extent of the problem. In this study counseling provided by PNs to caregivers of under-5 children were observed and a checklist was used to determine what the current IMCI counseling practice entails.

1.5.2 Research method

The research method focuses on the research process, which includes tools and procedures in order to gather information in a systematic way (Polit & Beck, 2012:268). The research method consists of the population and sampling, data collection, data analysis, reliability and validity (Klopper, 2008:69; Parahoo, 2006:183).

1.5.2.1 Population and sampling

- **Population**

The population included in this study was located in the Ngaka Modiri Molema district of the North West province was chosen because the researcher was invited by the Mother and Child manager of this district to do this research in this district. The reason was because there is a need to improve IMCI counseling and lower under-5 mortality in this district. North West province is a very rural area of South Africa and therefore proper provision of counseling to the caregivers of under 5-children is of utmost importance as health facilities are often neither near nor easy to reach. The population of this study included the amount of observed IMCI case management counseling given by PNs working in CHC centres in the Ngaka Modiri Molema district of the North West Province. CHC centres were included because all the CHC centres implement the IMCI strategy when managing under-5 children. CHC centres also have a high number of PNs because they serve a larger population and deliver more types of services than a CHC clinic.

- **Sampling**

According to the statistician involved in the analysis of data for this study, a total of 110 observational tick sheets will be required to ensure a successful study. Therefore, the researcher decided to include at least two CHC centres per sub-district in the Ngaka Modiri Molema district to ensure that the required amount observational questionnaires will be reached even if there are participants who are not willing to take part in this research project.

Purposive sampling of:

- Ten CHC centres (N=10) in the Ngaka Modiri Molema district. Most of the sub-districts had only two CHC centres, only Mafikeng and Tswaing sub-district had more than two. The researcher uses random sampling to select two CHC centres in these districts.

All inclusive sampling of:

- Interested PNs working in these CHC centres
- Caregivers of under 5 children

Due to the fact that the researcher needs to determine the current IMCI counseling practice she needs to include the professional nurse as part of the population although the aim of the study was not to evaluate the PNs counseling during case management but to obtain data on observed IMCI case management counseling. Therefore the actual population is the amount of observed IMCI counseling and the IMCI checklist was compiled with the aim and objective of the study involved. It would not be possible for the researcher to obtain this data if she did not involve the PNs to obtain permission from them.

1.5.2.2 Data collection

Data collection is defined as the activities undertaken by researchers to collect data in the field (Polit & Beck, 2010: 555). Before data collection commenced, the researcher obtained approval from the scientific committee of INSINQ Focus Area of the School of Nursing Science and thereafter the Health Research Ethics Committee of the Faculty of Health Science. The researcher further obtained approval from the Directorate Policy, Planning and Research at the North West Provincial Health Department and the Ngaka Modiri Molema District Health office. The approvals were forwarded to all the sub-district offices in the Ngaka Modiri Molema District to inform them of the study that will be conducted.

The researcher contacted the operational managers of the selected CHC centres and made an appointment. The researcher explained to the operational managers' of all the selected CHC centres the purpose of the study, objectives, data collection procedure, informed consent, all ethical considerations and the protection of participants relating to confidentiality and anonymity.

- **Gatekeeper**

The researcher made use of a gatekeeper (operational manager) who gave the permission to the researcher to enter the CHC Centre. The gatekeeper introduced the researcher to the PNs who are IMCI trained. The researcher explained the following information in the presence of the gatekeeper to the PNs who are involved in IMCI care before consent forms were distributed:

  - Aim & objectives of the study
  - Research design and method
  - Ethical considerations

Opportunity for questions was granted to the PNs. The researcher left consent forms for every PN who attend the information session and gave them a week's time to decide whether they would like to participate in the study or not. The PNs were informed to hand in their signed informed consent to the operational manager. The researcher went back to the gatekeeper to collect the signed informed consent forms. She used the opportunity to inform and request a role change from gatekeeper to mediator for the study. After informed consent was obtained by the researcher, the data collection process was commenced (Creswell, 2009:90).

- **Consent of caretaker**

Before the consultation commenced, the researcher was introduced to the caregiver. The purpose study was verbally explained to the caregiver of the under-5 child. The caregiver of the under-5 child signed the permission form. The researcher was prepared to leave the consultation room upon the caregivers' request. When confidential information was shared with the caregiver her consent was once again obtained.

- **Data collection tool**

In this study a checklist was used for data collection. According to Botma *et al.* (2010:143), a checklist can be referred to as a tool that is utilised to collect and record data. The researchers **observed the counseling process** between the PNs and caregiver of under-5 child. The checklist was a section obtained from the Health Facility Survey on Outpatient Child Care (IMCI) developed by the Ministry of Health and Population, Egypt, and the WHO Regional Office for the Eastern Mediterranean countries (WHO, 2003:102). This survey was conducted from 10 March 2002 until 10 April 2002 to determine the quality IMCI counseling care provided to the caregiver of an under-5 child at health facilities (WHO, 2003:102). The checklist is available in a survey booklet on the WHO Website. The analogy of the checklist is evident in the nature of observation that will take place, although the researcher with the assistance of a statistician made certain adaptations to the format in order to attain the research objective. The checklist was used to record information which was given to a caregiver of an under-5 child to determine whether all aspects of counseling are dealt with as stipulated by the IMCI strategy (WHO, 2003:102). Refer to Addendum M.

- **Data collection procedure**

Data was collected in private consulting rooms of the CHCs where caregivers of under-5 children were consulted, therefore did not have an impact on the day-to-day functioning of the CHC centre. The consultation room was a space behind a closed door, whereby only the PN, caregiver, the under-5 child and the researcher were present. The consultation room ensures a confidential and safe environment for the caregiver and the under-5 child. Time was allocated at the beginning of each case management to introduce the researcher, explain the purpose of the study and request permission of the caregiver as discussed previously.

Exploratory Factor Analyses and Descriptive statistics were used to describe the research findings. The data was coded and computerised using statistical services of the North-West University. Statistical Analysis System (SAS) was used to analyse

data. In the chapter 4, exploratory and descriptive statistics of this study were used to describe the results.

- **Data management**

All data was password protected after capturing and the completed checklists will be scanned and stored electronically on the study leader's computer which is also password protected. Hard copies will be destroyed by means of a shredding machine. No personal information regarding the PNs and CHC centres will be divulged during data collection or revealed in the research report.

1.5.2.3 Reliability and Validity

- **Reliability**

According to Polit and Beck (2010:106) reliability is the consistency with which an instrument measures the attribute. Reliability also concerns the checklists accuracy to reflect true scores. The checklist in this study was developed from a survey, developed by the WHO and utilised in a study in Egypt (WHO, 2003:102). The survey was adopted and tested in January 2002 at health facilities. The initial study involved 296 Hospitals and Health centres that have been observed and 292 caregivers were interviewed (WHO, 2003:6). The analogy of the survey and checklist is evident in the nature of observation that took place, although the researcher with the assistance of the statistician (see addendum D) made certain adaptations to the format in order to attain the research objective and to adapt checklist to the South African context. After completion of the questionnaires the statistician did evaluate the questionnaire for internal consistency by using Chronbach's Alfa.

- **Validity**

Validity was the degree to which an instrument measured what it was supposed to measure (Polit & Beck, 2010:377). Validity in this study was determined through cross validation namely content validity, face and construct validity. Content validity refer to the degree to which an instrument has an appropriate sample of items to

measure the objective of the study. In this study the study leaders are both clinical experts in the field of PHC. In this study the researcher **evaluated the counseling process** as stipulated by the IMCI strategy and it was measured through the selected instrument. Construct validity determined that the data collection instruction measured what it was supposed to measure, in other words did it assist the researcher to explain the objective of the study (Polit & Beck, 2010:379). In the following sections the ethical considerations applicable to this study will be discussed in detail.

1.6 Ethical Consideration

Principles	Application to study
The Institution	The research proposal was handed in to the scientific committee at the INSINQ and thereafter to the Health Research Ethics Committee of the Faculty of Health Science of North-West University (Potchefstroom Campus) in order to obtain ethical clearance to continue with research. Rectification was done and ethical approval was obtained (Refer to Addendum A).
Institutional autonomy and permission	The autonomy of governing bodies should be respected. A written request to obtain approval of the research proposal was sent to Directorate Policy, Planning and Research at the North West Provincial Health Department. After approval from this department (refer to Addendum B) a request to do data collection in the Ngaka Modiri Molema District was sent to the acting Chief Director at the Provincial Health Department Office (refer to Addendum C) . All the sub-districts in the Ngaka Modiri Molema District were informed that the researcher received the approval to continue with data collection (refer to Addendum F-J). The sub-districts manager informed all operational managers at the CHC centres in their region, that research will be conducted at their facilities.
The Participants	According to Pera and van Tonder (2005:151) all measures towards practicing ethically sound science and research are directed towards maintaining the self-respect and dignity of all PNs. The PNs who consented to take part in the study, were assured to continue with their daily routine tasks while the counseling provided were observed. The purpose of the study was also explained to the caregiver of the under-5 child before data was collected. The researcher is a PN who did wear her nursing uniform to eradicate uncomforted feelings towards the presence of an observer. The researcher was friendly and professional all the time and was willing to withdraw immediately if it was requested from the PN or caregiver although permission was given

	• No harm will be ensured through the following guidelines:
	• *The protection of human rights*: The researcher did not force the participants to take part in the research study.
	• *No discrimination*: The researcher did not discriminate against race, language, culture or against any of the PNs or caregivers of under-5 children. The researcher did not continue with data collection unless informed consent had been received.
	• *Respect and dignity*: The researcher showed respect to the participant and caregiver of under-5 child at all times. These include:
	  ○ The withdrawal of participants during data collection was permitted.
	  ○ The name of the participant or caregiver of under-5 child was not mentioned on the checklist.
	  ○ The CHC Centre name did not appear on the checklist.
	  ○ All information was protected.
	• The researcher did not bribe the PNs or caregivers of under-5 children who took part in research study.
	• If the researcher observed evidence of any harm or potential harm to the child by the PN, she would have reported such activities to the operational manager in charge of the CHC.
	• The PNs were not being paid to give informed consent in the study, nor was it expected from them to be involved in any financial costs during the study.

Respect of Participants & Caregivers of under-5 children	The researcher respected the PNs professional knowledge and vulnerability of the caregiver and the under-5 child. The researcher was introduced and permission was obtained from the PN and caregiver of the under-5 child to be present in the consultation room before observation of IMCI counseling commenced. The researcher would have left the consultation room if a caregiver verbally requested it.
Autonomy and confidentiality	Autonomy means that any person who is classified as a vulnerable group or who was not able to give informed consent, was not exploited. In this study, data was not collected if the PN and caregiver did not sign voluntary informed consent to permit the researcher to be present during IMCI case management practice. All PNs and caregivers were informed that they have a right to request the researcher at any point to discontinue the observation of IMCI counseling given at any time. The term confidentiality means that any information that is collected during observation of IMCI counseling in the study will not be shared with others without the consent of the participants'. The researcher ensured that no PN or caregiver was exploited and that all checklists were handled confidentially. No names of any of the PNs, caregivers or CHC centres were visible on the checklists, only codes were used (Burns & Grove, 2005:182-188).

Informed Consent	Informed consent is the decision of the PN and caregiver to take part in the study, without coercion, persuasion or power applied by the researcher (Burns & Grove, 2005:196). PNs and caregivers did receive a consent form which they have signed before the data collection commenced. Both, the PNs and caregiver of under-5 children, were provided with information verbally and in writing (Pera & van Tonder, 2005:152). **Benefits and Risks ratio** • Benefits: o There were no direct benefits for the PNs or caregivers, only indirect since the study aims to determine the current counseling practices between PNs and caregivers at CHC centres. o This study will give insight of where the IMCI service can be improved with regard to counseling which are given to the caregivers of under-5 children. The Health Department may benefit from seeing where the loopholes are in the system with regard to IMCI counseling. • Risks: There were only minimal risks to the PNs and caregivers: PNs and caregivers • The researcher comforted the PN when she noticed pressure or discomfort. PNs were assured that only the implementation of **IMCI counseling was being observed** and not the PN or the caregiver. The researcher listened attentively when information was shared with her and she was friendly at all times. • The introduction and the researcher's presence was explained before informed consent was signed by the caregiver before commencement of the IMCI case management.

	• The researcher did wear her nursing insignia which comforted the PNs and caregivers when personal information was shared during an IMCI case management.
Confidentiality and anonymity	While preparing the PNs and caregivers to give informed consent the researcher indicated how confidentiality and anonymity were to be secured. The following procedure was followed (Pera & van Tonder, 2005:154): o Names of PNs or caregivers were not divulged. o All data was password protected and the completed checklists was scanned in and stored in an electronic format on password protected computers. All data on the computer is password protected. The researcher delivered all checklists to the statistical consultation services of North-West University and data was captured onto the systems. After seven years of storage all electronic data will be deleted from the electronic device is has been stored on by the IT department of the NWU. Hard copies were destroyed by shredding. o No personal information regarding the PNs or caregivers was required during data collection or used in the research report.
Veracity	Veracity encompasses the practice were the truth should be told (Pera & van Tonder, 2005:52). The researcher did act with truthfulness and honesty. The information will be in the best interest of the selected population. The researcher did not fabricate or falsify data that will lead to the transgression of ethical principles, beneficence and non-maleficence (SANC, 2013:4).
Non maleficence	The researcher did refrain from doing harm to the PNs or caregivers who participated in the research study (SANC, 2013:4).

Right of beneficence	The concept right of beneficence means that the participant is protected from discomfort and harm (no anticipated effects, momentary uneasiness, unusual levels of temporary discomfort, rest of permanent damage, and certainty of permanent damage). Comfort and reassurance was given through the following aspects: ○ Participants were assured that the researcher is not there to judge them. ○ Researcher assured participants that their names do not appear on the checklist forms. ○ Friendliness and compassion ensured comfort and encouragement. Harm could be of a physical, emotional, social and of financial nature. • Physical Harm: ○ The researcher did not hurt, roughly handle or bullied the PNs, caregivers or under-5 children. • Emotional harm: The PNs, caregivers or under-5 children were not emotionally harmed. The researcher did not embarrassed the participant or caregivers, since this could lead to fear, anxiety, anger or sadness and make them feel inferior or insulted. • Social harm: The PNs, caregivers of under-5 children was not being socially harmed. No threats were made to harm the family or community, no discrimination to race, language, and culture etc. The researcher did not neglect the privacy of the PN and caregiver of under-5 children. • Financial harm: The PNs and caregivers of under-5 children were not financially harmed. This included: ○ No inducement or acceptance of money from participants. ○ No threats were made when PNs or caregivers request the researcher to leave the consultation room.

	○ Financial losses – The PNs and caregivers did not have to take time off from work to **take part in the research.** • Legal harm: The PNs and caregivers of under-5 children were not legally harmed. There were no law suits against PNs or caregivers. • Dignitary harm: The PNs and caregiver or under-5 children were not dignitarily harmed. This included: ○ PNs and caregivers of under-5 children were treated with respect. ○ PNs or caregivers of under-5 children's dignity were always highly valued. In this study the researcher did guard against non-compliance of the right of beneficence; by ensuring that no PNs, caregivers or under-5 children were exposed to any form of harm (Burns & Grove, 2005:190-191).
Dissemination of results	The results of the research will be shared by sending a final research report to all CHC centres for PNs who would like to obtain information regarding the outcome of the research study. The final research report will also be distributed to the Directorate: Policy, Planning and Research of the North West Province, Ngaka Modiri Molema district office as well as to all participating sub-district offices. The researcher will submit an abstract for presentation at the yearly provincial health research conference. Upon approval of abstract, the research will present the research results at the conference. All the CHC centres will be informed of the presentation whereby the PNs will be invited.

1.6 CHAPTER SUMMARY

In this chapter the introduction, background, problem statement, aim, objective of study and research assumptions were discussed. The research design, method and ethical considerations were delineated to provide a clear understanding of the research process that will follow. Chapter 2 concentrates on the literature review that was piloted to give a clear understanding of the counseling process during case management within the IMCI strategy.

1.7 DISSERTATION LAYOUT

The dissertation consists of the following chapters:

Chapter 1 Overview of the study

Chapter 2 Literature review

Chapter 3 Research methodology

Chapter 4 Research results

Chapter 5 Conclusions, evaluation, limitations and recommendations to improve IMCI counseling process at CHC centres

CHAPTER 2:

LITERATURE REVIEW

2.1 INTRODUCTION

In chapter one an overview was given about the research study. The background, problem statement, aim and objective of the study were discussed. The meta- and theoretical departure point, research design and method were elicited. The validity, reliability and ethical principles applicable to the study were broadly elaborated on. In this chapter the researcher will conduct a literature search to discuss holistic care of the under-5 child and the IMCI case management counseling process which forms the theoretical basis of the research. During an IMCI case management, the under-5 child is assessed, classified, treatment identified and counseling is given. This study focuses on each component of IMCI counseling during the case management of the under 5-child. In the following section the core principles of well-being for under-five children will be discussed.

2.2 CORE PRINCIPLES OF WELL-BEING FOR UNDER-FIVE CHILDREN

The United Nations Millennium Declaration developed eight Millennium Development Goals (MDGs) which address various targets. The MDG's aim to increase incomes to reduce hunger and poverty (MDG 1), ensure universal primary education (MDG 2) and eradication of gender inequality (MDG 3). The MDG's aims also to reduce maternal and child mortality (MGD 4) and 5), to reverse maternal and child Human immunodeficiency virus infection and acquired immune deficiency syndrome (HIV/AIDS), Tuberculosis (TB) and malaria (MDG 6) (Waage *et al*. 2010:992).

Although there has been a decline in under-5 child mortality worldwide, it is still alarming that 6.6 million under-5 children still die before their fifth birthday (IMCI, 2014:10).

MDGs were developed to eradicate poverty, sustain human development, promote holistic growth and child health and social development which will form the guiding principles for a healthy under-5 child society after 2015 (IMCI guidelines, 2014:xi; Waage *et al*., 2010:1011). PNs are challenged to ensure that under-5 children are assessed correctly and receive the correct treatment to ensure, at the end, well-being of the under-5 child. Figure 2.1 below gives a schematic illustration of the core principles of well-being for under-five children, which provide the reader with information about holistic care for the under-5 child.

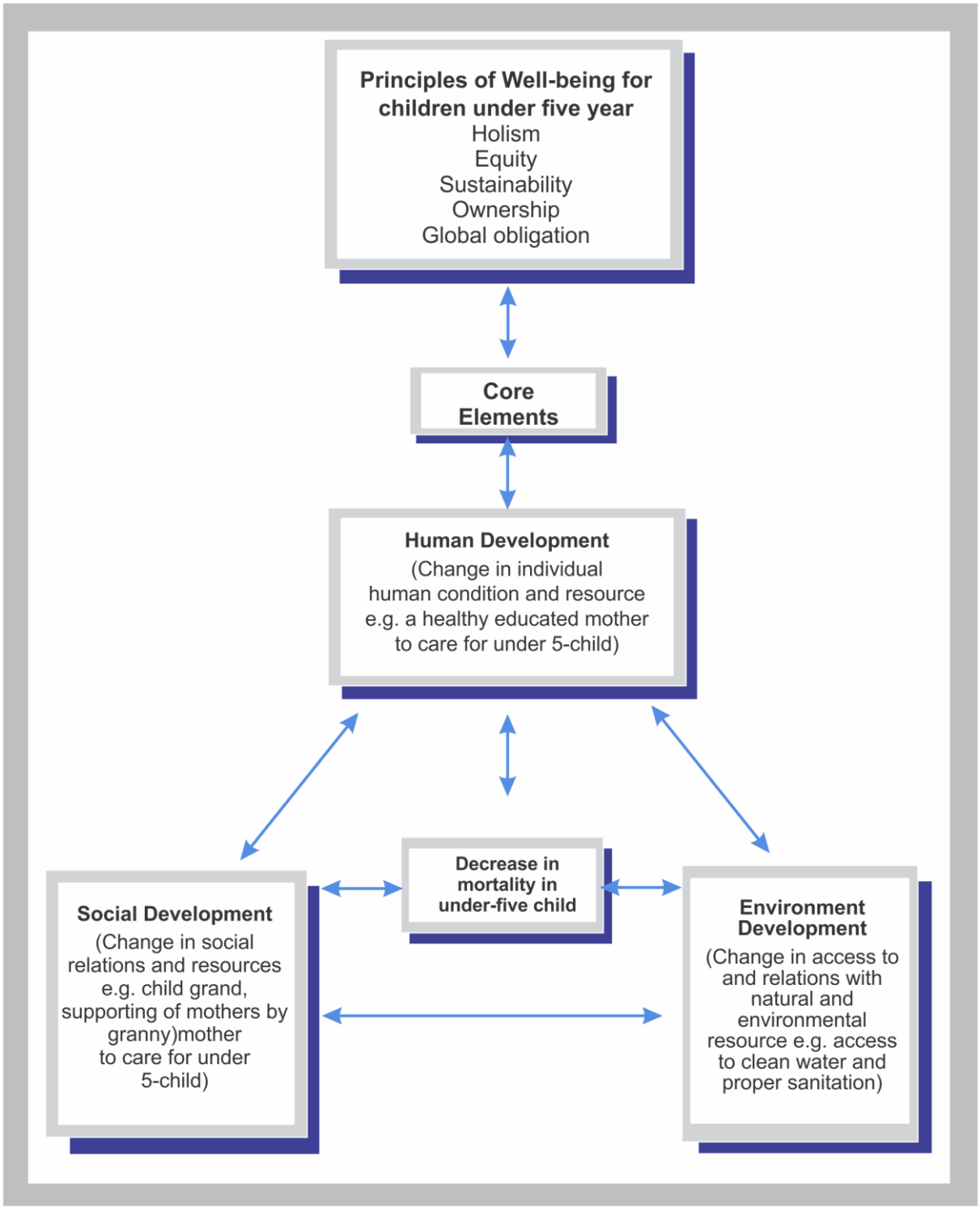

Figure 2.1: Schematic illustration of the core principles of well-being for under-five children as adopted from Waage *et al.* (2010:1011)

The WHO recommends and advocate certain statistical indicators to determine the health of an under 5-child in a country. One of these indicators is under-5 child mortality, which is targeted in MDG 4. The literature also revealed core principles to achieve holistic conceptualisation of well-being in under-5 children which includes holism, equity, sustainability, ownership and global obligation. Below follows a discussion of these principles.

- **Holism**

Holism encompasses human, social and environmental development. These *core elements* involved are for children under-5 to have good health which includes a safe environment where under-5 children can play and grow up, adequate nourishment, the ability to use senses so that they can learn, think and reason (Waage *et al.,* 2010:1011; Di Tommaso, 2003:5).

- **Equity**

The low maternal knowledge of mothers and the unawareness of HIV distribution from mother to child are factors which has an influence on under-5 mortality. The *core element* refers to the World Health Organisation who developed strategies such as PMTCT and IMCI. These strategies were instituted to eradicate poverty, prevent transmission of HIV/AIDS from mother to child (PMTCT) and the provision of health and education or counseling to the caregiver (Koech, 2013:23; Waage *et al*., 2010:1012).

- **Sustainability**

According to Waage *et al*. (2010:1013), nutrition, an element of well-being, can be sustained through agricultural and environmental systems that are enforced by the government. The absence of the *core element*, holistic child health and development will have an impact on child survival (Bhutta, 2004:484).

- **Ownership**

Ownership involves the way to review progress that has been made toward the reduction of under-5 mortality (Waage *et al*., 2010:1014). The under-5 child health care Problem Identification Programme (U5PIP) audit programme was developed in South Africa. This program audits all under-5 child mortality. This audit programme consist of standards and guidelines which audit care given to the under-5 child, and modifiable factors which conclude actions, events or omissions that led to under-5 child death (Krug & Pattinson, 2004(c):1). This program supports the MDG4 to stimulate change and to reach the well-being of under-5 children (Waage *et al.,* 2010:1014).

- **Global obligation**

The health of under-5 children is a global responsibility whereby the right to health and protection needs to be fulfilled. This includes the assurance of provision of health care to everyone. The *core element* includes well-functioning health systems and services, health information, immunisations, availability and cost-effective medicine, the prevention of pollution, proper sanitation and safe water, and proper nutrition (Gostin *et al.*, 2010:22).

The three **pillars** whereupon well-being stands include **human, social and environmental development** (Waage *et al*., 2010:1101; Franz & FitzRoy, 2006:9).

Human Development is a principle that describes the improvement of standard of living to ensure a healthy life for an under-5 child. Malnutrition of under-5 children has to be decreased through nutritional counseling to ensure that the caregiver understands all nutritional opportunities to improve the life and growth of the under-5 child (Diaz-Martinez *et al.*, 2013:10).

Social Development is a principal that illustrates care systems that will improve the dignity and quality of life for the under-5 child. The support of nutritional and health services will ensure improvement in the literacy of caregivers which will improve

under-5 child nutrition in the household as well as in the society (Diaz-Martinez *et al.*, 2013:10).

Environmental development is the last principle that emphasised appropriate homecare, immunisation campaigns and implementations of policies. IMCI was institutionalized to ensure growth monitoring, detection of diseases and counseling to ensure a holistic approach in the well-being of the under-5 child (Franz & FitzRoy, 2006:9; Diaz-Martinez *et al.*, 2013:10).

The abovementioned core principals of well-being elicit the pivotal essentials to ensure well-being of people and community as a whole. In Table 2.1 below the researcher discusses the principles underlying each **pillar** namely human development**,** social development and environment development to indicate what needs to be done in order to ensure well-being in under-5 children. According to Waage *et al*. (2010:1011) progress in human, social and environmental development is important for the well-being of the under-5 child and includes five principals important to the development of under-5 child well-being namely, holism, equity, sustainability, ownership and global obligation.

Table 2.1: Principles important for the well-being of children under 5 year

		WELL BEING OF CHILDREN UNDER 5 YEAR		
Principals important for the well-being of children under 5 years	**Core elements which should be addressed**	**Human Development actions that need to be taken**	**Social Development actions that need to be taken**	**Environmental Development actions that need to be taken**
Holism (Waage *et al*. 2010:1016; Martins *et al*. 2005:1190)	• Education • Safety of Children • Child development • Adequate nurtrition • Prevention of obsity	• Health education to caregivers • Training of health workers in IMCI • Reduction of under-5 mortality • Immunisation coverage • Exclusive breastfeeding • Antibiotics for neonatal infections • Obesity of under-5 children	• Prevention of poor health • Health education to community • Promotion of healthy diets	• Reduction of pollution • Safe environment for children • Provision of sanitation and consumable water
Equity (Waage *et al*. 2010:1017; Bhutta *et al*. 2010:2036)	• National Health's contribution towards under-5 child health	• Eradication of poverty • Prevention of malnutrition • Support to caregiver on chronic medication • Health counseling to caregiver of under-5 child • IMCI- management of sick under-5 child	• Eradication of systematic disempowerment of women with regard to health and education • The disadvantage of ethnic groups • Excess the risks of illness, malnutrition and food insecurity,	• Provision of clean water and air. • Address geographical factors which can have an impact on inequity. • Excess the risks of poor housing, water and sanitation and restrict access to health facilities.

