Assessing the Knowledge and Perceptions of the Road to Health Booklet by Caregivers in Ekurhuleni Metropolitan Municipality, Gauteng, South Africa

By

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Thesis presented in partial fulfilment of the requirements for the degree

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Declaration

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Abstract

Introduction: Malnutrition, specifically under-nutrition in conjunction with infectious diseases, vitamin A and zinc deficiency, is one of the main causes of death in children under five years of age, globally. The Road to Health Booklet (RtHB) as a tool for Growth Monitoring and Promotion (GMP), empowers caregivers to ensure that infants and young children achieve optimum growth and nutrition.

Aim: To assess the knowledge and perceptions of caregivers on the RtHB as a tool for GMP at Primary Healthcare (PHC) facilities in Ekurhuleni Metropolitan Municipality, Gauteng, South Africa.

Methods: A cross sectional descriptive study was employed at four different clinics and quantitative-sociodemographic information was collected, through qualitative-in-depth interviews. Audio-recorded data was transcribed and analysed using ATLAS.ti 8 and the socio-demographic data and responses to closed-ended questions were imported into Microsoft Excel 2013 spreadsheets.

Results: A total of 170 caregivers were interviewed from four different clinics, the majority (98%, n=66) were female between the ages of 24 and 35 years. Regarding the level of education, the majority (71% n=120) of the caregivers have completed secondary education (Grade 8-12). Many (63%, n=107) of the caregivers were unemployed. The study reported that caregivers were previously educated on the contents of the RtHB at birth or at the first clinic visit, and they found a lot of the information quite valuable and useful to support optimal care and growth of their child.

This study also reported that there were some aspects that caregivers did not fully understand, specifically the inclusion of important information such as the HIV status of both the caregiver and child, DNA polymerase chain reaction (PCR) test results, immunisations, and developmental screening of infants and young children. The caregivers understood the importance of being able to understand the contents of the RtHB and most of them who had secondary education were able to interpret the weight-for-age growth chart and are also able understand the length-for -age growth curves adequately.

Conclusion: The study reported that caregivers were previously educated on the contents of the RtHB, they found a lot of the GMP information valuable. The caregivers understood the importance of being able to understand the contents of the RtHB and the results that the growth curves present. This study revealed that there was no link between education level and caregivers' ability to understand and interpret the growth curves, therefore there not need to have an advanced education level but basic literacy along with thorough health education is sufficient.

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Opsomming

Inleiding: Wanvoeding, spesifiek ondervoeding tesame met aansteeklike siektes asook vitamien A- en sink tekort, is wêreldwyd van die grootste oorsake van dood by kinders onder die ouderdom van vyf jaar. Die pad na gesondheidsboekie (RtHB) as 'n instrument vir die groeimonitering en bevordering (GMB), wat versorgers bemagtig om te verseker dat babas en jong kinders optimale voeding kry en goed groei.

Doel: Om die kennis en aannames van versorgers oor die Pad-na-Gesondheid-boekie te beoordeel as 'n hulpmiddel vir groei-monitering en -bevordering by primêre gesondheidsorgfasiliteite in die Ekurhuleni Metropolitaanse Munisipaliteit, Gauteng, Suid-Afrika.

Metodes: 'n Beskrywende dwarssnitstudie is gebruik om kwantitatiewe sosio-demografiese inligting in te samel deur gebruik te maak van kwalitatiewe-indiepte onderhoude. Oudio-opgeneemde data is getranskribeer en geanaliseer met behulp van ATLAS.ti 8 en die sosio-demografiese gegewens en antwoorde op vrae met geslote vrae is in Microsoft Excel 2013 sigblaaie ingevoer en verwerk.

Resultate: Daar was met 'n totaal van 170 versorgers, van vier verskillende klinieke onderhoude gevoer; die meerderheid (98%, n = 66) was vroulik tussen die ouderdom van 24 en 35 jaar. Wat sekondêre opleiding aanbetref, het die meerderheid (71% n = 120) van die versorgers Graad 8 tot Graad 12 voltooi. ‘n Groot persentasie (63%, n = 107) van die versorgers was werkloos. Die studie het gevind dat versorgers na die geboorte of tydens die eerste kliniekbesoek ingelig is rakende die inhoud van die RtHB, en dat hulle heelwat van die inligting baie waardevol en nuttig gevind het om optimale sorg en groei van hul kind ondersteun.

Gevolgtrekking: Die studie het gevind dat versorgers voorheen oor die inhoud van die RtHB opgevoed is, en hulle het baie van die GMP inligting baie waardevol vir GMB gevind het. Die versorgers het die belangrikheid daarvan verstaan om die inhoud van die RtHB te verstaan en die resultate wat die groeikurwes bied. Hierdie studie het aan die lig gebring dat daar geen verband was tussen onderwysvlak en versorgers se vermoë om die groeikurwes te verstaan en te interpreteer nie, daarom hoef daar nie 'n gevorderde onderwysvlak te wees nie, maar basiese geletterdheid en deeglike gesondheidsopvoeding is voldoende.

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Dedication

I would like to dedicate this research to:

- My parents, my younger siblings, my grandmother, the rest of my family.
- All dietitians, nurses, doctors, health promoters, and all other health care workers who are involved in growth monitoring and promotion of infants and young children.
- All mothers, fathers, and caregivers of infants and young children.

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List of abbreviations

BMI	Body mass index
CDC	Centres for Disease Control and Prevention
CG	Caregiver
ECD	Early childhood development
EMM	Ekurhuleni Metropolitan Municipality
GMP	Growth Monitoring and Promotion
HC/A	Head circumference-for-age
HCW	Healthcare worker
HIV	Human Immunodeficiency Virus
HREC	Health Research Ethics Committee
IMCI	Integrated Management of Childhood Illnesses
L/A	Length-for-age
MUAC	Mid-upper arm circumference
NIECD	National Integrated Early Childhood Development Policy
PCR	Polymerase chain reaction
PHC	Primary health care
RtHB	Road to Health Booklet
RtHC	Road to Health Card/Chart
SD	Standard deviation
SADHS	South Africa Demographic and Health Survey
SSS	Sugar-Salt solution
SUN	Scaling Up Nutrition
SU	Stellenbosch University
UNICEF	United Nations International Children's Fund
W/A	Weight-for-age
W/L	Weight-for-length
WHO	World Health Organisation

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List of definitions

Growth Monitoring and Promotion (GMP), is a prevention activity comprised of GM linked with promotion that increases awareness about child growth, improves caring practices, increases demand for other services, as needed, and serves as the core activity in an integrated child health and nutrition programme.[1,2]

Caregiver, in South Africa, according to Article 28 of the South African Children's Act of 2005, a caregiver is any person other than a parent or guardian, who factually cares for a child.[3]

Dwarfism, a medical condition whereby there is a genetic mutation that leads to a short stature.[4]

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Chapter 1: Introduction

1.1 Introduction

This study aimed to determine the knowledge and perceptions of caregivers on the Road to Health Booklet (RtHB) as a tool for growth monitoring and promotion (GMP). GMP is described as “a prevention activity comprised of GM linked with promotion that increases awareness about child growth, improves caring practices, increases demand for other services, as needed, and serves as the core activity in an integrated child health and nutrition programme”.[1,2] This chapter will describe the background of the RtHB and further outline the background information, the motivation of the study, the research question and aims, and objectives of this research study.

1.2 Background information

Malnutrition, specifically under-nutrition in conjunction with infectious diseases, vitamin A and zinc deficiency, is one of the main causes of death in children under five years of age, globally.[5] According to the Lancet 2013 Maternal and Child Nutrition Series, 165 million children under the age of five years are stunted/short for their age (height/length for age below -2SD), based on the World Health Organisation (WHO) Child Growth Standards. In the Eastern and Western parts of Africa alone, approximately 36% of children under five (56 million children) are stunted.[6,7] According to the data collected in the South Africa Demographic and Health Survey (SADHS) in 2016, about 27% of children under the age of five years are stunted and 10% are severely stunted (length/height for age below -3SD); stunting is one of the symptoms indicative of chronic malnutrition.[8] Therefore, it is crucial that healthcare workers are able to correctly interpret indicators for stunting (length-for-age below -2 SD), underweight (weight-for-age below -2SD), and wasting (weight-for-length below -2 SD).

The National Integrated Early Childhood Development (NIECD) Policy of 2015, includes various guidelines on the importance of early childhood development (ECD) and the role of the government to support, develop capacity, counsel, and provide parents and caregivers with resources needed to strengthen the relationships between the child and caregiver or parent.[9] There are different ways in which the parental support service can be delivered, namely; clinic visits, community support groups, home visits, television, and other forms of social media. These interventions are in place to ensure that infants and young children develop and grow optimally in their early years to ensure that they can develop to their full potential.[9,10]

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Therefore, it is imperative that parents or caregivers of infants and young children have access to information pertaining to the health, nutrition, and wellbeing of their child. According to the Constitution of the Republic of South Africa it is the right of the parent/caregiver to have public accessibility and availability of information that informs them about the importance of early childhood development, services available for support, service providers who assist in facilitating knowledge, and the rights of infants and young children.[11]

1.3 Motivation for the study

There has been numerous studies conducted in various provinces in South Africa that assess the knowledge of healthcare workers on the RtHB and their interpretation of anthropometric measurements.[12,18,48,49,50] Some studies focussed on the implementation and utilisation of the South African RtHB, and included challenges experienced by health professionals, there have also been reports on the knowledge and practices of caregivers. The perceptions of caregivers regarding the RtHB has not been reported. This study sought to determine the knowledge and perceptions of caregivers of children aged between 1 and 60-months on the 2011 and 2018 revised RtHB in Primary Healthcare (PHC) facilities in Ekurhuleni Metropolitan Municipality (EMM), Gauteng.

The researcher would like to enhance the literature pertaining to the vital role that caregivers play in the growth and development of their infants and young children. This study sought to further highlight the important role that parents and caregivers have in early recognition of growth and developmental changes because medical professionals, nursing staff, and allied healthcare workers rely on them (caregivers) to provide accurate information pertaining to the child's health and development.[12]

1.4 Research question

What is the knowledge and perceptions of caregivers on the RtHB as a tool for GMP at PHC facilities in Ekurhuleni Metropolitan Municipality, Gauteng, South Africa?

1.5 Study aim

To assess the knowledge and perceptions of caregivers on the RtHB as a tool for GMP at PHC facilities in Ekurhuleni Metropolitan Municipality, Gauteng, South Africa.

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1.6 Study objectives

- To determine whether caregivers have previously been educated on the contents of the RtHB,
- To determine caregiver's knowledge and perceptions about the importance of the RtHB,
- To assess whether the caregivers understand the contents of the booklet,
- To determine whether there is a link between the caregiver's level of education and their ability to understand and interpret the growth curves.

1.7 Thesis outline

This section explains how all the chapters pertaining to the study will be structured, along with a brief explanation of what each chapter will consist of.

Chapter 1: Introduction

A brief introduction and background on the research study, the research question, the motivation for the study and what the study intends to address, the aim and objectives of the study, and the basic outline of the whole thesis will be discussed in this chapter.

Chapter 2: Literature review

This chapter gives an extensive analysis of previous literature relating to the research topic and the knowledge it provides. The literature that relates to GMP, the history of GMP, the tools of GMP in South Africa, and the use of the RtHB by healthcare workers (HCW).

Chapter 3: Research design and methodology

The methodology of the research will be described, the study design, which was employed, as well as the setting of the study. Data collection instruments will be presented in this chapter.

Chapter 4: Results

The research results obtained from the sociodemographic questionnaire and the in-depth interviews will be presented in this chapter.

Chapter 5: Discussion

This chapter provides a discussion of the results, findings, and interpretations in relation to known literature as presented in Chapter 2.

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Chapter 6: Conclusion and recommendations

This chapter will present the limitations of the study and conclusions made from the discussion and findings of the study. Furthermore, recommendations for further research in the study area will be relayed.

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Chapter 2: Literature review

2.1 Introduction

This chapter reviews the current literature on the essential interventions that address child health and growth and the purpose of GMP. The global history of GMP, the tools of GMP in South Africa, the use of the RtHB by healthcare workers, and knowledge related literature of caregivers are explored.

The World Health Organisation (WHO) and other international partners such as the United Nations International Children's Fund (UNICEF) set six global nutrition targets to be achieved by the year 2025. These targets are aligned with the United Nation's Sustainable Development Goals (SDGs) that aim to end poverty and hunger by 2030. The SDGs aim to ensure that all human beings can grow, develop, and fulfil their human potential in dignity and equality, in a healthy environment.[13] In response to this initiative the South African Department of Health designed the RtHB that was introduced in February 2011.[14]

2.2 Essential interventions that promote child health and growth

Stunting in children is one of the most chronic outcomes of inadequate nutrition. There are; however, interventions in place to assist in improving the nutritional status of women of reproductive age, specifically during pregnancy, and the appropriate feeding of infants and young children, including dietary diversity in childhood and adolescents.[5] According to Bhutta et al. there are interventions currently available, namely education on breastfeeding, the fortification of staple foods with vitamin A and Zinc and these interventions have shown to reduce child mortality and morbidity.[5] Through nutrition education, appropriate introduction of complimentary food and the provision of food supplements, cash transfers to those who are faced with the burden of food insecurity and this intervention could reduce stunting and other diseases related to inadequate nutrition. In terms of maternal nutrition, the interventions in place are supplementation with folate, iron, micronutrients, trace elements and a balanced intake of macronutrients to improve maternal health. It is important to note that these interventions require long term commitment from stakeholders to improve knowledge and empower women.[5]

The 2013 Lancet series identified the need to focus on adequate nutrition in the very crucial developmental period which is the first 1000 days; the period from conception to when the child has their second birthday[6]. In the global nutrition community, the concept of nutrition specific and nutrition sensitive interventions and programmes are important. The 2013 series has a framework, showing that the goal for infants and young children is having optimum foetal and child growth and development.

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It focuses on the determinants of optimum development, growth, and nutrition and how it can be affected by underlying causes of malnutrition which is food security, resources for caregiving, and environmental conditions. This series lays emphasis on a range of evidence-based interventions to address these determinants to improve the growth and development of infants and young children. The 2013 Lancet review papers distinguish between the nutrition specific interventions that address the immediate causes of inadequate growth and development and the effects of nutrition sensitive interventions which address the underlying causes of malnutrition.[5,6]

The global commitment to support Low to Middle Income Countries (LMIC) is growing, funding from donors is also rising and the civil society and the private sector are becoming more involved in the Scaling Up Nutrition (SUN) Movement.[15,16] In 2010 the SUN Movement was launched, which indicated a major step towards improved leadership in nutrition and to ensure that nutrition is on the agenda of global multi-stakeholder meetings. Over 30 countries have joined the SUN Movement and they represent 35% of the global child stunting burden and are committed to scaling-up the nutritional interventions. Nutrition is very crucial and evidence from the 2013 series suggest that optimal nutrition is a fundamental vehicle to achieve a wide range of developmental goals. This is the window of opportunity to scale-up nutrition and build momentum at national and international level to address nutrition, food security, and health needs.[17]

2.3 Growth Monitoring and Promotion

GMP is an intervention which involves growth monitoring and counselling to create awareness about how a child is growing. It is not only the anthropometric measurements of a child that determine whether or not they are undernourished or over nourished, it is an intervention that is designed to empower healthcare workers (HCW) and caregivers to improve the health and nutrition of infants and young children through counselling, escalation of healthcare, and continuous support through nutrition surveillance programmes.[2] GMP is one of the key nutritional interventions at PHC level in South Africa that assesses and monitors the nutritional status of infants and young children (birth to five years old).[18] The ultimate goal of this intervention is to contribute to optimal growth, health, and quality of life of infants and young children in South Africa.[19]

There are five main activities which are important in growth monitoring and promotion: frequent accurate anthropometric measurements, plotting of anthropometric measurements on the growth curve, interpretation of growth curves and the further discussion of clinical findings and action by means of counselling and referral if needed.[1,2]

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The desired outcomes of this action are that caregivers have improved practices in caring for the child which in turn improves the nutritional status of the child.[2] Therefore, at PHC level there has to be extensive counselling and referrals to the multidisciplinary team to improve the caregiver's knowledge and practices so that ultimately the child can maintain good growth or recover from growth faltering and in improve their future nutritional status.[2]

In a 2004 survey that gathered information regarding national growth monitoring programmes from 202 ministries of health, 88% ministries of health reported that growth monitoring is an essential part of primary healthcare interventions relating to infants and young children around the world. This study emphasised the window of opportunity to improve international growth references to overcome current concerns relating to interventions involving infants and young children.[20] In 2006 de Onis M, Wijnhoven T.M.A. and Onyango A.W. published new WHO Child Growth Standards that had been developed from the data of the WHO Multicentre Growth Reference Study (MGRS) which took place between 1997 and 2003. The focus of the MGRS was to produce growth standards established from growth shown by infants and young children exposed to optimal health practices.[20] The growth references differed as the sample included mostly formula-fed infants, whose pattern of growth has been shown to deviate significantly from that of healthy breastfed infants.

The similarity between a standard and reference is that both can be used to compare the growth of an infant, but the interpretation differs, as a standard defines how a healthy child should grow, and thus when growth diverges from the standard, abnormal growth is evident. This type of judgement is not applicable when references are used.[21] The implementation of growth standards in growth monitoring tools has made it possible to be used as an indicative tool for identifying any nutritionally related problems that can lead to adverse health effects of an infant or young child. Therefore, it assists HCW and caregivers in identifying the warning sings to take action and make informative decisions that enables the infant or young child to receive optimal nutrition.[2]

According to Ashworth, Shrimpton, and Jamil the main purposes of growth monitoring are to have a tool that assist in diagnosing nutritionally related problems such as growth faltering through nutrition surveillance programmes, to educate caregivers and healthcare workers on the effect of inadequate nutrition, to identify the presence of diseases, and to ensure regular contact with primary healthcare facilities.[2] They further explain the value that GMP have on the health and nutrition of infants and young children; a significant decline in undernutrition, mortality, and morbidity[2].

