

**An exploration of perceptions regarding the  
feasibility of implementation of Kangaroo Mother  
Care in the maternity ward of Tsumeb district  
hospital, Namibia**

VISTOLINA NENAYISHULA NUUYOMA



UNIVERSITY of the  
WESTERN CAPE

A mini-thesis submitted in partial fulfilment of the requirements for the degree  
of

Master in Public Health at the School of Public Health,  
University of the Western Cape

Supervisor: Prof Rina Swart

July 2012

**Keywords**

Kangaroo Mother Care

Skin to Skin Care

Preterm infants

Low birth weight

Neonatal deaths

Breastfeeding

Newborn babies

Implementation

Perceptions

Tsumeb

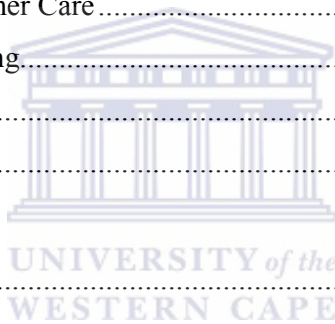
Namibia



## TABLE OF CONTENTS

## page numbers

KEYWORDS.....	ii
ABBREVIATIONS .....	vi
ABSTRACT .....	vii
DECLARATION .....	ix
ACKNOLWEDGEMENT .....	x
CHAPTER 1: Introduction.....	1
1.1 Overview of neonatal mortality.....	1
1.2. Overview of low birth weight babies.....	2
1.3. Introduction of Kangaroo Mother Care .....	3
1.4 Purpose of Kangaroo Mother Care.....	3
1.5. Description of study setting.....	4
1.6. Problem statement .....	5
1.7. Purpose of the study.....	5
CHAPTER 2: Literature review .....	6
2.1 Definition of key concepts .....	6
2.2 Benefits of Kangaroo Mother Care.....	7
2.3 Barriers to change in health care practices.....	10
2.4 Barriers to implementation of Kangaroo Mother Care.....	11
2.5 Health workers' perceptions on Kangaroo Mother Care .....	13
2.6 Conclusion.....	14
CHAPTER 3: Methodology .....	15
3.1 Aim and objectives .....	15
3.2 Study design .....	15
3.3 Study population.....	15
3.4 Sampling procedure .....	16
3.5 Description of participants .....	17
3.6 Data collection.....	19



3.7 Data analysis.....	20
3.8 Rigour .....	21
3.9 Ethical consideration.....	21
3.10. Study limitations.....	22
CHAPTER 4: Results.....	23
4.1. Health workers knowledge and experience on kangaroo mother care .....	23
4.1.1. Definition of Kangaroo Mother Care .....	23
4.1.2. Training and Introduction to Kangaroo Mother Care .....	23
4.1.3. Practice of Kangaroo Mother Care.....	24
4.1.4. Availability of Kangaroo Mother Care guideline .....	24
4.2. Perceptions of health workers regarding the feasibility of implementation of KMC...	25
4.2.1. Parent -related perceptions.....	25
4.2.2 Health worker- related .....	26
4.2.3. Baby-related.....	27
4.3. Barriers to Kangaroo Mother Care implementation .....	28
4.3.1. Health worker- related.....	29
4.3.2. Health system- related .....	30
4.3.3. Mother- related.....	31
4.4. Factors required for making KMC implementation a success. ....	32
4.4.1. Support.....	33
4.4.2. Health system- related .....	34
4.4.3. Environmental- related .....	36
4.5. Conclusion .....	37
CHAPTER 5: Discussion .....	38
5.1. Perceptions of health workers regarding the implementation of Kangaroo Mother ....	38
5.1.1. Parent- related perceptions.....	38
5.1.2. Health worker- related perceptions .....	40
5.1.3. Baby- related perceptions .....	41
5.2. Barriers to implementation of Kangaroo Mother Care .....	42
5.2.1. Health worker- related.....	42
5.2.2. Health system- related .....	44

5.2.3. Mother- related.....	46
5.3. Factors required for making KMC implementation a success. ....	47
5.3.1. Support.....	47
5.3.2. Health system- related .....	48
5.3.3. Environmental- related .....	51
5.4. Conclusion .....	51
 CHAPTER 6 .....	 52
6.1. Conclusion.....	52
6.2. Recommendations.....	52
 REFERENCES .....	 57

**Appendix**

Appendix 1: Participant information sheet	63
Appendix 2: Consent form (interview)	66
Appendix 3: Consent form (Focus group discussion)	67
Appendix 4: Interview guide and focus group discussion themes guide	68

**List of Tables**

Table 1. Summary of characteristics of participants.....	18
Table 2: Themes identified as perceptions of health workers regarding KMC implementation .....	25
Table 3: Themes identified as barriers to the implementation of KMC. ....	28
Table 4: Factors required for making KMC implementation a success.....	32

## Abbreviations

CMO	Chief Medical Officer
FGD	Focus Group Discussion
HIS	Health Information System
HIV	Human Immunodeficiency Virus
IMNCI	Integrated Management of Newborn and Childhood Illness
IMR	Infant Mortality Rate
IUGR	Intra-Uterine Growth Retardation
KMC	Kangaroo Mother Care
LBW	Low Birth Weight
MOHSS	Ministry of Health and Social Services
PHC	Primary Health Care
PMO	Principal Medical Officer
RHTC	Regional Health Training Centre
UNAM	University of Namibia
WHO	World Health Organisation

## **ABSTRACT**

**Background:** Every year, about 20 million infants are born with low birth weight globally, putting a heavy burden on health care and social systems, especially in developing countries as they are often understaffed and/or lack optimally functional equipment. In 1978, Dr E. Rey proposed the Kangaroo Mother Care (KMC) programme which was further developed by co-workers at one of the largest obstetric facilities in Santa Fe de Bogotá, Colombia. KMC was introduced as an alternative to the expensive and seldom used traditional methods to care for low birth weight infants. KMC is currently not practised at Tsumeb district hospital despite many infants born with low weight in the district.

**Aim:** The aim of the study was to explore perceptions regarding the implementation of Kangaroo Mother Care in the maternity ward of Tsumeb district hospital.

**Study design:** This was a qualitative exploratory study.

**Study population and sampling:** The study population are doctors and nurses working in Tsumeb district, the Chief Medical Officer (CMO) as well as the health programme administrators in the family health division of the Ministry of Health and Social Services (MOHSS), Oshikoto region. Purposive sampling was used to select participants.

**Results:** Perceptions were grouped into three main themes namely the parent- related, health worker- related and baby- related. Parent- related perceptions include self-trust, increased competency, less frustration, and active involvement of parents in baby care, which are similar to the literature and regarded as benefits of KMC. Health worker-related perceptions included both reduced workload and an increased workload. Baby-related perceptions are reduced morbidity, increased bonding and improved care. The study also revealed the barriers to KMC implementation as well as factors that can make KMC implementation a success.

**Conclusions:** Three broad themes emerged from the study, parent-related, health worker-related and baby-related. Most of the health workers' perceptions are similar to the benefits of KMC found in the literature but, some health workers have negative perceptions regarding KMC.





## DECLARATION

I declare that “An exploration of perceptions regarding the feasibility of implementation of Kangaroo Mother Care in the maternity ward of Tsumeb district hospital, Namibia” is my own work, that it has not been submitted for any degree or examination at other university and that all the sources I have used have been indicated and acknowledged by means of complete references.

Signed by .....  .....  
Vistolina N Nuuyoma

On this 01 day of May 2012



## **ACKNOWLEDGEMENT**

I would like to thank the almighty God for giving me strength and wisdom throughout my study, my supervisor Prof R Swart for all her academic guidance and the participants of this study for being cooperative, patient and understanding.



# CHAPTER 1

## 1. INTRODUCTION

### 1.1 Overview of neonatal mortality

More than fifteen years following the launch of many preventive initiatives, neonatal mortality levels continues to rise, especially in Africa (WHO, 2006). Over four million babies die every year in the neonatal period globally and three million of these deaths occur in the early neonatal period. More than a quarter of these babies die in African regions (WHO, 2006), whereby over a million babies are estimated to die in the first four weeks of life and up to half of these babies die on their first day (Lawn, Mongi & Cousens, 2006). However, most babies' deaths in Africa are unaccounted for and unknown to national or regional policies and programmes as they occur at homes (Lawn, Mongi & Cousens, 2006).