Table 2.1: (continue) Principles important for the well-being of under-5 children

		WELL BEING OF CHILDREN UNDER 5 YEAR		
Principals important for the well being of children under 5 years	**Core elements which should be addressed**	**Human Development Actions that need to be taken**	**Social Development Actions that need to be taken**	**Environmental Development Actions that need to be taken**
Sustainability (Waage *et al*. 2010:1019)	• To achieve the holistic expectations	• The funding of health systems • The access to HIV treatment • Technical assistance of new resources	• Reduction of HIV/AIDS and TB through provision of information and treatment. • Prevention of mother-to-child transmission • Immunisation campaigns	• Availability of commodities • Availability of stock and treatment at health centres.
Ownership (Waage *et al*. 2010:1019; Lawn *et al*. 2005:895)	• Generatation of National, regional and global targets to reach the well being of under-5 children	• The prevention of poor health outcomes.	• Assist community groups which have a positive or negative influence on under-5 child survival. • Funding agencies to promote child health • Society participation in health promotion	• Environmental development with regard to climate change, adaptation and mitigation. • Poverty is a underlying course of under-5 child mortality.
Global obligation (Waage *et al*. 2010:1019; Martins *et al*. 2005:1191.)	• Health development requires commitment from healthy countries to support poor countries.	• The interaction between countries to ensure improved health outcomes in the fight against under-5 child mortality. • The implementation of IMCI to improve health systems.	• Training of health workers internationally	• Improvement of global health security in the prevention of disease pandemics. • Obtain Global funds for the prevention and treatment of HIV/AIDS, TB, malaria and the co-operation with global alliance for vaccines and immunisations.

All though the above mentioned table is not directly involved in the IMCI strategy, it provides a clear understanding of the fundamental principles to ensure well-being of children under- 5 year. It is clear that the MDG's as set will not be reached by developing and under developed countries and the WHO set long term goals to ensure that the MDG's will be reached. The Presidency of the Republic of South Africa, in line with the WHO expectations, adapted and set nine long-term goals in order to address the needs of our country towards 2030 to make health realistic for all. The proposed goals will present an incorporated response to South Africa's health challenges. The ninth goal that have been added address the capacity to provide training of health professionals (Department of Presidency Republic of South Africa, 2011:333). The nine goals are as follows:

Goal 1: Average male and female life expectancy from birth increase to 70 years.

Goal 2: Progressively improve TB prevention and care.

Goal 3: Reduce maternal, infant and child mortality from 56 to below 30 per 1000 live births. 97% of pregnant woman to attend at least one ante natal clinic and 89% of children to be fully immunised at one year of age. Reduce the incidence of Pneumonia and Diarrhoea by 75%.

Goal 4: Significantly reduce prevalence of non-communicable chronic disease.

Goal 5: Reduce injury, accidents and violence by 80% from 2010 levels.

Goal 6: Complete health systems reforms.

Goal 7: Primary health care teams provide care to families and communities.

Goal 8: Universal health care coverage.

Goal 9: Fill posts with skilled, committed a competent individuals (Department of the Presidency Republic of South Africa, 2011:333; IMCI 2014:50).

In the following section the researcher provides an in-depth discussion on MDG4 which is the focus of this study.

2.3 MDG 4

In the year 2002, countries pledged to reach the MDG4, by ensuring a reduction of under-5 deaths (Black *et al*., 2003:2226). In the year 2010, 7.6 million under-5 children died worldwide with a deadline of only three years remaining to meet the MDG 4 target to reduce under-5 child mortality by the year 2015. The realisation of achieving MDG4 seemed problematic as according to Sargonas *et al.* (2014:3), the global under-5 child mortality rate prevailed in twenty eight percent of under-5 deaths, conversely 7.2 million under-5 children have died in 2011. The MDG4 consists of three indicators namely to reduce the mortality rate of under-5 children, the reduction of the infant mortality rate and the elevation of quantity immunisation against measles of one year old children (Liu *et al*. 2012:2151; Waage *et al*. 2010:994). A decline in under-5 child mortality of 4.3 million deaths occurred in a time frame of nine years since 1990 in low and middle income countries such as Sub Saharan Africa and Asia. However, in developing countries, including South Africa, 12 million under-5 child deaths occur annually of which under-5 children in the poorest households are still the most affected due to conditions such as pneumonia, diarrhoea, malaria, measles and malnutrition as these diseases attribute to seventy percent of deaths (UNICEF, 2011:4; Black *et al.,* 2003:2226; Kelly & Black 2001:S113; Karamagi *et al*., 2004:31).

Figure 2.3 below indicates global common causes of under-5 children deaths in the year 2010.

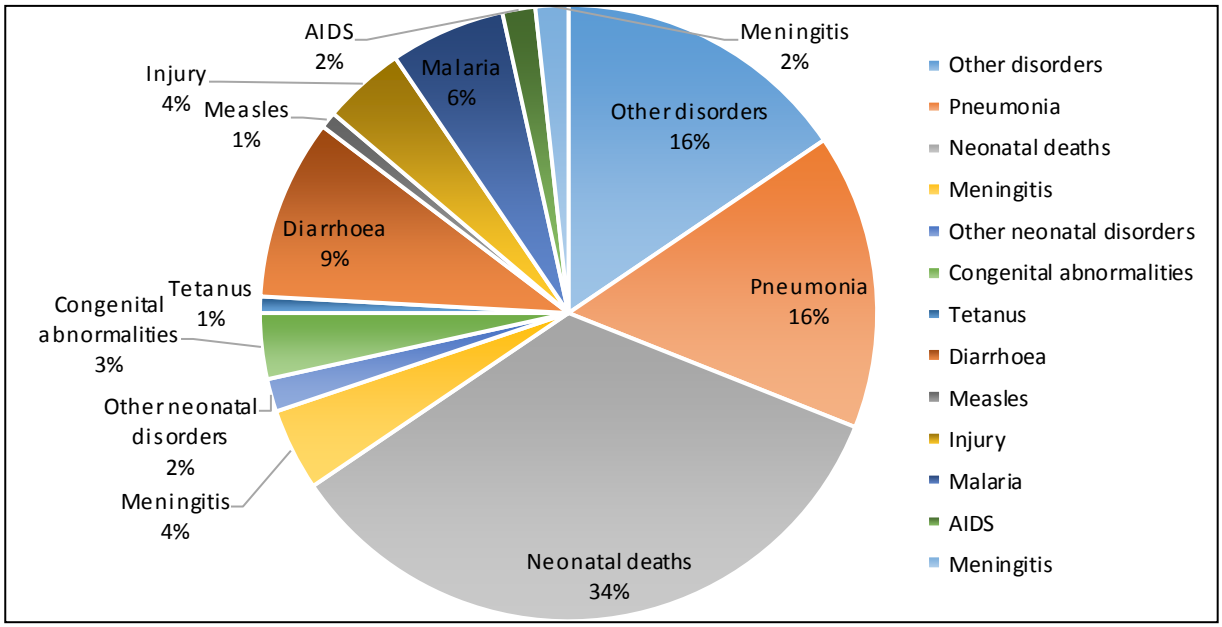

Figure 2.3: Global causes of childhood deaths in 2010 (Liu *et al.*, 2012:2155)

According to Liu *et al*. (2012:2155) 7.6 million under-5 children died globally in 2010, of which 4.8 million under-5 children died of infectious diseases such as pneumonia and diarrhoea. On top of these infectious diseases, malaria was added as the leading cause of under 5-child mortality. Although there was a decline, little or no progress has been made towards the target. The under-5 mortality rate is described as the number of infants or children dying before their fifth birthday per a 1000 live births (IMCI, 2014:11). Under-5 child mortality is not only experienced as a global concern but also as a national concern in South Africa. Initiatives have been instituted by the South African government to limit under-5 child mortality due to the fact that between 1998 and 2007 South Africa has experienced an increase of under-5 deaths from 38 – 67 per 1000 live births. However, between the years 2007 to 2010 the statistics showed a decline to 53 under-5 deaths per 1000 live births, although this was unlikely to meet the goal of 20 deaths per 1000 live births (Department of Health, 2013:64). The decline can be ascribed to the IMCI strategy, Prevention of mother to child transmission and the expanded program on immunisation (Department of Health, 2013:69; IMCI, 2014:12). According to Nakamura *et al*. (2011:1), factors associated with under-5 child mortality in South Africa include early child bearing

age, caregivers who only received primary education, babies who have never been breastfed or breastfed for less than six months, the birth interval and children in malaria areas who did not sleep under bed nets.

According to WHO (2014(d):60) there was in the year 2012, 78 under-5 deaths per 1000 live births in South Africa. The leading cause of death that is applicable to this study was diarrhoea, HIV/AIDS, other infectious diseases and acute respiratory diseases such as pneumonia. Malnutrition is also a contributing factor towards under-5 child mortality. All these leading causes of child under-5 deaths are addressed with the IMCI strategy. Neonatal deaths included prematurity, intra-partum related complications, neonatal sepsis and congenital abnormalities. All the nine provinces showed a decline in under-5 child mortality, with the greatest decline in the North West Province between 2007 and 2009. The decline can be ascribed to the improvement in prevention and management of diseases through the IMCI strategy (CoMMic, 2012: ix). The following table indicate the child mortality rates between the four districts in the North West Province in 2009.

Table 2.2: Infant and under-5 mortality rate in the North West Province during 2009 (CoMMic, 2012:10).

Districts in the North West Province	Birth total	Death of infants under 1 year of age	Death of under-5 children	Infant mortality rate	Under-5 mortality rate
Bonjanala Platinum	**34 995**	**1189**	**1576**	**34.0**	**45.0**
Ngaka Modiri Molema	**10 019**	**1056**	**1376**	**105.4**	**137.3**
Ruth Segomotsi Mompati	**17 437**	**681**	**939**	**39.1**	**53.9**
Kenneth Kaunda	**16 110**	**875**	**1066**	**54.3**	**66.2**
Total	**995 791**	**3 802**	**4 958**	**48.4**	**63.1**

Although there was a decline in the under-5 mortality rate between 2007 and 2009 in the North West Province, Dr Ngaka Modiri Molema district, which is the centre of the

study, indicates the highest under-5 mortality rate in the Province with a 137.3 deaths per 1000 live births in 2009. Strategies like the Integrated Management of Childhood Illness (IMCI), Prevention of Mother to Child Transmission (PMTCT) and Expanded Programme on Immunisation (EPI) assisted in the decline of under-5 child mortality challenges still exists. The following challenges were noted that still pose a threat to the under-5 child mortality rate:

- Poverty levels.
- Safe drinking water and sanitation services.
- Access to basic health services.
- Quality care is not universal.
- Under nutrition among under-5 children still requires attention.
- Health systems require strengthening.
- The shortage of health workers which leads to de-motivation.
- Low literacy of caregivers especially in rural areas.
- Logistical management (IMCI, 2014:12; Department of Health, 2013:69; Diallo *et al*., 2011:656).

In the following discussion, the researcher discusses each of the challenges mentioned above that have an influence on under-5 child mortality in Ngaka Modiri Molema District.

- **Poverty levels.**

  Poverty is an underlying cause of under-5 mortality. Poor economical conditions contribute to the cause of the under-5 mortality rate since there are extensive dissimilarities in living conditions which include factors such as food insecurity which leads to malnutrition, overcrowded housing conditions which can lead to the spread of diseases such as TB and poor access to safe drinking water and sanitation services. Strategies to eradicate poverty among South Africans include opportunities of employment, education, health, proper nutrition and access to health information (Bradshaw *et al*., 2003:2; Sanders *et al.*, 2010:33; The Presidency RSA, 2011:28).

- **Safe drinking water and sanitation services.**

  Water is an essential resource. By increasing the availability of safe drinking water, provision of sanitation and water management, will decrease the risk of water-born infectious diseases. Access to safe drinking water and sanitation services is an important health concern since the majority of households in South Africa, do not have access to running water (Bradshaw *et al.,* 2003:2; WHO, 2013:34).

- **Access to basic health services.**

  Access to health services are compromised by lack of money or illiteracy of the caregiver. Caregivers will rather seek health services when a child has diarrhoea than coughing although both symptoms are associated with fever (Taffa & Chepngeno, 2005:243).

- **Quality care is not universal.**

  Quality care can derive from different perspectives such as health services rendered or the influence of different economical classes. In some cases PNs give only general advice on feeding not assessing the feeding problem.

Some PNs do not encourage caregivers to ask questions since they feel the caregivers become too knowledgeable (Karamagi *et al*., 2001:36). According to Horwood *et al*. (2009(b):4), PNs failed to do accurate assessments during IMCI case managements which led to poor IMCI implementation and under-5 children did not receive the correct treatment. Caregivers and under-5 children from rich families receive higher health intervention coverage than those from poorer families (Bhutta *et al*., 2010:2040).

- **Under nutrition among under-5 children still acquires attention.**

Malnutrition is a cause of most under-5 child deaths which can be associated with the family background and environment which include poverty and access to clean water and sanitation. However, severely malnourished under-5 children did not receive treatment, according to the IMCI regimes due to inadequate training of PNs. (Moestue *et al*., 2007:1274; Hamer *et al.*, 2004:182). Nevertheless, according to WHO (2013:34), access to clean water and sanitary, access to health services and care, and the correct preparation of food are all aspects that contribute to nutritional security.

- **Health systems require strengthening.**

The strengthening of health systems is important since it will have an influence on the delivery of effective maternal, infant and under-5 child health care. The progress in coverage of health services in countries with a high under-5 child mortality rate will have an influence in reducing new-born and under-5 deaths. (Lawn *et al*., 2005:898; Bhutta *et al*., 2010: 2041).

- **The shortage of health workers which leads to de-motivation.**

Shortage of personnel can be contributed to the uneven geographical distribution of professional nurses across the country. The lack of professional nurses, high workload and low job satisfaction are all challenges that lead to de-motivation, and therefore affect the compliance towards the

IMCI intervention (Sargonas *et al*., 2014:7; Bhutta *et al*., 2010:2041). According to Vhuromu and Davhana-Maselesele (2009:63), a shortage of health workers and poor working conditions such as work overload and lack of support by supervisors and community result in the difficulty to comply with the IMCI assessment and counseling procedures.

- **Low literacy of caregivers especially in rural areas.**

  PNs are trained to use a caregivers' card when they give counseling to assist illiterate caregivers in remembering the counseling given. The caregivers card consists of one-page card that contains information with pictures that can be used at home (Kelly *et al*., 2007:76).

- **Logistical management.**

  Logistical resources will assist in the assessment of under-5 children during an IMCI case management. According to Vhuromu and Davhana-Maselesele (2009:65) logistical resources include scales to weigh under-5 children to determine weight and to estimate amount of medication or rehydration fluid that needs to be prescribed. Thermometers are needed to take temperatures to determine fever, which can lead to misdiagnoses and treatment if resources are unavailable. The shortage of medication or immunisations is crucial for treatment and prevention purposes. The lack of computers ensures that information and record keeping are not updated on a system and the retirement of information is difficult.

Although challenges still exist, the MDGs still exist to address these challenges. Waage *et al*. (2010:1007) suggested three options with regard to future development of these goals namely, to continue with the MDGs as they are without the time frame, to create new targets or to combine the existing MDGs with something new. According to the WHO (2012:3) moving forward includes strengthening health systems such as health financing that will raise sufficient funds for health, the

accessibility to medication, health information and good counseling practices, people centred services and a motivated and well trained health work force. The World Health Organization (WHO) together with the United Nations Children's Fund (UNICEF) developed a key strategy to meet the MDG4 which are known as the Integrated Management of Childhood Illness (IMCI) which provide guidelines to promote under-5 child health and management of the sick child.

The IMCI strategy includes the improvement of case management skills of PNs, improvement of health systems, improvement of family and community practices (Goga & Muhe, 2011:1; IMCI, 2014:50; Horwood *et al.*, 2009(b):2). Counseling which is the focus in this study is seen as one of the foundation pillars to increase the knowledge of caregivers to improve breast and complementary feeding, and growth in under-5 children to achieve the MDG 4 (Zaman *et al*., 2008:210). In the following section the researcher will focus on the IMCI strategy.

2.4 IMCI STRATEGY

The IMCI strategy was globally initiated in 1995 in a few countries and adopted by South Africa in 1997. The IMCI strategy, which involved the public sector and health facilities, provided a holistic evidence based approach to reduce under-5 child mortality through three components. These components include improving case management skills of health professionals, improvement of the health system required for the effective management of ill under 5-children, and promotion of family and community practices. This can be accomplished through effective counseling and education of the caregivers and members of the community (Kelly & Black 2001:S114; Sargonas *et al.,* 2014:3; Prosper *et al.,* 2009:12; Horwood, 2009(b):2). According to Kelly and Black (2001:S114), all the above mentioned components embrace disease prevention, curative care and health promotion activities. Nevertheless, deprived compliance to the IMCI strategy was observed due to the unavailability of job aids such as caregiver's cards and medication, shortages of staff, elevated workload, the growing population whereas the quantity of health professionals continues to be the same, insufficient motivation and supervision, the

expense of training and the time frame coupled to follow the IMCI chart booklet (Prosper *et al*., 2009:9; Sargonas 2014:7; De Renzi *et al.*, 2008:1). According to Prosper *et al*. (2009:9) the above mentioned factors resulted in limited consultation time of under-5 children and follow up care. This argument is also supported by Goga and Muhe (2011:2), and Admaral *et al*. (2004:S216) who determined that clinical assessments, observation of danger signs and feeding evaluation, by health professionals of under-5 children, were mostly incomplete. The IMCI strategy encompasses of three components namely,

- **Component 1**: **Case management** according to IMCI
- **Component 2:** Improvement of **health systems** to ensure effective management of childhood illness e.g. training of health professionals to implement the IMCI protocol
- **Component 3:** **Household and community practices** involve promotion of IMCI in households in communities. This component focus on key family practices and includes health education on feeding, growth monitoring, proper disposal of feces, prevention of malaria, prevention of child abuse, prevention of HIV and AIDS, continue with feeding and giving fluids to a sick child, give sick child appropriate home treatment, prevention of injuries and accidents, immunization, care seeking, compliance to treatment, ante-natal care and the involvement of men in caring for the under 5-child. The re-engineering outreach teams are responsible for health education, case finding, referring to PHC clinics and CHC's and monitoring.

This study concentrates on the first component of the IMCI strategy, which embraces the case management and the counseling of caregivers. The focus of the study is however on the counseling of the caregiver during case management. According to Xingming (2007:213) and Horwood *et al*. (2009(b):2), the IMCI guidelines were developed around straightforward questions with the emphasis on health promotion, nutrition and to provide effective counseling for caregivers to render age-specific guidance in child development and growth. In Figure 2.2 below the case

management process is outlined broadly. The management of the young infant less than 2 months is not illustrated as it will complicate the understanding of the IMCI case management process. After figure 2.4 disease intermediation, **counseling and education of caregiver** will be discussed.

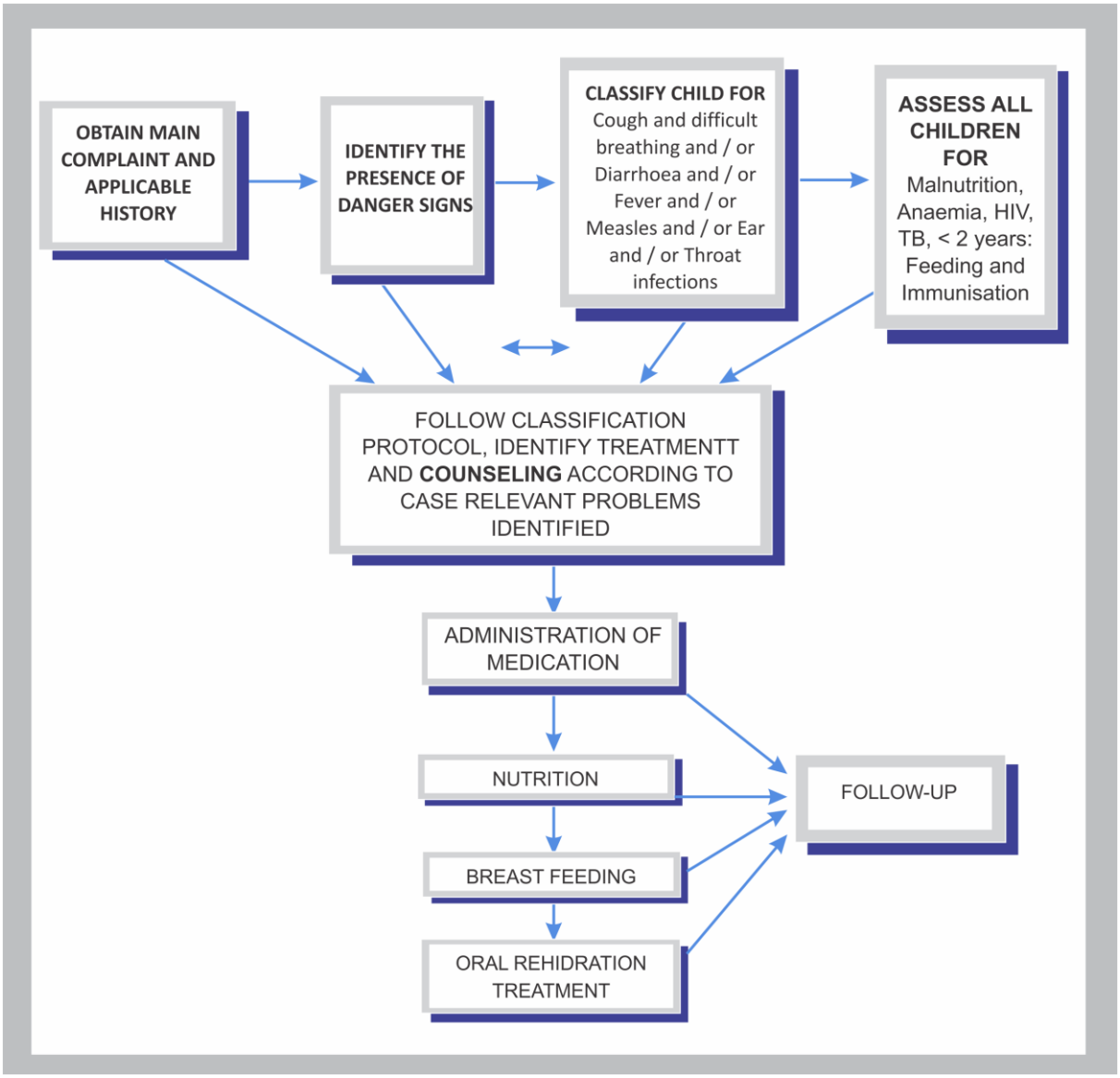

Figure 2.4: IMCI case management protocol

2.4.1 Disease intermediation

Disease intermediation involves the diseases concerned in this study. It will clearly demonstrate how assessment, treatment and counseling plays a role to attain the requirements of the IMCI strategy. Higher under-5 fatality rates are led by infectious diseases such as pneumonia, measles and diarrhoea, whereby HIV/AIDS infected children have an increased vulnerability to Pneumonia, Tuberculosis and other infections. Nevertheless, under-nutrition has a substantial influence on infectious disease fatality of the under-5 child (Black *et al.*, 2003:2229). Despite all the interventions, infectious diseases remain highly prevalent and therefore account for most of the under-5 mortality (IMCI, 2014:12). According to Black *et al.* (2003:2226) interventions are not vital only to the prevention of diseases but also encompass the understanding of socio-economic factors, level of caregiver's understanding ability, the environment and behaviour. It is therefore vital that the caregiver of an under-5 child receive counseling in order to recognize signs and symptoms of infectious diseases and to have the knowledge when to seek health care (Kelly & Black, 2001: S115; Sargonas *et al.,* 2014:11). The IMCI strategy addresses the following diseases whereby clear guidelines are provided to identify the disease, guidance to proper case management, correct treatment and counseling to the caregiver regarding care at home or when to return.

- Ear and throat infections

Although ear infection is not a cause of under-5 mortality, acute Otitis Media, chronic suppurative otitis media, impacted wax or foreign bodies in ears can be a major contribution to deafness among children less than five years of age (Ragnarsson, 2005:17).

- Chest infections

Pneumonia is the leading cause of under-5 child mortality worldwide accounting for 1.6 million deaths annually of which half of the amount occurs in Africa (Department of Health, 2013:68). In 2009 a 100 per 1000 under-5 children were infected with

Pneumonia in South Africa (Department of Health, 2013:68). Although there was a decline, the persistence of Pneumonia among under-5 children is still high (Bjomstad *et al*., 2014:29; Department of Health, 2013:68). IMCI guidelines were designed and introduced to PNs with the vision to reduce under-5 child mortality from pneumonia by up to 70% and to improve the caregivers' knowledge (Bjomstad *et al*., 2014:29; Rakha *et al*., 2013:1). According to Osterholt *et al*. (2009:2), pneumonia might be prevented by vaccination against Streptococcus pneumonia and Hemophilus Influenza; however, adequate management of cases is important in the fight against pneumonia mortality. Many gaps and challenges were found in pneumonia care. According to Bjomstad *et al.* (2014:33), the pneumonia care is still inadequate after ten years of the implementation of the IMCI guidelines. The main gaps and challenges causing inadequate pneumonia care was, incorrect diagnosis and wrong antibiotic treatment, documentation was incomplete which led to confusion, inadequate treatment was given, incomplete assessments, no antibiotics were prescribed for under-5 children who presented with pneumonia, breach in history taking, assessment, and the misinterpretation of signs and symptoms or clinical data incorrectly processed to conclude a diagnosis (Osterholt *et al*., 2009:9; Bjomstad *et al*., 2014:33). According to Marsh *et al*. (2008:382) childhood pneumonia cases who did not have access to proper treatment was at risk of dying and effort to ensure appropriate treatment for these children was still needed. Table 2.4 below illustrates the classification of Pneumonia together with the signs, symptoms and treatment.

Table 2.3: Classification of Pneumonia (Osterholt *et al*., 2009:3; IMCI 2014:26; Valentiner-Branth *et al*., 2010:1673)

PNEUMONIA	SEVERE PNEUMONIA
Signs and Symptoms	**Signs and Symptoms**

• Fast breathing
• Rapid respiratory rate
  ○ >50 breaths/minute (2-12 months)
  ○ >40 breaths/minute (12 months – 5 years)
	• Difficult breathing
	• Chest in-drawing
	• Fast breathing
	  ○ >50 breaths/minute (2-12 months)
	  ○ >40 breaths/minute (12 months – 5 years)

<table>
<tr><th colspan="2">PNEUMONIA</th><th>SEVERE PNEUMONIA</th></tr>
<tr><td colspan="2">• Illness does not meet the criteria for severe Pneumonia
• Oxygen saturation - <93%
• Auxiliary temp. >38.5°C.
• Absence of wheezes but crepitation's may be present</td><td>• Oxygen saturations <90%
• Lethargy
• Unconsciousness
• Convulsions
• Inability to drink
• Vomiting
• Stridor</td></tr>
<tr><th colspan="2">Treatment</th><th>Treatment</th></tr>
<tr><th>2 months - 12 months</th><th>12 months - 5 years</th><th>Under-5 years</th></tr>
<tr><td><u>First line</u>
Co-trimoxazole
5ml twice a day

<u>Second line</u>
Amoxcycillin 125 / 250 mg 5ml three times a day according to weight of child
Counseling</td><td><u>First line</u>
Co-trimoxazole
7.5ml twice a day

<u>Second line</u>
Amoxcycillin 125 / 250 mg 5ml three times a day according to weight of child
Counseling</td><td>• Give oxygen
• If wheezing occur- give salbutamol by inhaler or nebuliser. Reassess after 15 minutes, and reclassify for COUGH OR DIFFICULT BREATHING.
• If stridor occur- give adrenaline nebulisation and prednisone
• Give 1st dose of Ceftriaxone IM
• Give 1st dose Co-trimoxazole
• Test for low blood sugar, then treat or prevent
• Keep child warm
• Refer immediately</td></tr>
</table>

- <u>Gastro related diseases</u>

Diarrhoeal diseases claim the lives of 2 million under-5 children worldwide and are mainly ascribed to inadequate water supplies and poor sanitation (Othero *et al*., 2008:142). According to Mayo *et al*. (2011:1) children the age of 0 – 6 months old are

infected with bacterial diarrhoea diseases whereas children at the age of 7-12 months where often infected with viral infections like rota- and noro-viruses. The rota- and noro-virus are both gastric viruses which causes watery stools in under-5 children. However, the rota virus is more prevalent among under-5 children, and is more common in dry seasons or in winter. It often spreads person-to-person whereas the norovirus, which is more prevalent among older children and adults, spread through contaminated water, food and person-to-person (Zeng *et al*., 2005:312; Parashar *et al*., 2006:304). The effectiveness of the Rota-virus immunisation was tested in South Africa and result of 64% reduction in under-5 child rota-virus hospitalisation in 2011 was recorded (Madhi *et al.*, 2014:228).