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They additionally clarify the linked benefits; early identification of growth faltering, caregivers being knowledgeable and empowered about growth and nutrition of the infant or young child, and caregivers being able to provide individualised nutrition education and counselling.[2]

2.4 The history of GMP

There is a long-standing history of GMP and over the years there has been different types of growth charts that have been introduced. The World Health Organisation (WHO) has partnered with various other establishments, locally and internationally, to develop growth standards and promote the use of the standards globally.[22] In 1978 the WHO published a document named “A growth chart for international use in maternal and child health care. Guidelines for primary health care personal.” This publication reports that the WHO commenced in 1951 with the developing of norms that could be used to report and interpret growth data as an indicator for health and nutritional status.[23] This coincided with the Alma-Ata conference, convened by WHO and UNICEF, that actioned the world’s attention on primary healthcare and the need to employ a community-based approach to family health, to globally enable access to an acceptable level of healthcare.[24]

UNICEF has numerous strategies in place, including: growth monitoring, oral rehydration, breast-feeding and immunisation-female education, family spacing, and food supplementation (GOBI-FFF).[25,26]
The concept of GMP was first introduced in the 1980s, this concept highlights the relation between GMP, which includes nutrition counselling, supplementation, disease detection and treatment, and the reduction in child mortality.[27,28,29] WHO and UNICEF endorsed another child saving strategy which is the Integrated Management of Childhood Illnesses (IMCI). This strategy was introduced to over 100 countries worldwide as a guideline for all healthcare workers who are involved with the care of infants and young children.[30] The efficiency of GMP became questionable in the 1990s because implementation and execution of GMP activities were not effective due to the lack of appropriate resources for execution.[2,31] In a 1997 South African publication by Chopra and Sanders the importance of GMP to address undernutrition and challenges related to the GMP practices of health workers was reported.[32]

A Cochrane review by Liu, Long, and Garner looked at the GMP for children in middle income countries, describing that GMP comprises different interventions. These interventions include; anthropometric measurements whereby the child’s weight and height are measured, assessment whereby the weight and height is plotted on the growth curve, analysis which is interpreting the pattern of growth for the child, and action which can be nutrition education, the provision of supplements and further assessment for any underlying diseases and nutritionally related problems.[33]

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Liu, Long, and Garner, developed a logical framework of GMP, which outlines the role that GMP plays in the health and wellbeing of an infant or young child. With early detection of a problem such as growth faltering, the healthcare workers (HCW) have measures in place to assist the caregiver of an infant or young child with appropriate action, e.g. education, supplementation, immunisation, and referral to the multidisciplinary team for further intervention.[33]

2.5 Tools for GMP in South Africa

2.5.1 Previous Road to Health Card/Chart

South Africa has used the Road-to-Health Card/Chart (RtHC) shown in Figure 2.1, as a tool to assess and monitor child health for many years. There have been various versions of the aforementioned RtHC used in South Africa, even before 1994, and it was also revised numerous times. [14]The exact date when the RtHC was first used is unsure, but according to oral reports it was already used in the early 1980's. A 1994 congress abstracts publication, reports GMP practices at a primary health clinic, and the 1996 South African Vitamin A Consultative Group report, regarding the 1994 study to assess the vitamin A, iron, and immunisation coverage status of children 6-71 months of age in South Africa, also refers to the RtHC.[34,35] The first RtHCs used growth curves that was based on the National Centre for Health Statistics (NCHS) 1977 reference data. Later, the RtHC used the Centre for Disease Control and Prevention (CDC) 2000 growth charts, which were also just a reference for growth, but not a standard, as they indicated weight-for-age, length-for-age, and body mass index (BMI) for children from two years, as shown in Figure 2.2. In 2006, the WHO Child Growth Standards were released for children aged 0-59 months. Subsequently, WHO determined that a breastfed infant and young child is the norm for growth standards.[36] Therefore, the use of these accurate and evidence-based growth standards now forms the basis of GMP in South Africa.[18]

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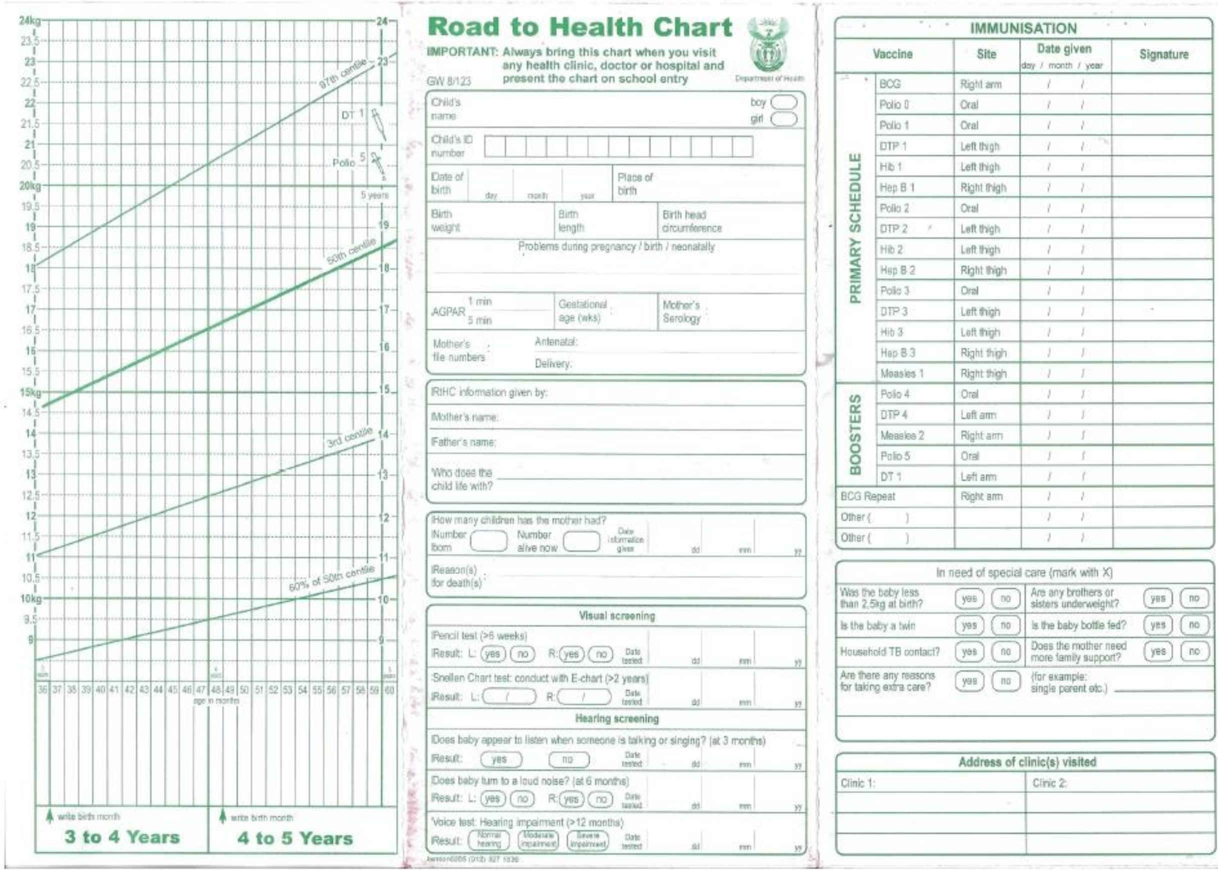

97th centile
DT 1
Polio 5
5 years
50th centile
3rd centile
60% of 50th centile
age in months
write birth month
3 to 4 Years
write birth month
4 to 5 Years

Road to Health Chart

IMPORTANT: Always bring this chart when you visit any health clinic, doctor or hospital and present the chart on school entry

GW 8/123

Department of Health

Child's name — boy / girl

Child's ID number

Date of birth (day / month / year) — Place of birth

Birth weight — Birth length — Birth head circumference

Problems during pregnancy / birth / neonatally

AGPAR 1 min / 5 min — Gestational age (wks) — Mother's Serology

Mother's file numbers: Antenatal: / Delivery:

RtHC information given by:

Mother's name:

Father's name:

Who does the child life with?

How many children has the mother had? Number born — Number alive now — Date information given (dd / mm / yy)

Reason(s) for death(s):

Visual screening

Pencil test (>6 weeks)
Result: L: (yes) (no) R: (yes) (no) Date tested (dd / mm / yy)

Snellen Chart test: conduct with E-chart (>2 years)
Result: L: (/) R: (/) Date tested (dd / mm / yy)

Hearing screening

Does baby appear to listen when someone is talking or singing? (at 3 months)
Result: (yes) (no) Date tested (dd / mm / yy)

Does baby turn to a loud noise? (at 6 months)
Result: L: (yes) (no) R: (yes) (no) Date tested (dd / mm / yy)

Voice test: Hearing impairment (>12 months)
Result: (Normal hearing) (Moderate impairment) (Severe impairment) Date tested (dd / mm / yy)

IMMUNISATION

	Vaccine	Site	Date given (day / month / year)	Signature
PRIMARY SCHEDULE	BCG	Right arm	/ /	
	Polio 0	Oral	/ /	
	Polio 1	Oral	/ /	
	DTP 1	Left thigh	/ /	
	Hib 1	Left thigh	/ /	
	Hep B 1	Right thigh	/ /	
	Polio 2	Oral	/ /	
	DTP 2	Left thigh	/ /	
	Hib 2	Left thigh	/ /	
	Hep B 2	Right thigh	/ /	
	Polio 3	Oral	/ /	
	DTP 3	Left thigh	/ /	
	Hib 3	Left thigh	/ /	
	Hep B 3	Right thigh	/ /	
	Measles 1	Right thigh	/ /	
BOOSTERS	Polio 4	Oral	/ /	
	DTP 4	Left arm	/ /	
	Measles 2	Right arm	/ /	
	Polio 5	Oral	/ /	
	DT 1	Left arm	/ /	
BCG Repeat		Right arm	/ /	
Other ( )			/ /	
Other ( )			/ /	

In need of special care (mark with X)

Was the baby less than 2,5kg at birth? (yes) (no) — Are any brothers or sisters underweight? (yes) (no)

Is the baby a twin (yes) (no) — Is the baby bottle fed? (yes) (no)

Household TB contact? (yes) (no) — Does the mother need more family support? (yes) (no)

Are there any reasons for taking extra care? (yes) (no) — (for example: single parent etc.)

Address of clinic(s) visited

Clinic 1: — Clinic 2:

Figure 2.1: Road to Health Card/Chart (front).[37]

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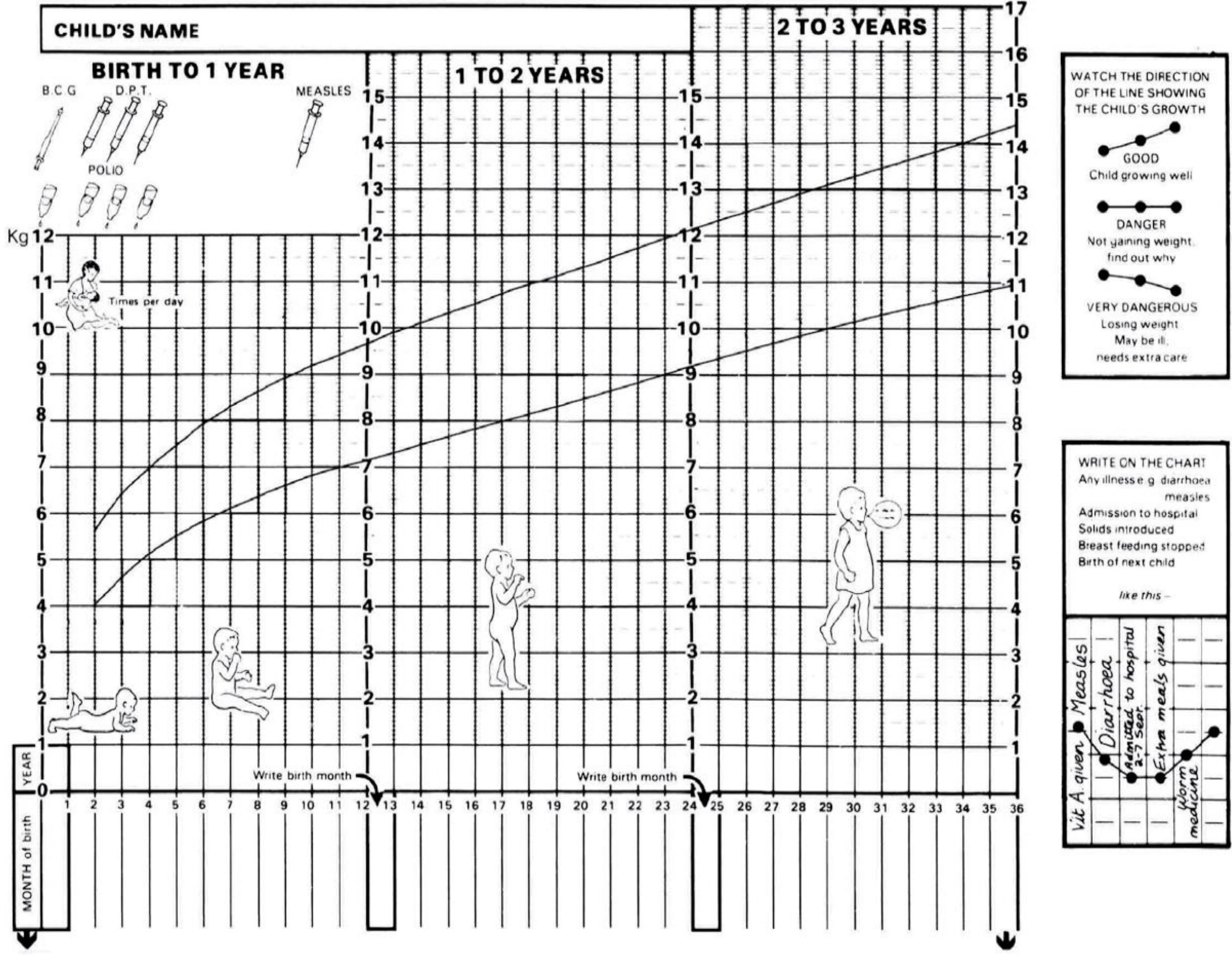

Figure 2.2: Growth chart of the Road to Health Card/Chart (flipside).[38]

2.5.2 The introduction of the Road to Health Booklet in South Africa

In February 2011 the South African National Department of Health replaced the Road-to-Health Booklet (RtHB) as seen in Figure 2.3 and Figure 2.4, which was based on the WHO Child Growth standards.[39] A former member of the Executive Council of the Western Cape Government responsible for health, Theuns Botha, issued new mothers with the RtHB at the launch of the RtHB at Mowbray Maternity Hospital on 31 May 2011.[40] The RtHB is an all-inclusive tool that is used to assess and monitor the health and development of a child. It is used nationally as a health record for curative and preventative care namely; GMP, immunisations, vitamin A supplementation, deworming, developmental milestone screening, oral health, infectious diseases (HIV/AIDS and tuberculosis), health promotion messages related to infant and young child feeding, and communication and play.[39]

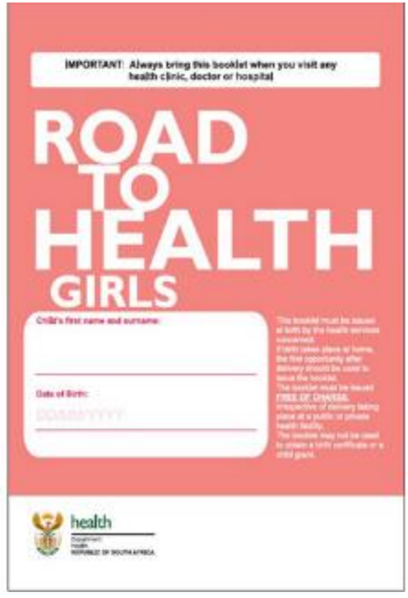

Figure 2.3: 2012 Road to Health Book for girls.[37]

Figure 2.4: 2012 Road to Health Book for boys.[37]

2.5.3 The new/revised Road to Health Booklet

The 2018 revised RtHB, as seen in Figure 2.5, is based on "what do children need" rather than what the department has to offer therefore, it is more user-friendly for the caregivers, especially when it comes to the critical developmental aspects of the child, but in essence the content related to GMP has remained similar. This new RtHB comprises five elements, i.e. nutrition, health, safety and security, early learning, and responsive caregiving.[41]

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This new/revised RtHB is at the core of the under-five child health campaign which is formally known as the Side-by-Side campaign. This campaign aims to ensure that infants and young children have a supportive relationship from their parents/caregivers and the healthcare workers who provide education and support to the parent/caregiver.[42]The aim of the Side-by-Side campaign, of which the booklet is based on, is to ensure that caregivers understand their role in the critical early childhood period (first 1000 days) for the child to reach their full potential in terms of health, education, and earning. Healthcare workers are expected to work hand in hand with the caregivers to share and embrace the responsibility of the child's wellbeing and the inclusion of the community to support children.[41]