According to Lawn, Mongi & Cousens (2006), out of the 20 countries in the world with the highest risks of neonatal deaths, 15 countries or 75% of these countries are on the African continent. It is of interest to note that a century ago, neonatal mortality rates in Europe were similar to those in many African countries today. For example in 1905, the neonatal mortality rate in England was 41/1000 live births, but dropped with 50% (20 per 1000 live births) in 1950 and with another 50% by 1980. Very high infant mortality rates alert health professionals to the need for more research and strengthening preventative actions to reduce these rates (Beaglehole, Bonita & Kjellstrom, 1993).

In Africa, the neonatal mortality rate is 40 per 1000 live births. This is almost double the global figure of 26 per 1000 live births, and hardly comparable with Europe's figure of 7 per 1000 live births, or the WHO region of the Americas (9 per 1000 live births) and the Western Pacific region's figure of 11 per 1000 live births. However, high neonatal mortality similar to Africa's were also reported in regions such as Eastern Mediterranean and South East Asia (35 and 34 per 1000 live births) respectively (WHO, 2010). High neonatal mortality rates in these WHO regions can be related to political instabilities which negatively affected countries' development, as well as the health care systems. According to WHO (2009a), Namibia's estimated neonatal mortality rate is 20 per 1000 live births, while the estimated figure of 12 per 1000 live births in the Oshikoto region and Tsumeb district, was considerably lower.

Namibia included maternal, neonatal and child health among general public health and social health priorities, this could be the reason for lower neonatal mortality rates (MOHSS, 2009).

Globally, the causes of neonatal deaths are almost similar (WHO, 2008) with prematurity related complications being the major cause of neonatal deaths, accounting for 30% of total deaths, followed by neonatal infection (25%), birth asphyxia and birth trauma (23% of deaths). In Africa, prematurity accounts for 25% of all neonatal deaths (Lawn, Mongi & Cousins, 2006) and in Namibia, prematurity accounts for 39% of all reported neonatal deaths, followed by birth asphyxia (25%) and neonatal infections (19%) (WHO, 2009a). Prematurity is also the most common cause of neonatal deaths in Tsumeb district followed by Intra-Uterine Growth Retardation (IUGR) and other perinatal complications (HIS, 2009).

## **1.2. Overview of low birth weight babies**

Both preterm births and intra uterine growth retardation lead to babies with low birth weight. It is estimated that more than 20 million babies are born with low birth weight globally (WHO, 2009c). World bank special programme of research, development and research training in human reproduction (HRP), conducted a systematic review that revealed that 12.9 million births per year globally are preterm and 85% of these preterm births occur in Africa and Asia (WHO, 2009b). About 14% of babies are born with low birth weight which means weight less than 2500 grams, in Sub Saharan Africa (Lawn, Mongi & Cousens, 2006). In Namibia, the prevalence of low birth weight was estimated to be 14 and in Tsumeb district, it is 12% (HIS, 2009). Due to high rates of infections such as HIV/AIDS and Malaria, babies in Africa are at risk of being born premature compared to other parts of the world such as European countries. Most preterm births occurs between 33 to 37 gestational weeks and these babies have a good chance of surviving even in low resource settings without high technical care as long as special attention is given to feeding, providing warmth and early treatment of problems (Lawn, Mongi & Cousens, 2006).

Providing warmth to a low birth weight baby is done by nursing a baby in a Kangaroo Mother Care (KMC) method or in an incubator. KMC has been accepted as an essential part of standard neonatal care in health care facilities since its introduction in 1978. It has also been seen as a more appropriate method of caring for certain low weight infants. Moreover,

continuous KMC saves the lives of many infants in poor countries lacking resources such as incubators (Bergh et al, 2005).

### **1.3. Introduction of Kangaroo Mother Care**

Kangaroo Mother Care (KMC) is a beneficial and simple intervention used for caring for low birth weight infants. In KMC, the baby is placed in a prone position on the mother's bare chest, between her breasts, under the mother's clothes to form a maternal pouch. The baby is dressed only in a nappy and a cap to allow skin to skin contact (Hall & Kirsten, 2008). The term Kangaroo Mother Care is derived from the similarity in which the Kangaroos carry their babies in their pouches (Martinez, undated)

KMC was proposed by Dr Edgar Rey in 1978, and was further developed by his co-workers at one of the largest obstetric facilities in Santa Fe de Bogota in Colombia (Charpak, Ruiz-Pelaez, Figueroa & Charpak, 1997). The term KMC was formally adopted at the first international workshop on Kangaroo Care held in Trieste, Italy in 1996 (Hall & Kristen, 2008). The KMC approach has been formally endorsed by WHO and has become the standard care practice of premature infants in the Scandinavian countries and many industrialized countries such as United States of America, Sweden, France and the United Kingdom (Roller, 2003). The WHO also developed a KMC practical guideline in 2003 (Nyqvist et al, 2010)

KMC is also practiced in African countries. In South Africa, Dr Nils Bergman introduced KMC in 1995 and after five years it became official care practice for premature babies in the Western Cape provincial hospitals (Bergman, 2005). Two large public training hospitals associated with the School of Medicine of the University of Pretoria created separate wards for KMC where mothers with low birth weight babies continuously practise KMC twenty four hours per day (Bergh & Pattinson, 2003). In Namibia, KMC is currently practised in few hospitals such as Windhoek Central Hospital (WCH), Katutura hospital, Oshakati Intermediate hospital and Onandjokwe Lutheran hospital.

### **1.4 Purpose of Kangaroo Mother Care**

According to Anderson, Marks & Wahlberg (1986), before 1978, premature infants were separated from their mothers and admitted to the intensive care nursery where they were

cared for by the nurses. In some cases, mothers were not allowed to see their infants till they were discharged. These authors mention that “*despite this isolation, infections persisted, and mortality was high*”. Abandonment by parents was also common.

It is against this background that Dr Rey proposed KMC, as a response to a critical situation of overcrowding and it was viewed as an inhumane practice to separate small babies from their own mothers (Martinez, undated). KMC was seen as an alternative to the conventional incubator and bassinet care of low birth weight babies who are stable (Bergh & Pattinson, 2003). According to Hall & Kirsten (2008), KMC was developed as a way of providing ambulatory care for low birth weight babies in response to increase in mortality and morbidity associated with overcrowding and sepsis. It was also seen as a way of limiting nosocomial sepsis as infants are discharged early, as long as they are stable and their mothers have been trained on KMC, regardless of the baby’s weight.

### **1.5. Description of study setting**

The Republic of Namibia is divided into 13 regions. Oshikoto region is one of the regions in the north western part of Namibia. Oshikoto region is divided into two health districts namely, Onandjokwe and Tsumeb. The study was conducted in Tsumeb district. Tsumeb district had a population of 28 492 people in 2009, with one district hospital (with 90 beds) and four Primary Health Care (PHC) clinics (HIS, 2009). The maternity unit at Tsumeb district hospital has 18 beds, delivers on average four to six babies daily and about 700 live births annually. According to HIS (2009) 75 out of 690 births in Tsumeb district in 2009 were babies below 2500 grams. Most of these babies could have been successfully cared for using KMC but were nursed in incubators. Eighty percent of mothers who deliver are booked through and attended ante natal clinic, either at private or state facilities (HIS, 2009).

Tsumeb district hospital nurses and doctors work on a rotation basis. Every three months, the doctors rotate to other departments within the hospital, while nurses rotate to other departments including PHC sites within the district. There is no permanent staff for the maternity unit except the sister in charge who is appointed on a yearly basis. Nursing staff at Oshivelo and Tsintsabis clinics in Tsumeb district do not rotate like the rest of nurses in the district but are permanently appointed to work at these clinics.

## **1.6. Problem statement**

KMC was introduced to Tsumeb district hospital in early 2000 as an initiative from the Ministry of Health and Social Services to reduce morbidity and mortality in low birth weight infants. Some nursing staff was trained but never implemented it. KMC is currently not practised at Tsumeb district hospital maternity unit and need to be incorporated in the routine newborn babies care package, especially those born premature as prematurity is the leading cause of neonatal deaths in Tsumeb district (HIS, 2009). Another reason why KMC have to be incorporated in the routine newborn baby care is that the Namibian Integrated Management of newborn and Childhood Illnesses (IMNCI) recommended to keep all premature infants warm using skin to skin care (MOHSS, 2011a).

Currently, premature babies are nursed in incubators in the room called prem room, separated from their mothers. Incubators in Tsumeb district hospital frequently break and the hospital does not have regular maintenance system for medical equipment in place. No visitors are allowed in that room and mothers go there at scheduled feeding times and sometimes if the baby cries or to do nappy changing. Caring for premature babies in the incubators predispose infants to infections, overheating and sometimes hypothermia compared to caring for them under KMC (Johnson, 2009). The Kangaroo mother model seems not to be promoted in Namibia and no evidence is available about studies conducted on KMC in the country. This warrant a study to explore perceptions regarding the feasibility of implementation of KMC in the maternity ward of Tsumeb district hospital.