In South Africa the incidence of diarrhoeal disease among under-5 children increased since the immunisations against Rota-virus was not yet introduced in 2008. However, in 2011 the incidence of diarrhoeal diseases became the lowest that it have been in seven years in South Africa (Department of Health, 2013:67). According to Agha *et al*. (2007:292), most of caregivers do give more fluid to their under-5 children suffering with diarrhoea, due to media campaigns and good counseling practices.

Table 2.4 below indicates the classification of Diarrhoea together with the signs, symptoms and treatment.

Table 2.4: Classification of Diarrhoea (IMCI, 2014:27).

Persistent Diarrhoea (14 days or more)		Diarrhoea		Dysentery	
Severe dehydration		**Severe dehydration**		**Severe dehydration (Age less than 12 months)**	
Signs & symptoms	**Treatment**	**Signs & symptoms**	**Treatment**	**Signs & symptoms**	**Treatment**
▪ Lethargic or unconsciousness ▪ Sunken eyes ▪ Unable to drink ▪ Skin pinch go back poorly.	▪ Start treatment for severe dehydration ▪ Refer urgently ▪ Sips ORS ▪ Vitamin A	▪ Dehydration ▪ Losing weight	▪ ORS ▪ Refer ▪ Vitamin A ▪ ***Counseling***	▪ Dehydration ▪ Blood in stools	▪ Refer urgently ▪ Keep child warm ▪ Test for low blood sugar, then treat or prevent
Some dehydration		**Some dehydration**		**Some dehydration (Age more than 12 months)**	
Signs & symptoms	**Treatment**	**Signs & symptoms**	**Treatment**	**Signs & symptoms**	**Treatment**
▪ Restless & irritable ▪ Sunken eyes ▪ Drinks eagerly ▪ Skin pinch go back slowly	▪ Fluids ▪ Zinc ▪ ***Counseling*** ▪ Follow-up in 2 days	▪ No visible dehydration	▪ Give fluids ▪ Zinc ▪ ***Counseling*** ▪ Follow-up	▪ No dehydration	▪ Ciprofloxacin for 3 days ▪ ***Counseling*** ▪ Follow-up
No visible dehydration					
Signs & symptoms	**Treatment**				
No signs of severe of some dehydration	▪ Fluid ▪ Zinc ▪ ***Counseling*** ▪ Follow-up				

- Malnutrition and Anaemia

Malnutrition has been defined as a serious condition manifested by deficiency of energy, essential proteins, fats, vitamins and minerals. An estimation of 9.5 million under-5 children died in 2006 whereby two thirds died in their first year of live. Of these deaths

35% are associated with malnutrition. Malnutrition therefore remains the leading cause of under-5 children (Olack *et al*., 2011:357; WHO, 2009:11; Puane *et al*., 2006:74). According to Ragnarsson (2005:17), anaemia is associated with Vitamin A and Iron deficiency, although two thirds of under-5 children in Kenya were diagnosed with anaemia caused by worm infestations. Table 2.5 below indicates the classification of malnutrition according to the IMCI strategy for under-5 children.

Table 2.5: Classification of Malnutrition (IMCI guidelines, 2014 2014:31)

	Signs & Symptoms	Treatment
Severe Malnutrition with medical complication	• Oedema both feet • Low weight for age • Less than 6 months of age	• Test for low blood sugar • Keep warm • 1st dose of antibiotic • Vitamin A • Stabilizing feed • Refer urgently
Acute Malnutrition without medical complication	• Under weight • No oedema of feet • Six months or older	Antibiotic • Vitamin A • Worm treatment • ***Counseling*** • HIV/TB test • Follow-up • Refer urgently if medical complication occurs

	Signs & Symptoms	Treatment
Moderate Acute Malnutrition	• Under weight • No oedema of feet	• Vitamin A • Worm treatment • ***Counseling*** • HIV/TB test • Follow-up • Refer urgently if medical complication occurs
Not growing well	• Losing weight • Weight gain unsatisfactory	• Worm treatment • HIV/TB test • ***Counseling*** • Follow-up
Growing well	• Normal weight • Weight gain satisfactory	• Praise caregiver • ***Counseling*** • Follow-up

- HIV/AIDS and TB

HIV/AIDS is the leading cause of death among under-5 children and their mothers whereby 80% of under-5 children were exposed to or infected with HIV (Chopra *et al.*, 2009:836; Bradshaw *et al*., 2008:1298). According to Venturini *et al*. (2014: 3), the challenge diagnosing an under-5 child with TB or HIV is because clinical manifestations are coinciding. These signs include prolonged cough, poor weight gain, fever or lymphadenopathy which can lead to misdiagnosis. Other challenges include poor public health care systems, poor case management, poor compliance towards the treatment regime, the co-infection with HIV/AIDS and the possibility of resistance towards the treatment, delay in diagnosis and poverty (Mufunda *et al*., 2006:224). The statistics of under-5 children, who are diagnosed with multi-drug resistant TB, is limited through improved programmes and interventions. HIV testing and counseling of pregnant women and provision of anti-retroviral treatment (ART), and counseling on infant breastfeeding and nutrition, did also demonstrate a change in quality care and reduction of mother-to-child transmission (Chopra *et al*., 2009:841; Venturini *et al*., 2014:6; Getahuim *et al*., 2012:52; Dye *et al*., 2013:415). The WHO (2005:23) expresses the importance for caregivers of under-5 children to

receive counseling and guidance on feeding options, referral for HIV testing when suspected that the caregiver might have HIV/AIDS and risks of breastfeeding and no breastfeeding. Table 5 below indicates the HIV/AIDS and TB classification according to the IMCI strategy for children under-5 years of age (IMCI, 2014:33).

Table 2.6: Classification of HIV/AIDS & TB (IMCI, 2014:33).

Classification	Treatment
Under-5 child tested HIV positive	• Start ART • Prescribe Co-trimoxazole and Vitamin A • *Counseling on feeding* • Follow-up
Under 6 weeks old child tested negative but still receives breastfeeding	• Infant receives Nevirapine and Co-trimoxazole • *Counseling on feeding* • Repeat HIV test after 6 weeks • Follow-up
Caregiver tested HIV positive	• *Counseling regarding HIV testing for child and feeding.* • *Counsel caregiver regarding own health* • Follow-up
Risk and exposure to TB	• Full TB assessment • Treatment • Trace contact • Follow-up
Confirmed TB	• Trace contact • *Counsel caregiver regarding HIV/AIDS & feeding* • Chest x-rays • Follow-up and review progress.

- Immunisation coverage

In South Africa the target to immunise a 100% of under-5 children has almost been achieved since 2003. About 70% of under-5 children received all their vaccinations in 2003 to approximately 93% in 2011. The total 1 year old children immunised

against measles were 99% in 2011 which is an important indicator within the MDG4 (Department of Health, 2013:66).

2.4.2 IMCI counseling and education to caregiver

Counseling is the most important component of the IMCI case management consultation. According to Karamagi *et al*. (2004:32) the aim of counseling embraces the ability to build the caregivers confidence and to empower them to take decisions that will improve the health of under-5 children and their family. The same author expresses the importance to expect certain outcomes namely, changes in the caregiver's attitude and behaviour with regard to feeding, prevention of diseases and follows up care. The IMCI counseling process includes effectiveness through observation, demonstration and verifying the caregiver's understanding (Jin *et al*., 2007:217). However, an argument is raised by Fadnes *et al*. (2010:5) and Karamagi *et al.* (2004:32) who expressed that IMCI counseling is a complicated element to implement and can be complex and overwhelming which results in confusion of the caregivers. Therefore, it is important for PNs to verify the comprehension of caregivers through continuous recall during counseling to correct misunderstanding (Kelly *et al.,* 2007:76). According to the United Nations (2011:26) the survival of under-5 children depends on the caregiver's education. Caregivers with a higher education are more likely to aid in reducing the risk of under-5 deaths. The WHO recommends that 6.9%? of time should be spent on counseling of the caregiver in order to have an influence on the caregiver's knowledge and skills with regard to disease interventions which include the administering of medication, feeding practices and follow up care of the under-5 child (Goga & Muhe, 2011:1; Karamagi *et al.,* 2004:32). However, Prosper *et al.* (2009:34) raise the argument that IMCI counseling in nutritional feeding and follow-up care was not up to standard. According to Karamagi *et al.* (2004:4) IMCI counseling covers mostly feeding, where the other components do not mention counseling, however Health Professionals argue that counseling does take place throughout the IMCI case management. Nevertheless, the caregiver's poor understanding and inability to recall information

received can be because of inadequate counseling, illiteracy of caregivers or both (Kelly *et al*., 2007:76).

IMCI guidelines include detailed routine assessment procedures, determine danger signs and common illnesses, malnutrition, anaemia, scheduled follow-up care, establish child's progress, treatment, counseling and how to care for the under-5 child who visits the clinic with the caregiver. (Kelly *et al*., 2007:75; WHO, 2005:3). According to Pelto *et al.* (2004:358) substantial limitations in counseling is the PNs lack of knowledge regarding under-5 child feeding, the time available to provide efficient counseling and preventative services that have been separated by curative services by health care organisations. The administering of medication, feeding, oral rehydration, follow-up and caregiver's health plays an important part in the counseling process since the caregiver should understand all to ensure the well-being of his/her under-5 child. The steps which should be followed during the counseling process are discussed below.

2.4.2.1 Administering of medication

Despite the high mortality rate of under-5 children, antibiotics managed to reduce the mortality rate and increased life expectancy of the under-5 year old (Kristiansson *et al.,* 2008:434). PNs in Primary Health Care centres received training regarding assessment of the child, proper use of antibiotics, resistance risks, communication skills, counseling and follow-up based on the IMCI strategy. The challenges experienced, was that IMCI guidelines were not followed by PNs regarding assessments and caregivers did not administer the first dose of medication as prescribed during the consultation. Sometimes medication was discontinued upon improved signs and symptoms (Sargonas *et al.,* 2014:6; Goga & Muhe, 2011:1; Prosper *et al.,* 2009:34). According to Nguyen *et al.* (2013:10), incorrect medication was prescribed to under-5 children by health workers. A study done by Karamagi *et al.* (2004:34) revealed that 76% of PNs gave poor counseling to caregivers of under-5 children regarding medication prescribed, administration of prescribed medication and fluid intake. The success of providing treatment to the under-5 child depends on

the counseling given to the caregiver regarding the route and time of administering as well as the importance and reason for medication. The caregiver should also give the first dose under the supervision of the PN in order to make sure that the caregiver gives the correct dosage and should verbally confirm how to administer medication at home. (WHO, 2005:105).

2.4.2.2 Feeding

In 2009 a survey was conducted by the WHO whom estimated that 25% of under-5 children are mostly underweight due to malnutrition and inadequate sanitation. The risk of illness and the high mortality rates of under-5 children can be ascribed to, among others, poor feeding practices. (WHO, 2011:4; Black *et al.,* 2003:2233; WHO, 2009:13). According to Olack *et al*. (2011:357) chronic malnutrition was more ubiquitous than acute malnutrition, whereby it was found that stunting was more prevalent in the first year than the second year of life since children were now introduced to family food. However, under-5 children do not always have the access to required solid foods. Therefore, since poor weaning and feeding practices contribute to insufficient energy and protein intake, the highest prevalence of stunted children occurs in age 36 – 47 months (Olack *et al*., 2011:361). According to Karamagi *et al.,* (2004:37) feeding counseling is neglected by given only general information, which can result in insufficient understanding. The IMCI counseling becomes visible through the importance of providing technical knowledge in nutrition, and to provide communication tools in order to improve listening skills and to decide which information is the most important at the given time so that the caregiver does not become confused (Pelto *et al*., 2004:359; WHO, 2009:49). Feeding practices include nutrition and breastfeeding.

2.4.2.3 Nutrition

An under-5 child's nutritional status is a mirror image of their health profile and therefore it is essential that the caregiver receive information, through counseling, regarding nutritional feeding, content of infant feeding and feeding routines (UNICEF,

2011:14; Fadnes *et al*., 2010:4). According to Kelly and Black (2001:S118) 80% of caregivers gave their new born babies other foods and fluids. The effectiveness of IMCI counseling will improve breastfeeding practices, complementary feeding and under-5 child nutrition which will reduce under-5 child mortality (Zaman *et al*., 2008:220). The IMCI protocol addresses nutrition counseling which covers frequency of breastfeeding, complementary feeding, feeding behaviours, assessment and management of breastfeeding problems (Santos *et al*., 2001: 2867). Nevertheless, questions are still asked whether nutritional counseling is provided to caregivers during a clinical consultation and whether caregivers understand and remember the given counseling (Pelto *et al*., 2004:357). According to Puane *et al*. (2006: 76), PNs do not follow the international IMCI guidelines and therefore their knowledge and treatment practices are inadequate and provided a low standard of care. However, a study indicated that caregivers who understood the PN's counseling and recall information, did change over time whereas other with less understanding, recall much less of the information given to them (Kelly *et al*., 2007: 77). The nutritional learning module provides guidelines to health workers regarding types of nutritional challenges they might expect during counseling and how to question caregivers to elicit their current feeding practices. Training will improve communication and counseling skills which is imperative during consultations (Pelto *et al*., 2004:359; Zaman *et al*., 2008:220).

2.4.2.4 Breastfeeding

Breastfeeding has been earmarked as the preventative intervention, with a 90% coverage of diseases and malnutrition, and a 13% reduction of under-5 mortality. Under-5 children who are not breastfed have an increased risk to die from diarrhoea, pneumonia and malnutrition in relation with those under-5 children who were breastfed. Statistics indicated that 1.4 million deaths were ascribed to non-exclusive breastfeeding during the first six months of life (Sargonas *et al*, 2014:3; Black *et al*, 2003:2227; WHO, 2009:11). According to the UNICEF (2011:16) breast milk increases the protection of an under-5 child's first years, since it contains all necessary nutrients, is economical and safe to use. It was recommended by the

WHO (2005:45) that exclusive breastfeeding should be given to under-5 children up to six months of age whereby counseling is the key to effective feeding practices (Fadnes *et al.*, 2010:2). Based on evidence provided by the WHO (2009:13), optimal breastfeeding could prevent 13% of deaths in under-5 children whereas complementary feeding can result in a further additional 6% reduction in the under-5 mortality rate. However, challenges related to breastfeeding practises have intensified. Breastfeeding is discontinued due to new pregnancies, caregiver's occupation or studies, lack of milk and caregiver's decision to discontinue breastfeeding too soon (Fadnes *et al*, 2010:4; UNICEF, 2011:16). According to the WHO (2009:14), breastfeeding and complementary feeding practices are poor since only 34.8% of infants receive exclusive breastfeeding during the first six months worldwide.

2.4.2.5 Oral Rehydration Therapy (ORT)

The enforcement of ORT together with accompanied counseling had an influence in the reduction in diarrhoea and increased caregiver's knowledge regarding the treatment and preparation of the solution. Caregivers often believe that ORS is insufficient to treat diarrhoea and make use of additional treatment either from local markets or traditional healers (Admaral *et al.*, 2004:S217; Othero *et al*., 2008:142). However, caregivers who received adequate counseling showed better knowledge regarding the preparation and use of ORT and how to care for the sick under-5 child (Rakha *et al*., 2013:5).

2.4.2.6 Follow-up

Caregivers do not return to the clinic with the under-5 child for follow–up visit as requested by the PNs (Sargonas *et al.*, 2014:6). According to WHO (2009:58) continuing and follow-up care of under-5 children is of utmost importance to determine any feeding difficulties and to support any good feeding practices.

2.4.2.7 Caregiver's health

It is also valued to assess the caregiver's physical, emotional psychological and social health including challenges regarding employment. According to WHO (2009:55), the PN should observe the caregiver's nutritional status, general health, breast health, family planning or planned pregnancies, medicine taken by caregiver and HIV status. It is important to know if the caregiver is ill since it might have an effect on the under-5 child's health. For example, if the caregiver is diagnosed with Tuberculosis, the child will need to take treatment together with the caregiver. If the PN suspect Tuberculosis both caregiver and under-5 child requires testing and intervention (WHO, 2009:87). The effectiveness of counseling skills will be determined by the caregiver's understanding, feeling and motivation to take part in the treatment of the self as well as under-5 child.

2.5 COUNSELING SKILLS

The human relations counseling model conceptualise helping skills to ensure effective counseling. This model is relevant to the study, since the IMCI case management not only consists of the assessment process but also **counseling** which includes the trustworthy relationship and techniques used to provide information. This human relation counseling model consists of three dimensions which will enhance the development of skills in the counseling process (Okun & Kantrowitz, 2008:19). Figure 2.5 below demonstrates the three dimensions namely: Stages, Skills and Issues.

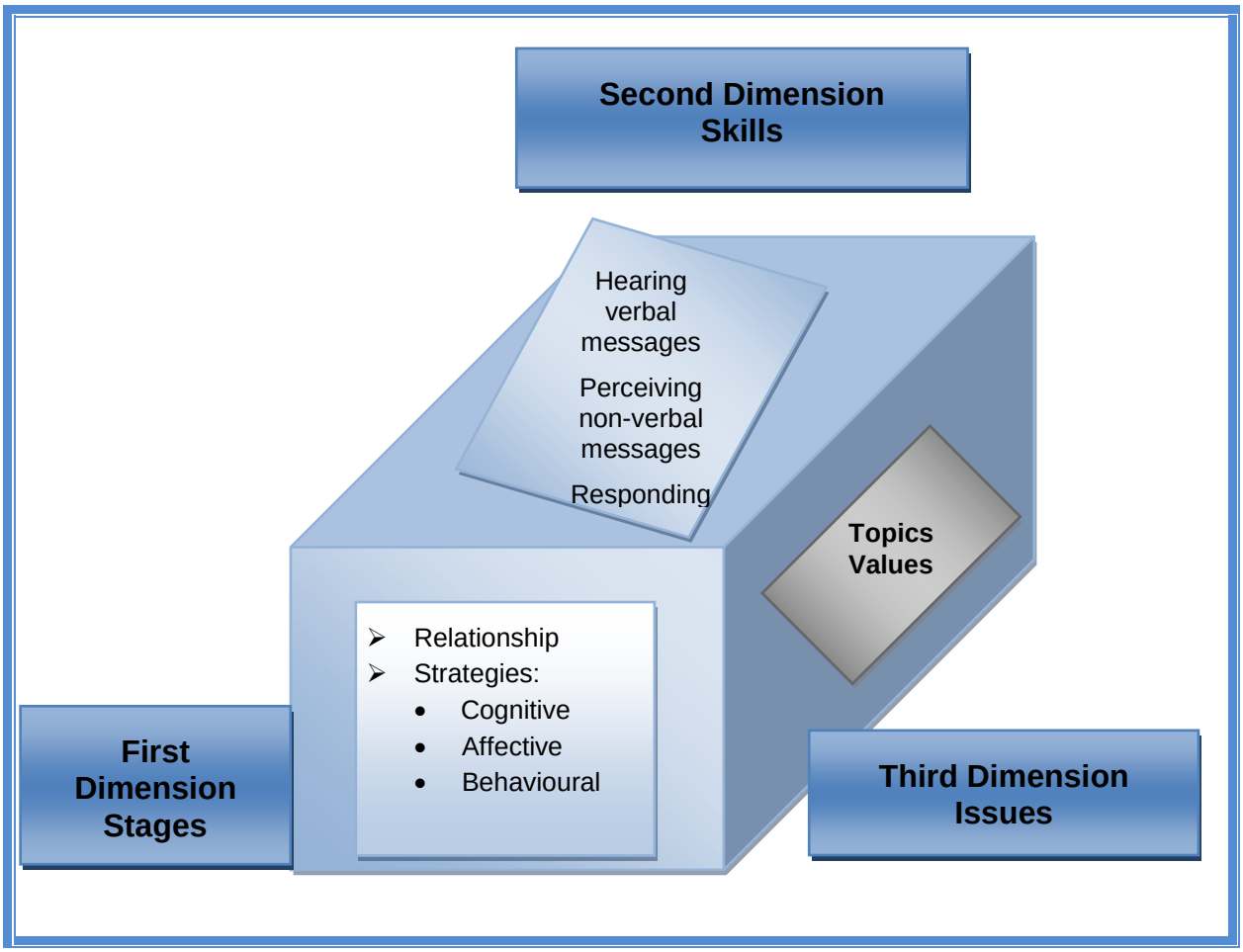

Figure 2.5: Counseling model in dimensional terms (Okun & Kantrowitz, 2008:19)

In the following section the researcher will describe each of the dimensions.

2.5.1 First Dimension.

The first dimension consists of two stages in the counseling process namely relationship and strategy.

- Relationship

Relationship between PN and caregiver where empathy and trust are developed includes the following aspects:

  - Friendly welcoming of caregiver and introduction
  - Professional and non-judgemental assessment of the history about the problems experience.
  - The convention of relationship
  - Assessment of problems
  - Goals and objectives

- Strategies

Strategies include the acceptance of goals and objectives (focus on the area of concern). The relationship between the PN and caregiver of the under-5 child should focus on the area of concern. This includes the emphatic and confidential relationship between the PN and caregiver and the assessment of the sick under-5 child (Okun & Kantrowitz, 2008:217). The following aspects address the sequence of a counseling process between PN and caregiver of under-5 child:

  - Planning

  The planning involves the differential diagnoses made and the elimination of these diagnoses though correct classification as stipulated by the IMCI case management in order to determine the correct treatment plan for the under-5 child. This will also involve the planning towards immunisations to ensure that under-5 children are up to date with immunisations (Okun & Kantrowitz, 2008:220).

- The practice of strategies

This involves the short and long term goals set to ensure optimal health of the under-5 child. This will include counseling on feeding, the correct administering of medication and follow-up visits (Okun & Kantrowitz, 2008:222).

- Evaluation of strategies

This encompasses the evaluation of the counseling given to ensure the understanding of the caregiver. The caregiver will also have the opportunity to ask questions or to seek clarity (Okun & Kantrowitz, 2008:223).

- Termination

Termination is the end of the consultation process. The PN is able to summarise the counseling given to the caregiver of the under-5 child.

- *Evaluation of goal attainment*: The health worker and caregiver feel that the objective has been reached. The caregiver understands the classification of the child's illness as well as the treatment plan. The health worker also assesses the health of the caregiver and the support they have in the community and the relationship with others in the community.

- *Closure of relationship issues*: This is where the PN can disclose his/her own feelings which are related to relationships or losses experienced by the caregiver.

- *Preparation of self-reliance and transfer of learning*: This involves the planning for the future. The counseling received should now be applied at home.

- *The final session*: A more social discussion which involves either referral or follow-up care (Okun & Kantrowitz, 2008:227).

Follow-up: The follow-up involves when the caregiver brings the under-5 child back to the health worker to determine whether treatment given had an effect or to determine whether the counseling regarding feeding was followed. The under-5 child will be reassessed and a platform will be created whereby the caregiver can disclose any challenges experienced at home or in the community (Okun & Kantrowitz, 2008:231).

2.5.2 Second Dimension

The second dimension elaborates on the ability to decode the message by using effective communication skills which include advice, guidance and counseling (Okun & Kantrowitz, 2008:20). According to Lewis and Zibarras (2013:154), when PN provides advice to the caregiver it will be adapted towards the caregivers needs, whereas when guidance is provided, the PN will use his/her knowledge and experience to teach the caregiver. This dimension will therefore focus on effective communication through the Ask and listen, Praise, Advice and Check (APAC) process which include ask and listen skills, praise, advice and check as well as how to give guidance through teaching the caregiver. Figure 2.6 indicate the process that will assist the PN in practising effective communication.

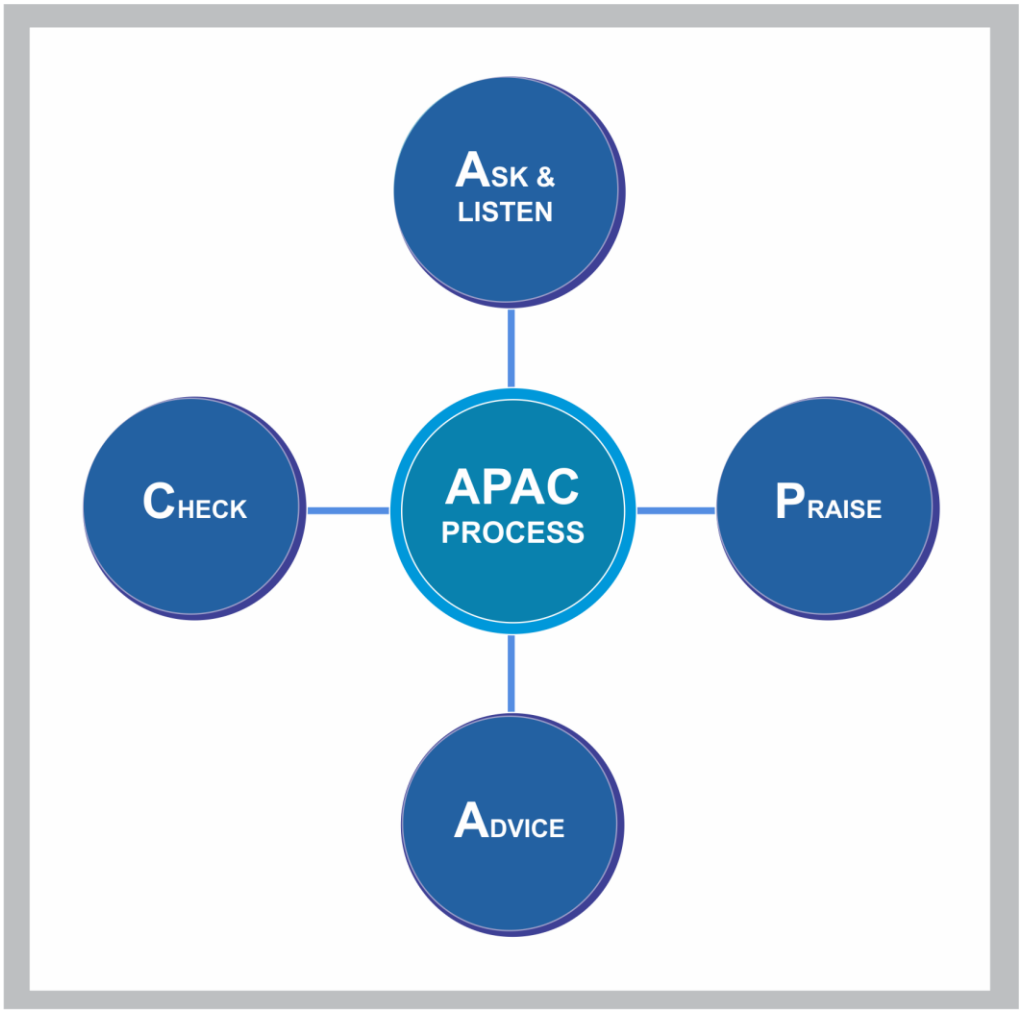

Figure 2.6: APAC Process (IMCI, 2014:70)

- Ask and listen

It is imperative to determine what the under-5 child's problems are and what the caregiver already did for the child. The caregiver should be praised for what he/she did well, advice should be given and caregiver's understanding should be tested (WHO, 2005:105). Non-communication skills also involve the interest that the PN shows to the caregiver and her under-5 child. This includes eye contact, nodding and smiling, ensuring that no barriers exist and the provision of time (WHO 2009:49). According to Karamagi *et al.* (2004:34), health providers do practice active listening, paraphrasing and asking relevant questions although caregivers confirmed that there

were still questions they wanted to ask. By active listening the PN will be able to determine whether caregiver follows the correct procedure in caring for the under-5 child or whether practises need to be changed (IMCI, 2014:70).