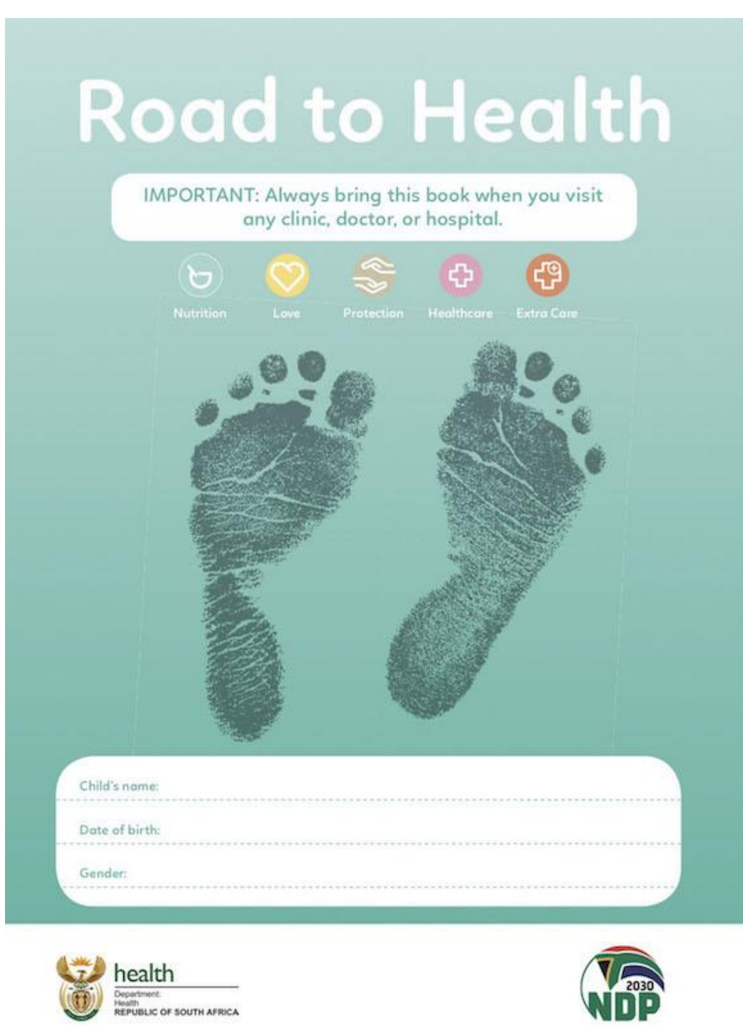

Figure 2.5: The new/revised Road to Heath Booklet.[43]

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2.6 Utilisation of the Road-to-Health Booklet by healthcare workers

Studies have assessed the use of the RtHC by healthcare workers and caregivers. A 2007 study conducted in the Gauteng province, South Africa assessed the use of RtHC in monitoring child health in three different public healthcare facilities namely, Soshanguve III Clinic (primary healthcare centre), Jubilee Hospital (secondary healthcare centre), and Ga-Rankuwa Hospital (tertiary healthcare centre). The researchers discovered that the RtHC was not used optimally by healthcare workers (HCW) and parents/caregivers to fulfil its purpose of being a curative, preventative, and promotive tool in monitoring child health in the public healthcare sector.[44] Faber et al. report that in a community-based growth monitoring intervention project only 39% of the caregivers could correctly identify the growth curve of a healthy growing child.[45]

Findings of these studies on GMP and the RtHC provide evidence that it is important that the purpose of the card needs to be highlighted to parents/caregivers through persistent education about the contents of the GMP tool.[44,45] A research study by Sibanda, Mbhenyane, and Mushaphi, which was conducted in Greater Tzaneen Municipality, in Limpopo South Africa reported that caregivers were unable to understand different growth patterns. The caregivers did not know how and what to feed their child when there was poor growth.[46] Another study also reported that the growth monitoring procedures amongst HCWs were not according to guidelines and the incorrect method of weighing could lead to delayed interventions.[47] Therefore, it is imperative that HCW are properly trained on the techniques used when performing anthropometric measurements.

Shortly after the introduction of the RtHB a study was conducted in primary healthcare clinics in the Tygerberg sub-district of the Cape Town metropole to assess the knowledge and perceptions of nursing staff on the new RtHB growth charts. The study revealed that 79% of nursing staff thought that the RtHB is based on both breastfed and formula-fed infants and only 19% knew that it is based on breastfed infants. A concerning 45% of the participants did not know the cut off value for Mid-upper arm circumference (MUAC).[18] Kitenge and Govender in a study in Limpopo further confirm in their study that the knowledge of nursing staff at primary health care level is lacking, specifically in interpreting parameters of malnutrition namely underweight for age, stunting, and wasting. About 89% professional nurses had poor knowledge that a growth curve direction below the third percentile weight-for-length is indicative of wasting, and only 11.5% had better knowledge.[48]

There are further studies, which have also shown that HCW lack sufficient knowledge in the interpretation of parameters. Blaauw et al. found, across six districts in the Western Cape, that only 55% of healthcare workers were able to correctly identify stunting, and about 39% could correctly identify wasting.[49] HCWs

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are regarded as the policy implementers that convey complex scientific information to parents/caregivers therefore, they need to be well trained on policies and practices relating to the health and nutrition of infants and young children.[50]

2.7 Caregivers' knowledge and perceptions on the Road to Health Booklet

According to Article 28 of the South African Children's Act of 2005 a "caregiver is any person other than a parent or guardian, who factually cares for a child". Furthermore, according to the interpretation in this act: "care", in relation to a child, includes, where appropriate:

(a) Within available means, providing the child with-

(i) a suitable place to live.

(ii) living conditions that are conducive to the child's health, well-being, and development; and

(iii) the necessary financial support.

(b) Safeguarding and promoting the well-being of the child.[3,]

Within the context provided in the South African Children's Act of 2005 the protection and promotion of a child's well-being, including optimal growth and health, is the responsibility of all parents, guardians, and caregivers.

In a study conducted in Greater Tzaneen Municipality in South Africa it was found that, about 54.2% of caregivers were educated on the RtHB and they believed the importance of the booklet was for child health and about 30% reported that were told they must keep the booklet safe and take care of it.[46]

For the RtHB to be utilised successfully, it is mandatory that the caregiver/parent of the child brings the booklet to the facility with every visit, to assist in the early detection of deviant growth patterns. Some parents/caregivers believe that the RtHB should only be brought to the healthcare facility for the Well Baby Clinic visits and not for a consultation.[46] A study conducted in Limpopo reported on the caregivers' responses for not bringing the RtHB to a consultation, 38.5% of the caregivers reported that they had forgotten the RtHC at home, 20% reported that it was lost, 18% of the caregivers reported that they were immigrants, 13.5% had been burnt, and 10.4% reported that the booklet had been left in a taxi.[48] Reasons for missed immunisation opportunities reported in a South African study by Tarwa, included healthcare workers not asking to see the RtHC at every visit therefore, the child's growth was not plotted.[44]

This also indicates that caregivers/parents are not aware of the full content of the booklet and such misunderstandings can lead to outbreaks of diseases among unvaccinated children.[48]

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The findings of this is supported by a study conducted at two clinics in Shoshanguve which forms part of Tshwane Metropolitan Municipality in Gauteng province. About 54% of caregivers reported that they have never been educated about the RtHC, and only 46.5% of them have received previous training about the importance and interpretation of the RtHC.[12] A study in Ghana also found that the caregivers' knowledge regarding GMP is lacking, since about 81.5% of caregivers were unable to interpret growth charts.[51]

2.8 Caregivers education level and understanding growth curves

Sibanda, Mbhenyane, and Mushaphi reported that caregivers were asked to interpret the growth charts only 29.2% were able to correctly interpret the growth curves. It was evident from this study that the majority of the caregivers were not able to recognize poor growth patterns from the growth charts and majority (65.8%) of the caregivers have their highest level of education as secondary level, which is grade 8 to 12.[46] This study concluded that caregivers need to be educated more on growth monitoring in order to improve feeding practices of infants and young children and this education should focus on the important role that the growth charts have on nutritional status of infants and young children.[46]

In a study conducted in Aurangabad, the researchers wanted to find out the extent of the use of growth charts amongst caregivers of children who were aged 9 to 24 months. It was reported that the association between knowledge ($P=0.001$), awareness ($P<0.001$) about the growth charts and education level of the mothers were statistically significant (P-value of <0.05).[52] The tables reported that 12 out of 109 caregivers who reported that they were aware of the growth charts have a level of education which is "Post/Graduation" which is considered as tertiary education in the South African context. Those that had knowledge on the growth charts were 6 out of 109 and they have a level of education which is "Post high school diploma", which also a tertiary qualification.[52]

Therefore, it is evident from the literature discussed that the knowledge and understanding of caregivers/parents of the importance of the RtHB is not always adequate and correct. This prompted the researcher to plan and execute this research study to investigate the situation in the area where she lives and works.

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Chapter 3: Methodology

In this research study, the aim was to assess the knowledge and perceptions of caregivers on the RtHB as a tool for GMP at PHC facilities in Ekurhuleni Metropolitan Municipality, Gauteng, South Africa. In this chapter, the methodology of the study will be discussed in detail, including the study design which was employed, the location of the study, sample size population, inclusion and exclusion criteria, ethical considerations, as well as the analysis of data.

A cross sectional study was conducted from 8 April 2019 to 13 May 2019 at four different clinics, and an investigator administered questionnaire was used to collect qualitative data from caregivers. The questionnaire entailed two sections, namely section 1 which was the socio-demographic questionnaire and section 2 an in-depth interview with open-ended and closed-ended questions.

3.1 Study design

To obtain a more comprehensive and complete understanding of the caregivers' knowledge and perceptions, a cross sectional descriptive study was employed, that collected quantitative data to describe the sociodemographic characteristics of the study population whilst the qualitative data was collected during the in-depth interviews with the caregivers. The data was collected as follows:

- **Section 1**: Investigator administered socio-demographic questionnaire (quantitative data).
- **Section 2**: Investigator administered in-depth interview on perceptions of the caregivers with open-ended and closed-ended questions; a voice-recording device was used (qualitative data).

3.2 Location of the study

The study was conducted in the Gauteng Province, the smallest province in the country occupying an area of 16 936 km^2, which is about 1.4% of South Africa. Although small, it is the most densely populated, accommodating almost 23.7% of the South African population.[53] Gauteng consists of five districts namely, City of Johannesburg, City of Tshwane, City of Ekurhuleni, Sedibeng District, and West Rand District. Ekurhuleni was conveniently selected to be the specific district where the study was executed.

According to the 2016 Community Survey, Ekurhuleni has about 3.3 million residents with an area of 1 979 km^2, occupying 1 707.4 people per km^2.[54] There are 90 clinics in Ekurhuleni District. The Southern region (Boksburg, Germiston, and Alberton) has 32 clinics of which 30 are PHC clinics, 1 satellite clinic, and 1

mobile clinic.[55] Figure 3.1 shows a map of Ekurhuleni Metropolitan Municipality and Figure 3.2 shows a map of Germiston.

Figure 3.1: Map of Ekurhuleni Metropolitan Municipality.[56]

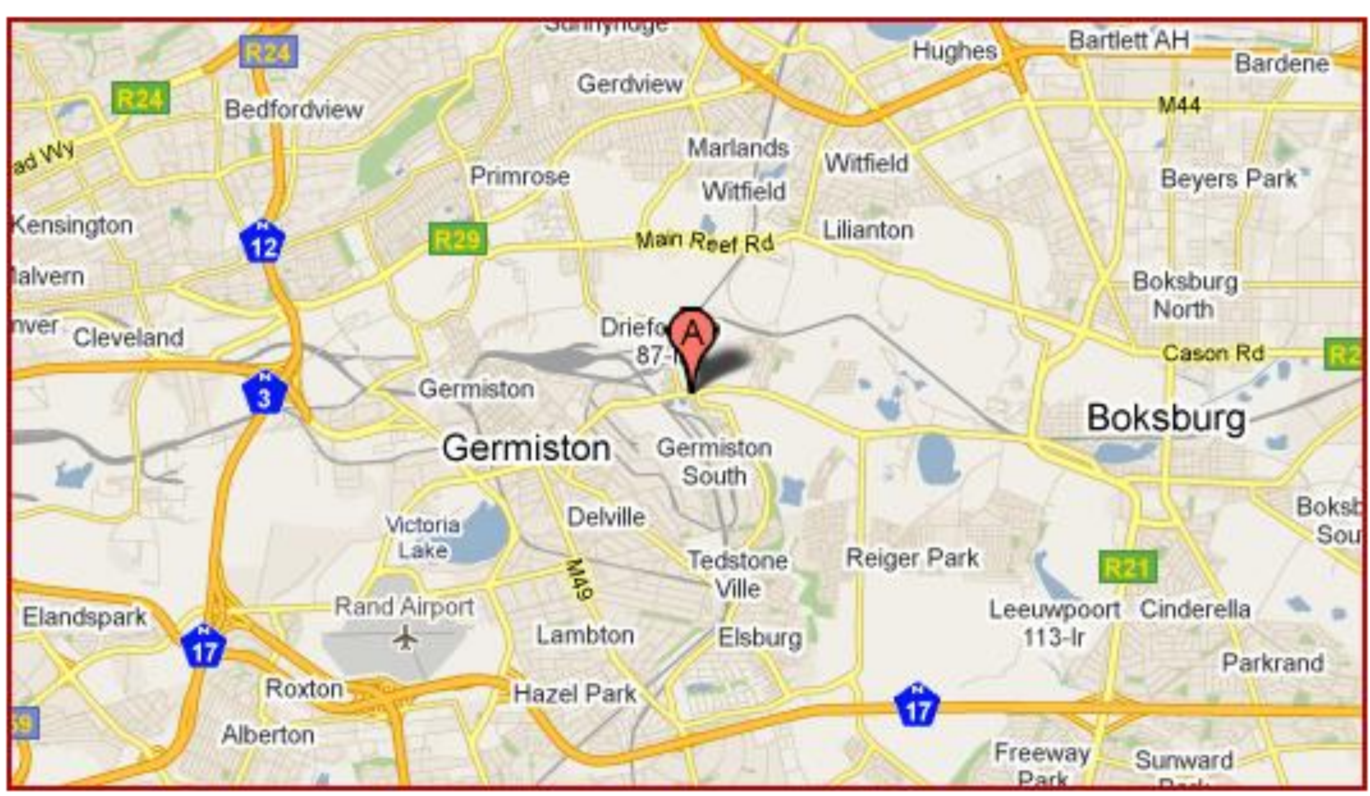

Figure 3.2: Map of Germiston.[57]

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3.3 Sampling strategy

A multi-stage sampling method was used to recruit the caregivers of children aged 1-60 months. The researcher conveniently selected Germiston in the Ekurhuleni Metropolitan Municipality of the Gauteng Province, since there is no previous research that relates to the knowledge and perceptions of caregivers on the RtHB in this area. Furthermore, the researcher purposively selected clinics that differ in their socio-demographic settings.

The researcher used convenient sampling to select clinics in the southern Ekurhuleni region and purposively selected those which are in Germiston. There are five clinics in Germiston: Germiston City Municipality Clinic, Dukathole Clinic, Wanneburg clinic, Bertha Gxowa ARV clinic, and Elsburg clinic.[55]The study was conducted at four different clinics in Germiston, namely; Germiston City clinic, Elsburg Clinic, Wanneburg clinic, and Dukathole clinic. The fifth clinic (Bertha Gxowa ARV) clinic was excluded from the study because the supervising nurse did not give permission for the research to be conducted at the facility therefore, four clinics were sufficient for the purpose of this study as they are all in different regions in Germiston and this is representative of the sample size within the city.

The caregivers of infants and young children aged 1-60 months were recruited using the inclusion and exclusion criteria. The fieldworkers systematically selected every third caregiver who met the criteria to participate in the study, a statistician was consulted with regards to the sample size and she suggested that at least 10 to 15 caregivers should be interviewed per day until there is data saturation and no new information was discovered. The fieldworkers collected data from 8 April 2019 to 13 May 2019 at four different clinics, data was collected until there was saturation of data and no new themes were identified.

3.3.1 Inclusion criteria

- PHC clinics that see more than 20 children per day who are aged between 1 and 60 months.
- Caregivers of children 1-60 months.
- Caregivers visiting selected PHC facilities in Ekurhuleni District, Germiston at the time of data collection of the study.

3.3.2 Exclusion criteria

- Caregivers of children > 60 months old.
- Caregivers who do not give consent to participate in the study.
- Caregivers who do not consent to audio recording.

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3.4 Training of fieldworkers

There were two fieldworkers who were trained by the primary investigator on how to use the research tool to collect the data. The one fieldworker was fluent in English and Afrikaans and the other was fluent in isiZulu, Sesotho, Sepedi, IsiXhosa, English and had a good understanding of Xitsonga and Tshivenda. Both fieldworkers are registered dietitians who are familiar with the clinic setting as they have both been exposed to working in a clinic in their community service year. They both have knowledge of basic research methodology as they have completed a research project in their final year of undergraduate studies therefore, their nutrition training and research experiences deemed them fit to be trained to be fieldworkers for this particular research.

3.5 Pilot study

The primary investigator completed a Qualitative Research Methods course from the Centre for Statistical Analysis and Research (CESAR) in February 2019, where she received extensive theoretical and practical training on qualitative research methods and this information was distributed to the fieldworkers. The primary investigator was present during the pilot study and trained both fieldworkers on qualitative research methods, data collection procedure and the data collection tool prior to the pilot study which was done in March 2019. The pilot study took place at Spartan clinic in Kempton Park, the primary investigator and the fieldworkers conducted the pilot study.

The pilot study was conducted on caregivers of children 1-60 months at Spartan clinic in Kempton Park, Ekurhuleni, Gauteng and every second caregiver was systematically selected to participate in the study. To test the face validity and reliability of the questionnaire there was a total of 10 caregivers who were interviewed, and each fieldworker interviewed five caregivers. The main goal of the pilot study was to test for reliability and face validity of the questionnaires and practical aspects related to data collection to verify standard operating procedures. The fieldworkers were also trained on detailed notetaking during the pilot study, where they learned how to structure the interviews and how to operate the voice recording device. The pilot study assisted the primary investigator to identify any gaps in the way in which the questionnaire was structured and the fieldworkers also gave feedback on any suggestions and adaptations they wanted to make on the format of the questionnaire. The data from the pilot study was not analysed and transcribed because the aim of the pilot study was to familiarise the fieldworkers with the data collection procedure and to make any improvements to the interview questionnaire.