## **1.7. Purpose of the study**

The purpose of the study was to explore the perceptions regarding the feasibility of implementation of KMC at Tsumeb district hospital, and to determine why KMC is not implemented in Tsumeb district. The study investigated the opinion of stakeholders working towards improving the maternal and child health in Oshikoto region, as to why Kangaroo Mother Care is not implemented in Tsumeb district. The results of the study will be used to assist health officials in developing an implementation guideline for Kangaroo Mother Care in Tsumeb district maternal unit.

## CHAPTER 2

### 2. LITERATURE REVIEW

This chapter will cover five main themes. Firstly, an explanation of the key concepts of this study will be provided, namely Kangaroo Mother Care (KMC), preterm infants, low birth weight infants, and small for gestational age infants. Secondly, a detailed discussion is provided on the benefits of Kangaroo Mother Care. Furthermore, barriers to change in health care practices, challenges in the implementation of Kangaroo Mother Care and health workers' perceptions on Kangaroo Mother Care will be discussed.

#### 2.1 Definition of key concepts

In this section, the following concepts are defined, Kangaroo Mother Care (KMC), Preterm infants, low birth weight infants and small for gestational age infants.

##### *Kangaroo Mother Care (KMC)*

Kangaroo Mother Care is also known as Kangaroo Care or skin to skin care (Nyqvist *et al*, 2010). KMC is defined as a practice of nursing an infant (mostly low birth weight infant) skin to skin contact with its mother. The infant is placed naked, except for a nappy and a cap in a prone position between its mother's breasts. KMC begins in the hospital soon after delivery and continues at home (Browne, 2004). In this document, KMC will be used interchangeably with skin to skin care and kangaroo care.

##### *Preterm infants*

According to Tucker and McGuire (2004), preterm infants refer to babies born before 37 completed weeks of gestation. They are further divided into two groups, namely the very preterm infants, those delivered before 32 gestational weeks and extremely preterm infants are those babies delivered before 28 gestational weeks.

##### *Low birth weight infants*

Low birth weight infant refers to a baby born with a weight of less than 2500 grams. Low birth weight occurs as a result of preterm birth or a baby born small in size, in relation to its gestational age (Edmond & Bahl, 2006). According to Tucker and McGuire (2004), low birth weight are divided into two categories namely, very low birth weight, refers to infants born



with the weight less than 1500 grams. Extremely low birth weight refers to infants born with the weight less than 1000 grams.

### *Small for gestational age infants (SGA)*

Small for gestational age infants are also known as small for dates or light for dates infants (Tucker & McGuire, 2004). According to Edmond and Bahl (2006), a small for gestational age infant is defined as an infant born with a weight less than the 10<sup>th</sup> centile for gestational age at birth. Small for gestational age is usually caused by a condition known as Intra Uterine Growth Retardation or Restriction (IUGR), which is defined as a condition in which the foetus grows at a slower rate than normal. In addition, preterm infants may sometimes also be born small for gestational age.

## **2.2 Benefits of Kangaroo Mother Care**

KMC can be tolerated by sick and very preterm infants early in life. This was confirmed by an observational study carried out to investigate whether KMC with and without naso-gastric tube feeding can be tolerated by sick preterms in the first week of life (Tornhage, Stuge, Lindberg & Serenius, 1999). Several studies conducted on KMC found it to have clinical, psychological and physiological advantages. This section will give detailed discussion of benefits of Kangaroo Mother Care.

### *Breastfeeding*

Mothers who give birth to preterm infants are faced with many challenges and one of them is initiating and sustaining breastfeeding. Mothers who practice skin to skin care has been found to produce larger volumes of breast milk and breastfeed their babies for a longer time compared to mothers who do not practice skin to skin care (Browne, 2004). KMC also improves mothers' breastfeeding skills, increases the number of feeds per day (Hall & Kirsten, 2008) and also enhances exclusive breastfeeding (Edmond & Bahl, 2006).

### *Thermal control*

KMC has an effect on the baby's body temperature. Temperatures of babies receiving KMC remain stable while temperatures of babies receiving incubator care fluctuate. Moreover, a comparative study of KMC and incubator care of hypothermic newborn babies revealed that

within the same time, a larger proportion of KMC warmed babies reached normal body temperature faster than incubator warmed babies (Johnson, 2009).

A Nigerian experimental study on thermal regulations of infants weighing less than 2000 grams found that the risk of hypothermia was 90% reduced when baby is nursed in KMC compared to conventional care (Ibe et al, 2004).

### *Morbidity*

An international review by Brazilian authors revealed that KMC is associated with a reduction in the incidence of severe diseases and a decrease in the incidence of lower respiratory tract infections at six months follow up (Venancio & Almeida, 2004). In addition, a Cochrane review confirmed that there were lesser rates of nosocomial infections among KMC newborn babies (3,4%) compared to newborn babies in the control group (6,8%) (Johnson, 2009). Furthermore, Ferbes and Morkhoul (2004) found in a randomized controlled trial that the neurobehavioral responses of KMC cared healthy newborns reduced the rates of apnoea attacks and bradycardia, and also increased oxygen saturations.

### *Weight gain*

Babies nursed under KMC gain weight faster than incubator cared babies (Browne, 2004). According to a Cochrane review, two studies found that infants nursed under KMC gained more weight (15.9 grams and 21.3 grams per day respectively) compared to infants in the control group (10.6 grams and 17.7 grams per day) (Johnson, 2009).

### *Mortality*

Meta analyses was undertaken to re-evaluate the evidence and estimate the effect of KMC on neonatal mortality due to complications of preterm births. This concluded that KMC significantly reduces neonatal mortality amongst preterm babies who weigh less than 2000 grams at birth (Lawn *et al*, 2010). The association between KMC and reduced neonatal mortality is probably due to the result of more regular breathing and less predisposing to apnoea found in KMC infants as well as them being protected against nasocomial infections. The reduction in mortality amongst KMC babies was found to continue even after discharge from the hospital as infants had lower incidence of severe illness during infancy, including pneumonia (KMC India, 2009).

### *Period of hospitalization*

Low birth weight infants nursed in KMC are discharged earlier from the hospital compared to infants nursed in conventional incubators (KMC INDIA, 2009). Shorter period of hospitalization in KMC infants was also confirmed by Hall & Kirsten (2009) on their review study on KMC. In addition, infants nursed through KMC spend fewer times in the hospital when followed up at one year of corrected age (Hall & Kirsten, 2009).

### *Infants' transportation*

In most cases, low birth weight infants need to be transported from one unit to another. Transporting low birth weight infants in an incubator has many bad effects such as instability. In the event of an accident, the infant is not secured and the infant is separated from the mother. KMC transportation has many advantages over incubator transport such as stability of infants' heart rate, respiratory rate, oxygen saturation and temperature in KMC transport lasting between 10-300 minutes (Hall & Kirsten, 2008). Therefore, if parents permit, KMC can be used in transporting low birth weight infants to minimize the risks associated with incubator transport.

### *Other effects*

Hall & Kirsten (2008) reported that KMC empowers the parents by involving them directly in the care of their vulnerable infants. KMC mothers also tend to be less depressed (Browne, 2004). Other effect of KMC found by Ferber & Markhoul (2004) is that during a one hour long observation, starting four hours after birth, KMC infants showed more flexor movements and postures, less extensor movements and were more in a quiet sleep state than babies in the control group. KMC also improves infants' state of organization, including less crying.

As far as mothers' competency is measured, mothers of infants nursed in KMC scored more when tested for competency in infant care. Additionally, KMC promotes mother-baby bonding because mothers spent more time with their infants, smile more at their infants and increase cuddling and soothing (Browne, 2004). According to Hall & Kirsten (2008), KMC can help reduce pain in infants. This was confirmed in a preterm infants' pain profile study conducted in Canada. In this study, pain was tested after a heel lancing procedure. Infants held in a kangaroo position before and during the heel lancing procedure showed less pain compared to infants in a prone position but in isolation.

## 2.3 Barriers to change in health care practices

Putting a new health care intervention into practice is very challenging and demands proper training or retraining of health workers. According to the systematic review of professional behaviour change interventions published between 1996 and 1998, the successful implementation of the intervention depends on aspects such as face to face communication, the use of multimedia package for training, development of protocols and guidelines within individual institutions and the grass root level leaders' opinion about the intervention (Grimshaw et al, 2001).