- Praise

Caregiver should be praised when answers are correct. Praise should be given when the caregiver did something helpful to the under-5 child (WHO, 2005: 108; IMCI, 2014:70).

- Advice

Advice includes actions whereby the PN shows the caregiver how to do a procedure, like administering medication, how to observe for signs and symptoms that requires immediate consultation or when to return to the clinic (IMCI, 2014:70). According to WHO (2005:108), the caregiver should receive information regarding what should be treated and the reason for given the drug treatment. The PN should tell the caregiver how to measure the medication, when to give it and how many days. However, according to Karamagi *et al.* (2004:34) caregivers of under-5 children did not receive any advice on medication that was prescribed. The PN should also show the caregiver the practical side of his/her advice by using objects, pictures or teaching aids for example mix ORS or give the first dose of medication to the child, to encourage understanding of the caregiver of an under-5 child (WHO, 2014(g):71). The demonstration should be followed by allowing the caregiver to practise on which advise he/she was given e.g. give medication to the under 5-child under supervision or how to apply ointment in the eye. The PN can determine how much the caregiver understands or remembers and gives advice accordingly (IMCI, 2014:113).

- Check (caregiver's understanding)

It is important to continuously confirm if the caregiver understands, through continuously asking questions. Time should be granted to caregivers to think about a

question and if required more information, examples or practice should be given (WHO, 2005:108). How will the PN check the caregiver's understanding?

- Ask questions frequently to determine what caregiver understands and whether further explanations are necessary.

- If PN receives an unclear response, he/she should ask another checking question.

- If the caregiver did understand correctly, he/she should be praised.

- If the caregiver did not understand correctly, the PN should explain again and use teaching skills, for example, demonstrations to reach understanding (IMCI, 2014:39-47).

The third dimension includes the ethical process during a counseling process whereby trust is built between the PN and the caregiver of an under-5 child.

2.5.3 Third Dimension

The third dimension encompasses the counsellor's personnel values which can be attached to own experiences, training and assisting the caregiver to care for their under-5 child to the best of their ability skills (Okun & Kantrowitz, 2008:21; Grobler *et al.,* 2003:65). According to Grobler *et al.* (2003:87) the attitude of the counsellor plays an important part in the interaction process with the caregiver of an under-5 child which includes respect, empathy and confidentiality.

- Respect

All humans should be treated equally. This includes acceptance and understanding of people to create an effective, trusting relationship (Houser & Thoma, 2013:227; Okun & Kantrowitz, 2008:277). According to Karamagi *et al.* (2004:32), the aim of

IMCI counseling is to build the caregiver's self-esteem and to assist the caregiver to make own decisions regarding the welfare of his/her under-5 child.

- Empathy

According to Houser and Thoma (2013:47), empathy is used to understand the feelings and emotions of caregivers who take care of under-5 children. This involves the understanding of uncertainty or anxiety the caregiver might experience when treating or care for her sick under-5 child (Corey, 2009:175).

- Confidentiality

Confidentiality is the essential tool in providing a trusting relationship between the PN and caregiver of an under-5 child during an IMCI case management. The caregiver needs to understand what confidentiality entails and that there are times when information must be divulged to the benefit of the under-5 child (Corey, 2009:41).

2.6 CONCLUSION

This literature study was conducted to provide a clear understanding what the well-being of the under-5 child entails. The WHO recommendations on statistical indicators to monitor the well-being of under-5 children were identified and include holism, equity, sustainability, ownership and global obligation. Millennium development goals were used as the departure point to introduce the reader to MDG4 which focus on the reduction of under-5 mortality globally. The IMCI guidelines were developed with emphasis on diseases which contribute the most towards under-5 child mortality rates. Counseling of the under-5 child was identified during IMCI case management as the researcher's problem statement elicits the importance thereof. During IMCI case management the relevance of counseling skills were investigated as it contributes towards effectiveness of counseling. In chapter 3 the research method will be discussed.

CHAPTER 3:

RESEARCH METHODOLOGY

3.1 INTRODUCTION

In Chapter 2 a literature review was conducted based on the concept of counseling, the chapter focused on each component of counseling. Throughout each case management assessment process, as stipulated by the IMCI strategy, counseling plays an integrated role. It is not only shared information but also requires specialised PNs skills to be developed in order for caregivers of under-5 children to fully understand and to build a trusting relationship with the PNs. This chapter will illustrate the methods used throughout this study which addresses the research design, research methods, including reliability, validity and ethical considerations followed by the chapter summary. Table 3.1 elicits an outline of the research study.

Table 3.1 Outline of research study

LITERATURE REVIEW		EMPIRICAL PHASE (Chapter 3 & 4) AND ACHIEVEMENT OF RESEARCH OBJECTIVE AND AIM (Chapter 5)	
RESEARCH OBJECTIVE To determine how IMCI counseling is currently conducted during IMCI case management in CHC centres	Explore and describe literature in order to understand what holistic health in the under-5 child means. To determine the WHO indicators for child health. The IMCI case management and the role of counseling The importance of effective counseling skills.	Research design Research methods * Research context * Profile of research context * Sampling * Data collection * Validity & Reliability * Ethical consideration Research results * Data analysis * Validity * Reliability * Exploratory Factor Analysis * Descriptive statistics with conclusion statements and literature control Identification of gaps within IMCI counseling	Identification of gaps within IMCI counseling and formulation of recommendations to improve the IMCI counseling given during case management of the sick IMCI under- 5 child or counseling given to the under-5 child visiting the CHC centres for routine visits such as immunisation and weight

3.2 RESEARCH DESIGN

Quantitative, observational and typical descriptive design was applied in this study to meet the aim and objective. The research design constitutes plans and methods that prescribe the research design, research methods which include sampling, data collection, analysis of data and the interpretation thereof (Creswell, 2009:3; Polit & Beck, 2010:74).

3.2.1 Quantitative design

A quantitative design was used to numeric information, whereby data was collected through an observed IMCI counseling checklist with the aim to obtain numeric data. The purpose of a quantitative design is to maximise control over factors that can interfere with the validity of the study findings. The researcher chose this design as the IMCI case management counseling was observed while the PN provided information to the caregiver of the under-5 child and the checklist was ticked (Polit & Beck, 2010:76; Burns & Grove, 2011:252).

3.2.2 Observational design

An observational checklist was used to collect information in the research study. According to Polit and Beck (2010:351) observational design includes the direct observation of events in order to discover the extent of the problem. During the observed IMCI case management of under-5 children, the researcher observed the counseling given to the caregiver, the interactions between the PN and caregiver, activities which include practical teaching and how the PN determined whether the caregiver understood the information given to him/her (Botma *et al*. 2010:142). According to Botma *et al*. (2010:142), advantages and disadvantages may come forward during the observation. They are as follows:

- **Advantages**
    - Follows a structural data-gathering method.
    - Behaviour, actions, activities and interactions are being observed.
    - Standardised validated measuring checklist was used.
    - PN may not be asked any questions therefore the researcher did not interfere during IMCI consultation.

- **Disadvantages**

    - Emotional prejudices or attitude of researcher might have had an influence.

    - PNs might change behaviour knowing that they are being observed.

    - PNs might experience discomfort while being observed.

    - Caregiver of under-5 child might find it difficult to disclose sensitive information.

The following actions were experienced during the consultation process:

- The PNs friendly invited the researcher into the consultation room. The caregiver was introduced. The presence of the researcher was discussed with the caregiver of the under-5 child, whereupon the caregiver's consent was obtained by the researcher.

- The IMCI protocol and actions were explained to the researcher throughout the consultation.

- Counseling given to the caregiver was observed and ticked according to the IMCI counseling checklist.

- The researcher was friendly at all times and assured PNs that they were not being evaluated. Therefore PNs were comfortable with the presence of the researcher in the consulting room.

- Since the researcher did wear her nursing insignia, caregivers divulged sensitive information and felt comfortable with the researcher's presence.

3.2.3 Typical descriptive design

A typical descriptive design was used to accumulate information about physiognomies within the field of study, to determine if there is a potential problem in the counseling process which might influence the under-5 mortality rate (Burns & Grove, 2011:256). Herewith a clear picture will be made of circumstances as they naturally occur (Burns & Grove, 2009:237). According to Burns and Grove (2011:256), bias can be prevented through identification of conceptual definitions, selection of sample and size, validity and reliability and the procedure of data collection. Typical descriptive studies are used when a single sample's characteristics are being examined, in this study a description of the counseling given to the caregiver of the under 5-child. This includes identifying the definitions regarding the counseling proses as well as defining concepts which lead to interpretation of findings. According to Botma *et al.* (2010:110), a descriptive design has the following advantages and disadvantages:

- **Advantages**
    - Economical (cost-effective) as the caregiver of the under-five child brought him or her to the clinic. Therefore no additional costs for the researcher e.g. transport or meal costs.
- **Disadvantages**
    - Information obtained might be superficial
    - Design is not used to investigate the relationship between different concepts related to the counseling process.
    - A descriptive design is time consuming

In Figure 3.1 a schematic composition of a typical descriptive study design is given to provide an overview of the design.

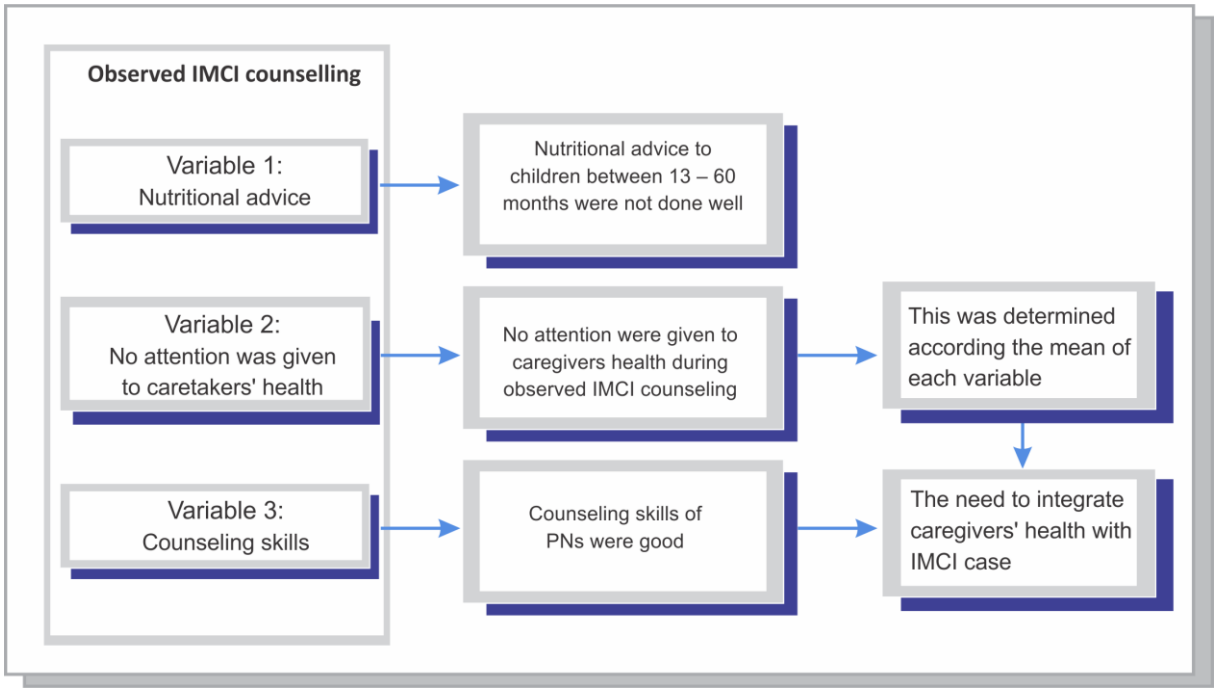

Figure 3.1 **Schematic composition of a typical descriptive study design which indicated how characteristics of a single sample are examined (Burns & Grove, 2009:237).**

3.3 CONTEXT OF RESEARCH STUDY

The North West Province is a very rural area of South Africa and therefore proper provision of counseling to the caregivers of under 5-children is of utmost importance as health facilities such as CHC centres, PHC clinics and level 1 or 2 hospitals are often not near nor easy to reach. This province consist out of four districts namely Dr Kenneth Kaunda district, Ngaka Modiri Molema district, Dr Ruth Segomotsi Mompati district and Bojanala Platinum district. Figure 3.2 below provides a map of all the

Health Districts in the North West province. The research was conducted in one district namely the Ngaka Modiri Molema district.

Ngaka Modiri Molema district with five sub-districts were used in this study

Figure 3.2: Map North West Province

The focus of the study was the Ngaka Modiri Molema District which consists of the following sub districts as indicated in the map below (Figure 3.3):

- Ditsobotla sub-district
- Mafikeng sub-district
- Ramotshere Moiloa sub-district
- Ratlou sub-district
- Tswaing sub-district

Figure 3.3: Map of Sub- Districts in Ngaka Modiri Molema District

3.4 RESEARCH METHODS

The research methods include procedures in order to gather information in a systematic way where interest will be given to the population, sampling method and size, data collection, data analysis, reliability and validity (Klopper, 2008:69; Parahoo, 2006:183; Polit & Beck, 2012:268).

3.4.1 Population

The objective of this study was to determine the IMCI case management counseling practices. Therefore the population consisted of observed IMCI case management counseling. The Statistical Counseling Services of the North West University assisted the researcher to determine how many IMCI case management counselings should be observed in order to obtain enough data for the data to be meaningful and a total of 110 observations were recommended. It is important to note that the objective for this study was to determine the **current IMCI counseling practices** and therefore the PNs or CHC centres were not the aimed population.

3.4.2 Sampling

Sampling consists of the population, sampling method and sample size.

3.4.2.1 Population

According to Polit and Beck (2012:306) a study population does not only involve human subjects but also buildings or wards. The population of this study included **observed IMCI case management counseling.** CHC centres were included because all the CHC centres implement the IMCI strategy when managing under-5 children. These centres also have a high number of PNs which are able to give IMCI counseling. The CHC centres also serve a larger population and deliver more types of services than a PHC clinic (Botma *et al*., 2010:7).

3.4.2.2 Sampling method

According to Botma *et al*. (2010:124), sampling is a method whereby a population is selected to take part in the study.

Multi-level sampling was applied in this study

- Purposive sampling of ten CHC centres in the Ngaka Modiri Molema district of the North West Province was done. The CHC centres had the following inclusion criteria:

    - IMCI strategy was implemented in all the selected CHC centres.

    - CHC centres that were selected contained the highest number of PNs who were trained in IMCI.

    - Due to overburden of research participants some CHC's refused to participate in the study. In these cases, a PHC clinic was included. In this study the total number of CHC centres is N = 13 and n = 10 were used to approach the operational managers to make an appointment to introduce the researcher and give information about the research study. Two of the CHC centres refused to participate in the study and nearby PHC clinics were approached to be included in the sample, referred to in this study as CHC centres only for reference purposes. The researcher succeeded in including 2 CHC in each sub district in her study.

Please note that the **sample of this study** is not CHC's but the amount of **observed IMCI case management** counselings. However the required sample size could not be reached if the researcher did not utilise the CHC centres.

- All-inclusive sampling was done of all IMCI trained PNs working with under-5 children at the CHC centres and the following inclusion criteria were followed:

    - IMCI consultations done by PNs who did complete the IMCI training. The operational manager (gatekeeper) did indicate which PNs were qualified in IMCI.

    - The PNs and caregivers of under-5 children consented voluntarily to take part in the research study.

- The PNs and caregivers did speak English, Afrikaans or Setswana during the consultation. Information that was not understood by the caregiver, was translated by the PN. The researcher was able to follow the discussion as she speaks Setswana.

Please note that the **sample of this study** is not PNs but the amount of **observed IMCI case management counseling**. However the required sample size could not be reached if the researcher did not utilise PNs who gave informed consent that their IMCI case managements could be observed.

3.4.2.3 Sample size

The Statistical Consultation Services of North West University, Potchefstroom, determined that 110 to 120 observations will be sufficient to support the study, however more data was collected in order to obtain a clear picture on quality of counseling. The researcher managed to observe a total of 237 IMCI case management counseling and this information was ticked on the IMCI counseling checklist.

Informed consent forms were developed for the PNs and caregivers of under-5 children to permit the researcher to conduct data collection. All IMCI trained PNs were provided the opportunity to participate. The researcher explained the research process to each of the operational managers who were the gatekeepers during the study. The information given to the gatekeepers included the purpose of the study, objectives, data collection procedure, informed consent, all ethical considerations and the protection of participants relating to confidentiality and anonymity. Upon the gatekeeper permission, the PNs who were involved with under-5 children were approached by the researcher, and the study was explained to them by means of a PowerPoint presentation (Creswell, 2009:90). The interested PNs were given consent forms and a week's time was allocated to allow them to decide whether they would like to participate in the study or not. It was not possible to present the research study to all eligible PNs due to the practicality. Some PNs were on courses,

others conducted night duty, others were week off after night duty, and some were on sick leave or on vacation leave. The researcher presented the research study to a total number of 49 PNs however not all trained PNs indicated interest to participate in the study. On the other hand it was not possible for the researcher to visit a clinic more than twice to inform eligible PNs about the research due to distances and travel expenses.

The operational manager's role changed to that of a mediator and she collected all informed signed consent forms from the professional nurses. The researcher collected the signed consent forms. A total number of 23 informed consent forms were received from operational managers. After contacting the interested PNs, the researcher contacted the operational manager to request that interested nurses should be on duty as far as possible during the days of data collection. The operational managers were very helpful in determining the best date for data collection in order to make it possible for the researcher to attend to the maximum number of IMCI consultations in an observing capacity. Therefore the all-inclusive sampling of 23 IMCI trained PNs were used for data collection. In chapter 4, an outlay of the sampled population will be explained in detail.

Table 3.2: CHC centres and PN sample size

Sub-districts of Ngaka Modiri Molema District	CHC centres per sub-district (N=2, n=2)	Observations of consultations per CHC centre	(N=49, n=23)

Ditsobotla sub-district	**CHC 1**	**28**	(PNs N=10, n=3)
	CHC 2	**53**	(PNs N=14, n=5)
Mafikeng sub-district	**CHC 1**	**10**	(PNs N=4, n=2)
	PHC Clinic 2	**27**	(PNs N=4, n=2)
Ramotshere Moiloa sub-distict	**CHC 1**	**12**	(PNs =4, n=2)
	PHC Clinic 2	**29**	(PNs N=2, n=2)
Ratlou sub-district	**CHC 1**	**15**	(PNs N=3, n=2)
	CHC 2	**31**	(PNs N=4, n=2)
Tswaing sub-district	**CHC 1**	**18**	(PNs N=3, n=2)
	CHC 2	**14**	(PNs N=1, n=1)
	Total CHC centres involved in study: 8 + 2 PHC clinic = 10	Total number of counseling sessions observed = 237	Total number of IMCI trained nurses who attend the information session about the research and the actual PN population who participate in research study (N= 49, n= 23)

3.4.2.4 Profile of PNs in research study

The average age of PNs who allowed the researcher to observe their IMCI case management counseling is 35 years, the youngest was 25 years of age and the eldest 54 years old.

3.4.2.5 PNs years' experience

The average number of years' experience is 5 years, the shortest experience being 3 years and the longest, 12 years of experience.

3.4.2.6 Profile of under-5 child IMCI counseling observed

The ages of the under-5 children which IMCI counseling was observed is outlined in table 4.3

Table 3.3: Age of under-5 children which IMCI counseling was observed

AGE	TOTAL
0 – 6 months	89
7 – 12 months	67
13 months – 2 years	52
3 – 5 years	29

3.4.3 Data collection

According to Botma *et al*. (2010:165), proceeding with data collection stage, appropriate planning is required to ensure validity of the study. The data collection in this study consisted of an observational process whereby the counseling interaction between PNs and caregivers of under-5 children was observed. All counseling that was given to the caregiver was ticked onto an IMCI counseling checklist developed according to the IMCI guidelines.

The checklist was a section obtained from the Health Facility Survey developed by the Ministry of Health and Population, Egypt, and the WHO Regional Office for the Eastern Mediterranean countries (WHO, 2003:102). The researcher with the assistance of a statistician made certain adaptations to the format in order to attain

the research objective. The checklist was used to record observed IMCI counseling information which was given to a caregiver of an under-5 child to determine whether all aspects of counseling are dealt with as stipulated by the IMCI strategy (WHO, 2003:102). Refer to Addendum M. The IMCI counseling checklist contains a section which provided the researcher with demographic data, including questions regarding feeding advice given, administration of oral medication to the under-5 child and questions regarding the caregivers' health. A section is also included to observe information given when the under-5 child needs to return to the clinic and if so after how many days. Questions were included to observe whether the PN advised the caregiver regarding immediate referral of the under-5 child and if so provide a reason to the caregiver. The importance to utilise counseling skills in the IMCI case management is essential and questions were also included to guide the researcher to observe the counseling skills the PNs utilise to ensure that the caregiver understands the information given to them. The last few questions assisted the researcher in observing whether the IMCI guidelines were used during IMCI counseling of the under-5 child and to add in the classification of the under-5 sick child plus a few short questions. Some of the questions were included for other purposes and will not be discussed in chapter 4.

The observations of the IMCI counseling checklist was categorised into seven levels. In order to understand the Likert scale application, the following ratings are used as a basis:

- A response of 0 indicates no information were given during counseling of the under-5 child.
- A response of 1 indicates that very little information was given during counseling of the under-5 child.
- A response of 2 indicates that fairly good information was given during counseling of the under-5 child.

- A response of 3 indicates that quite good information was given during counseling of the under-5 child.
- A response of 4 indicates that very good information was given during counseling of the under-5 child.
- A response of 5 indicates that information given was excellent during counseling of the under-5 child.

The IMCI counseling checklist used is defined as an instrument that was utilised to record the observations of counseling given during an IMCI consultation by a PN to a caregiver of an under 5-child (Botma *et al*., 2010:143). According to Botma *et al*. (2010:143) the following advantages and disadvantages can be expected when using a checklist as instrument:

- Advantages
  - Checklists were marked as certain counselings were observed.
  - Observer needs to be skilled and experienced.
  - Participants were anonymous – only actions were recorded.
- Disadvantages
  - Emotion prejudices or attitude of observer may have an influence.

3.4.4 Data analysis

With the assistance of the statistical department of the North West University, Potchefstroom, data was entered into an excel sheet. Data analysis and interpretation thereof were subsequently done by utilizing the SAS version 9.3 standardised programme. Frequencies are used to organise data, therefore similar codes were enumerated to quantify data into frequencies (Burns & Grove, 2007:29).

Exploratory data analysis was used to allow the researcher to identify unique features of factor sets, facilitate their description and summarise them (Daniel, 2009:52). A mean analysis was used to determine the sum of raw scores divided by the scores being summed. Standard deviation was calculated to measure the dispersion from the mean (Burns & Grove, 2007:131).

3.4.5 Reliability and validity

The reliability and validity of the checklist was tested accordingly:

- **Reliability**

With the assistance of the statistical department at North West University, Potchefstroom, the Cronbach's Alpha was used to measure internal consistency of the checklist used. A scale with a value larger than seven is considered as reliable data (Dancey *et al*. 2012:337).

- **Validity**

Validity can be seen as an instrument that will measure what it supposed to measure (Burns & Grove, 2011:334). Construct validity was assured through the IMCI counseling process that have been observed through the utilization of a checklist that was compiled by experts (Chapter 1 nr. 1.5.2.4). Content validity involved all the major events relevant to the construct being measured. The Checklist was divided into two sections whereby demographic information and counseling observational information was obtained. Section B of the checklist was divided into seven sub-units that explored the counseling process with regard to feeding practises regarding breast or formula and nutritional feedings, the administration of medication and ORS, caregivers health, follow-up practices of the sick child, referral procedures and counseling skills as stipulated by the IMCI protocol.

3.5 ETHICAL CONSIDERATIONS

Ethical considerations were discussed in chapter 1 in full detail. Please see heading 1.6 for detailed discussion.

3.6 CHAPTER SUMMARY

In this chapter each step of the research process was explained, from the research design or blue print, to the smallest detail of how each step was implemented. In this study a quantitative, observational and typical descriptive design was applied to meet the aim and objective. Population sampling, sampling method and sample size were explained. The data analysis process was discussed and attention was given to the importance of ensuring soundness during of the research process (rigour). By doing this, the whole process of research was thought through logically to ensure that the rights of the participants were protected.

CHAPTER 4:

RESEARCH RESULTS

4.1 INTRODUCTION

In the previous chapter, the research design and method, data analysis, validity and reliability as well as ethical considerations were discussed. The aim of the study is to determine the current counseling case managements of PNs in CHC centres in order to improve counseling provided by PNs to caregivers to decrease under-5 mortality. In this chapter data analysis and the discussion of the results follow. Figure 4.2 below indicates to the researcher that the literature review conducted provided theoretical information and data collection were done to obtain empirical data which was analysed in order to provide information to discuss research results.