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All feedback was taken by the primary investigator and she made all the necessary changes and adaptations to the interview questionnaires, informed consent form, and the structure of the interviews in terms of recruitment. The improved instrument was shared and approved by the study leaders.

3.6 Description of data collection tool

The use of in-depth interviews as a tool for data collection is extremely useful as it gives detailed information about individual perceptions, which is the main purpose of this research. The researcher would like to create a complete picture of the caregiver's knowledge and perceptions of the RtHB.[58]

The data collection tool, which was the researcher administered questionnaire, was designed and developed by the primary investigator whereby she included a sociodemographic section which describes the study population and second section which is the in-depth questions relating to the knowledge and perceptions of caregivers as seen in Addendum A. The questionnaire was only in English because the fieldworkers conversed and explained questions to participants in their home language. Both fieldworkers had to be bilingual or multilingual in the South African official languages. The interview questionnaire was checked for completeness by the researcher and further examined by the study supervisors to improve reliability. Face validity of the data collection tool was done during the pilot study.

3.7 Data collection procedure

The primary investigator and the fieldworkers each visited the clinics, a few weeks prior to the data collection to hand in the permission letter as attached in Addendum D to the operational managers (supervising nurse) of the clinics and to formally introduce the research team to the operational manager. The interview questions and consent forms were printed and distributed to the fieldworkers for data collection. The primary investigator study was not present during data collection as she had been appointed for a new permanent job at a government institution in April 2019, but she did weekly visits at the clinics to supervise the fieldworkers and identify any issues relating to data collection. The fieldworkers were also required to write daily fieldnotes whereby they described the series of events that occurred at the clinic. The interviews were held at local clinics in Germiston, the first clinic that was visited was Germiston City clinic, followed by Elsburg Clinic, Wanneburg clinic, and finally Dukathole clinic. Data was collected from 8 April 2019 to 13 May 2019, at the first clinic (Germiston City Clinic) it took approximately two weeks (excluding weekends) for data collection as the fieldworkers were familiarising themselves with the setting and data was not collected during the public holidays in between.

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The second (Elsburg) clinic and third (Wannenburg) clinic each took about a week and a half, respectively, the fourth (Dukathole) clinic took only three days to collect data as data saturation was reached at 20 participants. The caregivers of infants and young children aged 1-60 months were recruited using the inclusion and exclusion criteria. The fieldworkers systematically selected every third caregiver who met the criteria to participate in the study.

There are two consent forms, as seen in Addendum B and Addendum C, the one is in English and the other is in isiZulu as this is the most spoken and comprehended language in Gauteng.[37] The caregiver was given the consent form in their preferred language. The purpose of the research was explained and thereafter they were requested to sign for their permission to participate in the research and to allow for audio-recording during the interview. The in-depth interviews were conducted in a quiet room that was in close proximation with the room that the caregivers of infants and young children use for consultation. This room was organised by the operational manager of each clinic as the nature of the research and the setting needed for data collection was explained.

Researcher administered socio-demographic questionnaire

The fieldworker guided the participants by reading the questions out loud and the participant would give the answer applicable to them and a voice recorder was used from the beginning of the interview to record the participant number to keep track of the all the data collected, as well as for accurate record keeping of data.

Researcher administered in-depth interviews with open-ended and closed-ended questions and the use of an audio-recording device

The fieldworker continued to "Section 2" and introduced it to distinguish between the sections. The fieldworker continued to ask the caregiver more questions, but these were more in-depth questions, which closed - ended and open-ended questions. Some of the open-ended knowledge questions required the fieldworker to show the caregiver the RtHB for them to understand what the fieldworker was referring to. In addition to the audio-recording, the fieldworker took notes of the responses. At the end of the interview, the fieldworker stopped the audio-recording device and recorded the duration of the interview in the interview notes, to be able to track the interviews and cross check. The caregiver was thanked by the fieldworker who interviewed them, and he/she received a small token of appreciation for their time, which consisted of a fruit juice/water, a snack bar, and a fruit (apple/orange).

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3.8 Quality control

To ensure reliability and validity, there were certain approaches which were implemented to ensure that the data collected represented the individuals adequately. The fieldworkers were trained by the primary investigator on the nature of the aims and objectives of the study and the research methodology that was employed. As previously noted, the fieldworkers are bilingual or multilingual with one fluent in English and Afrikaans and the other fluent in isiZulu, Sesotho, Sepedi, IsiXhosa, English and a good understanding of Xitsonga and Tshivenda. Both fieldworkers are registered dietitians who are familiar with clinic settings as they have been both exposed to working in a clinic in their community service year. For the primary investigator to have a better understanding of the environment and challenges that the fieldworkers encountered, the primary investigator visited the clinics on a weekly basis and the fieldworkers each wrote fieldnotes on a daily basis for the duration of data collection. The primary investigator kept constant communication with the field workers via a WhatsApp group, whereby all additional questions and concerns were addressed.

3.9 Ethical and legal considerations

Approval to conduct the study was obtained from the Health Research Ethics Committee (HREC) of Stellenbosch University (Ethics number: S18/10/214) as seen in Addendum E, and a permission letter was sent to the Ekurhuleni Metropolitan Municipality Research Committee (Addendum F) to request permission to conduct the study at PHC facilities within the specified region of the district; permission was granted (NHRD no: GP_201901_013, Addendum D). The research study was briefly explained to all participants who were sitting in the waiting room to recruit those interested. Those who were willing to participate were given a consent form to sign to participate in the study and to consent for the use of an audio-recording device during the interviews. The participants were not required to provide any personal identification or any information that can identify them during the recording therefore, the identification of the caregiver and infant or young child was fully anonymised. All data was safely stored in a password protected laptop of which only the primary investigator had access to.

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3.10 Data analysis

Socio-demographic information

The data from the socio-demographic questionnaire was captured and recorded by the primary investigator, using Microsoft Excel 2016. The primary investigator created tables and graphs in Microsoft Excel 2016, and they were used to summarise categorical data.

Responses from the in-depth interviews

The qualitative data was analysed using the contextualised interpretive content analysis method to condense and transform a large volume of text into a summary of results, which means the transcribed data was categorised into common themes.[59]

The primary investigator and the fieldworkers reviewed the data by listening to the recordings while reading the transcripts to ensure that the information was captured accurately. This was done as soon as possible following data collection and capturing and for quality control purposes. The primary investigator further analysed the qualitative data by reading and transcribing data from the audio-recordings. ATLAS.ti 8 software was used to analyse and organise the transcribed data and to identify common themes which are in line with the objectives of the study. There were some closed-ended questions which were also captured into an excel spreadsheet and graphs and tables were used to present the data.

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Chapter 4: Results

4.1 Introduction

This chapter presents the data collected using the researcher administered interviews which were conducted at four clinics in Germiston in the Ekurhuleni Metropolitan Municipality. The main objectives of this study were to determine whether caregivers have previously been educated on the contents of the RtHB, to determine their knowledge and perceptions about the importance of the RtHB, to assess whether they understand the contents of the booklet, and to determine the correlation between the caregiver's level of education and their ability to understand the growth curves. To assess whether the objectives would be met, a qualitative research study was conducted to assess the knowledge and perceptions of caregivers on the RtHB as a tool for GMP at PHC facilities in Ekurhuleni Metropolitan Municipality, Gauteng, South Africa.

The participants were recruited via purposive and convenient sampling, caregivers of infants and young children aged 1-60 months who were visiting the PHC facilities were used for the study. A total of 170 caregivers from four different clinics were interviewed. Each caregiver was given a participant number which was unique to each of them and was applied as follows: Germiston City Municipality Clinic (P001 to P050), Elsburg Clinic (P051 to P100), Wanneburg Clinic (P101 to P150) and Dukathole Clinic (P151 to 170).

4.2 Socio-demographic information of participants

Table 4.1 indicates the socio-demographic information of the caregivers and shows that there was a total of 170 caregivers who were part of the study. The majority of the caregivers (98%, n=66) were female and most (59%, n=100) were between the ages of 24 and 35 years. Regarding the level of education, the majority (71%, n=120) have completed secondary (Grade 8-12) education and only 25% of them have obtained tertiary (college/university) education. Furthermore, 63% were unemployed with only about 16% were employed full-time, and 11% employed part-time, while about 10% were self-employed. Most (92%, n=157) of the caregivers were the mother of the infant or young child.

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Table 4.1: Socio-demographic information of caregivers

Indicator	Percentage (%)	n
Age		
< 18 Years	1	2
19 - 23 Years	14	24
24 - 35 Years	59	100
36 - 45 Years	19	33
>46 Years	5	9
Gender		
Female	98	166
Male	2	4
Education		
Preschool (Grade 0 >)	1	1
Primary (Grade 1 - 7)	4	6
Secondary (Grade8 - 12)	71	120
Tertiary (university/college)	25	43
ABET - Adult Basic Education and Training	0	0
I do not know	0	0
Employment status		
Employed (full-time)	16	28
Employed (part-time)	11	18
Self-employed	10	17
Unemployed	63	107
Relation		
Mother	92	157
Father	2	4
Aunt	1	2
Grandparent	3	5
Older sister/brother	0	0
Neighbour	0	0
Other	1	2
Marital status		
Single	31	52
Married	29	50
Divorced	1	2
Living with partner	36	61
Widowed	3	5

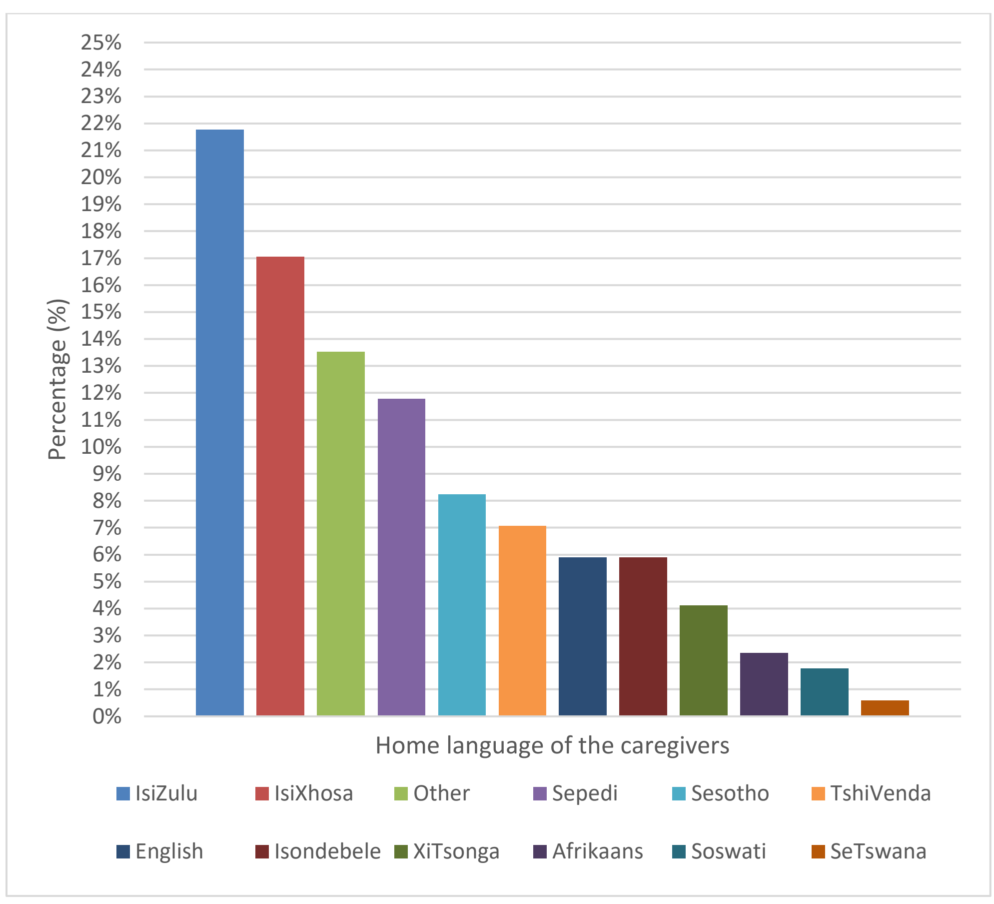

Figure 4.1: Home language of caregivers.

As shown in Figure 4.1, most of the caregivers were IsiZulu (22%, n = 37) speaking, which was followed by IsiXhosa (17%, n = 29), and Other (14%, n = 23) which is non South African languages such as Shona (Zimbabwe), Portuguese (Angola, Mozambique and other countries), Chichewa (Malawi), and Igbo (Nigeria). For participants who spoke other languages, English was used. Only 6% (n = 10) caregivers were English speaking and about 2% (n = 3) Afrikaans speaking.

The majority (53%, n = 90) of caregivers had the 2012 RtHB for girls and about 45% (n = 76) had the 2012 RtHB for boys, and only 3% of the caregivers had the new/revised RtHB. There was one caregiver who had neither of the three RtHBs; she reported that she had not received the booklet at the private hospital where she gave birth (P032).

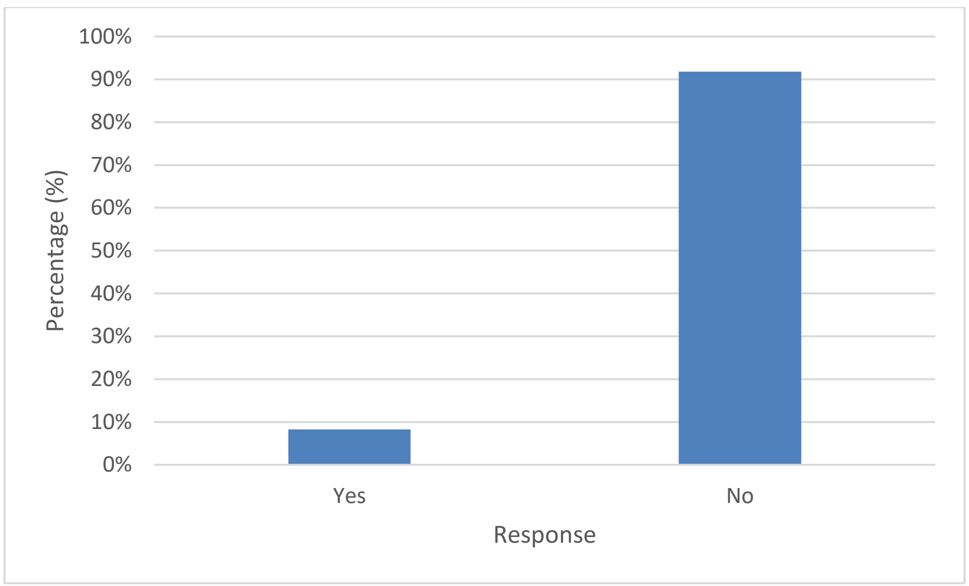

Figure 4.2: First time at the clinic.

As seen in Figure 4.2 only 8% (n = 14) of caregivers reported that they were visiting the clinic for the first time, while 92% (n = 156) reported that it was not their first time at the clinic. Nearly all (99%, n = 168) of the caregivers brought the booklet with to the clinic visit.

4.3 Researcher administered in-depth interviews with closed-ended questions

4.3.1 Practices related to RtHB issuing and education

Information regarding practices related to the education and issuing of the RtHB were obtained using in-depth interviews and closed-ended questions. More than half (58%, n = 99) of the caregivers reported that they have been informed about the RtHB, most of them received information on the booklet at the hospital where their baby was born, others only received the booklet when they visited the clinic for the first time.

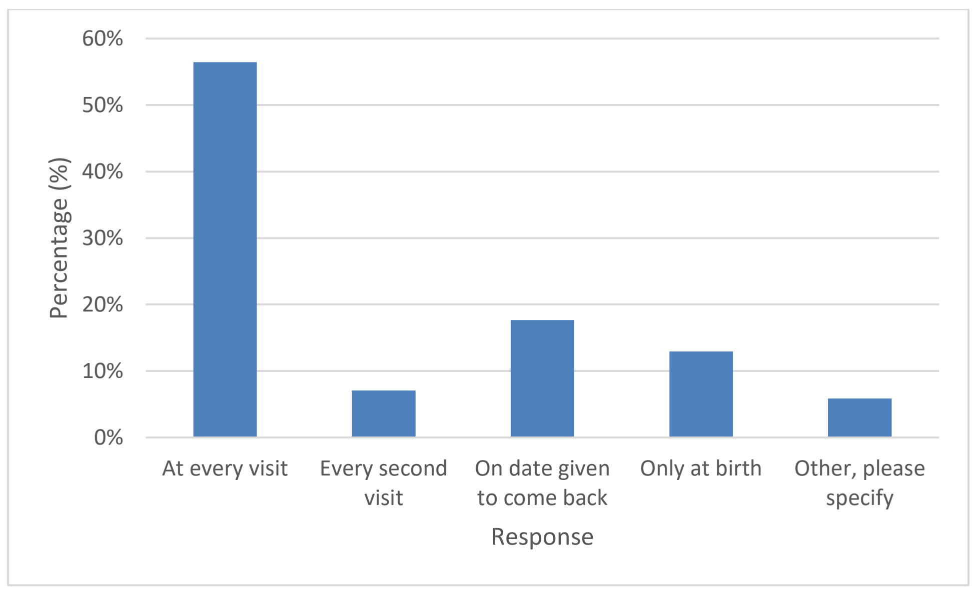

Figure 4.3: Perceptions on when to receive education on the Road to Health Booklet.

The majority (56%, n = 96) of the caregivers felt that they should be educated on the contents of the RtHB at every visit, which means every time they visit the clinic they should have a topic discussed with the healthcare worker, as indicated in Figure 4.3 above.