There are barriers to change of practices in health care and those barriers are different in different settings and at different times. According to Cheater et al (2009), barriers are defined as any factors that hamper the implementation of change in professional practice. Barriers to changes in health care practice are classified into four categories namely, barriers related to individual health professional, barriers related to the social context of care provision, barriers related to organizational context and external barriers.

### *Barriers related to individual health professional*

This category includes habits, attitudes, skills and knowledge of an individual health professional (Grol, 1997). According to the National Institute for Health and Clinical Excellence (NICE) (2007), it may take a long time for change to take place in health services. For example a clinical guideline may take up to three years to be totally implemented. NICE (2007) identified the following factors that may impede changes to take place in health care settings: i) lack of awareness, knowledge and skills of what is to be changed and why it has to be changed. Studies provided strong evidence that healthcare professionals are repeatedly unaware of changes and are unfamiliar with changes that are to take place. ii) Lack of training on what is to be changed, iii) lack of support from peers, iv) poor interpersonal relationships and lack of support systems.

### *Barriers related to the social context of care provision*

The social context of care provision, such as the reactions of the patients, colleagues or authorities towards change (Grol, 1997), may impact on implementation of changes to health services. In human lives, motivation is an essential part of almost everything we do. Both external and internal factors can drive motivation that affects reactions to changes in health

care. Therefore, lack of motivation can be a barrier to change in health care practices (NICE, 2007). Acceptance of change and beliefs about the practice are among barriers identified by NICE (2007). Health care professionals find it difficult to accept changes if these are in conflict with their own beliefs or simply because they personally don't accept it.

#### *Barriers related to organisational context*

Organisational context includes organisational structure, climate and resources available in order to execute change (Grol, 1997). In some cases new equipment, extra personnel, or configurations of services and infrastructures are needed for changes to take place and if they are not available, the practice that need to be changed will not take place. In some cases, changes in health care practices might be held back simply because the key staff member is on leave or resigned (NICE, 2007). In addition, barriers at organizational level are a lack of time or resources to train staff in new interventions or a lack of integration of new interventions into available services may also serve as barriers to implementation (Kilbourne *et al*, 2007).

#### *External Barriers*

The external environment can also be barriers to changes in health care practices. For example unstable political environment can negatively impact on health care workers desire to implement changes. Financial systems at national level might not smooth the progress of payments for new interventions and resources may be limited (NICE, 2007). In some cases, lacks of financial incentives prevent health care workers from implementing health care interventions (Kilbourne *et al*, 2007).

## **2.4 Barriers to implementation of Kangaroo Mother Care**

Researchers worldwide conducted studies on the factors that hinder implementation of KMC in hospitals, clinics and community based neonatal care services. Many factors were found to hinder health workers from implementing KMC.

The II international KMC workshop held in Colombia between 30/11/1998-04/12/1998 provided participants an opportunity to share their problems and solutions to KMC implementation at their settings. Problems shared by participants were almost similar to those revealed by studies conducted about the challenges experienced on the implementation of

KMC. Main problems discussed were such as ethical issues, KMC seen as isolated program, lack of academic integration, lack of policies on KMC, lack of information and knowledge on KMC, need for appropriate environment to implement KMC, difficulty to change cultural beliefs and practices (Charpak, De Calume & Ruiz, 1998).

A national descriptive survey conducted in the United States to assess practices, barriers and perceptions regarding KMC revealed two major barriers to the implementation of KMC (Settle et al, 2002). Those are infants' safety concerns by mothers especially if infants are severely premature, and the reluctance of nurses, doctors and families to initiate or practice KMC especially if they are not educated about it. Specifically, the risks of apnoea and bradycardia in the premature infants in the first week of life make health workers fear to implement skin to skin care (Browne, 2004).

In the United States, the absence of policies and procedures for holding infants in neonatal intensive care units, as well as the lack of a follow up policy for high risk infants after discharge was also found to contribute to unsuccessful KMC implementation (Charpak, De Calume & Ruiz, 1998; Charpak & Ruiz-Palaez, 2006).

In Australia, an exploration of the attitudes, practices and concerns in the use of Kangaroo care, by nurses working in the neonatal intensive care unit of a Melbourne public hospital identified heavy staff workloads, insufficient education, lack of organisational support and the absence of clear protocols as the major constraints to implementation (Chia, Sellick & Gan, 2006).

Ignorance about the advantages and impact of KMC method, lack of education to mothers, lack of health workers and mothers' motivation and resistance by health workers were identified as barriers to implementation in Brazil (MOH, Brazil, 1997).

Reports of experiences on KMC in Africa are available from Rwanda, Mozambique, Zimbabwe and South Africa. In Rwanda, a survey of six KMC sites revealed that inadequate nursing clinical supervision and staff turnover resulted in loss of KMC trained staff. The lack of a good post-discharge follow-up procedure also affects the implementation of KMC (Johnson, 2009). Observational studies conducted in Mozambique and Zimbabwe found implementation problems such as non acceptance of KMC by mothers of abnormal or ill babies, resistance to implementation by staff due to the perceived increased workload, and managerial difficulties as obstacles to the implementation of KMC (Lawn, Mwansa-

Kmbafwile, Horta, Barros & Cousens, 2010). The Department of Health in Kwazulu-Natal province South Africa, evaluated whether a well designed educational package used on its own, or a combination of a visiting facilitator used in conjunction, can be equally successful in implementing KMC in a health care facility. They found that successful implementation of KMC was achieved in most hospitals through both of these methods, while only some sites did not regard facilitation as necessary (Pattinson, Arsalo, Bergh, Melan, Patric & Phillips, 2005).

To date no study about the implementation of Kangaroo Mother Care has been conducted in Namibia.

## **2.5 Health workers' perceptions on Kangaroo Mother Care**

Site visits and surveys conducted in 15 developing countries between 1994 and 2004 revealed that KMC is perceived as substandard care by some health workers and is thus regarded as unacceptable (Charpak & Ruiz-Peleaz, 2006).

In some sites, health workers considered implementation of KMC as well as the support and training of mothers on breastfeeding premature babies as extra work for them and therefore did not support it. As far as mothers' privacy is concerned, some health workers felt that mothers have inadequate privacy as they have to undress themselves to put their babies in the kangaroo position. Furthermore, some health workers considered direct skin to skin contact between a naked baby and mother as unusual or improper (Charpak & Ruiz-Peleaz, 2006).

According to Johnson (2009), another perception that exists among health workers is that KMC implementation is not feasible as it requires a special unit, special beds and heaters. In addition, some nurses are in doubt about some benefits of kangaroo care. (Chia, Sellick & Gan, 2006).

In contrast, health workers from Zimbabwe felt confident that KMC showed the way to good survival results amongst low birth weight babies (Bergman & Jurisoo, 1994). Health workers from Mozambique also responded positively towards KMC. They believed they are rewarded by their new skills in coaching mothers on KMC and its benefits (Lincetto, Nazir & Cattaneo, 2000).

## 2.6 Conclusion

Studies conducted found KMC to be beneficial to both mother and infants. In spite of this evidence available on the benefits of KMC, it is not implemented at many health care facilities due to a combination of personal perceptions of health workers, resistance to change amongst health workers and health systems, and organisational factors such as infrastructure and logistics.





## **CHAPTER 3**

### **3. METHODOLOGY**

This chapter describes the research methodology used in this study. It also includes the study design and methods, the study population and the characteristics of the participants as well as sampling procedures. Measures taken to improve rigour, ethical consideration and study limitations will also be discussed in this chapter.

#### **3.1 Aim and objectives**

The study aims to explore perceptions regarding the feasibility of KMC implementation in the maternity ward at Tsumeb district hospital.

The objectives are:

- To assess the knowledge of health workers on KMC.
- To assess the perceptions of health workers on KMC.
- To determine challenges in the implementation of KMC.
- To describe the support required by health workers in order to implement KMC.

  
UNIVERSITY of the  
WESTERN CAPE

#### **3.2 Study design**

This is a descriptive exploratory study. It utilizes qualitative research methodology which gave the researcher an opportunity to observe the maternity department setting and to examine personal reactions of study participants (Brantlinger, et al, 2005).

Responses in qualitative studies are reported to be rich, in depth and exploratory in nature and are effective in obtaining information about culture and social context of the population in study (Mack et al, 2005). Moreover, according to Creswell (1998), qualitative studies reported detailed views of participants and use expressive language which is required to achieve the objectives of the study

#### **3.3 Study population**

Study participants were chosen from the medical doctors and nurses working in Tsumeb district. Tsumeb district have a total of six doctors and 65 nurses (38 enrolled and 27 registered). The study also included the Oshikoto Regional Chief Medical Officer (CMO), the

Health Programme Administrator (HPA) in the Family Health Division of the Ministry of Health and Social Services and the UNFPA (reproductive health coordinator) representative.