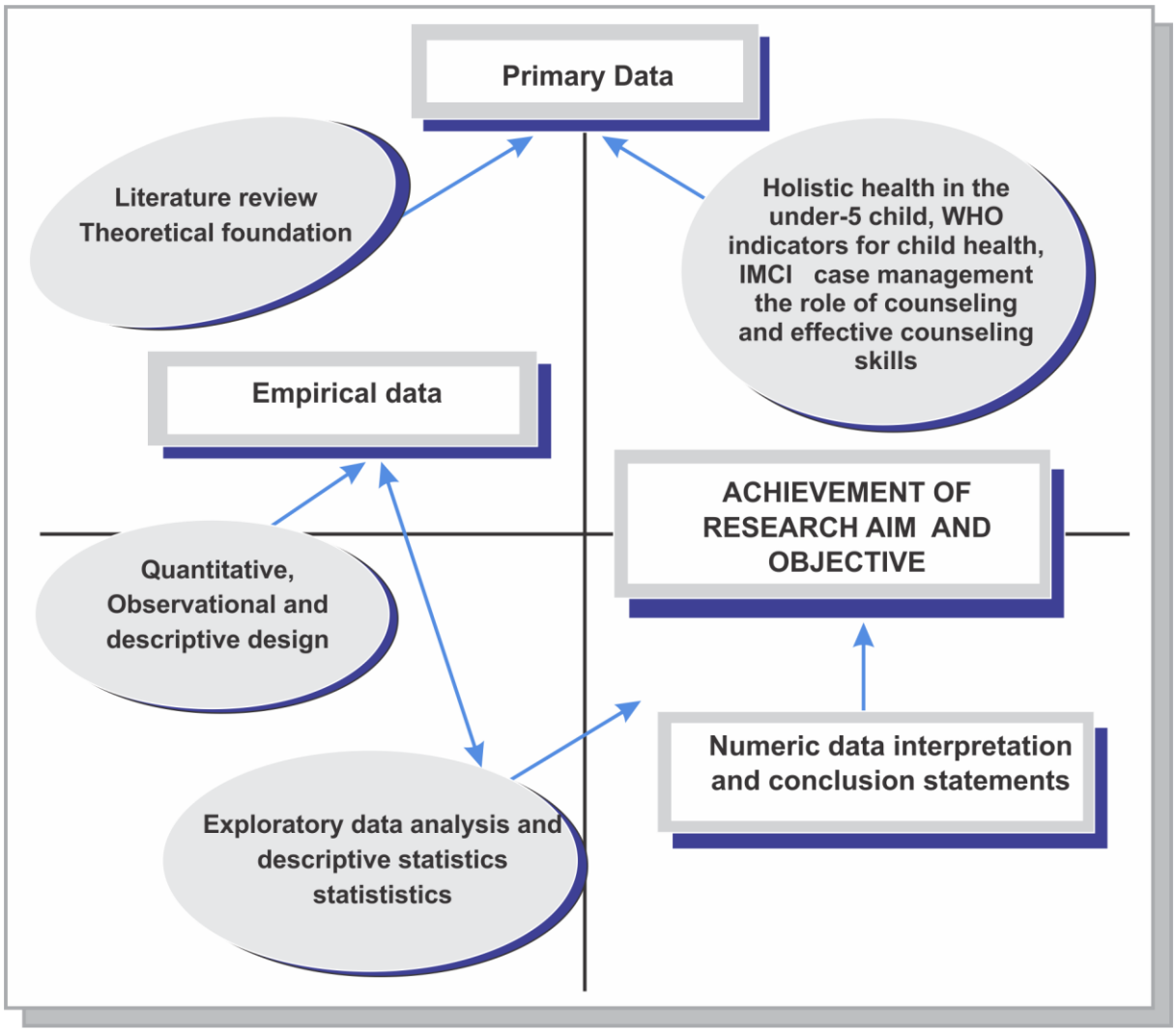

Figure 4.1: Data analysis to achieve the research aim and objective

4.2 DATA ANALYSIS AND RESULTS DISCUSSION

Before any analysis on a checklist can be done it is important to determine the reliability and validity of the IMCI counseling checklist where applicable, as this guides the statistician and the researcher on the best way to interpret data analysis. The reliability and validity of the IMCI counseling checklist are discussed below, followed by the exploratory factor analyses and descriptive statistics.

4.2.1 Validity and Reliability

In the following two sections a definition of validity and reliability are explained. The outcome of validity and reliability as applicable to this study is also outlined.

4.2.1.1 Validity

Validity is defined by Welman *et al*. (2007:142) as the "extend to which the research findings accurately represent what is really happening in the situation". In this study exploratory factor analyses were done to assure construct validity as well as data reduction. Construct validity was ensured through the measurement of the variables and the result was that it did measure what it was intended to measure (Welman *et al.*, 2007:142). Content validity was ensured by the supervisors of the study who are both clinical experts in this field of study. Exploratory factor analysis assisted the researcher to analyse data in sets in which their description was facilitated (Field, 2011:642; Daniel, 2009:52). It should be noted that Exploratory Factor Analyses could not be done on all the data. Due to the nature of the IMCI counseling checklist certain question were not applicable to all children and thus constructs could not be identified by using SAS e.g. feeding advice to caregivers are given according to the age of the child. Exploratory Factor Analyses were done on the following sections on the IMCI counseling checklist and is described as follow:

- Section A15 which include numbers A15.1, A15.2, A15.3, A15.4 and A15.5
- Section C which includes numbers C1, C2 and C3.
- Section F was divided into two factors namely Factor 1 and Factor 2:
    - Factor 1 includes numbers F1, F2, F3, F5 and F7
    - Factor 2 includes numbers F4 and F6

Table 4.1: Results of Exploratory Factor Analysis

Section on checklist	N Amount of IMCI counseling observed	KMO Expressed in %	Number of Factors Retained	Percentage Variance Explained	Communalities Varies Between
A15 (Feeding counseling of infants between 12 months up to 5 years) (A15.1 – A5.5)	105	0.76	1	60.54	0.26 and 0.85
C (Counseling regarding caregivers health) (C1 – C3)	234	0.67	1	69.45	0.61 and 0.78
F1 The use of effective counseling skills F1,F2,F3,F5 &F7)	221	0.74	2	59.07	0.30 and 0.79
F2 The use of understandable language and respectful Approach (F4 & F6)	221	0.70	0	95.56	0.59 and 0.79

* N will differ from table to table due to the fact that not all items on the IMCI counseling checklist was applicable to every child

The confirmatory factor analysis confirms the validity of the **IMCI counseling observations** for this study. Statistics for this study does not include the PN or the caregiver as population, however the exclamation was focused on the appropriateness of IMCI counseling case management. With the percentage of variance the factor that is retained with the confirmatory factor analysis indicates the percentage of the construct the factor measures. Usually the number of factors retained should be 1, as all the items measured fall under one construct. In this study for capacity one factor was retained under the constructs A and C. Both these constructs explained a percentage of more than 50. This indicates the validity of constructs A (60.54%) and C (69.45%). Factor F consisted of seven items, which were divided by confirmatory factor analysis into two constructs. F1 consist of 5 items (59.07%) whereby two factors were retained. F2 consists of two items (95.56%) with 0 items retained. As both F constructs measured higher than 50%, validity of these constructs are ensured (Maree *et al.,* 2008:222). However, since F2 consist only out of two items, it was discussed under descriptive statistics. The fact that an internationally standardised IMCI counseling checklist was used allows a slight difference between the retained factors and the factors under the F construct, and this therefore did not influence the construct validity results. The adjustments were done with the assistance of a statistician to accommodate the South Africa scenario. Communalities refer to the proportion of common variance present in a variable, and the result should be between 0 and 1. If the result is more than 1, it means that the construct is variable with items of another construct, which was not the case in this study. For this study the communalities measure well.

The Kaiser-Meyer-Olkin Measure of Sampling Adequacy was used to determine the degree of common variance. The following measures of interpretation as proposed by Friel (2015:19) were applied:

- 0.90 to 1.00 - Marvellous;
- 0.80 to 0.89 - Meritorious;

- 0.70 to 0.79 - Middling;
- 0.60 to 0.69 - Mediocre;
- 0.50 to 0.59 - Miserable; and
- 0.00 to 0.49 - Don't factor.

Lorenzo-Seva (2013:12) mentions explained variance as an intuitive index of goodness of fit. The higher the percentage of variance, the more valid the **amount of IMCI counseling observed** (Lorenzo-Seva, 2013:12). Beavers *et al.* (2013:8) explained that 75% to 90% of the variance should be accounted for, though the variance explained as low as 50% could be seen as acceptable. The Kaiser-Meyer-Olkin (KMO) measurement declares thus that the **observation of the IMCI counseling** was valid within the context of the South African scenario. In this study the KMO tested above 50%, in all four constructs, and this was proof of sample adequacy for the constructs.

4.2.1.2 Reliability

Chronbach's alpha coefficients were used to determine the reliability of the IMCI counseling observations. The reliability of the IMCI counseling observations refer to the consistency of scores obtained by the researcher during observed IMCI counseling in different CHC centres (Babbie, 2010:150). To determine the reliability of the observed IMCI counseling, a Chronbach's alpha coefficient was calculated for each construct which was identified according to exploratory factor analyses. Chronbach's alpha coefficients were calculated on section A15, C, F1 and F2. According to Field (2011:642), a Chronbach's alpha of 0.6 is acceptable reliability. If the reliability estimates are 0.80 and above the IMCI counseling observations are acceptable and under 0.60 reliability of the IMCI counseling observations is unacceptable (Refer to chapter 3.3.4).

Table 4.2: Results of Chronbach's Alfa

Construct	Chronbach's Alfa
A15 **(Feeding counseling of infants between 12 months up to 5 years)** **(A15.1 – A5.5)**	**0.83**
C **(Counseling regarding caregivers health)** **(C1 – C3)**	**0.76**
F1 **The use of effective counseling skills** **F1,F2,F3,F5 &F7)**	**0.63**
F2 **The use of understandable language and respectful approach** **(F4 & F6)**	**0.48**

According to Table 4.2, construct F2 is below value to assure reliability and therefore it was decided to analyse these two items separately.

4.2.2 Exploratory factor analysis

An explorative factor analysis could only be done on section A15 which include items A15.1, A15.2, A15.3, A15.4 and A15.5. This is due to the different categories of IMCI counseling e.g. nutrition counseling can be divided according to different age groups. The researcher ticked on the IMCI counseling checklist the information which was given to the caregiver during the case management and counseling. After data

collection, all the completed IMCI counseling checklists were submitted to the Statistical Consultation Service of NWU. The information on IMCI counseling checklists were captured on Epi-data software (Lauritsen & Bruus, 2003). The data were analysed by using Statistical Analysis System, version 9.3. An explorative factory analysis was conducted by the statistician in order to determine whether the huge amount of data could be reduced to enable the researcher to describe results in a meaningful way, however this was not possible. Four factors could be identified in different sections of the IMCI counseling checklist as discussed below (Burns & Grove, 2010:695; Brink *et al*., 2009:170; Polit & Beck, 2008:751). Maree *et al*. (2008:219-221) stated that "factor analysis performed on a set of items produces as its primary output a factor loading matrix". In this matrix each item contains a loading on a specific factor. These loadings gave correlation between the factor and items; when the loading has large values it indicates that specific items belong to that factor. During factor analysis, results are shown on the factor loading matrix. When the factor loading is greater than 0.30, this indicates that those items belong to a certain factor and items below 0.30 belong to another factor. Theoretical meaning was given to each factor by giving each factor a name. After confirmation of the structure, internal reliability of each factor was determined (see table 4.2). The researcher will discuss in the following tables the 4 constructs which were identified according to exploratory factor analysis.

Table 4.3 Interpreting of exploratory factor analysis

CONSTRUCT	N	Mean	Standard deviation
Feeding counseling of the child between 13 months up to 5 years	**117**	**2.18**	**1.60**
Consideration of caregivers health during counseling	**235**	**0.48**	**0.97**
The use of effective counseling skills	**237**	**2.78**	**0.79**

The mean refers to the average obtained by computing the sum of the items falling under each construct and dividing it by the number of items under the same construct (Babbie, 2010:429). The researcher could give a rating of between 1 and 5 during observation of the IMCI counseling case management according to the information provided to the caregiver of the under-5 child and assuring that the caregiver did understand what was explained. The researcher derives interpretation according to the Likert scale as indicated in the IMCI counseling observation checklist. A mean of 0 indicates no counseling was given, 1 very little counseling were given, 2 counseling was fairly well, 3 quit well, 4 very well and 5 perfectly. It is important to note that the mean score does not evaluate the PN or the caregiver of the under-5 child but the observation of the appropriateness and detail of counseling provided. The interpretation of mean score interpretation will depend on the phrasing of words of each item under each construct. The first construct rates the mean score of feeding counseling of the child between 13 months up to 5 years and is 2.78 quite well. The literature control revealed the following information about this conclusion statement. The introduction of new food and the choice of food, especially what fruit or vegetables to introduce, often present to be a challenge to caregivers (Blisset & Fagel, 2013:89). According to WHO (2003:8), the infant is vulnerable when new food is introduced and the following is applicable:

- *Timely*: Nutrients should be introduced when the energy and nutrients required by the infant needs exceeds the provision through breast- or formula feeding.
- *Adequate*: The necessity to provide sufficient energy, protein and micronutrients to meet the needs of the infant.
- *Safe*: Counseling should be given regarding the hygienic preparation and storage of food and utensils.
- *Properly fed*: Nutritional feeding should be given consistently according to the infant or young child's preference and the child should be encouraged to self-feed with fingers or spoon.

The “Road to Health Booklet” is a booklet which provides a timeous way to monitor weight and growth of the under-5 child (Hatting *et al*., 2012:238). In table 4.4 the interpretation of growth monitoring is outlined and all PNs should know how important it is to plot and interpret the weight of the under-5 child correctly. These interpretations are important as deviations can lead to early detection of malnutrition and the management thereof.

Table 4.4: Growth categories (Hatting *et al*., 2012:238; IMCI, 2014:10)

Growing Well	• Growth is normal • Council the caregiver regarding home care • Emphasize hygiene • Praise the caregiver
Growing not up to standard	• Under-5 child has lost weight since the previous month • The under-5 child is not gaining any weight the previous month or for more than one month. • Under-5 child has indicated low weight or length for his age. • PN should check for feeding problem • Counseling regarding feeding • Follow-up in two days if infant is less than 2 weeks old • Follow-up in seven days if infant is older than 2 weeks
Severe Malnutrition	• Under-5 child has indicated very low weight or length (below the -3 line) for his age. • The following signs are visible: • Severe wasting • Oedema of both feet

Consideration of caregivers’ health during counseling shows a very low mean score of only 0.48 which indicates that the focus is more on the under-5 child rather than on the caregiver during IMCI counseling case management. A mean score of 2.78 for IMCI counseling skills was quite high. According to the IMCI (2014:47) advice is

given to caregivers on how to grow local foods and to eat fresh fruit and vegetables to build their own strength and health.

According to Clark (2014:117), the caregiver should also take a variety of food to ensure that they get the necessary nutrients to stay healthy. The following table, see table 4.5, indicates the variety of food that is necessary for a nutritional diet.

Table 4.5: Suggested nutritional advice for the care giver

Starch foods	Fruit & Vegetables	Protein
6 – 8 portions/day		**2 – 3 portions/day**
• One slice of bread • ½ cup cooked porridge, rice or pasta • 1 small potato	**Vitamin C** • Tomatoes • Broccoli • Oranges • Guavas **Vitamin A** • Carrots • Pumpkin • Sweet potato • Spinach • Mango • Paw-paw	Beans Peas Lentils Soya **Iron, Vitamin B12 & Zinc** • Chicken • Fish • Meat • Egg yolk • Milk

The mean of the use of effective counseling skills observed and rated by the researcher during the IMCI counseling case management is 2.78 which is near to quit well. The use of effective counseling skills is essential during the IMCI counseling of the under-5 child case management. Effective counseling skills include active listening, inviting questions, praising, showing of interest and evaluating the

caregiver's understanding. According to IMCI (2014:17) the following listening skills are applicable:

- To use non-verbal behavior
- To ask open-ended questions
- To use responses and gestures that show interest
- To reflect back what the caregiver says
- To avoid judging words

According to IMCI (2014:17) the following aspects are applicable:

- Accept what the caregiver says – what she/he thinks or is feeling
- Recognize and praise what the caregiver is doing right

According to IMCI (2014:17) the PN should listen to the caregiver's concerns and encourage them to ask questions as well as to express their emotions. Relevant information should be given to the caregiver and her/his understanding should be evaluated. Ensure that the caregiver understands all instructions given to him/her (IMCI, 2014:17).

The standard deviation gave an indication of how close the researcher's data was to the data's mean. The spread or distribution of data is measured by the standard deviation. A higher standard deviation means that the data is more dispersed, while a lower standard deviation means that the data is more consistent (Babbie, 2010:432; Bruce, *et al.,* 2008:62). The data in each of the constructs discussed under the means of the observation of IMCI counseling population shows a low standard deviation score.

4.2.3 Descriptive statistics

Descriptive statistics in this study provided information about standard deviations, means minimum and maximum values of frequency will be outlined in certain cases. The IMCI counseling checklist consisted of 4 constructs which was discussed under exploratory factor analysis. In this section the rest of the data, which were obtained through observation of the IMCI counseling of the under-5 child, will be interpreted by formulating a conclusion statement. Please note that the data analysis focuses on the observation of the **IMCI counseling observed** during case management and does not focus on the IMCI counseling checklist which were only used to tick of whether information were given. N indicates therefore the **amount of observed IMCI counseling**. Outstanding frequencies were also elicited, but according to the lead of the statistician.

Table 4.6: Feeding counseling: Interpretation according to mean of item, interpretation and literature control.

Item	Description of Item	N	Mean	SD	Conclusion statement	Literature control
A1	Does the PN explain the importance of breast or formula feeding?	**191**	**4.73**	**0.70**	Excellent mean score. PNs do explain the importance of breast or formula feeding.	It is recommended by the WHO that infants should be breastfed at least from birth to 6 months of age since the breast milk provides optimal nutrition and protects the infant from diseases such as gastroenteritis, respiratory, ear and urinary infections (Dysan *et al*., 2005:2; Flint *et al*., 2008:2). According to Chandrika *et al*. (2015:2) and Flaherman *et al*., (2012:778), mothers who are illiterate should receive more attention with regard to breastfeeding since they are the defaulters and therefore require continuous effective counseling which will provide a positive impact on breastfeeding outcomes. The mother discontinues breastfeeding when she feels that there is insufficient milk, baby is old enough to start with complementary feeding or mother is feeling ill (Camurdan *et al.* 2008: 1176).
A2	Does the PN explain the frequency of breast or formula feeding?	**174**	**3.5**	**1.52**	Good mean score. PN do explain the frequency of breast or formula feeding.	Frequency Feeding as stipulated by IMCI booklet, (2014:18). Breastfeeding up to 6 months (IMCI, 2014:18) / Formula feeding up to 6 months (IMCI, 2014:24)

						The following aspects are applicable: • Exclusive breastfeeding for the first 6 months • Baby should be attached to the breast immediately after birth to ensure skin-to-skin contact. • Breastfeeding should be as often as possible. • Feed infants at least 8 times in 24 hours. • Wake the baby for feeding after 3 hours if the baby did not awake by him/herself.	The following aspects are applicable Birth 50ml x 8 in 24 hours 2 Weeks 50ml x 8 in 24 hours 6 Weeks 75ml x 7 in 24 hours 10 Weeks 125ml x 6 in 24 hours 14 Weeks 150ml x 6 in 24 hours 4 Months 175ml x 6 in 24 hours 5 Months 175ml x 6 in 24 hours 6 Months 200ml x 6 in 24 hours 7-12 Months 250ml x 4 in 24 hours	

						PNs should counsel mothers to breastfeed 8 – 12 times per day, either from one breast, both breasts and cluster breastfeeding (Kent *et al*., 2012:115). According to the same author, three factors influence the frequency of breastfeeding, namely: • Breast storage capacity. • Capacity of the infant's stomach • Gastric emptying time of infant. The milk intake at the beginning of a breastfeeding is low in fat whereas the milk at the end of a feeding contains high fat and therefore fat intake depends on the frequency of feeding (Kent *et al*., 2012:115). To optimize effective drainage of the breast the PN should ensure that mother understood proper attachment and positioning of the infant (Kent *et al*., 2012:115). According to De Kock and Van der Walt (2004:30-9) high frequency in breast feeding may result in: • Stimulation in milk production • The ability of the mother to feed her baby will improve her confidence • Less breast discomfort • The development of sore nipples will be decreased.

A3	Does the PN explain how to improve lactation?	**126**	**1.35**	**1.61**	Poor mean score. PNs do not counsel on ways to improve lactation.	According to Jones *et al*. (2007:247), the health professional involved with the counseling process should understand the anatomy of the breast, the mechanism of milk secretion and the principles of breastfeeding. Frequent feeding during the firsts days after birth, has proven a positive effect in milk production and ensures adequate nutrition to the infant (Kent *et al*., 2012:115; Jones *et al*., 2007:247).
A4	Does the PN identify the mother's concerns & manage any breast or formula feeding problems?	**154**	**0.76**	**1.60**	Very little mean score. PNs do not identify feeding concerns.	According to IMCI (2014:10) the following questions should be asked to determine feeding problems: • Any problems regarding feeding • Breastfeeding or formula feeding (if formula feeding – brand and quantity) • Frequency of feeding • Quantity of milk given with each feeding • How is the milk prepared and given to the infant • Is breast milk given at all • Are any food or fluids given in addition • How are utensils cleaned According to Dyson *et al.* (2005:9), mothers who receive counseling from a needs-based session have a more positive result than

						generic or formal ante-natal sessions. Therefore the PN will give more information regarding breastfeeding or formula feeding in a one-to-one session with the mother.
A5	Does the PN give guidance regarding correct positioning and attachment during breast or bottle feeding?	**119**	**3.79**	**1.95**	Very well mean score. PNs counsel on positioning of baby and attachment.	Optimal and correct breastfeeding is a skill which requires confidence, constant counseling and assistance. The positioning and attachment of the baby is important to ensure comfort and latching during feedings (De Kock & Van der Walt, 2004:30-6). The indication for correct positioning and attachment as stipulated by IMCI (2014: 21) as: • Seat the mother comfortably • Show the mother how to hold her infant • Show the mother how to attach the infant • Look for signs for good attachment and effective suckling.

A6	Does the PN provide the mother with advice when breast or formula feeding is discontinued?	**142**	**2.63**	**2.25**	Quite well mean score. PNs counsel caregiver to discontinue breast or bottle feeding.	HIV can pass through the breast milk, therefore the mother should breastfeed for the first 6 months whereby no other feeding or water should be given during this time. Preferably at 6 months breastfeeding should be discontinued. (Clark, 2014:343; Hatting *et al*. 2012:247). According to Hatting *et al*. (2012:147), health education, advice and monitoring are most important in breastfeeding and weaning.
A7	Does the PN ensure that additional or substitute milk is prescribed according to the nutritional guidelines?	**70**	**2.03**	**2.21**	Very little mean score. PNs does not prescribe additional or substitute milk.	Once a mother commences breastfeeding, an infant should gain between 200 to 300g in weight per week until three months. This is a way to determine whether the child receives enough milk feeding. The PN should ensure that milk transfer takes place through thorough investigation of proper attachment, sucking reflex and swallow to determine why infant does not gain sufficient weight (Eglash *et al*., 2008:365). According to the same author, the infant will require supplementary feeding or substitute milk since weigh loss might lead to sleepiness which will be a cause of unsuccessful breastfeeding.

<table>
<tr><td>A8</td><td>Does the PN give information regarding the hygienic preparation of formula milk or the breast feeding before a feeding?</td><td>163</td><td>3.23</td><td>1.80</td><td>Quite well mean score.

PNs counsel on hygienic practices before preparation of feeding.</td><td>IMCI (2014:23) stipulate that the correct hygienic preparation of formula milk is as follows:
• Wash hands with soap and water
• Boil the water for 3 minutes
• Mix formula with hot water to kill germs that might be in the powder
• Pour amount water in marked cup then add the formula.
• Measure powder according to the instructions on the container.
• Mix and stir with a clean spoon
• Cool formula to body temperature
• Only make enough formula for one feeding at a time</td></tr>
<tr><td>A9</td><td>Does the PN advise the caretaker regarding the length of time that breast or formula milk can be stored?</td><td>31</td><td>1.71</td><td>2.14</td><td>Fairly well mean score.

PNs give advice about storage of milk.</td><td>The specifications regarding milk storage time are stipulated in the table below (IMCI, 2014: 22; De Kock & Van der Walt, 2004:30-13).
<table><tr><th>Storage of Breast milk</th><th>Storage of formula milk</th></tr><tr><td>The following aspects are applicable
• Fresh breast milk has highest quality
• Use a glass or hard</td><td>The following aspects are applicable:
• Only make enough formula at a time.
• Discard any leftover</td></tr></table></td></tr>
</table>

						plastic container with a large opening and tight lid to store milk • Boil the container and lid for 10 minutes before use • Teach caregiver to write time and date the milk was expressed onto the container • Store milk in refrigerator for 24 hours or in cool place for 8 hours. • Term infant colostrum can be expressed within 6 day after delivery and can be stored for 12 hours. • Mature milk can be stored at room temperature (19˚C) for 24 hours	formula within two hours.	

A10	Does the PN show how to feed with a cup for babies from 6 months and older?	**94**	**3.46**	**2.13**	Fairly well mean score. PNs demonstrate cup feeding.	Cup feeding is a strategy which is used to support supplementary feeding which will not increase the risks of discontinuation of breastfeeding (Collins *et al*., 2008:10; Flint *et al.,* 2008:2). According to Flint *et al*. (2008:7), the following challenges regarding cup feeding was reported: • Mothers did not manage with cup feeding. • Spilling • Infant not satisfied with cup feeding • It is time consuming. The extended use of bottle feeding has been related to feeding difficulties, obesity and anaemia and therefore it has been recommended that infants should be introduced to cup feedings from 6 months of age and bottle feeding discouraged from 12 months of age (Milton & King, 2012:148).
A11	Does the PN advise on complementary foods and frequency of	**157**	**2.61**	**2.06**	Quit well mean score. PNs counsel on complimentary feeding.	The introduction of complementary feeding presents to be a challenge since uncertainty regarding recommendations and beginning of solid food was not fully understood (Walsh *et al*., 2015:9). Although the WHO recommended exclusive breastfeeding for the first 6 months, solid foods should be introduced together with ongoing breast or formula feeding (Walsh *et al*., 2015:2). According

	feeding?					to Van der Heul *et al*., (2015:260), the changeover from fluid to solid foods should be investigated by the PN during every visit to the clinic. The same author expresses the importance to investigate the nature, quantity and frequency of feedings. Infants who receives solid food later than 10 months of age, indicated a lower interest in dietary variety, whereas infants who was introduced between 4 – 5 months of age have a subsequent acceptance to new food (Blissett & Fagel, 2013:90).
A12	Does the PN give advice on alternatives when the child refuses all milk?	**68**	**0.88**	**1.64**	Fairly well mean score. PNs advice alternative feedings if child refuses milk.	According to IMCI (2014:43), when an under-5 child refuses all milk food-based fluids such as soft porridge, amasi or oral hydration solution (ORS) can be given.
A13	Does the PN give counseling regarding nutritional feeding?	**173**	**1.87**	**2.05**	Fairly well mean score. PNs counsel on nutritional feeding.	The growth and development monitoring of infants during well-baby clinics, immunization sessions, in and out patients or during IMCI consultations is a routine nutritional intervention whereby attention and counseling can be given to caregivers with infants or young children with low-birth-weight, sickness and those born to HIV mothers (WHO, 2003:16; WHO, 2007:32).

A14	Does the PN give information regarding continuation of milk or breastfeeding after nutritional meals?	**160**	**2.68**	**2.23**	Quite well mean score. PNs counsel on continuation of milk after nutritional meals.	According to Adamkin & Radmacher (2014:406), the continuation of breast milk is of upmost importance since it has an influence on the following factors: • Improves gastro-intestinal function • Reduces the rate of infections • Improves cognitive and visual development in the under-5 child • Reduces respiratory infections.
A16	Does the PN review the RtHB and give counseling to the caregiver	**236**	**4.98**	**0.33**	Perfectly mean score. Road to Health Booklets (RtHB) are used in practice.	According to the IMCI guideline (2014:9); Thandrayen and Saloojee (2010:76), the PN should use the RtHB to plot the weight of age to determine, according to the curve, if the under-5 child is growing well.