4.4 Researcher administered in-depth interview with open-ended questions

4.4.1 Health education on the RtHB

Information on health education previously received was explored using open-ended questions during the in-depth interviews. The caregivers revealed that they benefited from the education which they had received from the healthcare workers and they reported that some of the information was immensely helpful. The caregivers showed a great deal of confidence in terms of being able to point out the information that they were educated on and how they were able to apply it in their daily life taking care of an infant or young child. There was specific information that the caregivers were informed about/educated on and this information forms the base of what they could recall from previous education.

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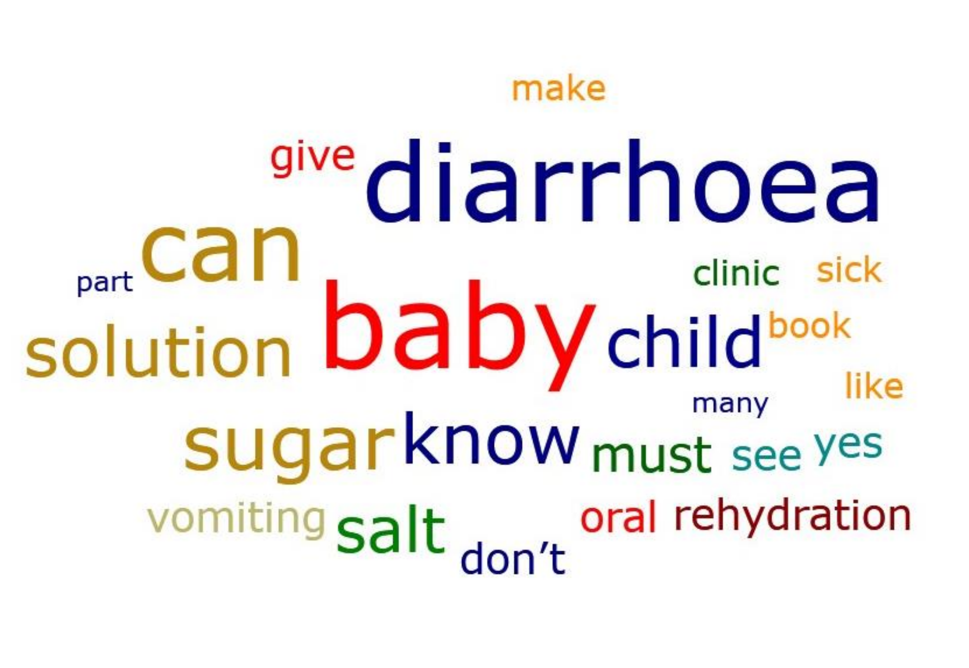

Figure 4.4: Common responses on important information in the Road to Health Booklet.

Figure 4.4 above, indicates caregiver's common responses relating to ORS. It is also important to note that they associate this with vomiting, which can happen in conjunction with diarrhoea therefore, the majority of caregivers have been well informed by the health promotion messages in the booklet. Most of the caregivers felt that the contents of the RtHB that stood out the most and resonated with them most was the feeding recommendation for diarrhoea. This is one of the health promotion messages in the booklet, it shows step by step how to mix and administer the Sugar-Salt solution (SSS). There was one caregiver (P151) who gave an incorrect SSS recipe, they indicated that it is 1 teaspoon of salt instead of ½ teaspoon of salt. This concern was noted by the fieldworkers and the correct recipe was shown to the caregiver once the interview was ended. Some of the responses from the caregivers are as follows:

- ***"They teach me how to check the mixture (sugar & salt) if the baby is vomiting. There is lots of information in the book. They told me I must take it wherever I go and keep it until the child the goes to school."*** **– (P002)**
- ***"I get to understand about my child's growth, know when to take my child to the clinic. When my child has diarrhoea, I know how to make the formula -sugar and salt- it is informative."*** **– (P093)**

- ***"For when there is growing what must you do, what changes. When the baby has diarrhoea, you should bring him or her to the clinic and you can make the sugar and salt solution."* – (P058)**

- ***"It is that when the baby is vomiting , what can I do to avoid dehydration so I mix the 1 litre of boiled water, 8 heaped spoons of white sugar and 1 level spoon of salt and also how important the vaccinations are and the growth so what must I do when the baby is how many months."* – (P151)**

Another important observation which was mentioned by the caregivers, was that they need to ensure that they have the booklet everywhere they go and that it is important to bring to the Well-Child Visits at the clinic. They also mentioned the importance of it for record keeping and that it serves as a reminder when to visit the clinic for immunisation or growth monitoring. The caregivers also indicated that the booklet is important for the registration of the birth certificate and for the registration of pre-school. Therefore, it is quite important for keeping record of the history of the infant or young child. Here are more quotes form caregivers:

- ***"Bring to clinic everytime you go with the child, when the child is sick go with the booklet."* - (P071)**
- ***"They told me that I must come with the book to the clinic when I bring the baby and that it has everything about how to feed the baby, stage by stage."* – (P105)**
- ***"That you have to check the weight of the baby, you have to check the dates and when to give your baby food and when your baby is sick what can you do to help the baby. That is the information that is in the booklet."* – (P161)**
- ***"It has taught us what we should do and when to come to the clinic with the child and when she will be needing the injections, all the information is in there."* – (P062)**
- ***"Whenever I come to the clinic, I bring it. They write all her things in the book. Even when I went to make her birth certificate, I have to take this book with."* – (P067)**
- ***"To take care of it when you register the child for school, they will need it. When you bring the child to the clinic bring it."* – (P061)**
- ***"They said the booklet is important. I must come with it to each and every time I come to the clinic. it's important for the child also when he is going to school for the first time."* – (P090)**

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4.4.2 Caregivers understanding of the contents of the RtHB

The caregivers demonstrated an understanding of GMP and mentioned their perceptions of the concept of monitoring how the infant or young child grows. Their responses showed that they were aware of what the concept relates to. There were a few of the caregivers who had a different understanding of the concept whereby they did not understand the "promotion" aspect. Here are some of their responses on the contents of the RtHB:

- ***"Growth monitoring is the stages the baby grows; you have to monitor it. Promotion is to promote growth; I can give information to someone that can be helpful and promote."* – (P090)**
- ***"Means healthcare staff must give information on the growth of the baby, Promotion-they must have a class or something so you can understand more about the growth of the baby."* – (P057)**
- ***"To monitor a child if she's growing or losing weight, growth promotion I think its healthy foods for the child."* – (P163)**
- ***"Growth monitoring- To check how the baby is growing, promotion I don't understand it."* – (P130)**
- ***"Growth monitoring is to monitor how your child is growing, promotion I am not sure."*- (P129)**

Most of the caregivers indicated that the booklet is a good tool for GMP. They further explained that it is mainly used to monitor the weight of the child and how they grow and if they are developing according to the developmental screening standards. They also mentioned that the booklet is much better than the card as it has more information. Here are some of their statements:

- ***"Yes, it shows the actual growth of how the child is growing. when you see the graph decreasing then you can see something is definitely wrong."* - (P087)**
- ***"I think so, because here in the Booklet they tell you what kind of foods to give the child and at certain age the child must have reached this stage, there are stages inside. Everything it's here, if your child is not well there are signs you see them in the booklet."* – (P162)**
- ***"Yes, because you will see your baby is developing something. The book tells you that your baby is growing, time to eat, time to talk whatever."* - (P052)**
- ***"Yes, better than the old ones, it has basically everything in there. It does explain how to do stuff, when serious illness has come you will know that is where I've got to look out for. They got everything you need they explain from boys to girls."* – (P059)**

- ***"Yes, coz its different from those ones where you don't know what to expect even when you visit the clinic where you will be given a paper, so it's different from the card all the information is here." –* (P062)**

Some caregivers struggled to understand some of the contents of the RtHB, the question was asked as follows: "Is there any specific information that is in the RtHB that you do not understand?" From their responses it was revealed that they did not understand the immunisations of which some referred to as "injections" that the child gets, what each vaccine is for, and how it protects the child. Some of the caregivers did not understand the importance of having the mother and the child's HIV status included in the booklet and the specific tests used to diagnose HIV in infants (PCR). Some did not understand the table on developmental screening and the growth charts, and a few of the caregivers reported that they never actually went through the booklet in detail therefore, they could not identify what they did not understand. Below are more of their responses:

- ***"Some I don't understand the meaning of the word, I don't understand what they wrote in here by immunisations." –* (P138)**
- ***"Yes, the injections and drop." –* (P129)**
- ***"Yes, when it talks about the mother and the child status, PCR I don't understand." –* (P146)**
- ***"Yes, HIV status of the baby." –* (P142)**
- ***Yes, the one about development screening." –* (P030)**
- ***"Yes, when they talk about the stages of the baby.*" – (P058)**
- ***"Yes, the graphs." -* (P132)**
- ***"I never gave myself the time to read it." –* (P071)**

4.4.3 Knowledge and perceptions on the importance and usefulness of the RtHB

Caregivers highlighted the importance and the practicality of the RtHB, most of them reported it as an extremely useful educational tool in assisting with identifying growth altering or other clinical signs their infant or young child may show. They appreciate the information and advice on infant and young child feeding practices, specifically breastfeeding and complimentary feeding, and the preparation of SSS when the infant or child has diarrhoea. As shown in the statements below it is evident that these caregivers are well informed about the contents of the booklet and the information which they have grasped is accurate and in line with the health promotion messages in the booklet. Care givers said:

- ***"Yes, the one that says you must feed the baby solids from 6 months of age."***

- ***"Yes, especially about the eating of the baby, it teaches you can breastfeed your baby until six months and then after that you can give food."*** **– (P051)**
- ***"Yes, because for example if the baby has diarrhoea, I can make the salt and sugar solution. It helped me to know which food to give when my baby reaches 6 months."*** **– (P068)**
- ***"Yah, they are because the other part shows how to measure the sugar and salt solution when the baby maybe he's having diarrhoea and the other one give the foods required for the baby to take. Because some people don't know the food to give to their babies."*** **– (P060)**
- ***"Yes, Except the part where they show you how to make the glucose, that is the most useful piece of information because most parents don't know how to make glucose for your child especially when it comes to midnight the child gets sick."*** **– (P059)**

The other important observation which they had mentioned was the developmental screening; some caregivers noted that the previous RtHC did not have that information. Quite a few caregivers expressed that it is important to know the signs and stages of development and if there are any discrepancies from the norm one should seek medical attention. They found the information on the developmental screening extremely useful as it can assist them in keeping track of their child's development. Following are some of their responses:

- ***"It is important because I remember when I had my first baby the booklet wasn't like this, It didn't have much of the information and some of the things I didn't know that I know now like at 6 months now I know my baby stage is supposed to play and if she's not doing those things I should be worried. The first booklet didn't have that kind of information."*** **– (P161)**
- ***"Yes it helps a lot, its useful especially if you're a first time mother because you're breastfeeding but you don't know for how long so it helps you to know that you breastfeed the child for how long and if you stop you must have a reason why, then on page 12 you can see which food to give the child and also which age they must start walking and if they get to that age they are not walking then you know there's a problem."*** **– (P123)**
- ***"Too much! Like on page 13 at 14 weeks my baby is supposed to follow the object, baby is supposed to respond to sound, sucking and everything. So, when you don't have this booklet you don't know these things."*** **– (P161)**
- ***"Very useful, like here on page 10 teaches me how to hold my baby when I am breastfeeding so I can bond with my baby. How to monitor the child's growth and play and communicate with my child. If my child is unable to do something, then I can seek help in time."*** **– (P093)**

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- ***"Yes, the page that talks about the steps of the baby and at which step you're able to communicate with them, you sing for them and you play with them and also which food that is healthy to give them." –* (P126)**

The participants also mentioned that the booklet is important for record keeping, specifically for the registration of birth certificates and that without it they would not be able to register for a birth certificate for the infant and later on for school registration. Some caregivers further went on to say that it is important as it gives information on the Prevention of Mother to Child Transmission (PMTCT) feeding guidelines and that some people do not want to disclose their HIV status therefore, the information is in the booklet for the medical staff assisting them to see. Below are some of their comments:

- ***"It is important because at school they need it, for me to do a certificate they need this everywhere I go I have to go with it if the child is still young, I have to go with it. It's easy for me to go to any clinic even when I'm outside of the country or when I'm not here around my clinic I can take the child to any clinic." –* (P163)**
- ***"It's important because if the child is sick, you can go with the booklet to the clinic or when you go visit the doctor you also take it with and if you don't have the book I don't know how they will even do the certificate without the booklet." –*(P166)**
- ***"Because when they start Grade 1 they say we must bring this book and it keeps the records of the child that he has been sick and what was wrong with him and how they helped him and which medication he was given." –* (P111)**
- ***"It's important it has all the information about the child from when they were small so the information shows that you take the child to the clinic and you look after them, like even at school when you register the child they want it especially grade R or cheche they want to check if the child is going to the clinic at the right dates."* (P123)**
- ***"Yes, for parents' status (HIV) it is important because some people don't want to talk about their status." –* (P061)**
- ***"Yah, there was a page in the book where it was stated about mothers and babies, where if the mother is HIV positive and has a high viral load and the baby is negative. It was written that the mother must stop breastfeeding if the baby is negative and if the mother has high viral load." –* (P060)**

There was a caregiver who gave her perception on the growth curves, she was asked whether she understood the growth curves; she pointed out that not all children are the same and that their stature should be taken into consideration. She specifically pointed out that the weight reflected in the growth chart is not a reflection of how she is feeding her child and that one has to take into consideration the parents' "bone structure": ***"I just don't believe in these charts, because all children is different not because you got a small built child now, they are unhealthy because they are thin I go through it with my children because I've got thin children, then they tell me my children are not eating enough but this child eats a loaf of bread on their own in a day. So, what does that tell me, you can't tell me my child is unhealthy because of this chart. You always have to look at the mother's bone structure and the fathers bone structure, not just point fingers at the parents."*** **– (P059)**

According to the caregivers, the RtHB is another important form of record keeping that serves as reminder for return dates to the clinic therefore, one does not miss appointments for growth monitoring, immunisations, and doctors' visits. Some of the caregivers also found that it is an important tool for recording immunisations, so when the child is older one can refer back to the booklet if there are any adverse health effects. Here are some of their comments:

- ***"This is important because the information it helps us to remember that if you forgot to check the date to go to the clinic and to read if you want to see how to feed your baby."*** **– (P004)**
- ***"I think it is important, if you are going, if you are in another town and the child gets sick. They will see every information; they will be able to assist you."*** **– (P051)**
- ***"It's important because the book is your child's future, it shows everybody your child is healthy and all the needed stuff is taken care off."*** **– (P059)**
- ***"Like today, I forgot that I am coming to the clinic then I opened the book and saw I have to come, so it's a good reminder."*** **– (P064)**
- ***"Because it keeps track of when you bring the baby to the clinic that he gets the injections according to what is written there."*** **– (P085)**

4.4.4 Understanding the growth chart in the RtHB

Most of the caregivers had a general understanding of the weight-for-age growth chart and the information that it presents, some were able to give examples of how to correctly interpret the growth curves. Some of the caregivers reported that they only understood the weight-for-age chart and that the chart means the child is growing. In contrast with the weight-for-length chart the caregivers reported that they did not understand it, nor the information it presents. Here are some of their comments:

- ***"I understand that when the weight is in the green line here and it curves and goes up it means the child is growing and if the line goes down it means the child is losing weight and if it's a straight line then your child is not growing they are stagnant growth and if it's below the green line then you must take action."* – (P163)**
- ***"I understand that maybe for example today he weighs 5.5 kg so they will put a dot by 5.5 kg to show that and then by where it has birth to 5 years you make the dot there and its shows today what they're giving to him."* – (P110)**
- ***"Almost when you bring the child to the clinic, they weigh him to check if he is increasing or decreasing, the height shows if the baby is growing taller."* – (P096)**
- ***"I don't understand very well, when for example the one time I come it is 4.3 and by the next time I come it is 4.5 kg then the baby is growing I am happy."* – (P002)**
- ***"Me I don't really understand, I only understand the one for weight, that how my child is growing."* – (P105)**
- ***"First, I understand that when my baby is in the medium line and is under what you know the baby is underweight. And then the weight is supposed to be at how much and how much then you know something is wrong with the baby. The height, I don't know much about the height, but it shows that it's supposed to be on this line and that line then you know. The weight for length I don't know this on."*- (P161)**

4.4.5 Further understanding and interpretation of the growth curves using demonstration and level of education of caregivers

Caregivers were shown a weight-for-age flat (horizontal) on the growth curve (Q18). See Table 4.2 for the specific responses. Most of the caregivers understood that the curve on the growth chart is supposed to go up and not be horizontal and that it meant that the child is sick or he/she is not getting enough nutrients for growth. They understood that the child is undernourished when the weight-for-age is stagnant on the growth chart, and that it indicates inadequate nutritional intake. On this question, four out of the six caregivers have secondary school as their highest qualification and only two have tertiary level education.

They were also shown a growth curve where weight-for-age is declining (going down) towards the -3 line (Q19). When the weight-for-age of a child declines towards the -3 line, it means that the child is severely undernourished. Some of the caregivers expressed that if this happens, the child is probably sick and requires immediate medical attention (doctor/hospital), some expressed that this decline can be caused by inadequate nutrition and illness. The caregivers were aware that if the child's weight-for-age is on the -3 line it is a danger zone and it is good that caregivers are able to identify anything growth patterns that

deviate from the norm. On this question, four out of the six caregivers have secondary school as their highest qualification and only two have tertiary level education.

When shown a length-for-age (horizontal) on the growth curve, the responses were different (Q20). Some were not sure (P071 and P103) what the interpretation was. See responses in Table 4.2. The length-for-age growth chart indicates whether the child is stunted or not. The caregiver (P068) has completed secondary school and indicated that if the length-for-age of the child is horizontal on the growth curve then the child has dwarfism. Dwarfism is a medical condition whereby there is a genetic mutation that leads to a short stature.[74] There is one caregiver (P059) who has completed secondary school, their response was more out of frustration with regards to the system of the clinics and that her child has not been plotted, therefore cannot relate to the question asked.