### **3.4 Sampling procedure**

Purposive sampling was used to sample study participants. In purposive sampling, participants are selected because of some defining characteristics that make them appropriate people to give information about the study or data needed for the study (Maree, 2007). In this study, the researcher selected registered and enrolled nurses, including the current and previous supervisors of the maternity ward as well as doctors who have worked in the maternity department. They were selected because they are familiar and know how newborn babies, including premature babies are cared for. The CMO, HPA in the family health division and the UNFPA representative for Oshikoto region was also included. This served as eligibility criteria for the study.

The aim of the study and the selection criteria was explained to the acting principal medical officer of Tsumeb district hospital. After that, the researcher approached the nurse manager's office to see previous allocation lists that helped to identify nurses and doctors who worked in the maternity department. The researcher then selected study participants from nurses and doctors who are currently or those who were previously allocated at maternity department. The researcher selected from all categories of nurses (registered and enrolled), also included current supervisor and previous supervisors of maternity department as well as ordinary nurses. The researcher also included older and newly trained nurses and doctors because there might be difference in terms of experiences and perceptions towards KMC. Participants at the regional level were contacted directly through their respective offices.

The researcher explained the purpose of the study to the potential participants and asked their willingness to take part in the study. Most potential participants selected by the researcher agreed to participate in the study, except the UNFPA representative. The total number of 8 out of 38 enrolled and 8 out of 27 registered nurses in Tsumeb district and the HPA in the FH division Oshikoto region was also selected to participate in the study, the total number of registered nurses were 9 because the HPA is also a registered nurse. More registered nurses were selected because they are the majority of nursing staff working in maternity ward compared to enrolled nurses. As far as hierarchical positions are concern, registered nurses are the ones at supervisory and managerial positions such as matron, supervisors and health

programme administrators, compared to the enrolled nurse category. Four doctors were selected (out of 6) from Tsumeb district, and the CMO of Oshikoto region was also selected to participate in the study. Those who participated in the focus group discussions or interviewed were given consent forms to sign before the interviews or focus group discussions. A total of four focus group discussions were conducted and each group consisted of four participants. The researcher also conducted six in depth interviews with key informants.

### **3.5 Description of participants**

Participants were selected from enrolled nurses, registered nurses and doctors. The category of registered nurses also included the acting nurse manager, the supervisor and previous supervisor, as well as the HPA-FH. The doctors' category also included the CMO and the PMO. The category of participants at managerial positions included the PMO, CMO, HPA and nurse manager. The non-managerial category included other participants who are not occupying managerial positions. Experiences of most participants range from 11 to 15 years. None of the participants specialized in neonatology. As indicated in the table below, most (7) participants started working in Tsumeb district/Oshikoto region 11 to 15 years ago. Most enrolled nurses (5) were trained at Onandjokwe nursing college while most (5) registered nurses were trained at UNAM Windhoek campus. All doctors were trained outside Namibia.

**Table 1. Summary of characteristics of participants**

<b>Characteristic</b>	<b>Enrolled nurse</b>	<b>Registered nurse</b>	<b>Doctor</b>	<b>Total</b>
<b>Years of experience</b>				
0 to 5	2	2	-	4
6 to 10	1	1	2	4
11 to 15	2	2	3	7
16 to 20	1	2	-	3
21 and above	2	2	-	4
<b>Total</b>	<b>8</b>	<b>9</b>	<b>5</b>	<b>22</b>
<b>Years in Tsumeb district/Oshikoto region</b>				
0 to 5	2	2	-	4
6 to 10	1	2	2	5
11 to 15	2	2	3	7
16 to 20	1	1	-	2
21 and above	2	2	-	4
<b>Training institution</b>				
UNAM- Oshakati campus	-	3	-	3
UNAM- Windhoek campus	-	5	-	5
Onandjokwe nursing college	5	-	-	5
Keetmanshoop RHTC	1	-	-	1
Otjiwarongo RHTC	1	-	-	1
Oshakati RHTC	1	-	-	1
Outside Namibia	-	1	5	6

### **3.6 Data collection**

The researcher made use of the two data collection methods, namely, focus group discussion and in depth interview.

#### *3.6.1 Focus group discussion*

Focus group as described by Litosseliti (2003) is a small pre-arranged group discussion with chosen participants. Focus groups are led by a moderator and in most cases, the researcher act as the moderator. Through group interaction, participants in the focus group discussions share their views and experiences regarding the specific topic under discussion. Focus group discussions allow the researcher to probe for more information, clarify questions and ask participants to elaborate more on their responses if they are not clear (Denscombe, 2007).

The researcher prepared well in advance a list of questions to be explored during the discussions. Focus group discussions were conducted during December 2011 to January 2012 at the Tsumeb district hospital in Oshikoto region. The researcher conducted four focus group discussions and each group consisted of four health workers. Three focus group discussions were conducted during the day, at different departments of Tsumeb district hospital, namely maternity, general ward and Lombard (PHC) clinic. One focus group discussion was conducted night time to accommodate health workers on night shift at the hospital. Arrangements were made with participants with regard to convenient time and date of the focus group discussions. All focus group discussions were conducted in English and the researcher ensured that all participants were comfortable prior and during the discussions. The researcher made notes of the facial expressions and other body gestures made by the participants during the discussion. Focus group discussions were conducted at the nurses' posts, tea rooms and doctors' consulting rooms. All focus group discussions were recorded on voice recorder and transcribed verbatim.

#### *3.6.2 In depth interview*

In depth interview is a one on one interviewing, whereby an interviewer ask a question, followed by an answer from the respondent and the interviewer probe further into the answer (Mahmoud & Mohamed, 2004). This type of interview may be in a type of informal conversation with little or no prior preparation. A predetermined set of open ended questions is used, if not available, a topic guide may be used in order to help focusing in the interview.

In depth interviews were conducted during December 2011 to January 2012 at the Tsumeb district hospital. Six interviews were conducted with key informants such as acting principal medical officer of Tsumeb district hospital, nurse manager, nurse in charge of maternity ward, previous nurse in charge of maternity ward, health programme administrator (family health division), and chief medical officer of Oshikoto Regional Health Directorate. Prior arrangements were made with the interviewee with regard to date, time and place of the interview. Interviews took place at their offices, doctors' consulting rooms and tea rooms in their units. Those venues were selected because they have adequate space for two people to sit, well ventilated, less noise, generally more comfortable and private. All interviews were recorded with a voice recorder and transcribed verbatim. An interview guide was formulated prior to the interview in order to ensure uniformity during the data collection process. Body languages such as facial expressions and all other gestures were taken note of and recorded in the field notes.

### **3.7 Data analysis**

Data analysis started soon after the data collection process began. Data analysis was done manually following a thematic content process, which is the most common used analytical strategy in qualitative research (Green & Thorogood, 2004).

According to Maree, "*content analysis is a systematic approach to qualitative data analysis that identifies and summarises message content*" (Maree, 2007: 101). The Thematic content analysis was chosen because it is suitable for exploratory studies. It is also useful for answering questions about noticeable issues for particular groups of respondents and it is useful to identify typical responses (Green & Thorogood, 2004). Green & Thorogood (2004) view thematic content analysis as a comparative process because the researcher is able to gather various accounts and compare them to each other in order to classify themes that recur or those that are common in a dataset, therefore the researcher chose the thematic content as an analytical strategy.

The researcher concurrently analysed data during collection in order to note new emerging issues and also to notice issues that need further clarification in the following interviews and focus group discussions. Each interview and focus group discussion was audio taped and transcribed verbatim to ensure no information was lost before data analysis process commenced. The transcribed interviews and focus group discussions were coded into the

main and sub-themes. Field notes were also analysed together with transcripts in order to include non verbal or body gestures in the findings. The researcher read transcripts carefully and several times and categorized responses in a way that they can be summarized.

### **3.8 Rigour**

The researcher ensured rigour from the beginning of the study by keeping a research diary and recorded all actions in the study and any feeling that came to her mind during the data collection process. The researcher made sure that only eligible participants were interviewed and joined the focus group discussions, and that the selection criteria were strictly adhered to. The researcher encouraged participants to express themselves freely and ensured that interviews and focus group discussions questions were clear to address research aims and objectives.