Table 4.7: Administration of treatment

Item	Description of Item	N	Mean	SD	Interpretation	Literature control
B1	Does the PN explain what the oral treatment is for?	**24**	**4.88**	**0.34**	Perfectly mean score. PNs explain aim of medication.	IMCI (2014:38) advises the PN to counsel the caregiver of an under-5 child on the reason for giving the medication. PN to also explain to caregiver of an under-5 child the importance of completing the treatment even if child feels better.
B2	Does the PN explain how to administer the oral treatment?	**23**	**4.90**	**4.91**	Perfectly mean score. PNs explain administering of medication.	IMCI (2014:38) advises the PN to counsel the caregiver of an under-5 child how to administer the medicine.
B3	Does the PN demonstrate how to administer the oral treatment?	**23**	**3.09**	**2.31**	Fairly well mean score. PNs demonstrate how to administer oral treatment.	Teach the caregiver to give oral medication at home. IMCI (2014:38). • Ask caregiver to give the first dose • Advise caregiver how to store medication safely Evaluate caregiver's understanding. Most paediatric medications are liquids and therefore misinterpretation regarding medication label instructions or administering of inaccurate doses are often made by caregivers (Wallace *et al*., 2012:444).

B4	Does the PN ask open-ended questions to evaluate if the caretaker understands how to administer the oral treatment?	**22**	**2.95**	**2.44**	Fairly well mean score. PNs evaluate caregivers understanding of administering of medication.	• IMCI (2014:38) advises the PN to determine through open questioning, if the caregiver of an under-5 child understands how to administer the medicine.
B5	Does the PN demonstrate how to administer the first dose of the oral drug to the child under-5 at the facility?	**22**	**2.68**	**2.68**	Quite well mean score. PNs demonstrate the administering of the first dose of oral drugs to the child.	IMCI (2014:38) advices the PN to demonstrate how to measure the dosage of medicine correctly together with the correct route of administration of medication.
B6	Does the PN advise and explain when the caregiver should return to the clinic for a follow-up visit?	**22**	**4.59**	**1.14**	Perfectly mean score. PNs do advise when to return to CHC	The IMCI (2014:46) inform PNs when an under-5 child should return to the clinic and that the caregiver should receive counseling accordingly (Refer table 4.9).

B7	Does the PN prescribe or give ORS treatment?	**6**	**5.00**	**0**	Perfectly mean score. PNs prescribe ORS	According to IMCI (2014:43), ORS treatment is prescribed for an under-5 child who is diagnosed with diarrhoea and some dehydration or diarrhoea with no visible dehydration. Severe and persisted diarrhoea cases will be referred. ORS and SSS is a cost-effective measure to successfully treat diarrhoea at home (Hatting *et al*. 2012:232).
B8	Does the PN explain how to mix and administer ORS correctly?	**8**	**5.00**	**0**	Perfectly mean score. PNs do give information about ORS	IMCI (2014:43); Hatting *et al*. (2012: 246) counsel the caregiver regarding: • How to prepare ORS at home • How much ORS to give • How to prepare SSS for use at home o 1 Lt boiled water o 8 level teaspoons sugar ½ teaspoon salt • Give frequent small sips from cup • If child vomits, wait 10 minutes then continue. Continue with extra fluids until diarrhoea stops.

Before the researcher starts with data interpretation regarding counseling given on when to return to the clinic for a follow up visit, the researcher would like to elicit the amount of sick under-5 children IMCI case management counseling sessions observed with a pie diagram (Figure 4.1). The total amount of 162 sick under-5 children case management counseling sessions were observed which include:

- Under-5 child with diarrhoea: 31
- Under-5 child with cough: 23
- Under-5 child fever: 52
- Under-5 child with ear problem: 22
- Under-5 child with malnutrition: 34

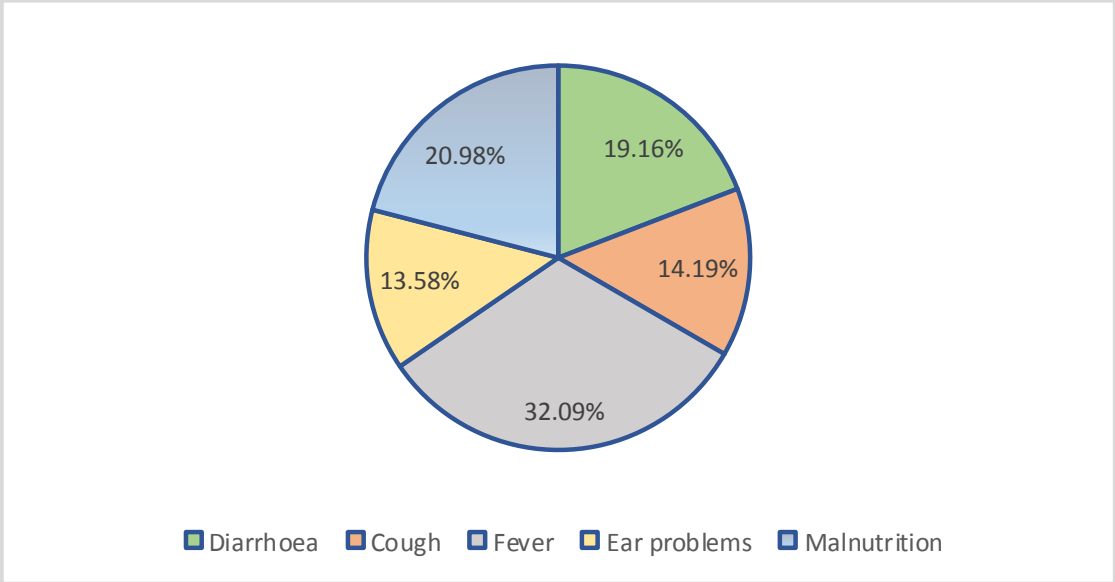

Figure 4.2: The amount of sick under-5 child case management counseling observed

In Table 4.8 information to the caregiver with regard to return date were outlined. This information was obtained during the observed IMCI counseling given during the IMCI case management and was ticked off onto the IMCI counseling checklist by the researcher. This was a yes- or- no tick and indicated whether the information was given or not.

Table 4.8: Return to the clinic/follow-up of the child under-5 child

Item	Description of Item	Yes	No	Interpretation and conclusion statement
D.1.1	Child is not able to drink or breastfeed	**13**	**17**	The researcher observed the under-5 child counseling given to the caregivers regarding complaints of diarrhoea. In 13 IMCI case managements the caregiver was informed to bring the under-5 child back if child is not able to drink and 17 IMCI **observed case managements** did not receive this information. Counseling on when to bring the under-5 child back if child is not able to drink or breastfeed was not given effectively.
D.1.2 *** NOT CALCULATED**	Child becomes worse	**215**	**15**	Counseling on when to bring the under-5 child back when child becomes worse was given excellently.
D.1.3	Child develops fever	**36**	**16**	The researcher observed the under-5 child counseling given to the caregivers regarding complaints of fever. The caregiver was informed to bring the under-5 child back if child develops a fever in 36 observed IMCI case management counseling, and 16 IMCI observed case managements did not receive this information. Counseling on when to bring the under-5 child back with fever was not effective

				as the researcher observed 162 IMCI case managements and every sick under-5 child should be informed to bring the child back in case of fever.
D.1.4	Child develops fast breathing	**6**	**17**	The researcher observed the under-5 child counseling given to the caregivers regarding complaints of cough or difficult breathing. The caregiver was informed to bring the under-5 child back if child develops fast breathing in 6 observed IMCI case managements and 17 IMCI observed case managements did not receive this information. Counseling on when to bring the under-5 child back when child develops fast breathing was not effective as the researcher observed 162 IMCI case managements and every sick under-5 child should be informed to bring the child back in case of developing fast breathing.
D.1.5	Child develops blood in stools	**6**	**25**	The researcher observed the under-5 child counseling given to the caregivers regarding complaints of diarrhoea. The caregiver was informed to bring the under-5 child back if child is not able to drink in 6 IMCI observed case managements and 25 IMCI observed case managements did not receive this information. Counseling on when to bring the under-5 child back with diarrhoea was not effective.

D.1.6	Child drinking poorly	**14**	**17**	The researcher observed the under-5 child counseling given to the caregivers regarding complaints of diarrhoea. The caregiver was informed to bring the under-5 child back when drinking poorly in 14 IMCI observed case managements and 17 IMCI observed case managements did not receive this information. Counseling on when to bring the under-5 child back when child drinking poorly was not effective as the researcher observed 162 IMCI case managements and every sick under-5 child should be informed to bring the child back in case of drinking poorly.
D.1.7	Child has anaemia	**3**	**2**	The caregiver was informed to bring the under-5 child back with anaemia in 3 IMCI observed case managements and 2 IMCI observed case managements did not receive this information. Counseling on when to bring the under-5 child back with anaemia was not effective, but only in 2 out of 5 IMCI observed case managements, although IMCI guidelines stipulates that all children should be assessed for anaemia (IMCI, 2014:32). The researcher observed 162 IMCI case managements and 75 under-5 children visit the clinic for routine care e.g. immunisations and weight control and every child was not assessed for anaemia.
D.1.8	Child is not	**17**	**17**	The caregiver was informed to bring the under-5 child back which is not growing

	growing well			well in 17 IMCI observed case managements and 17 IMCI observed case managements did not receive this information. Counseling on when to bring the under-5 child back when child is not growing well was not effective.
D.1.9	Child has chronic ear infection	**4**	**2**	The caregiver was informed to bring the under-5 child back with a chronic ear problem in 4 IMCI observed case managements and 18 IMCI observed case managements did not receive this information. Counseling on when to bring the under-5 child with a chronic ear problem back was not effective.
D.1.10	Child is vomiting	**15**	**16**	Counseling on when to bring the under-5 child back if vomiting was not effective as the researcher observed 162 IMCI case managements and every caregiver should be informed to bring the back the child if child develops vomiting.
TOTAL		**94**	**129**	According to the statistics PNs do not give proper feedback to caregivers on when to bring their children for follow up. Many of these symptoms, however, overlap and are congruent, with symptoms such as diarrhoea, fever, cough, fast and breathing which could be present in conditions such as acute ear infections, tuberculosis, HIV and AIDS. The total calculation as well as the yes-and-no answers should not be calculated since the researcher observed 162 IMCI case managements of sick under 5-children. The total of 215 caregivers of the under-5 child received information that they should return the children if they

			became ill. Only 15 caregivers did not receive this information. The conclusion can be made that caregivers are informed to return sick children to CHC centres.

According to the IMCI guidelines (2014:46) the caregiver should receive counseling on when to return the sick under-5 child to the CHC centre. Table 4.9 provides information regarding counseling the caregiver should receive when returning for a follow-up visit.

Table 4.9: Counseling of caregiver when to return to the CHC centre

Counseling given to caregiver when to return to the clinic	
Any sick child	• Becomes more ill • Not able to drink or breastfeed • Has convulsions • Vomiting • Develops a fever
Cough	• Fast breathing • Difficult Breathing • Wheezing
Diarrhoea	• Blood in stool • Drinking poorly
Chronic ear infection	• Hearing loss
Malnutrition	• Feeding challenges

Table 4.10 outlines the observed IMCI counseling of the under-5 child caregiver who received information regarding the exact return date to CHC centre. Literature control according to the IMCI guidelines on return date was also given to indicate scientific proof when under-5 children should return to the CHC centre.

Table 4.10: Specifications to stipulate the exact return date of the under-5 child.

Item	Description of Item	N	Interpretation	Literature control
D.2.1	**Two days**	**39**	Counseling on when to bring the under-5 child back within two days was given in 39 out of 237 observed IMCI case management counseling	According to IMCI (2014:46) the following diseases should be followed up within two days. • Pneumonia • Dysentery • Some dehydration • Malaria • Fever • Measles
D.2.2	**Five days**	**59**	Counseling on when to bring the under-5 child back within five days was given in 58 out of 237 observed IMCI case management counseling.	According to IMCI (2014:46) the following diseases should be followed up within five days. • Cough or cold • Wheeze • No visible dehydration

				• Persistent diarrhoea • Acute ear infection • Possible streptococcal infection • Feeding problem
D.2.3	**Fourteen days**	**16**	Counseling on when to bring the under-5 child back within 14 days was given in 16 out of 237 observed IMCI case management counseling.	According to IMCI guidelines (2014:46) the following diseases should be followed up within fourteen days. • Acute or chronic ear infection • Anaemia • Not growing well (no feeding problem)
D.2.4	**Thirty days**	**215**	Counseling on when to bring the under-5 child back within five days was given in 215 out of 237 observed IMCI case management counseling.	According to IMCI guidelines (2014:46) the following diseases should be followed up within thirty days. • HIV infection • Ongoing HIV exposure • Suspected symptomatic HIV • HIV exposed • TB exposed • Confirmed or probable TB
D.2.5	**Not mentioned**	**8**		

Please not the amount of 237 was not the amount of sick under-5 children, but the observed IMCI counseling given to the caregivers during IMCI case management or routine care visits e.g. immunisation, weight.

The researcher observed 2 IMCI case management counselings which were referred by the CHC centre to a level 1 or 2 hospital facility. The referral was always done to the nearest hospital, and if necessary to another hospital where specialist services are available. In only one sub-district a level 2 hospital was available.

Table 4.11: Referral of urgent IMCI cases

Item	Description of Item	Yes	No	Not applicable	Interpretation	Literature control
E.1	Does the PN advise the caregiver regarding the immediate referral of the child?	**3**	**0**	**235**	The researcher observed 3 IMCI case management counselings which were referred.	According to the IMCI guidelines, PNs should refer under-5 children if they diagnose the following signs or symptoms and counsel the caregiver accordingly: • Possible serious infection (IMCI, 2014:4). • Severe dehydration, severe persistent diarrhoea or serious abdominal problem (IMCI, 2014:5). • Major abnormality or serious illness which might be coupled to congenital problems (IMCI, 2014:6). • Under-5 child who is not able to feed (IMCI, 2014:9). • Under-5 child with difficult breathing (IMCI, 2014:26). • Under-5 child with severe dehydration or severe dysentery (IMCI, 2014:27). • Under-5 child with high fever or suspected malaria (IMCI, 2014:28). • Under-5 child with suspected complicated measles (IMCI, 2014:29). • Under-5 child with mastoïditis (IMCI, 2014:30). • Under-5 child with malnutrition (IMCI, 2014:31).
E.2	Does the PN explain to the caregiver the reasons for referral?	**1**	**1**	**235**	The researcher observed 3 IMCI case management counselings which were referred, only 2 received counseling regarding reasons for referral.	

						• Under-5 child with severe anaemia (IMCI guidelines 2014:32).

With exploratory factor analysis of the **F-section** (counseling skills) of the IMCI counseling checklist which consists of 7 items, two constructs were grouped together and 2 items were retained. The F section (counseling skills) of the IMCI counseling checklist evaluates the counseling skills used by the PNs during the IMCI consultation. Due to low Cronbach Alfa test these items will be discussed under descriptive statistics.

	COUNSELING SKILLS				INTERPRETATION	LITERATURE CONTROL
F4	Using simple language	**230**	**4.36**	**0.75**	Perfectly mean score. PNs use simple language during counseling.	According to IMCI (2014:17) simple language should be used that is understandable for the caregiver.
F6	Talking kindly and respectfully	**237**	**4.05**	**0.48**	Perfect mean score. PNs talk kindly and respectfully during IMCI counseling	According to IMCI (2014:17) the following is applicable: • Be respectful and understanding • Respect the caregivers cultural beliefs and customs

The researcher **observed 237 IMCI case management counseling** whereby the IMCI guidelines were used in 162 IMCI case management counseling. In table 4.12 the use of IMCI guideline by PNs were indicated by either a yes or no rating.

Table 4.12: Use of IMCI guideline by Professional Nurses

Item	Description of Item	Yes	No	Interpretation	Literature control
G.1	Did the PN use the IMCI chart booklet at any time during the management of the child under-5	**162**	**75**	The IMCI guidelines were used during the management of the sick under-5 child, if the PNs were uncertain about something. They just page through the classifications to obtain the relevant information. The researcher then ticked that the IMCI guidelines were used during the case management counseling observation.	The IMCI chart booklet is developed to assist the training IMCI PN in the following aspects (Hatting *et al*., 2012:261): • Assessment of the under-5 child • Classification of illnesses which is colour coded (Red: immediate treatment and referral, Yellow: specific treatment, Green: symptomatic treatment). • Identifying the correct treatment and treating the child • Counseling to the caregiver • Follow-up care

The researcher **observed 237 IMCI case management counseling which were divided into time intervals for each case management. Table 4.13 indicates the observed time per IMCI case management, including IMCI counseling given to caregiver.**

Table 4.13: Time interval for IMCI case management counseling

Item	Description of Item	N	Interpretation	Literature control
G3.1	10 min	206	The researcher **observed 206 IMCI counseling** which took 10 minutes. The researcher **observed 26 of 162 IMCI case managements** of sick under 5-children who required more attention. The researcher **observed 3 IMCI case management counseling** cases which were referred and they spend 60 minutes with the under-5 child.	Lack of adherence to IMCI guidelines in a previous study, was due to time pressure since IMCI guidelines are time consuming (Lange *et al*., 2013:60). According to Adam *et al*. (2005:56), 16 minutes are spent per IMCI consultation during a low patient load and no additional time is spent when there is a high patient load which might have an influence on the quality of service delivery. Many informants stated that they do not acquire IMCI guidelines since they are acquainted with the diagnostic procedure and do not see the need to obtain history from the caregiver (Lange *et al*., 2013:59).
G3.2	15 min	14		
G3.3	20min	4		
G3.4	30min	4		
G3.5	35min	3		
G3.6	40min	1		
G3.7	45min	0		
G3.8	50min	0		
G3.9	60min	3		

The diagram below provides a visual interpretation of the time spent on IMCI case management counseling.

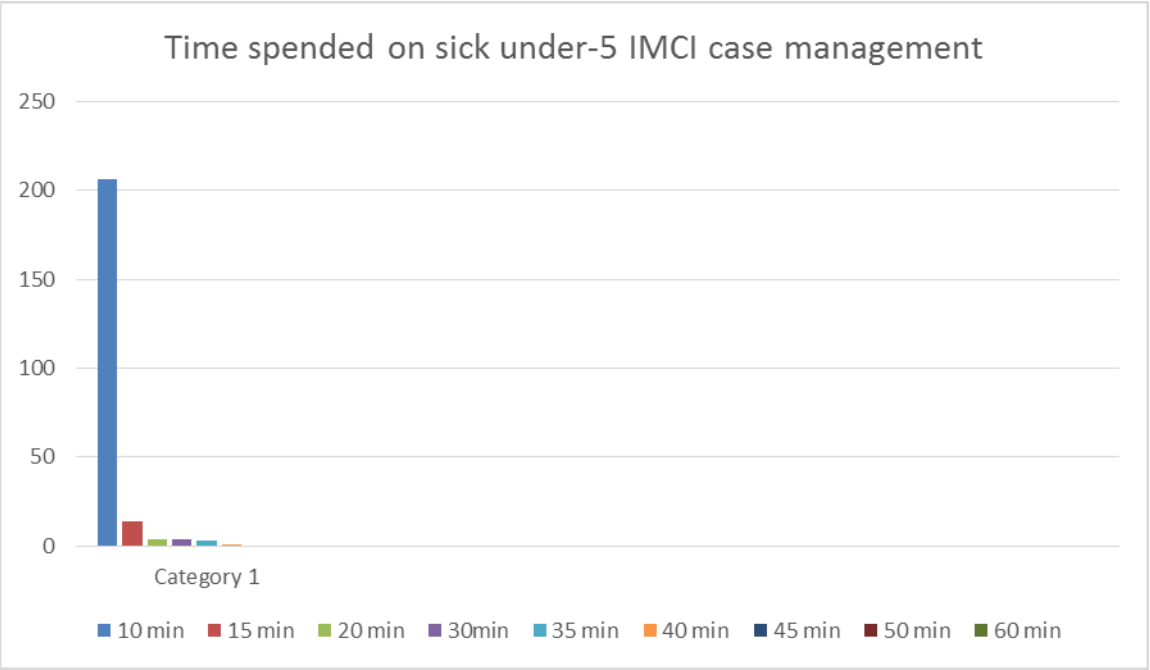

DIAGRAM 4.1: IMCI CASE MANAGEMENT TIME INTERVAL.

4.2.4 Chapter Summary

The researcher determined how current IMCI counseling to the caretaker of an under-5 child is carried out through an observation of IMCI case managements and other under-5 children visiting the clinic for routine care. The interpretation thereof was done through exploratory factor analyses and descriptive statistics. The background study in chapter 1, the literature review conducted in chapter 2 and the methodology outline in chapter 3 supported the aim of the study to determine the current IMCI counseling practices of the under-5 child by PNs in CHC centres. In the following chapter, recommendations are outlined that aims to ensure the well-being of an under-5 child to reduce under-5 mortality as targeted by the MDG4.

CHAPTER 5:

SUMMARY OF FINDINGS, RECOMMENDATIONS, LIMITATIONS OF STUDY AND CONCLUSIONS

5.1 INTRODUCTION

In Chapter 4 the data was analyzed, interpreted and discussed according to the arrangements of the data retrieved from the observed IMCI case managements and ticked on the IMCI counseling checklist by the researcher. The research objective of the study was to determine how IMCI counseling of the under-5 child is currently conducted in CHC centres in North West province. Through a thorough literature review to determine what is expected during an IMCI case management of the under -5 child, followed by an observational IMCI counseling case management review, data was obtained and analysed. In this chapter the researcher will focus on the answering of the research objective and reaching the aim of research study. The limitations and recommendations will also be outlined followed by a summary of this chapter.

5.2 PURPOSE AND OBJECTIVES OF STUDY

The purpose of the study was to acquire an overview of the Integrated Management of Childhood Illness (IMCI) counseling protocol and how it is implemented at CHC centres.

At first the researcher conducted a literature overview to understand what holistic well-being of an under-5 child entails. Thereafter the IMCI case management and counseling practices were explored to determine the main aspects of the IMCI counseling process and how it should be implemented.

The researcher observed IMCI counseling practices at CHC situated in all five sub-districts of Ngaka Modiri Molema District of North West Province. Data was analysed and the researcher obtained exploratory factor analyses and descriptive statistics for interpretation. These statistics were used to identify observed counseling gaps during the IMCI counseling case management between the PN and caregiver of an under-5 child.

5.3 SUMMARY OF RESULTS

Summary of results will be viewed through theoretical evidence as stipulated in the literature review (Chapter 2) and empirical data analysis results obtained (Chapter 4). Data collection includes 237 observed IMCI counseling sessions, of the under-5 child, where the researcher ticked of what was discussed during IMCI counseling on a checklist. Observed IMCI under-5 counseling checklists were analysed through exploratory factor analyses and descriptive statistics (chapter 4). The results revealed that IMCI counseling to the caregiver of an under-5 child, involves feeding, administering of medication and follow-up care advice. Counseling on feeding was conducted well overall and it seems that nurses are knowledgeable on how to counsel caregivers regarding the nutrition of the under-5 child, although certain aspects were not addressed. All the observed IMCI case managements of the sick under-5 children who received oral medication an explanation on how to give oral medication were given quite well. Attention to the caregiver's health during observed IMCI of the under-5 sick children counseling was not done. This could be due to the fact that some of the CHC centres still use the 2011 IMCI guidelines. Information given when an under-5 sick child should return to CHC is not given to all caregivers. However all caregivers in all the participating CHC centres were informed that they should return to the clinic if the child becomes ill or does not improve. With observed IMCI case management, the researcher observed that more time was spent with the very ill under-5 children. The caregiver was not informed about the reason for referral in 1 observed IMCI case management. The total of very ill under-5 children were 3 out of 237 observed IMCI counseling sessions, this is low especially due to the fact that the North West Province delivers health services in rural areas. The

gaps identified in this study with IMCI counseling to the caregiver as observed by the researcher during IMCI case managements were as follows:

- More attention should be given to the caregivers of the under-5 child
- Nutritional guidelines for under-5 child specifically the age group 13 months – 5 years needs counseling advice
- Formula milk and Ready to Use Therapeutic Foods (RUTF) is not available at all CHC centres to treat
- Information on how to improve lactation was not discussed during observed IMCI counseling case management
- Caregivers concerns were not investigated during observed IMCI counseling case management
- Information regarding additional or substitute milk is not prescribed according to the nutritional guidelines during observed IMCI counseling case management
- Information regarding the length of time that breast or formula milk can be stored was not addressed during observed IMCI counseling case management
- The total of very ill under-5 children were 3 out of 237 observed IMCI counseling sessions, this is low especially due to the fact that the North West Province delivers health services in rural areas.

5.4 RECOMMENDATIONS

These recommendations are valued as the foundation to ensure the well-being of under-5 children as discussed in chapter 2.

5.4.1 Recommendation to ensure holism

Holism involves good feeding practices to provide adequate nutrition, safety of children and the prevention of obesity. The following recommendations are made:

- Proper nutritional counseling to the caregiver, paying particular attention to the under-5 child, specifically the age group 13 months – 5 years needs counseling advice.

- Information posters regarding nutrition should be visible in the CHC centres to keep the caregivers informed regarding different nutritional groups and which foods should be grouped together to ensure a proper nutritional meal. Many students conducted their clinical practice in the CHC centres and they could be requested to submit posters for evaluation and afterwards used to inform caregivers. It is important to replace these posters annually as the information become old; the posters become unsightly and untidy.

- Counseling should be given regarding the introduction to different kinds of food so that the child can be exposed to different tastes and textures of food.

- Caregivers of obese children should be assessed of feeding practices and proper counseling should be given. Obesity among under-5 children is praised and promoted, but it should be emphasised that this has an influence on the child's self-image. When he reaches teenage, it becomes problematic since peers are often rude. Obese children are also exposed to life threatening conditions e.g. early onset of hypertension and diabetes.

5.4.2 Recommendations to ensure equity

IMCI has been implemented to provide healthcare to the under-5 child and to deliver continuous counseling to the caregiver. The following recommendations are made:

- The caregiver's health and social circumstances should be assessed with every visit to the clinic.
- Ready-to-use therapeutic foods (RUTH) should be prescribed to all children who are classified as severe acute malnutrition without medical complications.

5.4.3 Recommendation to ensure sustainability

Sustainability involves funding of health systems to provide CHC centres with the appropriate, latest IMCI guidelines, update each trained IMCI PN on latest information and the provision of sufficient drugs to treat the sick under-5 child as stipulated in the IMCI guidelines. The following recommendations are made:

- The shortage of IMCI qualified personnel needs attention, especially in most remote rural areas.
- The shortage of medication and immunisations posed to be a challenge. Caregivers were requested to return within two weeks to receive immunisations or after two days to receive medication since the applicable medication was not available on the specific day of the observed IMCI counseling.
- The Health Department to assess and evaluate the situation of personnel shortages.

5.4.4 Recommendation to ensure ownership

Assistance to communities and involvement of societies can have an important influence on the well-being of an under-5 child. The following recommendations are made:

- Nutritional training should also be given to selected community health workers in re-engineering a program to assist caregivers in their society with regard to nutritional practices which includes the following aspects:

    - Mid-Upper Arm Circumference (MAUC) screening allows health workers in the community to assist with the detection of malnutrition and supplementary feeding problems and these cases should be referred to the clinic.

    - Nutritional training to assist CHC centres in their counseling practice and to empower health workers to provide this information to all caregivers.

    - How to screen for IMCI illnesses among under-5 children and immediate referral to CHC clinics.