Table 4.2: Caregivers' understanding of growth curves and their level of education

Questions	**Responses from participants**	**Level of education**
Q18. If your child's weight-for-age is flat (horizontal) on the growth curve, what does that mean?	• ***"That means something definitely wrong with your child maybe not picking up weight, worms or something causing the child not to pick up weight or picking up weight slowly. But that doesn't always mean it's a bad thing just something going on in that small body or picking up weight slowly like this one she's picking up weight slowly."* – (P059)** • ***"Which means there is a problem, the child might be sick or teething when the child loses weight because lack of appetite. If it is constant, then the child should be taken to the hospital."* –(P087)** • ***"That means the baby is not growing, something is wrong, because everytime you come to the clinic the baby is***	**-P059, P060, P127 and P143 have all completed secondary school which is grade 8-12** **-P087 and P143 both completed a tertiary qualification, which is university or college.**

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	supposed to pick up the weight that's why when you go to the clinic they check the weight of the baby." **– (P161)** • *"It means that you're not giving the baby right food, that's why she is not gaining weight."* **– (P143)** • *"It means the baby is not growing, there must be a problem in terms of diet and how the baby is being given food."* **– (P060)** • *"It means I don't take care of him and I don't give him proper food."*- **(P127)**	
Q19. If your child's weight-for-age is declining (going down) towards the -3 line, what does that mean?	• *"That's really not a good sign coz it's supposed to go up, not at all go down unless your child falls sick diarrhoea whatever, like she was in hospital because she was not eating then weight will drop not severe just drop. But if it drops on its own without the child being sick then there's something wrong seriously then you gotta take your child to the doctor."* **– (P059)** • *"Which means she's lost weight, I don't know due to the way she's eating or her growth or she's sick there's just something that is not alright."* **– (P108)** • *"Means the child is severely in danger and needs to be taken to the hospital, the child is underweight."* **– (P087)** • *"It means she is sick; I'm not giving her the right food or there is something wrong."* **– (P067)**	**-P059, P067, P085 and P163 all have completed their secondary school which is grade 8 to 12** **-P087 and P108 both have tertiary qualifications, which is university/ college**

	• ***"Baby's is not eating well, not getting proper nutrition and not getting enough food."* – (P085)** • ***"It means that the child is sick or there's something that is not right with the baby you have to take action."* – (P163)**	
Q20. If your child's length-for-age is (horizontal) on the growth curve, what does that mean?	• ***"I think the baby is not growing she is a dwarf."* – (P068)** • ***"I'm not sure about that one but I think it will be something wrong with him, he can't stay the same height at the same time. He has to grow."* (P103)** • ***"I think it's part of the genes some of the kids are not growing, I'm not sure."* – (P071)** • ***"The baby is not gaining anything, there are no changes, he's not growing, maybe I'm not feeding him well."* – (P110)** • ***"She's not growing she's stagnant."* – (P156)** • ***"There is something wrong she should be growing, if it is constant then she should be referred to the hospital."* – (P087)** • ***"There I can't answer you, that's where clinics come in, they are not doing the right thing. You bring the child for injection , do you see that my child is turning 4 years old and this child never been filled, they didn't do length of my child, they don't do the weight, they***	**-P068, P071, P103, P110 and P156 all have completed their secondary school which is grade 8 to 12** **-P087 has a tertiary qualification, which is university/ college**

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	don't write it down so how am I supposed to know that there is something wrong with my child. You ask and this is not filled in how must I see that my child is not growing properly so I can't answer that question coz I don't know why. Our clinics doesn't do that, I don't come to the clinic because I want to, I come to the clinic because I've got to and if it was up to me I won't be coming." **– (P059)**	

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Chapter 5: Discussion

5.1 Introduction

The RtHB is an A5 booklet which is given to the mother/caregiver of an infant at birth and is used to monitor the growth and health of the child from birth until they are five years of age. The RtHB is one of the tools used by the National Department of Health to reduce the under-five mortality rate.[60] There is a lot of vital information contained in the booklet that is used for health surveillance, including GMP, which entails personal information about the identification and birth of the infant, recording of the Well-Child Visits, record of immunisations, PMTCT/HIV information, health promotion messages, developmental screening, dental care, growth charts, and any other history about the health of the child such as previous hospital admissions.[44] All the information contained in this booklet is very valuable and useful to caregivers as this is evident in this current research study.

5.2 Importance of the Road to Health Booklet

A positive finding was that many of the caregivers reported to have been previously educated on the contents of the RtHB, most of them at the birth of the infant. Furthermore, they referred to the specific information which they find useful on a daily basis to ensure that the infant or young child is well taken care of in times of sickness. Caregivers indicated that the information which they were educated on was mostly the Health Promotion Messages (HPM) which include infant and young child feeding guidelines from birth to six months and the importance of exclusive breastfeeding, starting complimentary foods at six months, feeding recommendation for diarrhoea which also includes steps on how to make the SSS, feeding from 12 months until five years and how to assist a child to be able to play and communicate effectively. This is a positive finding in the light of the fact that the purpose of the tool is to reduce infant mortality and vice versa to promote infant and young child health in line with the Sustainable Development Goals and the Global Strategy for women's, children's, and adolescents' health,[61] and caregivers are the primary responsible role players in this regard. The 2008 and 2013 Lancet series on Maternal and Child Nutrition[5,6] proposed behaviour change communication to be integrated in health services for improved complementary feeding, this is also the intention of the health promotion messages as well as the other interventions included in the RtHB.

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The findings from this research study suggest that caregivers find the health promotion messages very useful and it is one of the main educational tools for them, it is also one of the things that they remembered the most when they were educated about the RtHB. Technology is advancing globally on a daily basis, caregivers can register with MomConnect, a mobile service, which sends out health related messages, closely aligned with the health promotional messages in the RtHB.[62] According to Slemming and Bamford there are plans to provide this service to a wider range of caregivers, including those who have children of five years or younger, because currently the MomConnect provides mobile services to pregnant mothers and caregivers of children up until the age of one year.[42] This will be done through a RtHB application which will be available in all official languages for everyone to understand.[42]

In this study the caregivers mentioned that they were educated on how to mix and administer the SSS, which is under the feeding recommendations for diarrhoea. Diarrhoea is one of the leading causes of illness and ultimately death in children who are aged between zero and five years therefore, it is very important to take preventative measures by being well informed.[63] Health education and promotion on how to prevent and treat diarrhoea is on the rise and the strategies which are in place at PHC facilities, namely the Integrated Management of Childhood Illness (IMCI) and the use of oral rehydration solution (ORS), have also been proven to reduce mortality amongst children.[64] Therefore, the results from this study regarding the caregivers' knowledge on the importance of knowing how to mix and administer the ORS, is a positive finding about the educational and health promotional role that the RtHB has on parents and caregivers.

This study revealed that the caregivers hold the perception that the booklet is a legal document as it is required to register a birth and apply for school. To improve the compliance and ensure the RtHB is brought to every visit the RtHC can be pinned to the outpatient file that the patient keeps.[44] Win, Cook, and Mlambo mentioned that making the RtHB a legal document was viewed as a negative experience; a barrier to effectively utilising the booklet; however, in the current study it was found that the caregivers viewed the legalisation of the RtHB as a positive experience since it places emphasis on how important this booklet is.[65]

The caregivers in the present study utilised the booklet for record keeping of appointments for Well-Child Visits, doctor's visits, immunisation schedules, and previous hospital admissions. This is further supported by Tarwa and de Villiers where they found that the RtHC assists with keeping up to date with immunisations, but they also suggested that the immunisation schedules should be made available on a daily basis as to accommodate employed mothers and thereby improve coverage of immunisations.[44]

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5.3 Understanding of the contents of the Road to Health Booklet

In this study most of caregivers understood the contents of the RtHB and highlighted specific information that they found important or useful. They understood the concept of growth monitoring and some went on to elaborate as to what the concept means to them in their present situation. Some were able to distinguish between growth monitoring and promotion, while some did not understand growth "promotion". The current results are supported by a study conducted in Ghana where it was discovered that caregiver's knowledge on GMP was lacking,[51] which is, according to the WHO, an essential nutritional intervention for children under five years of age.[66]

The caregivers in this study elaborated on the usefulness of the RtHB as a tool to identify growth faltering or negative changes in growth at an early stage of development. This realisation is supported by Lui, Long, and Garner who reported that if growth faltering is detected at an early stage, the healthcare workers (HCW) have measures in place to assist the infant or young child through education, supplementation, immunisation, or referring the family to the multidisciplinary team for further intervention.[33]

Caregivers also felt that the RtHB is much better than the RtHC as it contains more practical information and there are health promotion messages that assists, guides, and educates the caregiver. Therefore, the RtHB has fulfilled its purpose of being an all-inclusive tool to assess and monitor the health and development of a child, and it is used nationally as a health record for curative and preventative care.[39] This study provides evidence that the RtHB does serve as a good tool for GMP.

Win, Cooke, and Mlambo, as with the current study, revealed that some caregivers are not comfortable with verbally disclosing their HIV status during consultations, the booklet mediates the uncomfortable situation by making this information available to the healthcare worker[67] without asking for it. Win et al also found similarly that the healthcare workers expressed the concerns that caregivers have with regards to HIV status of the mother and the baby that it is very sensitive information and some of the caregivers did not want to mention their status. The healthcare workers; however, revealed that some caregivers refused to have their HIV status written in the booklet and some also tore out the page containing this information.[65]

A caregiver expressed that the booklet is useful in educating them about the Prevention of Mother to Child Transmission (PMTCT) feeding guidelines, the caregiver specifically went into detail on the specific feeding guideline: "…where if the mother is HIV positive and has a high viral load and the baby is negative. It was written that the mother must stop breastfeeding if the baby is negative and if the mother has high viral load." This specific caregiver is referring to the current PMTCT feeding guidelines stating that if the mother has a viral load ≥ 1000 c/ml and has been on 2nd or 3rd line treatment for more than three months and they give birth to a baby with a negative PCR result, it is not safe for the mother to exclusively breastfeed the infant as her viral load was not supressed and she can transmit the HIV to the infant.[67] It is clear that the caregiver is well informed about the PMTCT feeding guidelines and that the booklet contains the information regarding recording all the HIV test results from the visits. The previous PMTCT feeding guidelines stated that if the infant has tested HIV negative and the mother is positive, the infant can be exclusively breastfed until they are 12 months, and if both the mother and child are both HIV positive the mother can breastfeed the infant until two years and beyond.[68]

The results from the study also revealed that the caregivers understood the importance of breastfeeding and the benefits thereof, they mentioned that it helps them to bond with the baby and that one can exclusively breastfeed for six months, where after solid foods may be introduced, in conjunction with breastfeeding. The observations from the caregivers are in line with the infant and young child feeding policy and the paediatric food based dietary guidelines.

5.4 Aspects where there is lack of understanding of the Road to Health Booklet

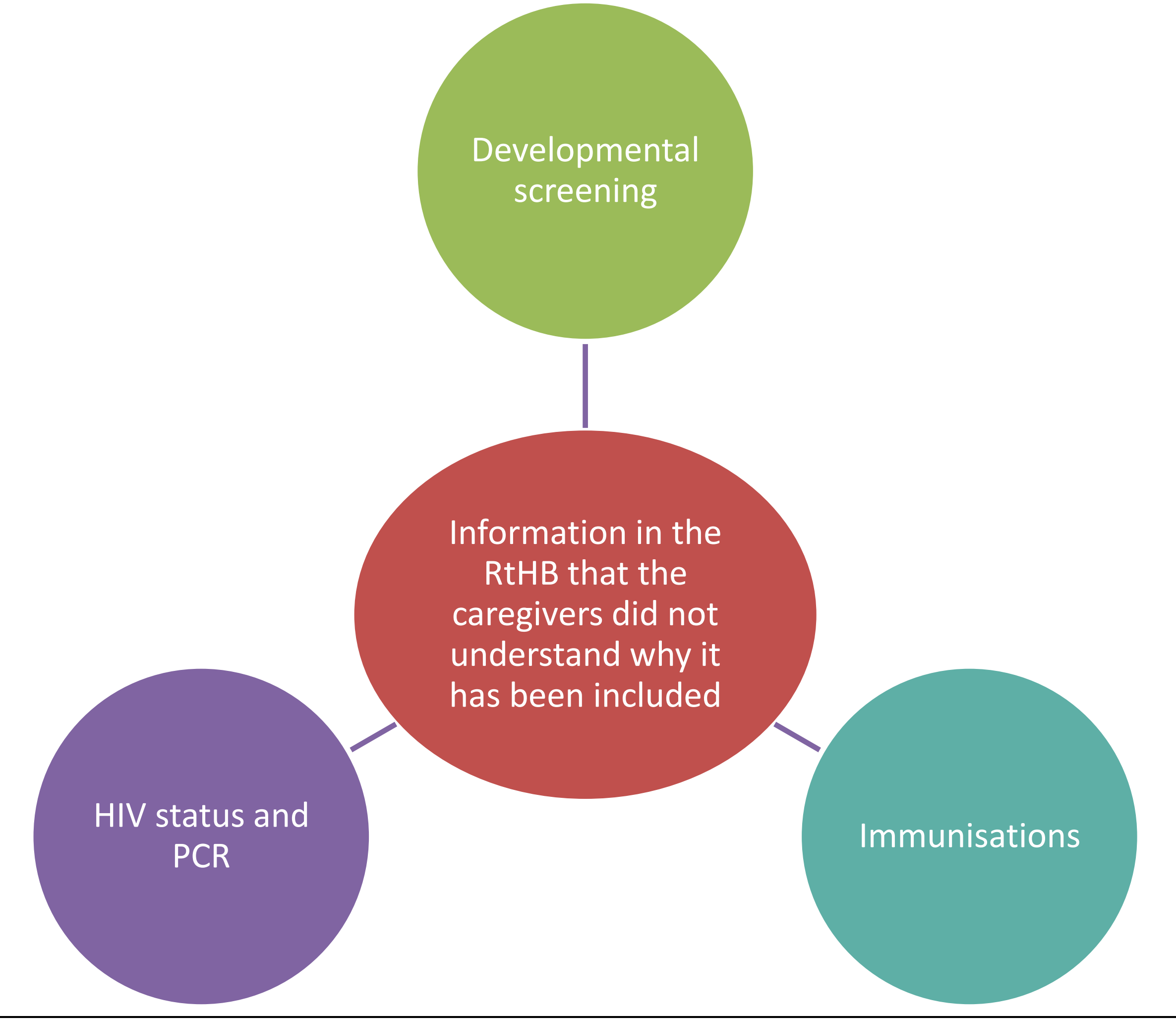

Figure 5.1: Information appeared in Road to Health Booklet and caregivers did not understand as to why it has been included.

Figure 5.1 indicates information that appeared in the RtHB that some of the caregivers did not understand why I has been included. This includes HIV status and PCR, immunisations, and developmental screening.

The HIV information in the booklet has been included to inform other healthcare workers who consult with the child to know the brief history and treatment of both the mother and child. This information is vitally important because it assists in further management of the infant or young child in terms of medication, precautions, and feeding guidelines. The caregivers regard the HIV information extremely sensitive and confidential, so they do not see the use of it being included the booklet[65].

A PCR is a test that is used to detect the genetic material of HIV, it is mostly done in HIV exposed infants to identify whether or not they are HIV reactive. In South Africa the current practice is that an HIV exposed infant is tested for HIV at birth and that information is included in the booklet.[68] The caregivers in the current study were not fully educated on the importance of the test and what the result means because they did not understand it, although they do know it is linked to HIV. It is important for healthcare workers to provide the necessary health education to empower the caregiver to be aware of the health status of their infant or young child.[69,70]

This study revealed that the caregivers did not understand what immunisations are, the different types given at different ages, and its importance. Tarwa and de Villiers reported the important role that the RtHB has on immunisation coverage and further elaborated on the schedule which assists in record keeping. This will assist in increasing coverage for immunisation and prevent any outbreaks in unvaccinated children.[44]

The results also revealed that there was a lack of understanding in the developmental screening section as caregivers did not understand what the information presents and how they can apply it as caregivers. The developmental screening checklist was developed for growing children in South Africa, the checklist is meant to be easy to use whereby the caregiver is able to identify any abnormalities in vision, hearing/communication, and motor development of the child. The healthcare worker can obtain the information on the developmental milestones by asking the caregiver and if the caregiver is well informed they will be able to give accurate feedback.[71] The results from the current study are concerning because there is a knowledge gap on one of the most important tools in the RtHB and caregivers are the primary source of information for healthcare workers (HCW).

5.5 Understanding the growth charts and growth curves and level of education

In the present study most of the caregivers had secondary education (Grade 8-12) and many of the caregivers showed that they have a general understanding of the growth charts, specifically the weight-for-age chart and they showed their understanding by giving examples and correctly interpreting the information. This study further revealed that caregivers are well informed about what good growth patterns are and the action they should take if their child's weight-for-age deviates from the norm. The caregivers were able to interpret the growth curves, even though some incorrectly interpreted the weight-for-length chart, they had an idea as to what the indication of the parameter is and what result is meant to be revealed. The results from this current study disagree with Sibanda et al. as that the majority (65.8%) of the caregivers who have secondary education level were unable to recognize poor growth patterns.[46]

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But in the current study caregivers had a basic understanding of the growth curves and were able to interpret weight-for-age and length-for-age growth curves. This is evident that one does not need to have an advanced education level, one needs to have basic literacy.