Two methods were used to collect data, those are in depth interviews and focus group discussions. Interview guides and focus group discussion questions were drafted and sent to the supervisor together with study proposal before conducting interviews and focus group discussions. A pilot study was conducted and eligible participants from Tsumeb district were used but not the same health workers who participated in the study. The aim was to test data collection tools, and to find out whether they will help to achieve the study's aims and objectives.

During data collection, all interviews and focus group discussions were tape recorded and transcribed verbatim, the researcher also took notes of body language/ gestures. During data analysis, rigour was ensured by analysing all information obtained in the data collection process. According to Green & Thorogoot (2004), simple frequency counts for key themes can be used to ensure reliability during data analysis, this was also used in this study.

### **3.9 Ethical consideration**

Ethical approval was obtained from the University of the Western Cape ethics committee and the consent forms were also approved. Furthermore, written permission to conduct a study was obtained from the permanent secretary of MOHSS on the recommendation of the sub-division Management, Information and Research in the directorate Policy, Planning and Human Resource Development. The written approval letter from the permanent secretary of

MOHSS was later submitted to the office of the Principal Medical Officer (PMO) at Tsumeb district hospital and copies were forwarded to all departments in the district.

Prior to the interviews and focus group discussions, each participant was issued with a participant information sheet, explaining the aim of the study and requested their participation. A consent form was signed by all participants who agreed to participate in the study. Participants were given rights to withdraw from the study any time should they have wished to do so. Confidentiality and privacy were maintained throughout the interviews and focus group discussions. Anonymity was maintained in the reporting of the study findings. The tapes and transcripts were kept in a locked cupboard and data was entered in the computer and passwords were only known by the researcher.

### **3.10. Study limitations**

Tsumeb district is experiencing a shortage of nursing staff, it was difficult to organise focus group discussions and interviews as nurses and doctors are working shifts. Although the researcher was planning of including six health workers in each focus group discussion, the number was reduced to four health workers per focus group discussion. This is because some departments only have one or two nurses per shift and those nurses cannot attend the focus group discussions at the same time because there was no one to take care of the patients in their absence.



## CHAPTER 4

### 4. RESULTS

In this chapter, the results of the study are presented. Those are the results from in depth interviews with key informants and focus group discussions. The chapter starts with the health workers' knowledge on KMC, followed by perceptions of health workers on KMC. The barriers to KMC implementation and factors influencing KMC are also presented.

#### 4.1. Health workers knowledge and experience on kangaroo mother care

In this study, knowledge and experiences of health workers on KMC was first assessed, before exploring their perceptions and barriers to KMC implementation.

##### 4.1.1. Definition of KMC

Most participants understood and explained the meaning of KMC. All participants at managerial positions clearly defined KMC.

*["KMC is the practice of nursing a baby skin to skin contact with the mother. The naked baby is placed upright on the mother's undressed chest."]*

*["KMC is caring for a low birth weight or any newborn baby, skin to skin with the mother. The baby is usually placed naked, only with a nappy and a cap between the mother's breasts."]*

Conversely, 3 participants at non managerial positions strongly indicated that they never heard about KMC before.

*["I don't have any experience in KMC, in fact I never heard about it, it's my first time to hear about it."]*

*["I don't know what Kangaroo Mother Care means and I never heard about it."]*

*["Kangaroo Mother Care? (Shaking head), I never heard about it."]*

##### 4.1.2. Training and Introduction to Kangaroo Mother Care

There were 5 participants who were introduced to KMC during their nursing and medicine training. Out of the 5 participants who were trained or introduced to KMC, 3 are from participants at managerial positions and 2 are from non managerial group. One participant attended training on essential newborn care and KMC was part of the training. The rest of the

participants were not trained or introduced to KMC. There was no KMC training conducted in Tsumeb district.

*[“ Yaa, now I remember, KMC was introduced to us in Midwifery science under the topic care of the newborn babies, and our Midwifery lecturer used to talk about it a lot, and one day she even demonstrated to us with the doll.”]*

*[“Yes, I was trained because it was part of our training curriculum.”]*

*[“KMC was a topic covered in Midwifery science. I also attended a workshop on essential newborn care, held in Windhoek in 2009. KMC was part of this training. The facilitators demonstrated to us and we also visited the Prem unit at Central hospital and showed mothers how to do it.”]*

#### **4.1.3. Practice of kangaroo mother care**

Some participants have never seen a baby cared under KMC in real environment but have seen it in pictures or posters. There were participants at managerial positions who reported to have seen KMC practised but outside Namibia.

*[“I have never seen a mother practising KMC in the real environment but I have seen a lot of posters, pictures and even watched a video.”]*

*[“Yes, I have seen mothers practising KMC in a hospital in Zimbabwe.”]*

*[“Yes , I have seen a mother practising KMC but it was a long time ago, may be ten years back while I was working in Windhoek Central hospital.”]*

#### **4.1.4. Availability of Kangaroo Mother Care guideline**

All Participants reported that there are no clear directives on care of the newborn babies including low birth weight babies. There is also no KMC guideline available in Tsumeb district

*[“No, there is no KMC guideline available in Tsumeb district or to say in the whole Namibia (shaking head).”]*

*[“We don’t have any guideline on KMC or any directive on how to care for low birth weight babies but we do have other guidelines such as Prevention of Mother to Child Transmission (PMTCT) and Anti-Retroviral Therapy (ART).”]*

## 4.2. Perceptions of health workers regarding the feasibility of implementation of KMC

The broad themes that emerged from this study as perceptions of health workers regarding the implementation of KMC are parent related, health worker related and baby related.

The perceptions of health workers regarding the implementation of KMC are summarized in table 2.

**Table 2: Themes Identified as perceptions of health workers regarding implementation of KMC.**

Themes	Perceptions
1. Parent- related	Parents' are active participants in their babies' care. Less frustration Self trust Increase competence
2. Health Worker- related	Reduce workload Increase workload Role model
3. Baby- related	Reduced morbidity Increased bonding Improved care

### 4.2.1. Parent -related perceptions

#### 4.2.1.1. Parents are active participants in their babies' care

Participants at non managerial positions felt that parents, especially mothers will be actively involved in caring for their babies as they spent most of their time together. Mothers become the primary care givers of the babies as they do most of the tasks routinely done by health workers when the babies are in the incubators. Examples of those tasks given by participants are such as feeding, nappy changing and cleaning.

*["I think that mothers will be actively involved in the care of their babies and will do all the tasks routinely done by nurses. Mothers will feed, change nappies and clean their babies."]*

#### 4.2.1.2. Less frustration

Other participants at non managerial positions mentioned that if mothers are practicing KMC, they tend to be calm, less disturbed by other factors and very cooperative because they are

monitoring the progress of their babies. They are not waiting for someone to tell them how the babies are doing.

*[‘I remember when I used to work in Central hospital Prem unit where KMC was practised, mothers who practised KMC remained calm in their beds with their babies and don’t bother anyone, they also appeared happy. Mothers who didn’t practise KMC were most of the times in the ward’s walk way and asked nurses lot of questions and they also quarrelled with nurses most of the time, I think practising KMC helped mothers to be less frustrated.’]*

#### *4.2.1.3. Self trust*

Another perception of health workers is that mothers who practise KMC might trust themselves because seeing their babies increasing weight makes them happy and feel that they are working hard as well as rewarded. This was pointed out by participants at managerial positions.

*[“Mothers trust themselves and feel that they are working hard and rewarded by their babies increase in weight.”]*

#### *4.2.1.4. Increase competence*

Other participants at managerial positions felt that KMC will increase mothers’ competency in caring for their babies as they spend a lot of time together. Participants also felt that mothers explore their babies’ bodies, experience a lot of problems and find solutions on their own or sometimes with the health workers assistance and when same problems happen at home after discharge, they already know what to do.

### **4.2.2 Health worker- related perceptions**

#### *4.2.2.1. Reduced workload*

Participants at managerial positions perceived that implementing KMC will relieve health workers, especially nursing staff from their heavy work load.

*[“I think it will relieve nurses from heavy loads as minimum supervision is required compared to when babies are in the incubators. Mothers will look after their babies and report to the nurses if there is a problem.”]*

#### 4.2.2.2. Increased workload

On the other hand, participants at non managerial positions felt that KMC will increase health workers' workload as mothers need to be trained how to practise KMC.

*["I am supporting KMC, but I think it will just further increase health workers workload because each mother with a low birth weight baby need demonstration on how to nurse a baby skin to skin. And in the first few days, regular observation is strictly needed especially for first time mothers."]*

#### 4.2.3. Baby-related perceptions

##### 4.2.3.1. Reduced morbidity

Participants at non managerial positions felt that KMC babies are less prone to infections as they are not handled by many people but only their mothers.