    - The detection of social challenges in the community and its support systems. Informational campaigns should be held regularly.

Figure 5.1 Illustration of all aspects to ensure holistic health and the ownership of under-5 child health and it is clear that many different groups and health systems, including the whole community is responsible for the health of the under-5 child.

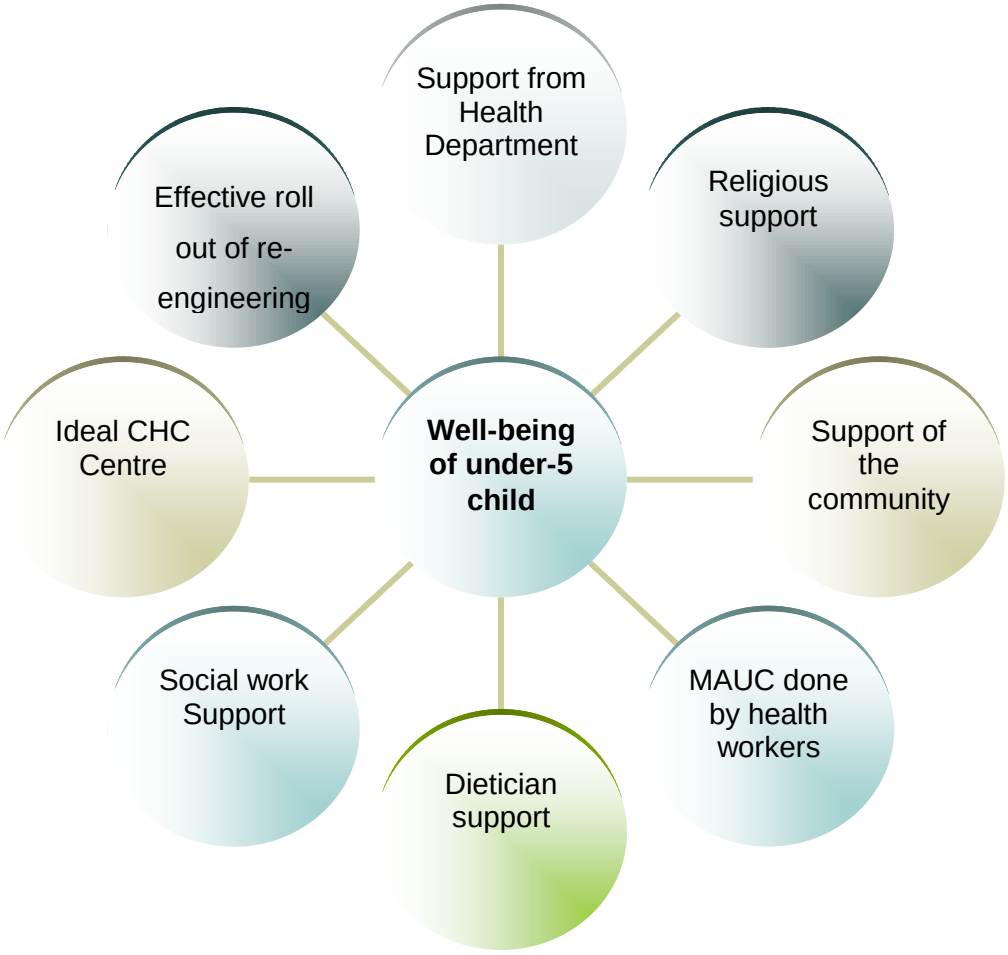

Figure 5.1: Illustration of all aspects to ensure the ownership of under-5 child health

5.5 LIMITATIONS OF THE STUDY

The following limitations were identified:

- Some CHC centres do not have the new version of IMCI
- In some sub-district CHC centres, the operational managers were unapproachable, being fed-up with overloading of research participants. They refuse to accommodate the researcher and with follow up by the study leader the phone was dropped. After two additional attempts to approach these CHC

centres the study leaders made a decision to approach nearby Primary Health Care Clinics to request participation in the research.

5.6 CHAPTER SUMMARY

This chapter addressed the implementation of IMCI counseling of under-5 child caregivers who visit health care facilities. The researcher managed to outline how IMCI counseling is currently implemented in CHC centres. Gaps could be identified and assisted the researcher to formulate recommendations to address these gaps. The importance of holism and community involvement was discussed in line with chapter 2. Limitations of the research study was identified and discussed accordingly.

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ADDENDUM A:

ETHICS APPROVAL NWU

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Institutional Research Ethics Regulatory Committee
Tel: +27 18 299 4849
Email: Ethics@nwu.ac.za

ETHICS APPROVAL CERTIFICATE OF PROJECT

Based on approval by the Health Research Ethics Committee (HREC), the North West University Institutional Research Ethics Regulatory Committee (NWU-IRERC) hereby approves your project as indicated below. This implies that the NWU-IRERC grants its permission that, provided the special conditions specified below are met and pending any other authorisation that may be necessary, the project may be initiated, using the ethics in mind below.

Project title: EVALUATING THE IMCI COUNSELLING SKILLS OF PROFESSIONAL NURSES IN A DISTRICT OF THE NORTH WEST PROVINCE, SOUTH AFRICA

Project Leader: Dr T Rabie

Ethics number: N W U - 0 0 0 7 9 - 1 5 - A 1

Approval date: 2015-07-29 **Expiry date: 2016-07-28** **Category** N/A

Special conditions of the approval (if any): None

General conditions:

While the ethics approval is subject to all declarations, undertakings and agreements incorporated and signed in the application form, please note the following:

- The project leader (principle investigator) must report on the prescribed format to the NWU-IRERC:
  - annually (or as otherwise requested) on the progress of the project,
  - without any delay in case of any adverse event (or any matter that interrupts sound ethical principles) during the course of the project.
- The approval applies strictly to the protocol as submitted in the application form. Should any changes to the protocol be deemed necessary during the course of the project, the project leader must apply for approval of these changes at the NWU-IRERC. Would have to operate from the project protocol without the necessary approval of such changes, the ethics approval is immediately and automatically removed.
- The date of approval indicates the first date that the project may be started. Should the project have to continue after the expiry date, a new application must be made to the NWU-IRERC and new approval received before or on the expiry date.
- In the interest of ethical responsibility the NWU-IRERC retains the right to:
  - request annual, or any information or data at any time during the course or after completion of the project;
  - withdraw or postpone approval if:
    - any pertinent information or practices of the project are reviewed or revealed,
    - it becomes apparent that any relevant information was withheld from the NWU-IRERC or that information has been false or misrepresented,
    - the required annual report and recording of adverse events was not done timely and accurately,
    - new institutional rules, national legislation or international conventions deem it necessary.

The IRERC would like to remain at your service as scientist and researcher, and wishes you well with your project. Please do not hesitate to contact the IRERC for any further enquiries or requests for assistance.

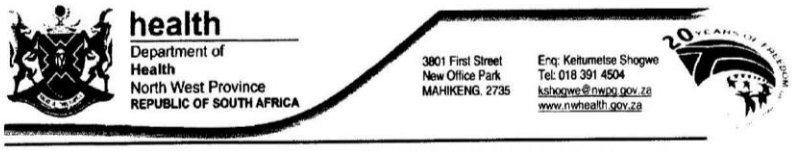
Yours sincerely

Linda du Plessis

Prof Linda du Plessis
Chair NWU Institutional Research Ethics Regulatory Committee (IRERC)

ADDENDUM B:

ETHICS APPROVAL – NW PROVINCE



health
Department of
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POLICY, PLANNING, RESEARCH, MONITORING AND EVALUATION

Name of researcher : **Ms M Malan**
North West University

Physical Address Joint Tactical Head Quarters North West (SANDF)
(Work/ Institution) Private Bag X2074
Mafikeng
2745

Subject : **Research Approval Letter- Evaluating the Integrated Management of Childhood Illness (IMCI) Counseling Skills of Professional Nurses (PNs) in a District of the North West Province.**

This letter serves to inform the Researcher that permission to undertake the above mentioned study has been granted by the North West Department of Health. The Researcher is expected to arrange in advance with the chosen facilities, and issue this letter as proof that permission has been granted by the Provincial office.

This letter of permission should be signed and a copy returned to the department. By signing, the Researcher agrees, binds him/herself and undertakes to furnish the Department with an electronic copy of the final research report. Alternatively, the Researcher can also provide the Department with electronic summary highlighting recommendations that will assist the department in its planning to improve some of its services where possible. Through this the Researcher will not only contribute to the academic body of knowledge but also contributes towards the bettering of health care services and thus the overall health of citizens in the North West Province.

Kindest regards

Dr. FRM Reichel
Director: PPRM&E

25/08/2015
Date

LEPAPHA LA BOITEKANELO
DEPARTMENT OF HEALTH
Kgetsana Poso /Private Bag X2068
Mmabatho.2735
25 AUG 2015
NORTH WEST PROVINCE
REPUBLIC OF SOUTH AFRICA

Researcher

26/08/2015
Date

Healthy Living for All

ADDENDUM C:

ETHICS APPROVAL DISTRICT

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Health
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kshogwe@nwpg.gov.za
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POLICY, PLANNING, RESEARCH, MONITORING AND EVALUATION

Name of researcher : **Ms M Malan**
North West University

Physical Address Joint Tactical Head Quarters North West (SANDF)
(Work/ Institution) Private Bag x2074
Mafikeng
2745

Subject : **Research Approval Letter- Evaluating the Integrated Management of Childhood Illness (IMCI) Counseling Skills of Professional Nurses (PNs) in a District of the North West Province.**

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Kindest regards

Dr. FRM Reichel
Director: PPRM&E

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Mmabatho.2735
25 AUG 2015
NORTH WEST PROVINCE
REPUBLIC OF SOUTH AFRICA

25/08/2015
Date

Researcher

26/08/2015
Date

Director: DHS

Healthy Living for All

ADDENDUM D:

STATISTICS NR 1

SKD SCS

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Statistical Consultation Services

Tel: 018 299-2018
Fax: 018 299- 2557
Email: wilma.breytenbach@nwu.ac.za

24 February 2015

To whom it may concern

RE: M.CUR DESERTATION OF MS M MALAN (STUDENT NUMBER: 23329289)

I hereby confirm that the Statistical Consultation Services of the North-West University has been consulted in the compiling of the questionnaire and assisted with determining the sampling method of the study of Ms M Malan(student number: 23329289).

Yours sincerely

Wilma Breytenbach

MSc
Senior subject specialist

ADDENDUM E:

PERMISSION POLICY PLANNING RESEARCH MONITORING AND EVALUATION CHANGED

NORTH-WEST UNIVERSITY
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School of Nursing Science
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Email: malanmargie@gmail.com

25 March 2015

Dr. FRM Reichel
Directorate Policy, Research, Monitoring and Evaluation
Provincial Department of Health
North West Province

Dear Sir/Mrs/Ms

MASTER'S DEGREE: RESEARCH PROJECT

I, Mrs M. Malan, a Professional Nurse (PN), am currently enrolled for my Master's Degree in Community Nursing Science at the North-West University, Potchefstroom Campus. As part of my studies towards this degree I am planning to conduct research in Community Health Care Centres (CHCs) in the Ngaka Modiri Molema district of the North West Province.

The Millennium Development Goal number 4 focuses on reducing the mortality rate of children under-5 years with at least two thirds, using the Integrated Management of Childhood Illness (IMCI) strategy. This strategy provides guidelines to improve the case management skills, assessment process and provision of treatment, counselling and follow-up care to children under-5 years to address the child mortality rate among these children. However, rural areas in South Africa, which includes the North West province, do not show progress with meeting the goal due to a lack of information and education (counselling) provided to caretakers.

For that reason the aim of this research study is to determine the current counselling practices of PNs in CHC centres to improve the counselling provided by PNs to caregivers to decrease the mortality of children under-5 based on the IMCI strategy.

In order to reach my objectives, I will observe the counselling between PNs and the caretakers of children under 5 with the use of a checklist (see Appendix A). Participation by the PNs is voluntary, and the PNs can withdraw at any time without any penalty held against them.

Ethical clearance has been granted by the Health Research Ethics Committee of North-West University, Potchefstroom Campus (Clearance number **NWU-00079-15-A1**) (see Appendix B).

Completion of the checklists will be kept anonymous and confidential to protect the identity of the PN and CHCs.

Therefore I kindly request permission and support to conduct this research study in the CHCs of the Ditsobotla subdistrict of North West province.

For any other queries, please contact Ms. M. Malan (018 – 389 6304) or Dr. T. Rabie (018 – 299 1719).

Kindly provide me with written permission to further my studies via email to malanmargie@gmail.com.

Thank you in advance for your support.

Yours sincerely

(Ms. M. Malan)

Master's degree student: North-West University

ADDENDUM F:

PERMISSION DITLOBOTLA SUB-DISTRICT CHANGED

NORTH-WEST UNIVERSITY
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Email: malanmargie@gmail.com

25 March 2015

The Director
Ditsobotla sub-district
Department of Health
North West Province

Dear Sir/Mrs/Ms

MASTER'S DEGREE: RESEARCH PROJECT

I, Mrs M. Malan, a Professional Nurse (PN), am currently enrolled for my Master's Degree in Community Nursing Science at the North-West University, Potchefstroom Campus. As part of my studies towards this degree I am planning to conduct research in Community Health Care Centres (CHCs) in the Ngaka Modiri Molema district of the North West Province.

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Thank you in advance for your support.

Yours sincerely

(Ms. M. Malan)

Master's degree student: North-West University

ADDENDUM G:

PERMISSION MAFIKENG SUB-DISTRICT-1 CHANGED

NORTH-WEST UNIVERSITY
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25 March 2015

The Director
Mafikeng sub-district
Department of Health
North West Province

Dear Sir/Mrs/Ms

MASTER'S DEGREE: RESEARCH PROJECT

I, Mrs M. Malan, a Professional Nurse (PN), am currently enrolled for my Master's Degree in Community Nursing Science at the North-West University, Potchefstroom Campus. As part of my studies towards this degree I am planning to conduct research in Community Health Care Centres (CHCs) in the Ngaka Modiri Molema district of the North West Province.

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Thank you in advance for your support.

Yours sincerely

(Ms. M. Malan)

Master's degree student: North-West University

ADDENDUM H:

PERMISSION RAMOATSWERE MOILOA SUB-DISTRICT CHANGED

NORTH-WEST UNIVERSITY
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25 March 2015

The Director
Ramoatswere Moiloa sub-district
Department of Health
North West Province

Dear Sir/Mrs/Ms

MASTER'S DEGREE: RESEARCH PROJECT

I, Mrs M. Malan, a Professional Nurse (PN), am currently enrolled for my Master's Degree in Community Nursing Science at the North-West University, Potchefstroom Campus. As part of my studies towards this degree I am planning to conduct research in Community Health Care Centres (CHCs) in the Ngaka Modiri Molema district of the North West Province.

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Kindly provide me with written permission to further my studies via email to malanmargie@gmail.com.

Thank you in advance for your support.

Yours sincerely

(Ms. M. Malan)

Master's degree student: North-West University

ADDENDUM I:

PERMISSION RATLOU SUB-DISTRICT CHANGED

NORTH-WEST UNIVERSITY
YUNIBESITI YA BOKONE-BOPHIRIMA
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25 March 2015

The Director
Ratlou sub-district
Department of Health
North West Province

Dear Sir/Mrs/Ms

MASTER'S DEGREE: RESEARCH PROJECT

I, Mrs M. Malan, a Professional Nurse (PN), am currently enrolled for my Master's Degree in Community Nursing Science at the North-West University, Potchefstroom Campus. As part of my studies towards this degree I am planning to conduct research in Community Health Care Centres (CHCs) in the Ngaka Modiri Molema district of the North West Province.

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25 March 2015

The Director
Ratlou sub-district
Department of Health
North West Province

Dear Sir/Mrs/Ms

MASTER'S DEGREE: RESEARCH PROJECT

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Thank you in advance for your support.

Yours sincerely

(Ms. M. Malan)

Master's degree student: North-West University

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Thank you in advance for your support.

Yours sincerely

(Ms. M. Malan)

Master's degree student: North-West University

ADDENDUM J:

PERMISSION TWAENG SUB-DISTRICT CHANGED

NORTH-WEST UNIVERSITY
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25 March 2015

The Director
Tswaeng sub-district
Department of Health
North West Province

Dear Sir/Mrs/Ms

MASTER'S DEGREE: RESEARCH PROJECT

I, Mrs M. Malan, a Professional Nurse (PN), am currently enrolled for my Master's Degree in Community Nursing Science at the North-West University, Potchefstroom Campus. As part of my studies towards this degree I am planning to conduct research in Community Health Care Centres (CHCs) in the Ngaka Modiri Molema district of the North West Province.

The Millennium Development Goal number 4 focuses on reducing the mortality rate of children under-5 years with at least two thirds, using the Integrated Management of Childhood Illness (IMCI) strategy. This strategy provides guidelines to improve the case management skills, assessment process and provision of treatment, counselling and follow-up care to children under-5 years to address the child mortality rate among these children. However, rural areas in South Africa, which includes the North West province, do not show progress with meeting the goal due to a lack of information and education (counselling) provided to caretakers.

For that reason the aim of this research study is to determine the current counselling practices of PNs in CHC centres to improve the counselling provided by PNs to caregivers to decrease the mortality of children under-5 based on the IMCI strategy.

In order to reach my objectives, I will observe the counselling between PNs and the caretakers of children under 5 with the use of a checklist (see Appendix A). Participation by the PNs is voluntary, and the PNs can withdraw at any time without any penalty held against them.

Ethical clearance has been granted by the Health Research Ethics Committee of North-West University, Potchefstroom Campus (Clearance number **NWU-00079-15-A1**) (see Appendix B).

Completion of the checklists will be kept anonymous and confidential to protect the identity of the PN and CHCs.

Therefore I kindly request permission and support to conduct this research study in the CHCs of the Tswaeng sub-district of North West province.

For any other queries, please contact Ms. M. Malan (018 – 389 6304) or Dr. T. Rabie (018 – 299 1719).

Kindly provide me with written permission to further my studies via email to malanmargie@gmail.com.

Thank you in advance for your support.

Yours sincerely

(Ms. M. Malan)

Master's degree student: North-West University

ADDENDUM K:

PERMISSION LETTER: CARETALER OF UNDER-5 CHILD

NORTH-WEST UNIVERSITY
YUNIBESITI YA BOKONE-BOPHIRIMA
NOORDWES-UNIVERSITEIT
POTCHEFSTROOM CAMPUS

Health Research Ethics Committee
Faculty of Health Sciences
NORTH-WEST University
(Potchefstroom Campus)
2015 -07- 28

HREC Stamp

PERMISSION LETTER: CARETAKER OF UNDER-5 CHILD

TITLE OF THE RESEARCH PROJECT:
Evaluating the IMCI counselling skills of professional nurses in a district of the North West Province, South Africa

PRINCIPAL INVESTIGATOR: Ms. M. Malan

I Ms Marguerette Malan am a professional nurse studying the counselling practises of professional nurses toward caretakers of under-5 children during a consultation. This study has been approved by the Health Research Ethics Committee of the Faculty of Health Sciences of the North-West University (NWU ethical approval number: **NWU- 00079-15-A1**).

Hereby I Mr/Mrs/Ms _____ gives permission that someone may be present during the consultation to observe the professional nurse

I understand that I can refuse that someone else may be present in the consulting room and that there will be no negative consequences.

I also take notice that the person will not become involved in the consultation unless the patient is in danger in which case the incident will be reported to the person in charge of the community health centre for further action.

Signature: Caretaker
Date:_____

Signature: Researcher
Date:_____

ADDENDUM L:

CONSENT PN

NORTH-WEST UNIVERSITY
YUNIBESITI YA BOKONE-BOPHIRIMA
NOORDWES-UNIVERSITEIT
POTCHEFSTROOM CAMPUS

Health Research Ethics Committee
Faculty of Health Sciences
NORTH-WEST University
(Potchefstroom Campus)
2015 -07- 28

HREC Stamp

PARTICIPANT INFORMATION LEAFLET AND CONSENT FORM FOR PROFESSIONAL NURSES AT ALL CHC CENTRES, NGAKA MODIRI MOLEMA DISTRICT, NORTH WEST PROVINCE

TITLE OF THE RESEARCH PROJECT:
Evaluating the IMCI counselling skills of professional nurses in a district of the North West Province, South Africa.

REFERENCE NUMBERS:

PRINCIPAL INVESTIGATOR: Marguerette Malan

ADDRESS: P.O. Box 62, Mafikeng, 2745

CONTACT NUMBER: 082 558 8850
You are being invited to take part in a research project that forms part of my studies towards a Master's Degree. Please take some time to read the information presented here, which explains the details of this project. Please ask the researcher to clarify should there be any part of this project that you do not fully understand. It is very important that you are fully satisfied that you clearly understand what this research entails and how you could be involved. Also, your participation is **entirely voluntary** and you are free to decline to participate. If you say no, this will not affect you negatively in any way whatsoever. You are also free to withdraw from the study at any point, even if you do agree to take part.

This study has been approved by the **Health Research Ethics Committee of the Faculty of Health Sciences of the North-West University (NWU- 00079-15-A1)** and will be conducted according to the ethical guidelines and principles of the international

What is this research study all about?

- *This study will be conducted at all the CHC Centre in the Ngaka Modiri Molema district. and will involve an observation of the counselling process between the professional nurse and the caretaker of an under-5 child, with an experienced health researcher and fieldworker trained, a minimum of 110 participants will be included in this study.*
- *The objective of this research is:*
  To determine how IMCI counselling is currently conducted in CHC centers in North West province.

Why have you been invited to participate?

- *You have been invited to participate because you are a professional nurse and you meet the eligible criterion that is required to participate in this study.*
- *You have also complied with the following inclusion criteria that you are a qualified Professional Nurse working in a CHC centre in the Ngaka Modiri Molema District for the last six months and all CHC centres complies with the IMCI strategy since 1996.*
- *You will be excluded if you were an enrolled nurse or do not conduct IMCI consultations in this CHC centre.*

What will your responsibilities be?

- *You will be expected to only continue with your day-to-day IMCI consultations while being observed; only one consultation will be observed, a minimum of 110 observations will be done in the Ngaka Modiri Molema district.*

Will you benefit from taking part in this research?

- *There will be no direct benefits for you as a participant.*
- *The indirect benefits involved if you choose to participate, will be to assist the researcher to determine the current counselling practices of PNs in CHC centers in order to improve counselling provided by PNs to caregivers to decrease under-5 mortality. The study will also give insight where the IMCI service can be improved and the Health Department will be able to determine certain possible loopholes that might occur with regard to IMCI counseling.*

Are there risks involved in your taking part in this research?

- *There are only a few risks involve with this study. Firstly, you may feel uncomfortable with the presence of a researcher/fieldworker in the consulting room during the consultation. Secondly, the researcher/fieldworker will also have to take a few minutes of your consultation time to explain the study and ask the caretaker of the under-5 child to sign the permission letter which gives permission for the researcher/fieldworker to be present in the consulting room. The benefits of this study will however outweigh the risk as this study aim to improve counselling provided by PNs to caregivers to decrease under-5 mortality.*

What will happen in the unlikely event of some form of discomfort occurring as a direct result of your taking part in this research study?

- *Should you have the need for further discussions after data collection an opportunity will be arranged for you to speak with the researcher or fieldworker after a session. You have the right to withdraw at any time during the study with any penalty against you.*

Who will have access to the data?

- *Anonymity will be secured as follow:*
  - *Your name or identity will not be divulged.*
  - *No personal information or CHC centres' name will be on the checklist sheet.*

- *Confidentiality will be ensured by keeping checklists safe. Names or personal data will not appear on the checklists. The consent forms will be kept separately from the checklists. Only the researcher will have access to the hard copies.*

- *Reporting of findings will be anonymous by using only statistical data and no personal information. Your identity will not be revealed during the study. Only the researcher will have access to the data. All data will be password protected and the completed checklists will be scanned in and stored in electronic format on password protected computers and hard copies will be destroyed by shredding. Data will be stored for three years.*

What will happen with the data/samples?

- *This is a once off collection and data will be analysed by a statistician at North-West University.*

Will you be paid to take part in this study and are there any costs involved?

No, you will not be paid to take part in the study neither will you have any financial costs to participate in the study. There will also be no costs involved for you, if you do take part.

Is there anything else that you should know or do?

- You can contact Ms. Marguerette Malan at 082 558 8850 if you have any further queries or encounter any problems.

- You can contact the Health Research Ethics Committee via Mrs Carolien van Zyl at 018 299 2089; carolien.vanzyl@nwu.ac.za if you have any concerns or complaints that have not been adequately addressed by the researcher.
- You will receive a copy of this information and consent form for your own records.

How will you know about the findings?

- The findings of the research will be shared with you by making an appointment and having a meeting with the operational managers of the CHC centres. I will inform them about the findings of this study during that meeting. Your operational managers will then be able to give feedback to all the professional nurses in the CHC centres during the general staff meetings each month.

Declaration by participant

By signing below, I …… agree to take part in a research study named Evaluating the IMCI counselling skills of professional nurses in a district of the North West Province, South Africa
titled:

I declare that:

- I have read this information and consent form and it is written in a language with which I am fluent and comfortable.
- I have had a chance to ask questions to both the person obtaining consent, as well as the researcher and all my questions have been adequately answered.
- I understand that taking part in this study is **voluntary** and I have not been pressurised to take part.
- I may choose to leave the study at any time and will not be penalised or prejudiced in any way.
- I may be asked to leave the study before it has finished, if the researcher feels it is in my best interests, or if I do not follow the study plan, as agreed to.

Signed at (*place*) ..... on (*date*) …….. 20....

…… ……

Signature of participant **Signature of witness**

Declaration by person obtaining consent

I *(name)* …… declare that:

- I explained the information in this document to ……
- I encouraged him/her to ask questions and took adequate time to answer them.
- I am satisfied that he/she adequately understands all aspects of the research, as discussed above
- I did/did not use an interpreter.

Signed at (*place*) ..... on (*date*) …….. 20....

....

Signature of person obtaining consent **Signature of witness**

Declaration by researcher

I *(name)* …… declare that:

- I explained the information in this document to ……
- I encouraged him/her to ask questions and took adequate time to answer them.
- I am satisfied that he/she adequately understands all aspects of the research, as discussed above.
- I did/did not use an interpreter.

Signed at (*place*) ..... on (*date*) …….. 20....

....