The findings of the study further revealed the caregiver's lack of understanding when it came to the understanding of the growth charts, specifically length/height-for-age chart. The caregivers reported that a stagnant length-for-age indicates that the child is not growing due to poor nutrition and should seek medical help, and this can put the child at risk of being stunted. This result is also in line with the study by Bhutta ZA, Ahmed T, Black RE et al. whereby they reported that stunting in children is one of the most chronic outcomes of long-term malnutrition,[5] defined as a length-for-age below -2SD.[72]

The current study concurs with other research studies[12,48] which indicate that the caregivers are not aware of the RtHB and this is further supported by the study conducted in two clinics in Soshanguve. It was reported that 46.5% had previously been educated on the importance of the RtHB and the interpretation of the growth charts.[12,48] Similar results was reported by a study conducted in Ghana where it was found that the caregiver's knowledge regarding GMP is lacking, and about 81.5% of caregivers were unable to interpret growth charts.[51] Although the results from the aforementioned study was quantitative and the results from the current study are qualitative, it is evident that from that specific study caregivers were unable to understand the growth charts, specifically the weight-for-length chart.[51] This could also be the fact that the old RtHC did not have that information therefore, the caregivers are not familiar with growth charts other than the weight-for-age growth chart.

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Chapter 6: Conclusion, limitations, and recommendations

6.1 Conclusion

The aim of the research study was to assess the knowledge and perceptions of caregivers on the RtHB as a tool for GMP at PHC facilities in Ekurhuleni Metropolitan Municipality, Gauteng, South Africa. The first objective of the study was to determine whether caregivers have previously been educated on the contents of the RtHB. The results of the current study showed that caregivers were previously educated on the contents of the RtHB, they were educated HCW at the birth of their infant and some educated at their first visit to the clinic. The second and third objectives were to determine caregiver's knowledge and perceptions about the importance of the RtHB and if they understand the contents of the booklet. Most caregivers found a lot of the information in the booklet quite valuable and useful to them and that the booklet is a good tool for GMP. That the actual booklet is important for record keeping, identification and a good reminder for clinic visits. There was a small group of caregivers who did not understand some contents of the RtHB, such as the immunisations, the inclusion of HIV status and the developmental milestones but they understood most of the contents of the booklet. It is vital that the lack of understanding amongst caregivers is addressed because caregivers need to understand these primary health care interventions.

This gap in understanding can be closed off by thorough education during health visits and ongoing health promotion on specific topics within the booklet. The fourth objective was to determine whether there is a link between the caregiver's level of education and their ability to understand and interpret the growth curves, majority of the caregivers recognise why is it important for them to be able to engage with the contents of the RtHB. Majority of the caregivers have completed secondary education (Grade 8-12) and they were able to interpret the weight-for-age growth chart and were also able understand a length-for-age (stunting) on the growth curves adequately. Majority of the caregivers do not have tertiary qualification, they had secondary education level. This study revealed that there was no link between education level and caregivers ability to understand and interpret the growth curves, therefore there not need to have an advanced education level but basic literacy along with thorough health education is sufficient to empower the caregiver. Therefore, the desired aims and objectives we met in this study and this study revealed that caregivers do believe that the RtHB is a good tool for GMP compared to the old RtHC.

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6.2 Limitations

- The study was conducted in Ekurhuleni Metropolitan Municipality, specifically Germiston, therefore, does not represent the whole Ekurhuleni District,
- There were some issues regarding the consultation rooms used to collect data, such as nursing personnel interrupting the interviews to get something from the consultation rooms, which might have impacted the caregiver's openness to respond openly to questions during the in-depth interviews
- Furthermore, in the Germiston City clinic, there were quite a lot of distractions because in the next room there were crying infants and young children getting their immunisations and vaccinations.

6.3 Recommendations

- The RtHB is a public health intervention tool and facilities need to ensure that caregivers are educated in detail on the contents and the importance of the RtHB at birth, and thereafter at every visit. Caregivers should be encouraged and have the confidence to ask questions.
- Healthcare workers should ensure that caregivers are well informed on the growth charts and how to further manage the growth of the infant or young child.
- Regular audits should be conducted at PHC facilities to ensure that education material used to educate caregivers on the RtHB is available and is up to date.
- Further research should be conducted in other districts in Gauteng and South Africa to identify whether the results in other areas are similar.
- Continuous training of HCW on how to educate caregivers on the growth charts and the importance thereof is important to ensure that they remain aware and motivated of the importance to perform GMP related actions despite work pressure, which might keep them from regular clinic visits.
- PHC facilities should implement health education interventions or tools whereby there are specific health days that focus on health promotion messages and more health promotional staff can be employed to mobilise this initiative.
- Researchers can explore other research methods, such as quantitative research to quantify the caregivers who lack understanding.

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Addendum A: Interview questionnaire

Assessing the knowledge and perceptions of caregivers attending Primary Healthcare (PHC) facilities in Ekurhuleni Metropolitan Municipality, Gauteng, South Africa, on the Road to Health Booklet as a tool for Growth Monitoring and Promotion.

Instructions to the investigator/fieldworker

- Once consent is obtained from participant please use the reference number assigned to the participant to track the form and fill it in the form.
- Please press the record button on the voice recorder and say the reference number of the questionnaire before commencing with the interview.
- Please tick and fill in the answers where applicable and please ask questions as is.

Section 1: Sociodemographic information

1. How old are you?

Below 18 years	
19-23 years	
24-35 years	
36-45 years 22	
46 years and above	

2. What is your gender?

Male	
Female	

3. What is your level of education (grade)?

Preschool (Grade 0>)	
Primary (Grade 1-7)	
Secondary (Grade8-12)	
Tertiary (University/college)	
ABET - Adult Basic Education and Training	

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I don't know	

4. What language do you speak at home language (mother tongue)?

English	
IsiZulu	
Afrikaans	
Sepedi	
SeSotho	
IsiXhosa	
SiSwati	
SeTswana	
XiTsonga	
TshiVenda	
IsiNdebele	
Other, please specify	

____

5. What is your relation to the infant or young child?

Mother	
Father	
Aunt	
Grandparent	
Older sister/brother	
Neighbour	
Other, please specify	

____

6. How many children do you have (if applicable)?

____

7. What is your marital status?

Single	
Married	
Divorced	
Living with partner	
Widowed	

8. What is your current employment status?

Employed (full-time)	
Employed (part-time)	
Self-employed	
Unemployed	

9. Is this your first time at this clinic?

Yes	
No	

10. Which Road to Health Booklet do you have? (tick appropriate)

11. Do you always bring the Road to Health booklet when you come to the clinic?

Yes	
No	

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12. Did you bring the Road to Health Booklet along with you for today?

Yes	
No	

13. If not, why did you not bring the booklet to the visit?

Lost	
Forgot at home	
Not important to bring	
No access to it	
Visitor to this place with no booklet	
Burnt in the house	
Never had a RtHB	
Not Applicaple	

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Section 2: Knowledge and Perceptions

1. Have you ever been informed about the Road to Health Booklet (RtHB)?

Yes	
No	

2. Can you tell me when and where you were informed about the RtHB?

____

____

3. What specific information of the RtHB were you informed on/ educated on?

____

____

____

4. Has the education/ information that you received on the RtHB benefited you as a parent/caregiver?

Yes	
No	

5. How has the education/information that you received benefited you as a parent/ caregiver?

____

____

____

____

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6. How often do you think a caregiver/parent should receive education on RtHB?

At every visit	
Every second visit	
On date given to come back	
Only at birth	
Other, please specify	

____

7. What do you think the meaning **growth monitoring and promotion** is?

____

____

8. Do you think that the Road to Booklet is a good tool for growth monitoring and promotion? Why do you think so?

____

____

____

9. Why do you think that the Road to Health Booklet (RtHB) is important?

____

____

____

10. How is your understanding when you are reading English?

Excellent	
Good	
Fair	
Poor	

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11. Do you understand the language that used in the booklet?

Yes	
No	

12. Is there any specific information that is in the RTHB that you do not understand?

____

____

____

13. Is there information in the RtHB that you are not sure why it has been included? Tell me more about the pages you wonder about?

____

____

____

14. Is there any information that is in the RtHB you would find very valuable and useful?

____

____

____

15. Do you find the health promotion messages in the booklet useful? How do you find the messages useful? (Show on the booklet)

____

____

16. What does growing well mean to you as a parent or caregiver?

____

____

____

17. What do you understand about the growth charts in the Road to Health Booklet?

____

____

____

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18. If your child's weight-for-age is flat (horizontal) on the growth curve, what does that mean? (Show on the chart)

    ____

    ____

19. If your child's weight-for-age is declining (going down) towards the -3 line, what does that mean? (Show on the chart)

    ____

    ____

20. If your child's length-for-age is (horizontal) on the growth curve, what does that mean? (Show on the chart)

    ____

    ____

Duration of interview:

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Addendum B: Informed consent form (English)

PARTICIPANT INFORMATION LEAFLET AND CONSENT FORM

TITLE OF THE RESEARCH PROJECT: Assessing the knowledge and perceptions of caregivers attending Primary Healthcare (PHC) facilities in Ekurhuleni Metropolitan Municipality, Gauteng, South Africa, on the Road to Health Booklet as a tool for Growth Monitoring and Promotion

REFERENCE NUMBER:

PRINCIPAL INVESTIGATOR: Ms. Sibongile Mangena

ADDRESS: PO.BOX 334
Isando
1600

CONTACT NUMBERS:

Principal investigator: **Ms. Sibongile Mangena**
078 543 7668
E-mail: 17113539@sun.ac.za

Research supervisor: **Mrs. H.E Koornhof**
(021) 938 9597
E-mail: Hek@sun.ac.za

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You are being invited to take part in a research project. Please take some time to read the information presented here, which will explain the details of this project. Please ask the study staff or principal investigator any questions about any part of this project that you do not fully understand. It is 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 at Stellenbosch University** (Ethics number: S18/10/214) and will be conducted according to the ethical guidelines and principles of the international Declaration of Helsinki, South African Guidelines for Good Clinical Practice and the Medical Research Council (MRC) Ethical Guidelines for Research.

1) What is this research study all about?

This research study will be conducted in Gauteng, Ekurhuleni specifically the Southern region of Germiston at these specific clinics: **Germiston City Municipality Clinic, Dukathole clinic, Wanneburg clinic, and Elsburg clinic.** The participants of the study will be selected from the above-mentioned clinics and each participant be systematically selected to be participants in the research study. This project aims to explore the challenges linked to implementation and understanding of the Road to Health Booklet by assessing caregiver's knowledge and perceptions.

This research team consist of the principal investigator and two trained field workers who will be asking you a few questions and will use an audio recording device to make sure that there is not any information missed. The information that will be collected from the voice recording will be anonymised therefore your identity will be hidden you will not be asked for your name during the answering of the questionnaire.

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2) Why have you been invited to participate?

You have been invited to participate because you meet the inclusion criteria of the study which is that you are a parent or caregiver of a child aged between 1 and 60 months and you are currently visiting a Primary Health Care facilities in Ekurhuleni District, specifically Germiston Southern region at the time data is collected.

3) What will your responsibilities be?

Your responsibilities as a study participant is to consent to participate in the in-depth interview by answering questions asked by the investigator/ fieldworkers to the best of your ability.

4) Will you benefit from taking part in this research?

There will be no personal benefits for participating in the research study, however the results obtained from this research study will benefit parents and caregivers of infants and young children in future.

5) Are there any risks involved in taking part in this research?

There will be no risks or discomfort involved while participating in the research. The interview will take approximately 25 minutes of your time.

6) If you do not agree to take part, what alternatives do you have?

Your participation in this study is entirely voluntary. If you do not wish to participate further, your treatment by the clinic staff will not be affected in any way. You will not receive any payment for participating.

7) Who will have access to your medical records?

All records collected from this study will be regarded as confidential. The information obtained during the data collection, with the completion of the questionnaires, will remain anonymous, as a number will be allocated to your informed consent form and only this number will be used on your questionnaire. Every participant's information will remain confidential as the informed consent forms and the questionnaires will be stored separately in sealed containers. Recordings

will be password protected and be destroyed on completion of the project. Results will be published or presented in such a fashion that participants still remain unidentifiable.

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

This research should not pose any risk of injury, there will be no physical contact with the participant. You will get fruit and refreshment as compensation for participating in the study and any inconvenience caused.

9) 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, but you will be compensated inconvenience caused in terms of transport and food. There will be no costs involved for you if you do not take part in the study.

10) Is there anything else that you should know or do?

If you have any questions about this research study, you can contact:

- Ms. Sibongile Mangena at 078 543 7668 /e-mail: 17113539@sun.ac.za
- You can also contact the Health Research Ethics Committee at 021-938 9207 if you have any concerns or complaints that have not been adequately addressed by your study investigator.
- You will receive a copy of this information and consent form for your own records.

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DECLARATION BY PARTICIPANT

By signing below, I …………………………………..……………………… agree to take part in a research study entitled: **Assessing the knowledge and Perceptions of caregivers on the new Road to Health Booklet as a tool for Growth Monitoring and Promotion at PHC facilities in Ekurhuleni Metropolitan Municipality, Gauteng, South Africa.**

I declare that:

- I have read or had read to me 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 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 study doctor or 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*) …………....……… 2019.

....

Signature of participant **Signature of witness**

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INFORMED CONSENT FOR AUDIO-RECORDING IN THE RESEARCH STUDY

I, the undersigned hereby give my consent to be audio-recorded during this interview only for the purposes of the research study.

Signed at (*place*) .... on (*date*) .... 2019.

....

Signature of participant **Signature of witness**

DECLARATION BY INVESTIGATOR

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*) .... 2019.

....

Signature of investigator **Signature of witness**

DECLARATION BY INTERPRETER (if used)

I *(name)* .... declare that:

- I assisted the investigator (*name*) .... to explain the information in this document to (*name of participant*) .... using the language medium of IsiZulu/ Sepedi/ Afrikaans/IsiXhoza.

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- We encouraged him/her to ask questions and took adequate time to answer them.
- I conveyed a factually correct version of what was related to me.
- I am satisfied that the participant fully understands the content of this informed consent document and has had all his/her question satisfactorily answered.

Signed at (*place*)......................…........……………. on(*date*) …………...…….2019

....	....
Signature of interpreter	**Signature of witness**

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Addendum C-Informed consent form (IsiZulu)

IPHESHANA ELIHLINZEKA NGOLWAZI KUBABAMBIQHAZA KANYE NEFOMU LEMVUME

ISIHLOKO SOCWANINGO: Ukuhlola ulwazi kanye nemibono yonompilo abahambela izikhungo ze-PHC (iMitholampilo) ezingaphansi koMkhandludolobha wase-Ekurhuleni, e-Gauteng, eNingizimu Afrika, mayelana neNcwajana i-Road to Health njengethuluzi lokuQapha Nokugqugquzela Ukukhula Kwabantwana

INOMBOLO EYIREFERENSI YOCWANINGO:

UMCWANINGI OMKHULU: Nkz Sibongile Mangena

IKHELI: PO.BOX 334
Isando
1600

IZINOMBOLO ZOCINGO:

Umcwaningi Omkhulu: **Nkz Sibongile Mangena**
078 543 7668
I-imeyili: 17113539@sun.ac.za

Usuphavayiza Wocwaningo: **Nkk H.E Koornhof**
(021) 938 9597
I-imeyili: Hek@sun.ac.za

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Uyamenywa ukuthi ubambe iqhaza ocwaningweni. Sicela uzinikeze isikhathi sokufunda ulwazi oluhlinzekwe lapha, oluzokuchazela ngemininingwane ephathelene nalolu cwaningo. Uma kukhona ingxenye yalolu cwaningo ongayiqondisisi kahle uyacelwa ukuthi ubuze isisebenzi socwaningo noma umcwaningi omkhulu ukuze ucaciseleke kahle. Kusemqoka kakhulu ukuthi uzigculise ngokuphelele ukuthi uyaqondisisa ukuthi luphathelene nani lolu cwaningo kanye nendlela ongazibandakanya ngayo kulona. Futhi, ukubamba kwakho iqhaza **kuyinto oyenza ngokuzithandela kwakho** futhi unelungelo lokwenqaba ukubamba iqhaza. Uma uthi cha, lokhu ngeke neze kube nomthelela omubi kuwena. Futhi unelungelo lokuhoxa noma nini ocwaningweni, nakuba ubuvumile ukubamba iqhaza.

Lolu cwaningo lugunyazwe yiKomidi Lokuziphatha Ngendlela Efanele Kwezocwaningo Lwezempilo eNyuvesi yase-Stellenbosch (Inombolo yenkambiso efanele: S18/10/214) futhi luzokwenziwa ngokulandela imihlahlandlela kanye nemigomo yokuziphatha ngokwenkambiso efanele Yesitatimende Somhlaba sase-Helsinki, Imihlahlandlela yaseNingizimu Afrika Yokuziphatha Ngendlela Efanele Kwezokwelapha kanye Nemihlahlandlela Yokuziphatha Ngokwenkambiso Efanele Kwezocwaningo yoMkhandlu Wocwaningo Lokwelapha (MRC).

1) Ngabe luphathelene nani lolu cwaningo?

Lolu cwaningo luzokwenziwa e-Gauteng, esifundeni esiseNingizimu ne-Ekurhuleni e-Germiston kule mitholampilo elandelayo: **Germiston City Municipality Clinic, Primrose clinic, Wanneburg clinic, Bertha Gxowa ARV clinic kanye ne-Elsburg clinic.** Ababambiqhaza bocwaningo bazothathwa emitholampilo eshiwo ngenhla futhi umbambiqhaza ngamunye uzokhethwa ngokuhlelekile ukuze abambe iqhaza ocwaningweni. Lolu cwaningo luhlose ukuhlola nokucubungula izinselele ezixhumene nokuqaliswa kanye nokuqondakala kweNcwajana i-Road to Health ngokuhlola ulwazi kanye nemibono yonompilo.