*["I think KMC is a good initiative and we should just encourage mothers to practice it, you know, we health workers sometimes don't wash or disinfect our hands before touching babies, and this can be dangerous as we spread infections. If the baby is nursed by its mother 24 hours, their risks of contracting infections are very low."]*

*["Yes, and sometimes incubators are not cleaned properly before we put a baby in, this put babies at risk of infections."]*

In addition, participants at managerial positions perceived that KMC is beneficial as it reduces morbidity amongst low birth weight infants.

*["Implementing KMC is a good idea (nodding head), I think it's very beneficial in terms of low birth weight babies' general condition. When I was working in a neonatal unit in Harare, Zimbabwe, I have seen that KMC babies get less apnoeic attack compared to incubator cared babies."]*

*["KMC can control babies' temperature better than incubators, with KMC, a baby can never over heat or becomes too cold as the mother's body will regulate the baby's temperature."]*

#### 4.2.3.2. Increased bonding

Majority (5 out of 6) of participants at managerial positions and all non managerial participants perceived that bonding between mother and her low birth weight baby increases with KMC. This is because mother and baby spend more time together.

*["KMC can increase bonding between mother and her baby because, they spend more hours together (day and night), and mothers tend to love their babies more."]*

*["It increases bonding between mothers and their babies because they spend almost 24 hours together or to say they spend the whole day together."]*

#### 4.2.3.3. Improved care

All participants at managerial level acknowledged that KMC will improve quality of care rendered to low birth weight infants, this is because there is someone always with the babies compared to when left alone in the incubators.

*["It (KMC) is a very good initiative because babies are not left alone, there is always someone with them, in this case their mothers."]*

*["Babies are always with someone or touched by someone and not left alone like in case of incubator care where they spend up to 2 hours alone."]*

### 4.3. Barriers to KMC implementation

The barriers to KMC implementation are summarized in table 3.

**Table 3: Themes identified as barriers to the implementation of KMC.**

<b>Theme</b>	<b>Barriers</b>
1. Health worker- related	Lack of knowledge and skills Attitudes of nurses Resistance to change
2. Health system- related	Lack of information on KMC Lack of KMC guideline/ protocol manual Shortage of nursing staff
3. Mother - related	Resistance to change Breast problems Lack of cooperation

### **4.3.1. Health worker- related**

#### *4.3.1.1. Lack of knowledge and skills*

Participants at non managerial positions mentioned that many health workers don't really know much about KMC. Health workers admitted that they lack knowledge on the benefit of KMC and they also lack practical skills on KMC or don't even know when or how to start KMC.

*["I know what KMC is but I have no idea why it's done, how it's done and when to do it."]*

*["I have never seen a baby nursed under KMC, I never worked at a health facility practicing KMC, if someone asks me to start it here, I really won't know where to start."]*

#### *4.3.1.2. Attitudes of nurses*

Nurses are the primary health care service provider in the health care system. It was interesting to note that one reason why KMC is not implemented was the negative attitudes of the nursing staff toward patients in general. The problem was the rude manner in which some nurses instruct mothers and in return, mothers also give them back the same attitude and refuse to follow instructions.

On the other hand, some nurses who attended trainings refused to give feedback to their colleagues, they don't even bring literatures they were given but preferred to leave them at their houses.

*["Sometimes nurses are also contributing to failure of some programme, the way we communicate to clients is unacceptable, I remember one day my colleague shouted at one mother "put your baby on your chest, why do you want to leave her in the incubator!" then the mother refused and left the baby in the incubator."]*

*["I have problems with my colleagues who attended trainings and never give feedbacks, sometimes if you ask for reading materials, you'll be told I left them home, this is very bad."]*

#### *4.3.1.3 Resistance to change*

Participants at non managerial positions shared their views that if they have enough incubators to care for low birth weight babies, they don't see the need of giving them to their mothers for KMC. They also felt that there are also other districts not practising KMC, it's not necessary for them to start it.

*[“At this hospital, we have a lot of incubators, I don’t think we need KMC, I will not do it!”]*

*[“We cannot start KMC if other districts are not practising it, is it only mothers in our district who are delivering premature babies?”]*

#### **4.3.2. Health system- related**

##### *4.3.2.1. Lack of information on KMC*

It was noted that health care service providers have no access to information on health related topics, including KMC. There is no much literature on KMC that health workers can easily access and KMC is not adequately promoted. The most used and simple method of communication in health setting, the posters, are also not used at all. This was pointed out by participants at non managerial positions

*[“ We want to start KMC but the problem is, we don’t have access to information, there is no resource centre here, there are no books, booklets or pamphlets and we don’t have access to internet, where will I get information I need to start?”]*

*[“KMC is not adequately promoted, even the information and communication materials we receive here from our regional office, such as posters only promote other programme but not KMC.”]*

##### *4.3.2.2 Lack of KMC Guideline or protocol manual*

Participants at managerial and non managerial positions stated that there are no directives on how to care for low birth weight infants or that tell them to implement KMC, they find it difficult to implement KMC because there is no protocol manual or policy guideline to guide them. This was highlighted as a huge barrier to the implementation of KMC.

*[“There is no directive here in maternity ward on how to care for low birth weight infants and KMC guideline or protocol manual is also not available.”]*

*[“We don’t have a KMC guideline in Namibia and we also don’t have one in Tsumeb district, all I see here are guidelines for other programme such as ART, PMTCT and vitamin A supplement, just to mention few.”]*



*[“ I am really finding it difficult to start doing something without a well documented instruction, if there is no guideline on KMC, when do I start it, how do I start it and when should I stop it?”]*

#### *4.3.2.3. Shortage of nursing staff*

Participants at managerial positions felt that shortage of nursing staff negatively affected some health programmes and initiatives. Nurses don't get sufficient time to orientate mothers on how to care for their low birth weight infants, including KMC, they preferred to nurse them in the incubator because it's convenient to them. On the other hand, nurses with knowledge on KMC don't get time to train or give in-service training as sometimes there are only one or two nurses in the ward.

*[“Our hospital have severe shortage of nursing staff, sometimes nurses work one or two in maternity ward. And sometimes two mothers can arrive at the same time and all are almost fully dilated. By the time nurses finish conducting their deliveries, they are very tired and don't have time to show other mothers how to put their babies in their chests for KMC. It's better to put in the incubators because some mothers really need time to become competent and to be trusted to be left alone with their babies.”]*

#### **4.3.3. Mother- related**

##### *4.3.3.1. Resistance to change*

Both participants from managers and non managerial group stated that it's difficult to implement KMC because mother who give birth to low weight babies already know that they are suppose to be cared for in the incubator until they reach a certain weight. If you tell them to practice KMC, they wouldn't understand it because incubators are believed to be the traditional way of caring for low birth weight babies. Mothers resist this change due to the reason that they are not well informed about it or prepared for it.

*[“Mothers believe that the only way a low birth weight pick up weight is when it's in the incubator, it's like a tradition. Whoever proposes a mother to nurse a 1.200kg babies in KMC will be considered crazy by that mother, I will not try it (laughing).”]*

*[“People generally tend to resist changes without concrete reasons, this can also hinder the district to implement KMC.”]*

#### 4.3.3.2. Breast problems

Some participants at non managerial positions shared bad experiences of taking a baby from the incubator and handing him/her over to the mother for KMC. If the mother was used to express milk and feed the baby in the incubator, they develop breast problems such as engorged breasts and cracked nipple because they will be struggling to attach the baby to the breast, if they stop expressing milk. This has been identified as a barrier to implementation of KMC.

*[“Long time ago, I remember we took one baby out of the incubator and the mother was supposed to practice KMC. She was not getting enough time to express milk as the baby kept her busy, she later develop cracked nipple and breast engorged as it was tough to attach the baby to the breast and her breast remain constantly full. As soon as the baby was put back in the incubator, she was fine, no breast problem. Since then, I never encourage any mother to do it.”]*

#### 4.3.3.3. Lack of cooperation

Participants at non managerial positions pointed out that KMC is an initiative that requires cooperation between mothers and health workers and it cannot be a success if it's lacking. Some mothers generally have a negative attitude and fail to follow health workers instructions.

*[“KMC is an initiative that requires cooperation between mothers and health workers. If there is no cooperation, KMC cannot be successfully implemented.”]*

*[“Some mothers just refuse whatever the health workers are telling them because they have negative attitudes and fail to follow whatever the health workers are telling them.”]*

#### 4.4. Factors required for making KMC implementation a success.

Factors required to make implementation of KMC a success are summarized in the table below.