Signature of researcher **Signature of witness**

ADDENDUM M:

IMCI COUNSELING CHECKLIST

IMCI COUNSELING CHECKLIST

The format of this checklist has been extracted from the *Health CHC centre Survey on Outpatient Child Care (IMCI) Service: Communication/Counseling Module* (WHO, 2002:102). The analogy of the survey and checklist is evident from the nature of the observation that will take place, although the researcher did make certain adaptations to the format to formulate the research questions to make provision for the South African Context

Sub-district code:	
CHC centre code:	

SECTION A: DEMOGRAPHIC INFORMATION

1. Day of the Week

Monday	1
Tuesday	2
Wednesday	3
Thursday	4
Friday	5

2. Time of the Day

08H00 – 13H00	1
14H00 – 16H00	2

3. Age of Professional Nurse at last birthday

4. Gender of Professional Nurse

Male	1
Female	2

5. Years' experience in IMCI case management

6. Age of under-5 child in full months or years

0 – 6 months	1
7 – 12 months	2
13 months – 2 years	3
3 years – 5 years	4

7. Who is the primary caregiver of the child?

Biological Mother	1
Biological Father	2
Sister or brother	3
Grandmother/-father	4
Domestic Worker	5
Other	6

If other, specify: _____

8. Is the primary caregiver present today?

Yes	1
No	2

9. Gender of the primary caregiver of the under-5 child

Male	1
Female	2

10. Primary caregiver's level of education

Did not attend school	1
Grade 1 – 8	2
Grade 9 – 10	3
Grade 11 – 12	4
Tertiary	5

SECTION B: THE COUNSELING PROCESS

If the question is not applicable, please mark not applicable

A. FEEDING

NR	OBSERVATION	Not at all	Very little	Fairly Well	Quite well	Very well	Perfectly	Not applicable
A.1	Does the Professional Nurse explain the importance of breast or formula feeding?	0	1	2	3	4	5	6
A.2	Does the Professional Nurse explain the frequency of breast or formula feeding?	0	1	2	3	4	5	6
A.3	Does the Professional Nurse explain how to improve lactation?	0	1	2	3	4	5	6
A.4	Does the Professional Nurse identify the mother's concerns & manage any breast or formula feeding problems?	0	1	2	3	4	5	6
A.5	Does the Professional Nurse give guidance with regard to correct positioning and attachment during breast or bottle feeding?	0	1	2	3	4	5	6
A.6	Does the Professional Nurse provide the mother with advice when breast or formula feeding are discontinued?	0	1	2	3	4	5	6
A.7	Does the Professional Nurse ensure that additional or substitute milk is prescribed according to the nutritional guidelines?	0	1	2	3	4	5	6
A.8	Does the Professional Nurse give information regarding the hygienic preparation of formula milk or the breast before feeding?	0	1	2	3	4	5	6
A.9	Does the Professional Nurse advise the caregiver regarding the length of time that breast or formula milk can be stored?	0	1	2	3	4	5	6
A.10	Does the Professional Nurse show how to feed with a cup for babies from 6 months and older?	0	1	2	3	4	5	6

NR	OBSERVATION	Not at all	Very little	Fairly Well	Quite well	Very well	Perfectly	Not applicable
A.11	Does the Professional Nurse advise on complementary foods and frequency of feeding?	0	1	2	3	4	5	6
A.12	Does the Professional Nurse give advice on altematives when the child refuses all milk?	0	1	2	3	4	5	6
A.13	Does the Professional Nurse give counseling regarding nutritional feeding?	0	1	2	3	4	5	6
A.14	Does the Professional Nurse give information regarding continuation of milk or breastfeeding after nutritional meals?	0	1	2	3	4	5	6
A.15	Does the Professional Nurse give counseling regarding the following feeding aspects:	X	X	X	X	X	X	X
A.15.1	Keeping record of what the child eats;	0	1	2	3	4	5	6
A.15.2	Serving finger food as often as possible;	0	1	2	3	4	5	6
A.15.3	Introduction of new food – one at a time together with a familiar food;	0	1	2	3	4	5	6
A.15.4	Do not pressure a child to eat all the food on the plate;	0	1	2	3	4	5	6
A.15.5	Give the child a choice of foods containing similar nutrients.	0	1	2	3	4	5	6
A.16	Does the Professional Nurse review the growth card and give counseling to the caregiver?	0	1	2	3	4	5	6

B. ADMINISTRATION OF TREATMENT

NR	OBSERVATION	Not at all	Very little	Fairly Well	Quite well	Very well	Perfectly	Not applicable
B.1	Does the Professional Nurse explain what the oral treatment is for?	0	1	2	3	4	5	6
B.2	Does the Professional Nurse **explain** how to administer the oral treatment?	0	1	2	3	4	5	6
B.3	Does the Professional Nurse **demonstrate** how to administer the oral treatment?	0	1	2	3	4	5	6
B.4	Does the Professional Nurse ask open-ended questions to evaluate if the caregiver understands how to administer the oral treatment?	0	1	2	3	4	5	6
B.5	Does the Professional Nurse demonstrate how to administer the first dose of the oral drug to the under-5 child at the CHC centre?	0	1	2	3	4	5	6
B.6	Does the Professional Nurse advise and explain when the caregiver should return to the clinic for a follow-up visit?	0	1	2	3	4	5	6
B.7	Does the Professional Nurse prescribe or give ORS treatment?	0	1	2	3	4	5	6
B.8	Does the Professional Nurse explain how to mix and administer ORS correctly?	0	1	2	3	4	5	6

C. CAREGIVER's HEALTH

NR	OBSERVATION	Not at all	Very little	Fairly Well	Quite well	Very well	Perfectly
C.1	Does the Professional Nurse enquire if the caregiver is healthy?	0	1	2	3	4	5
C.2	Does the Professional Nurse advice caregiver to eat well to build her own strength?	0	1	2	3	4	5
C.3	Does the Professional Nurse encourage the caregiver to talk about social difficulties she/he may experience?	0	1	2	3	4	5

D. RETURN TO THE CLINIC/FOLLOW-UP OF THE UNDER-5 CHILDYEARS

NR	OBSERVATION	YES	NO
D.1	Does the Professional Nurse give information to the caregiver regarding the state of listed diseases and when to return the clinic if she notice any of the signs and symptoms:	X	X
D.1.1	Child is not able to drink/breastfeed;	1	2
D.1.2	Child becomes more ill;	1	2
D.1.3	Child develops fever;	1	2
D.1.4	Child develops fast breathing;	1	2
D.1.5	Child develops blood in stools;	1	2
D.1.6	Child drinks poorly;	1	2
D.1.7	Child has anaemia;	1	2
D.1.8	Child is not growing well;	1	2
D.1.9	Child has chronic ear infection;	1	2
D.1.10	Child is vomiting.	1	2

D.2 After how many days should the caregiver return to the clinic with the under-5 child?

2 days	1
5 days	2
14 days	3
30 days	4
Not mentioned	5

E. REFERRAL

NR	OBSERVATION	YES	NO	NOT APPLICABLE
E.1	Does the Professional Nurse advise the caregiver regarding the immediate referral of the under-5 child?	1	2	3
E.2	Does the Professional Nurse explain to the caregiver the reasons for referral?	1	2	3

F. COUNSELING SKILLS

Did the Health Professional use the following counseling skills during the IMCI consultation?

NR	OBSERVATION	Not at all	Very little	Fairly Well	Quite well	Very well	Perfectly
F.1	Active listening	0	1	2	3	4	5
F.2	Inviting questions	0	1	2	3	4	5
F.3	Praising caregiver	0	1	2	3	4	5
F.4	Using simple language	0	1	2	3	4	5
F.5	Showing an interest in the caregiver	0	1	2	3	4	5
F.6	Talking kindly and respectfully	0	1	2	3	4	5
F.7	Evaluating the caregiver's understanding	0	1	2	3	4	5

G. INTEGRATED MANAGEMENT OF CHILDHOOD ILLNESS

G.1 Did the Professional nurse use the IMCI chart guidelines at any time during the management of the under-5 child?

Yes	1
No	2

G.2. IMCI classification of the under-5 child: _____

G.3 IMCI classification time:

10 min	1
15 min	2
20 min	3
30 min	4
35 min	5
40 min	6
45 min	7
50 min	8
60 min	9

ADDENDUM N:

STATISTIC 2

NORTH-WEST UNIVERSITY ®
YUNIBESITI YA BOKONE-BOPHIRIMA
NOORDWES-UNIVERSITEIT
POTCHEFSTROOM CAMPUS

Private Bag X6001, Potchefstroom
South Africa 2520

Tel: 018 299-1111/2222
Web: http://www.nwu.ac.za

Statistical Consultation Services

Tel: 018 299-2018
Fax: 018 299- 2557
Email: wilma.breytenbach@nwu.ac.za

12 November 2015

To whom it may concern

RE: DISSERTATION OF MS M MALAN (STUDENT NUMBER: 23329289)

We hereby confirm that the Statistical Consultation Services of the North-West University has analysed the data and assisted with the interpretation of the results of the dissertation of Ms M Malan (student number: 23329289).

However, any opinion, findings or recommendations expressed in this document are those of the author and Statistical Consultation Services of NWU (Potchefstroom Campus) does not accept responsibility for the correctness of the reporting of results.

Yours sincerely

Wilma Breytenbach

MSc
Senior subject specialist

ADDENDUM O:

FINAL RESEARCH REPORT

RESEARCH REPORT: **Evaluating the IMCI counseling skills of professional nurses in a district of the North West Province, South Africa**

STUDENT: **M. Malan**

SUPERVISOR: **Dr. T. Rabie**
CO SUPERVISOR: **Dr. C.E. Muller**

DURATION OF STUDY: 2014/2015

SUBMITTED 18 November 2015

1. INTRODUCTION AND BACKGROUND

The aim of the study is to determine the current counseling practices of PNs in CHC centers in order to improve counseling provided by PNs to caregivers to decrease under-5 mortality. This chapter offers an overview of the study. An introduction and background to the study is given. The background information assisted the researcher in identifying the problem statement and the aim, and to set an objective for the study. The researchers' assumptions are outlined in the following paragraphs and the research design and methods are briefly discussed. Steps taken by the researcher to ensure validity and reliability in the research study are outlined. Lastly the ethical considerations that guided the study are discussed in detail and the chapter ends with the layout of the dissertation.

Despite the decline of under-5 child mortality in first word countries, challenges such as counseling and education, integrated planning and monitoring of data still exist in reaching Millennium Development Goal (MDG) 4 in developing countries. This may be due to socio-economic factors and lack of women empowerment (Lehohia, 2013:68). A target date was set by the Millennium Declaration to reduce under-5 child mortality by the year 2015. According to the United Nations (2007:4), child mortality declined globally, after the implementation of effective interventions such as the Integrated Management of Childhood Illness (IMCI) Strategy. This strategy provides guidelines to improve the case-management skills; assessment process and provision of treatment, counseling and follow-up care (World Health Organization (WHO), 2005:4). Although South Africa did implement immunisation coverage, especially against measles, in order to reach the MDG4 by 2015, South Africa did not show any progress in meeting the target, due to the lack of information and counseling provided to the caregivers who take care of under-5 children (Sanders *et al*., 2012:59; United Nations Economic Commission of Africa, 2014:57). This study will focus on MDG 4, which focused on reducing under-5 child mortality with at least two thirds by the year 2015, using the IMCI strategy. This goal was however not reached and therefore a post-2015 development agenda was instituted to address the 2015 MDG targets that have not been achieved. This agenda scheduled for implementation

in 2016 set sustainable development goal targets for the future (WHO, 2013:9). This strategy manages childhood illnesses by addressing appropriate home care counseling, timely treatment of complications for under-5 children, applying the expanded program on immunisation, infant and young child feeding, and counseling which includes feeding recommendations, caregiver's welfare and health, fluid intake during illness, the date when the caregiver should return to the clinic with the under-5 child for a follow up visit, administering of antibiotics, counseling regarding the treatment of infections at home and how to provide homecare for the sick under-5 child (WHO, 2013 & IMCI Booklet 2014:3). Therefore the IMCI strategy plays an important role in the management of childhood illnesses and is an important component to apply in order to increase childhood life expectancy, and it also provides an indication of the overall health and development of the community (Nannan *et al*., 2012:1). In this study the researcher will focus on the counseling component of the IMCI strategy.

A decline of more than 50% under-5 mortality has been observed globally, over the past twenty years. However, in Sub-Saharan Africa the incidence of under-5 mortality is still high with less than 30% reduction in under-5 mortality (Hill *et al*., 2012:8). Therefore, the MDG goal focusing on the reduction of under-5 mortality rate between 1990 and 2015 by two thirds (MDG 4) has been identified as the most difficult MDG to achieve, especially in Sub-Saharan Africa.

As part of the global picture, South Africa is also facing many challenges in its endeavor to reach MDG 4. South Africa was identified as one of the nine countries in the world, which was identified with the highest rates of under-5 child mortality in 2004 as during that stage there was no decline in child mortality rates (Van den Berg, 2009:2). According to Robertson (2006:258) South Africa also has other challenges regarding under-5 child health which includes improving peri-natal care, paediatric and child services, controlling over and under-nutrition and decreasing poverty in order to prevent conditions e.g. malnutrition and diarrhoea of which the latter are some of the leading causes of under-5 deaths. Tarwa and De Villiers *et al*. (2007:15) identified that the growth monitoring program in developing countries have not been successful, since children whose growth were faltering, had not been identified for interventions or the caretaker did not have the necessary knowledge to notice that the child was losing weight. This can be viewed as an indication that counseling, recommended in the IMCI strategy, was not adhered to.

In order to address under-5 child mortality and the above mentioned challenges the World Health Organisation (WHO) and the United Nations International Children's Emergency Fund (UNICEF), implemented the IMCI strategy during mid-1990. South Africa was one of the 43

countries who adopted the IMCI strategy as the standard of care since 1997, improving Professional Nurses (PNs) skills, strengthening health system support and improving family and community practices (Victoria *et al.,* 2006:792; Gouws *et al.*, 2005:614; Horwood *et al.*, 2009:1). IMCI which is a paediatric care management strategy, has the vision to improve health care services and promote health care cost savings. According to Victoria *et al.* (2006:792) the IMCI strategy was designed to address major causes of under-5 mortality which includes identification of danger signs, a child with a cough, diarrhoea, fever (meningitis, malaria and measles), ear and throat problems, nutrition and anaemia, HIV/AIDS infection and Tuberculosis. This strategy aims to equip PNs with skills to classify, manage, refer, do follow-up of children as well as give counseling to caregivers of under-5 children with either one or a combination of illnesses. According to Chopra *et al.* (2005:400) a large improvement was found in the assessment of children after implementing IMCI as well as a reduction of inappropriate antibiotic use and drug costs. Therefore, this strategy was implemented in CHC facilities which includes Community Health Care (CHC) centres and Primary health care (CHC) clinics in South Africa (Horwood *et al.* 2009:1; South Africa Department of Health, 2011:1). This study will focus on the counseling that precedes at CHC centres, because these centres are larger, have more PNs and cover a larger population group than CHC clinics.

However, implementation of the IMCI strategy is not without its challenges. A major challenge, which is the focus of this study, is the poor counseling given to the caregivers of under-5 children. According to Chopra *et al.* (2005:400) counseling in the IMCI strategy focuses on a key message to the caregiver at home regarding the correct administration of medication, providing correct return date to clinic, advice on nutrition which includes feeding and breast feeding, signs and symptoms that need immediate attention, follow-up care, referral and thereafter assessing the caregiver's understanding of the counseling given. The failure in sufficient counseling to illiterate mothers and caregivers can contribute to poor health of the child and less compliance with medical instructions. Insufficient counseling of the caregivers of under-5 children by the PNs might be due to nurses focusing more on assessment, examination and treatment of the sick child as well as attending to the long waiting queues of patients waiting for health services (Chopra *et al.,* 2005:400; Mayer & Villaire , 2004:441). A study conducted by Nkosi *et al.* (2012:100) supports the previous statement by mentioning that the main IMCI implementation difficulties experienced by PNs were lack of resources, staff shortage and the fact that IMCI is considered as a time consuming procedure, untrained staff and lack of supervision for untrained staff. These factors influence the counseling given to the caregivers since time, resources, attitude and shortage of PNs play a big role in the proper execution of the counseling.

For these reasons, the researcher who is a PN in North West Province conducts this research study in order to determine the current counseling practices of PNs in CHC centres with the aim to elicit information which could assist the Mother and Child directorate to improve counseling provided by PNs to caregivers to decrease under-5 mortality.

North West Province consists of four districts namely Bojanala District, Dr Ruth Mompati district, Dr Ngaka Modiri Molema District and Dr Kenneth Kaunda District. These districts struggle with the same challenges as the rest of the country namely, limited formal education, unemployment, poverty and most of the under-5 deaths are accounted to HIV/AIDS (Bradshaw *et al.* 2000:5). According to Krug *et al.* (2004:54) a survey was done in Mafikeng sub-district of Dr Ngaka Modiri Molema District, the capital town of North West Province, located close to the South African border with Botswana, to determine the factors contributing to under-5 mortality. The survey relied on patient records, clinical judgment and consensus opinion of doctors and nurses. Four hospitals were selected in Mafikeng sub-district for this study. According to Krug *et al.* (2004:204) the following modifiable factors had an influence on under-5 mortality namely, the Road to Health Card (RTHC) was not used appropriately (19%), insufficient notes (13%), no information whether the caregivers' have followed the treatment plan that was given to under-5 child (21%), delay in seeking health care (24%), caretaker did not realize the severity of illness (12%), lack of trained personnel and communication problems between the PN and caregiver. According to the same author, the failure of the implementation of IMCI strategy played a role in insufficient case management and monitoring which includes assessment, treatment, feeding, counseling and follow-up. The research report contained information of under-5 mortality, health profile of mothers, babies and children who died in abovementioned health facilities and gives also insight into quality of care recorded in the Mafikeng sub-district hospitals and CHC facilities.

Therefore, from the above mentioned discussion it is clear that there is a lack of proper counseling of the caregivers of under-5 children and it is for the utmost importance to address this issue. The problem statement, research questions and objectives of the study are derived from the above mentioned background.

2. PROBLEM STATEMENT

Literature reviewed for this proposal shows evidence that under-5 mortality still presents to be a problem in South Africa despite interventions being implemented to improve the reduction of under-5 mortality. Effective and preventative measures were implemented through the IMCI strategy to prevent and manage under-5 mortality. Evidence based assessment, treatment,

effective and affordable usage of drugs, checking immunization and counseling of the caregivers regarding usage of medication at home, when it is necessary to return to the clinic with the under-5 child, that feeding at home have been made possible by the implementation of clinical guidelines (WHO, 2005:3). The challenge however remains that PNs failed to ask for the RtHB, which resulted in weight that was not plotted, under-5 children not assessed and the issue addressed in this study - possible inadequate counseling given by PNs to caregivers regarding the appropriate return period to the CHC facility (Chopra *et al.* 2005:399; Tarwa & De Villiers, 2007:15d). A study undertaken in the Mafikeng region, to answer the question, "Why children die", revealed not only the challenges with regard to under-5 mortality in hospitals but also communication problems between the PN and caregiver which resulted in influencing the counseling process and therefore failed in the execution of the IMCI strategy (Krug *et al.,* 2004:204).

3. AIM OF THE STUDY

The aim of the study is to determine the current counseling practices of PNs in CHC centres in order to improve counseling provided by PNs to caregivers to decrease under-5 mortality.

4. RESEARCH DESIGN

In this study the researcher will use a quantitative, observational and typical descriptive design to meet the objective (Botma *et al.,* 2010:111). According to Polit and Beck (2010:351) observational design includes the direct observation of events in order to discover the extent of the problem. In this study **counseling** provided by PNs to caregivers of under-5 children will be observed and a checklist will be used to determine what the current IMCI counseling practice entails.

5. RESEARCH METHOD

The research method focuses on the research process, which includes tools and procedures in order to gather information in a systematic way (Polit & Beck, 2012:268). The research method consists of the population and sampling, data collection, data analysis, reliability and validity (Klopper, 2008:69; Paratoo, 2006:183).

6. POPULATION

The population included in this study was located in the Ngaka Modiri Molema district of the North West province was chosen because the researcher was invited by the Mother and Child manager of this district to do this research in this district. The reason was because there is a need to improve IMCI counseling and lower under-5 mortality in this district. North West province is a very rural area of South Africa and therefore proper provision of counseling to the caregivers of under 5-children is of utmost importance as health facilities are often neither near nor easy to reach. The population of this study included the amount of observed IMCI case management counseling given by PNs working in CHC centres in the Ngaka Modiri Molema district of the North West Province. CHC centres were included because all the CHC centres implement the IMCI strategy when managing under-5 children. CHC centres also have a high number of PNs because they serve a larger population and deliver more types of services than a CHC clinic.

7. SAMPLING

According to the statistician involved in the analysis of data for this study, a total of 110 observational tick sheets will be required to ensure a successful study. Therefore, the researcher decided to include at least two CHC centres per sub-district in the Ngaka Modiri Molema district to ensure that the required amount observational questionnaires will be reached even if there are participants who are not willing to take part in this research project. **Purposive sampling** of ten CHC centres (N=10) in the Ngaka Modiri Molema district. Most of the sub-districts had only two CHC centres, only Mafikeng and Tswaing sub-district had more than two. The researcher uses random sampling to select two CHC centres in these districts. **All inclusive sampling** of interested PNs working in these CHC centres and Caregivers of under 5 children. Due to the fact that the researcher needs to determine the current IMCI counseling practice she needs to include the professional nurse as part of the population although the aim of the study was not to evaluate the PNs counseling during case management but to obtain data on observed IMCI case management counseling. Therefore the actual population is the amount of observed IMCI counseling and the IMCI checklist was compiled with the aim and objective of the study involved. It would not be possible for the researcher to obtain this data if she did not involve the PNs to obtain permission from them.

8. DATA COLLECTION

Data collection is defined as the activities undertaken by researchers to collect data in the field (Polit & Beck 2010: 555). Before data collection commenced, the researcher obtained approval from the scientific committee of INSINQ Focus Area of the School of Nursing Science and thereafter the Health Research Ethics Committee of the Faculty of Health Science. The researcher further obtained approval from the Directorate Policy, Planning and Research at the North West Provincial Health Department and the Ngaka Modiri Molema District Health office. The approvals were forwarded to all the sub-district offices in the Dr Ngaka Modiri Molema District to inform them of the study that will be conducted.

The researcher contacted the operational managers of the selected CHC centres and made an appointment. The researcher explained to the operational managers' of all the selected CHC centres the purpose of the study, objectives, data collection procedure, informed consent, all ethical considerations and the protection of participants relating to confidentiality and anonymity.

The researcher made use of a **gatekeeper** (operational manager) who gave the permission to the researcher to enter the CHC Centre. The gatekeeper introduced the researcher to the PNs who are IMCI trained. The researcher explained the aim and objectives, research design and method, and ethical considerations in the presence of the gatekeeper to the PNs who are involved in IMCI care before consent forms were distributed. Opportunity for questions was granted to the PNs. The researcher left consent forms for every PN who attend the information session and gave them a week's time to decide whether they would like to participate in the study or not. The PNs were informed to hand in their signed informed consent to the operational manager. The researcher went back to the gatekeeper to collect the signed informed consent forms. She used the opportunity to inform and request a role change from gatekeeper to **mediator** for the study. After informed consent was obtained by the researcher, the data collection process was commenced (Creswell, 2009:90).

Before the consultation commenced, the researcher was introduced to the caregiver. The purpose study was verbally explained to the caregiver of the under-5 child. The caregiver of the under-5 child signed the permission form. The researcher was prepared to leave the consultation room upon the caregivers' request. When confidential information was shared with the caregiver her consent was once again obtained.

In this study a **checklist** was used for data collection. According to Botma *et al.* (2010:143), a checklist can be referred to as a tool that is utilised to collect and record data. The researchers

observed the counseling process between the PNs and caregiver of under-5 child. The checklist was a section obtained from the Health Facility Survey on Outpatient Child Care (IMCI) developed by the Ministry of Health and Population, Egypt, and the WHO Regional Office for the Eastern Mediterranean countries (WHO, 2003:102). This survey was conducted from 10 March 2002 until 10 April 2002 to determine the quality IMCI counseling care provided to the caregiver of an under-5 child at health facilities (WHO, 2003:102). The checklist is available in a survey booklet on the WHO Website. The analogy of the checklist is evident in the nature of observation that will take place, although the researcher with the assistance of a statistician made certain adaptations to the format in order to attain the research objective. The checklist was used to record information which was given to a caregiver of an under-5 child to determine whether all aspects of counseling are dealt with as stipulated by the IMCI strategy (WHO, 2003:102). Refer to Addendum M.

Data was collected in private consulting rooms of the CHCs where caregivers of under-5 children were consulted, therefore did not have an impact on the day-to-day functioning of the CHC centre. The consultation room was a space behind a closed door, whereby only the PN, caregiver, the under-5 child and the researcher were present. The consultation room ensures a **confidential and safe** environment for the caregiver and the under-5 child. Time was allocated at the beginning of each case management to introduce the researcher, explain the purpose of the study and request permission of the caregiver as discussed previously.

Exploratory Factor Analyses and Descriptive statistics were used to describe the research findings. The data was coded and computerised using statistical services of the North-West University. Statistical Analysis System (SAS) was used to analyse data. In the chapter 4, exploratory and descriptive statistics of this study were used to describe the results.

All data was **password protected** after capturing and the completed checklists will be scanned and stored electronically on the study leader's computer which is also password protected. Hard copies will be destroyed by means of a shredding machine. No personal information regarding the PNs and CHC centres will be divulged during data collection or revealed in the research report.

9. RELIABILITY

According to Polit and Beck (2010:106) reliability is the consistency with which an instrument measures the attribute. Reliability also concerns the checklists accuracy to reflect true scores.

The checklist in this study was developed from a survey, developed by the WHO and utilised in a study in Egypt (WHO, 2003:102). The survey was adopted and tested in January 2002 at health facilities. The initial study involved 296 Hospitals and Health centres that have been observed and 292 caregivers were interviewed (WHO, 2003:6). The analogy of the survey and checklist is evident in the nature of observation that took place, although the researcher with the assistance of the statistician (see addendum D) made certain adaptations to the format in order to attain the research objective and to adapt checklist to the South African context. After completion of the questionnaires the statistician did evaluate the questionnaire for internal consistency by using Chronbach's Alfa.

10. VALIDITY

Validity was the degree to which an instrument measured what it was supposed to measure (Polit & Beck 2010:377). Validity in this study was determined through cross validation namely content validity, face and construct validity. Content validity refer to the degree to which an instrument has an appropriate sample of items to measure the objective of the study. In this study the study leaders are both clinical experts in the field of PHC. In this study the researcher **evaluated the counseling process** as stipulated by the IMCI strategy and it was measured through the selected instrument. Construct validity determined that the data collection instruction measured what it was supposed to measure, in other words did it assist the researcher to explain the objective of the study (Polit & Beck 2010:379). In the following sections the ethical considerations applicable to this study will be discussed in detail.

11. CONCLUSION

The researcher determined how current IMCI counseling to the caretaker of an under-5 child is carried out through an observation of IMCI case managements and other under-5 children visiting the clinic for routine care. The interpretation thereof was done through exploratory factor analyses and descriptive statistics. Data collection includes 237 observed IMCI counselling sessions, of the under-5 child, where the researcher ticked of what was discussed during IMCI counselling on a checklist. IMCI counseling to the caregiver of an under-5 child, involves feeding, administering of medication and follow-up care advice. Counseling on feeding was conducted well overall and it seems that nurses are knowledgeable on how to counsel caregivers regarding the nutrition of the under-5 child, although certain aspects were not

addressed. All the observed IMCI case managements of the sick under-5 children who received oral medication an explanation on how to give oral medication were given quite well. Attention to the caregiver's health during observed IMCI of the under-5 sick children counseling was not done. This could be due to the fact that some of the CHC centres still use the 2011 IMCI guidelines. Information given when an under-5 sick child should return to CHC is not given to all caregivers. However all caregivers in all the participating CHC centres were informed that they should return to the clinic if the child becomes ill or does not improve. With observed IMCI case management, the researcher observed that more time was spent with the very ill under-5 children. The caregiver was not informed about the reason for referral in 1 observed IMCI case management. The total of very ill under-5 children were 3 out of 237 observed IMCI counselling sessions, this is low especially due to the fact that the North West Province delivers health services in rural areas. Gaps could be identified and assisted the researcher to formulate recommendations to address these gaps.