Leli qembu lezocwaningo lakhiwe ngumcwaningi omkhulu kanye nabasebenzi bocwaningo ababili abaqeqeshiwe abahambela izizinda okwenziwa kuzona ucwaningo, abazokubuza imibuzo embalwa, futhi kuzosetshenziswa isiqophamazwi ngenhloso yokulawula nokuqinisekisa ikhwalithi yomsebenzi wethu. Ulwazi oluzoqoqwa kulokho okuqoshwe kwisiqophamazi ngeke neze luhlonzwe noma ludalulwe ukuthi ngolukabani, ngakho-ke ngeke ubuzwe igama lakho ngenkathi uphendula imibuzo equkethwe kwiphephamibuzo.

2) Kungani umenyiwe ukuthi ubambe iqhaza?

Umenyiwe ukuthi ubambe iqhaza ngenxa yokuthi isimo sakho siyavumelana nemigomo ebekiwe yokufakwa ocwaningweni, okungukuthi wena ungunompilo wezingane ezinenyanga eyodwa kuya ezinyangeni ezingama-60 ubudala futhi ubungunompilo obevakashela izikhungo ze-PHC esiFundeni sase-Ekurhuleni, okuyi-Germiston, ngenkathi kuqoqwa idatha yocwaningo.

3) Yiziphi izinto okumele zenziwe nguwena?

Izinto okumele uzenze njengombambiqhaza wocwaningo ukuvuma ukubamba iqhaza ocwaningweni kanye nokuzibandakanya engxoxweni enohlonze ngokuphendula imibuzo oyibuzwa ngumcwaningi/ngabasebenzi bocwaningo.

4) Ngabe ukhona umhlomulo ozowuthola ngokubamba kwakho iqhaza kulolu cwaningo?

Awukho umhlomulo oqondene nawe ozowuthola ngokubamba iqhaza ocwaningweni, kepha-ke imiphumela etholakale kulolu cwaningo izosiza iziguli zangomuso.

5) Ngabe bukhona ubungozi mayelana nokubamba kwakho iqhaza kulolu cwaningo?

Abukho ubungozi noma ukuphatheka kabi ozohlangabezana nakho ngenkathi ubambe iqhaza ocwaningweni. Ukuxoxisana nawe kuzothatha cishe imizuzu engama-25 esikhathini sakho.

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6) Uma ungavumi ukubamba iqhaza, yikuphi okunye ongakwenza?

Ukubamba kwakho iqhaza kulolu cwaningo kuyinto oyenza ngokuzithandela kwakho, futhi awuphoqelekile nakancane ukubamba iqhaza. Uma ungathandi ukubamba iqhaza, ngeke kuphazamiseke nakancane ukwelashwa kwakho emtholampilo. Ayikho inkokhelo ozoyithola nokubamba iqhaza ocwaningweni.

7) Ngubani ozovunyelwa ukubona amarekhodi akho okwelashwa?

Wonke amarekhodi atholakale ngenkathi kwenziwa ucwaningo azothathwa njengamarekhodi ayimfihlo. Ulwazi olutholakale ngenkathi kuqoqwa idatha, ngokugcwaliswa kwamaphephamibuzo, luzogcinwa ngendlela ezokwenza ukuthi lungaziwa ukuthi ngolukabani, njengoba wena uzonikezwa inombolo ezobhalwa efomini lakho lokunikeza imvume, futhi kwiphephamibuzo lakho kuzosetshenziswa le nombolo kuphela. Ulwazi lombambiqhaza ngamunye luzohlala luyimfihlo njengoba amafomu okunikeza imvume kanye namaphephamibuzo kuzogcinwa ngokwehlukana kwiziqukathi ezivalwe ngci. Izinkulumo eziqoshiwe zizovikelwa ngephasiwedi eyimfihlo futhi zizobhujiswa uma seluphothuliwe ucwaningo. Imiphumela izoshicilelwa noma yethulwe ngendlela eyokwenza ukuthi ahlale efihlakele futhi engaziwa amagama ababambiqhaza bocwaningo.

8) Kuyokwenzekani uma kwehlakala isigameko esingavamisile neze sokuthi kube nokulimala okuthile emzimbeni okubangelwe wukubamba kwakho iqhaza kulolu cwaningo?

Lolu cwaningo alunabo ubungozi bokulimala emzimbeni, futhi ayikho into ezothinta umzimba wombambiqhaza. Uzothola izithelo kanye neziphuzo njengesinxephezelo sokubamba kwakho iqhaza ocwaningweni kanye nokukunxephezela mayelana nanoma yikuphi ukuphazamiseka ongahlangabezana nakho.

9) Ngabe uzokhokhelwa ngokubamba kwakho iqhaza kulolu cwaningo futhi ngabe kukhona izindleko ozongena kuzona?

Cha, ngeke ukhokhelwe lutho ngokubamba kwakho iqhaza ocwaningweni, kodwa-ke uzobuyiselwa izindleko zokugibela kanye nezokuthenga ukudla ongene kuzona njalo ngenkathi uvakashele esizindeni okwenziwa kusona ucwaningo. Uma ungalibambi iqhaza ocwaningweni azikho izindleko ozongena kuzona.

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10) Ngabe kukhona okunye okumele ukwazi noma ukwenze?

Uma uneminye imibuzo mayelana nalolu cwaningo, ungaxhumana no:

- Nkz Sibongile Mangena ku-078 543 7668 /i-imeyili: 17113539@sun.ac.za
- Uma unokukhathazeka okuthile noma isikhalo esingaxazululwanga ngokugculisayo yisisebenzi socwaningo ungaxhumana neKomidi Lokuziphatha Ngokwenkambiso Efanele Kwezocwaningo Lokwelapha kule nombolo 021-938 9207.
- Uzohlinzekwa ngekhophi yalolu lwazi kanye neyefomu lokunikeza imvume ukuze uzigcinele lona njengerekhodi lakho lokubamba iqhaza ocwaningweni.

ISIFUNGO SOMBAMBIQHAZA WOCWANINGO

Ngokusayina lapha ngezansi, mina u-
…………………………………..………………………….. ngiyavuma ukubamba iqhaza ocwaningweni olunesihloko esithi: **Ukuhlola ulwazi nemibono yonompilo mayelana neNcwajana entsha i-Road to Health njengethuluzi lokuQapha Nokugqugquzela Ukukhula Kwabantwana ezikhungweni ze-PHC ezingaphansi koMkhandludolobha wase-Ekurhuleni, e-Gauteng, eNingizimu Afrika.**

Mina ngiyaqinisekisa ukuthi:

- Ngilufundile noma ngilufundeliwe lolu lwazi kanye nefomu lokunikeza imvume futhi lokhu kubhalwe ngolimi engilwaziyo, engiluqondayo futhi engingenankinga nalo.
- Nginikeziwe ithuba lokubuza imibuzo futhi yonke imibuzo yami iphendulwe ngendlela egculisayo.
- Ngiyaqonda ukuthi ukubamba iqhaza kulolu cwaningo **yinto engiyenza ngentando yami** futhi akekho ongiphoqelelile ukuthi ngibambe iqhaza.

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- Ngingaqoka ukuhoxa kulolu cwaningo noma nini futhi lokho ngeke kuholele ekutheni ngihlawuliswe noma ngilahlekelwe ngamalungelo ami nganoma iyiphi indlela.
- Kungenzeka ngicelwe ukuthi ngiphume kulolu cwaningo ngaphambi kokuba luphothulwe, uma udokotela wocwaningo noma umcwaningi ebona ukuthi lokho kungaba wusizo kimina, noma uma ngingalulandeli uhlelo locwaningo okuvunyelwane ngalo.

Sisayinwe e-(*indawo*) ....…........…………….. mhlaka (*usuku*) …………...……………….. 2019.

....

Isiginesha yombambiqhaza **Isiginesha kafakazi**

IMVUME ENIKEZWA EMVA KOKUHLINZEKWA NGOLWAZI OLUPHELELE YOKUQOSHWA KWENGXOXO YOCWANINGO

Mina, osayine lapha ngezansi nginikeza imvume yami ukuthi kuqoshwe izimpendulo zami ngenkathi kwenziwa le nkulumongxoxo, kuphela ukufezekisa izinhloso zocwaningo.

Sisayinwe e-(*indawo*) ....…........…………….. mhlaka (*usuku*) …………...……………….. 2019.

....

Isiginesha yombambiqhaza **Isiginesha kafakazi**

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ISIFUNGO SOMCWANINGI

Mina *(igama)* ……………………………………………..……… ngiyaqinisekisa ukuthi:

- Ngimchazelile ulwazi oluqukethwe kule ncwajana u: …………………………………..
- Ngimkhuthazile ukuthi abuze imibuzo futhi ngizinikeze isikhathi esanele sokuphendula imibuzo yakhe.
- Ngigculisekile ukuthi uyakuqonda konke okuphathelene nalolu cwaningo, njengoba kuchaziwe lapha ngenhla.
- Ngisebenzise/angisebenzisanga utolika.

Sisayinwe e-(*indawo*) ....….......…………….. mhlaka (*usuku*) …………...………………... 2019.

....

Isiginesha yomcwaningi **Isiginesha kafakazi**

ISIFUNGO SIKATOLIKA

Mina *(igama)* ……………………………………………..……… ngiyaqinisekisa ukuthi:

- Ngimlekelelile umcwaningi u-(*igama*) ………………………………………. ukuchazela u-(*igama lombambiqhaza*) ……………..…………………………….. ulwazi oluqukethwe kule ncwajana ngolimi lwesiZulu/Sepedi/Afrikaans/IsiXhosa.
- Simkhuthazile ukuthi abuze imibuzo futhi sizinikeze isikhathi esanele sokuphendula imibuzo yakhe.
- Ngimnikeze ulwazi oluyiqiniso ngokuphelele futhi oluqondile mayelana nalokho engitshelwe kona.

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- Ngigculisekile ukuthi umbambiqhaza ukuqonda kahle lokho okuqukethwe kule ncwajana yokunikeza imvume futhi yonke imibuzo yakhe iphendulwe ngendlela egculisayo.

Sisayinwe e-(*indawo*) ....…........……………. mhlaka (*usuku*) …………...……….. 2019.

....

Isiginesha katolika **Isiginesha kafakazi**

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Addendum D-Permission letter from Ekurhuleni Health District Research Committee

EKURHULENI HEALTH DISTRICT RESEARCH PERMISSION

Research Project Title: Assessing the knowledge and perceptions of caregivers attending Primary Healthcare facilities in Ekurhuleni Metropolitan Municipality, Gauteng, South Africa, on the Road to Health Booklet as a tool for Growth Monitoring and Promotion.

NHRD No: GP_201901_013

Research Project Number: 14/02/2019-03

Name of Researcher(s): Ms Sibongile Mangena

Division/Institution/Company: Stellenbosch University

Date of review by the EHDRC: 14 February 2019

DECISION TAKEN BY THE EKURHULENI HEALTH DISTRICT RESEARCH COMMITTEE (EHDRC)

- This document certifies that the above research project has been reviewed by the EHDRC and permission is granted for the researcher(s) to commence with the intended research project.
- Facilities approved for the research: Elsburg Clinic, Germiston City Clinic Dukathole clinic, Kempton Park Civic Centre Clinic, Spartan Clinic and Wannenburg Clinic
- study period and when disseminating the findings.
- No resources (financial, material and human resources) from the health facilities will be used for the study. Neither the district nor the health facilities will incur any additional cost for the study.

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Title: Assessing the knowledge and perceptions of caregivers attending Primary Healthcare facilities in Ekurhuleni Metropolitan Municipality, Gauteng, South Africa, on the Road to Health Booklet as a tool for Growth Monitoring and Promotion.

- The study will comply with Publicly Financed Research and Development Act 2008 (Act 51 of 2008) and its related regulations.

- The EHDRC must be informed in writing before publication or presentation of research findings and a copy of the report/publications/presentation must be submitted to the EHDRC
- The district must be acknowledged in all the reports/publications generated from the research.
- The researcher will be expected to provide the EHDRC with
  - Six monthly progress updates including any adverse events
  - The final study report in electronic format
  - Present the final research findings at the annual Ekurhuleni research conference if possible.
- The EDHRC reserves the right to withdraw the approval, if any of the conditions mentioned above have being breached
- The research committee wishes the researcher(s) the best of success.

DR. J. SEPUYA

DEPUTY CHAIRPERSON: CITY OF EKURHULENI

Dated: 14/02/2019

Dr. R. Kellerman

CHAIRPERSON: GAUTENG DEPARTMENT OF HEALTH (EKURHULENI HEALTH DISTRICT)

Dated: 14/02/2019

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Addendum E-HREC Ethics approval from Stellenbosch University

Health Research Ethics Committee (HREC)

Approval Notice

New Application

19/12/2018
Project ID :8549

HREC Reference # S18/10/214

Title: Assessing the knowledge and perceptions of caregivers attending PHC facilities in EMM, Gauteng, South Africa, on the Road to Health Booklet as a tool for GMP.

Dear Miss Sibongile Mangena

The **New Application** received on 29/11/2018 09:03 was reviewed by members of **Health Research Ethics Committee** via **expedited** review procedures on 19/12/2018 and was approved.

Please note the following information about your approved research protocol:

Protocol Approval Period: 19-Dec-2018 to 18-Dec-2019

Please remember to use your project ID (8549) on any documents or correspondence with the HREC concerning your research protocol.

Please note that the HREC has the prerogative and authority to ask further questions, seek additional information, require further modifications, or monitor the conduct of your research and the consent process. **After Ethical Review**

Translation of the informed consent document(s) to the language(s) applicable to your study participants should now be submitted to the HREC.

Please note you can submit your progress report through the online ethics application process, available at: Links Application Form Direct Link and the application should be submitted to the HREC before the year has expired. Please see *Forms and Instructions* on our HREC website (www.sun.ac.za/healthresearchethics) for guidance on how to submit a progress report.

The HREC will then consider the continuation of the project for a further year (if necessary). Annually a number of projects may be selected randomly for an external audit.

Provincial and City of Cape Town Approval

Stellenbosch University https://scholar.sun.ac.za

Please note that for research at a primary or secondary healthcare facility, permission must still be obtained from the relevant authorities (Western Cape Departement of Health and/or City Health) to conduct the research as stated in the protocol. Please consult the Western Cape Government website for access to the online Health Research Approval Process, see: https://www.westerncape.gov.za/general-publication/health-researchapproval-process. Research that will be conducted at any tertiary academic institution requires approval from the relevant hospital manager. Ethics approval is required BEFORE approval can be obtained from these health authorities.

We wish you the best as you conduct your research.

For standard HREC forms and instructions, please visit: Forms and Instructions
on our HREC website https://applyethics.sun.ac.za/ProjectView/Index/8549

If you have any questions or need further assistance, please contact the HREC office at 021 938 9677.

Yours sincerely,

Mrs. Melody Shana,

HREC Coordinator,

National Health Research Ethics Council (NHREC) Registration Number

REC-130408-012 (HREC1) ·REC-230208-010 (HREC2)

Federal Wide Assurance Number: 00001372

Office of Human Research Protections (OHRP) Institutional Review Board (IRB) Number:

IRB0005240 (HREC1) ·IRB0005239 (HREC2)

The Health Research Ethics Committee (HREC) complies with the SA National Health Act No. 61 of 2003 as it pertains to health research. The HREC abides by the ethical norms and principles for research the South African Department of Health (2006). Guidelines for Good Practice in the Conduct of Clinical Trials with Human Participants in South Africa (2nd edition) ; as well as the Department of Health (2015). Ethics in Health Research: Principles, Processes and Structures (2nd edition).

The Health Research Ethics Committee reviews research involving human subjects conducted or supported by the Department of Health and Human Services, or other federal departments or agencies that apply the Federal Policy for the Protection of Human Subjects to such research (United States Code of Federal Regulations Title 45 Part 46); and/or clinical investigations regulated by the Food and Drug Administration (FDA) of the Department of Health and Human Services.

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Addendum F-Permission letter to Ekurhuleni Health District research committee

Permission application letter to the Ekurhuleni District Research Committee

Ms. Sibongile Mangena
P.O. Box 334
Isando
1600
Cell: 0785437668
10 September 2018

Chairperson of the Ekurhuleni District research committee
Bertha Gxowa Hospital
Cnr cross and hospital
Villa Heide nurses' home
3rd floor (Public Health Unit)
Attention: Dr. Ronel Kellerman

Dear Dr. R. Kellerman

RE: Application for approval to conduct research in Ekurhuleni Metropolitan Municipality

I am Sibongile Mangena a student enrolled to do the master's in public health (MPH) Nutrition degree at Stellenbosch University, at the Faculty of Medicine and Health Sciences. As part of my degree, I will be conducting a research study: Assessing the knowledge and perceptions of caregivers attending PHC facilities in Ekurhuleni Metropolitan Municipality, Gauteng, South Africa, on the Road to Health Booklet as a tool for Growth Monitoring and Promotion.

I would like to conduct the data collection for this research study at facilities in Germiston: Germiston City Municipality Clinic, Primrose clinic, Wanneburg clinic, Bertha Gxowa ARV clinic, and Elsburg clinic. I would like to conduct interviews with the parents and caregivers of infants and young children aged 1 to 60 months. The purpose of the interviews will be to assess their knowledge and perceptions about the RtHB as a tool for GMP. I will also be audio recording their responses for quality control purposes. Every participating caregiver will complete an informed consent form.

I would like to do the data collection in January-February 2019. All data collected will only be used for the purpose of this research study. Please find attached a copy of the Health Research Ethics

Stellenbosch University https://scholar.sun.ac.za

Committee (HREC) of Stellenbosch University approval for the research protocol for your information. I have also attached the research instruments that will be used and a letter from Stellenbosch University, Faculty of Medicine and Health Sciences confirming that I am a registered student.

Yours sincerely,

Ms. S. Mangena

Student No: 17113539