**Table 4: Factors required for making KMC implementation a success.**

<b>Theme</b>	<b>Factors required</b>
1. Support	Financial support District KMC focal person/mentor

	External supporter Mothers' support and involvement
2. Health system- related	Availability of guidelines Training of health workers Involvement of stakeholders Incorporation of KMC into the routine newborn baby care Health workers' motivation
3. Environmental- related	Availability of visual aids Comfortable environment

#### 4.4.1. Support

##### 4.4.1.1 Financial support

Participants at managerial positions pointed out that financial support is needed to conduct health workers training and also to buy necessities such as heaters, gowns and babies' blankets. Furthermore, one participant at non managerial position mentioned that funds can be used to buy extra snacks for the mothers because sometimes hospitals meals are inadequate.

*["We really need financial support to conduct health workers trainings."]*

*["The district needs financial support to purchase the necessities such as gowns, heaters and babies' blankets. At the moment we don't have gowns or blankets suitable for KMC. Sometimes this hospital's food portions are too small, inadequate for breastfeeding mothers, if we get extra funds, we can use some to buy snacks for KMC mothers."]*

##### 4.4.1.2. District KMC focal person/mentor

Participants at managerial positions suggested that another way to make KMC a success is to have a district KMC focal person or a mentor. This person should be put in charge of monitoring and evaluating the programme and also act as a support person.

*["I am suggesting that we should have a KMC support person or mentor in the district to support and also help to educate health workers."]*

*["The district management team should appoint a KMC monitoring and evaluation officer to be responsible for monitoring the programme and attend to problems as soon as they arise."]*

#### 4.4.1.3. External supporters

Another suggestion given by a participant at non managerial position is that the district can learn from other districts or regions. This can be done by requesting or getting advices from districts that are successfully practising KMC or hire an expert in the field of neonatology to advise them on how to make KMC practice a success.

*["I am having different ideas, why not first see how other districts started to implement KMC and then we follow their plan to see whether it will work."]*

*["We can call in experts in the field of neonatology to guide us the first few weeks, I know this is a costly exercise but beneficial."]*

#### 4.4.1.4. Mothers' support and involvement

Participants at managerial positions felt that for KMC implementation to be a success mothers need to be fully involved from the very beginning and they need proper support. Factors mentioned are like educating mother from early stage of their pregnancies on the care of the newborn baby including KMC. Furthermore, one participant at non managerial position pointed out that all mothers of sick and low birth weight infants should be given psychological support.

*["Health education given to pregnant women attending antenatal care clinics should include care of the newborn babies and KMC, it should be done irrespective of gestational age. This is because you never know who is going to deliver a baby with low weight."]*

*["I think mothers will also need psychological support. For example counselling, because giving birth to a very small baby can be traumatizing, one needs proper counselling."]*

### 4.4.2. Health system- related

#### 4.4.2.1. Availability of guidelines

Participants at managerial positions felt that KMC should become a well documented policy for its implementation to be a success. All steps need to be documented for health workers to do it with confidence.

*["I think we should have a clear KMC policy guideline in order for health workers to encourage mothers to practice it."]*

*[“We need a guideline with all the steps, for example, KMC is for which babies, when to start it, how to start it and when to stop.”]*

#### *4.4.2.2. Training of health workers*

Participants at non managerial positions mentioned that proper training and refresher exercises need to be conducted in order for implementation of KMC to be a success.

*[“Health workers need proper trainings on the history of KMC and its benefits.”]*

*[“KMC should be included in the in-service training programme of health workers and refresher exercises need to be conducted at least three times per year. If the new staff member is allocated at maternity department, the in charge should make sure to orientate he/him to KMC.”]*

#### *4.4.2.3. Involvement of stake holders*

Participants at non managerial positions suggested that involvement of the stakeholders working toward improvement of maternal and child health will make KMC implementation a success. The stakeholders identified by participants are such as WHO, UNFPA, UNICEF, Oshikoto Regional Health Directorate, especially the Family Health Division, Tsumeb hospital’s nurse manager and supervisor of maternity department.

*[“All stakeholders working toward improving mother and child health should be involved in the training of health workers and make sure to provide needed support such as financial and material support.”]*

*[“I am suggesting that stakeholders such as UNFPA, WHO, UNICEF, Family Health Division at Oshikoto Regional Health Directorate should be involved in the practice of KMC and support mothers and health workers.”]*

*[“Office of the nurse manager at our district and supervisor of maternity department should join other stakeholders especially in the training of health workers and make sure practice of KMC in the district become a success.”]*

#### 4.4.2.4. Incorporation of KMC into the routine newborn baby care

Participants at managerial positions mentioned that another way to make KMC a success is to incorporate it in the routine care of the newborn baby and make it a standard practice of all newborn babies.

*["KMC should just become a standard care practice of all newborn babies or incorporate it in the routine care of newborn babies. In that way, no one will forget about it, even mothers themselves will remember it."]*

#### 4.4.2.5. Health workers' motivation

Health workers need to be motivated in order for them to encourage mothers to practice KMC. This was mentioned by one participant at non managerial position.

*["The district should develop a system of awarding certificates of appreciation or recognition or present to health workers and mother who successfully coached mothers to practice KMC. This should be done on a quarterly basis."]*

### 4.4.3. Environmental- related

#### 4.4.3.1. Availability of visual aids

Participants at non managerial position pointed out that displaying KMC posters or models in maternity departments will make the practice of KMC easier. It will also serve as a reminder and make it easy for mothers to understand KMC.

*["I think posters or models should be placed in maternity departments just to remind mothers and make it easy for them to understand KMC. Sometimes mothers don't understand when nurses are explaining something to them but they understand it better if they see a picture."]*

#### 4.4.3.2. Comfortability of the environment

The ward environment should be comfortable for mothers to practice KMC. Participants at non managerial positions pointed out factors like baby friendly room temperatures and mothers' privacy as important to look at when one wants to practice KMC successfully.

*["The environment have to be comfortable, here I mean if the rooms are too cold, the environment is not comfortable for the babies."]*

*["Mothers' privacy should be considered. Mothers have to care for their babies skin to skin, so KMC rooms should be strictly restricted from visitors and only close relatives are suppose to visit in the rooms. The rest of the visitors have to wait for mothers to see them at the waiting area of maternity department."]*

#### **4.5. Conclusion**

This chapter outlined the knowledge of health workers on KMC as well as their perceptions on KMC. Barriers to KMC implementation as well as factors influencing KMC were also presented. Both trainings and KMC guidelines were highlighted in the barriers and factors influencing KMC implementation.



## CHAPTER 5

### 5. DISCUSSION

This chapter will discuss the key findings of the study, which are the perceptions of health workers on KMC, barriers to KMC implementation and factors increasing the success of KMC practice.

The aim of the study was to explore perceptions of the health workers regarding the feasibility of KMC implementation in the maternity ward of Tsumeb district hospital. There are many studies conducted throughout the world, including the African continent, which looked at the benefits of KMC, barriers to its implementation and perceptions of health workers on KMC.

Examples of those studies are a national survey conducted in the United States to assess practices, barriers and perceptions regarding KMC (Settle et al, 2002). An exploration of attitudes, practices and concerns in the use of Kangaroo Care by nurses working in the neonatal intensive care unit of a Melbourne public hospital in Australia (Chia, Sellick & Gan, 2006). A study conducted to identify factors involved in unsuccessful KMC implementation in developing countries, and proposed solutions (Charpak & Ruiz-Pelaez, 2006) and a survey at six KMC sites in Rwanda (Johnson, 2009). There is no study conducted in Namibia or Tsumeb district on KMC.

#### **5.1. Perceptions of health workers regarding the implementation of Kangaroo Mother Care**

This study broadly shows that health workers in Tsumeb district have both positive and negative perceptions regarding the implementation of KMC. Participants at managerial positions gave more of the positive perceptions compared to other participants. The three main themes that emerge from the study are parents- related factors, health workers- related factors and babies- related factors.

##### **5.1.1. Parent- related perceptions**

###### *5.1.1.1. Parents active participants in their babies' care.*

The baby and mother friendly initiative guidelines (MOHSS, 1992), emphasis that mothers should be actively involved in the care of their infants and should be allowed to spend together almost 24 hours per day. Currently, mothers of premature infants are not actively involved in the care of their babies as babies are nursed by the nurses in the incubators



located in the prem room. Babies are not rooming in with their mothers. This practice does not allow them to be together for almost 24 hours per day as indicated in the baby and mother friendly initiative guidelines. In this study, most health workers felt that should KMC be implemented, it will make it possible for mothers to be actively involved in the care of their babies. When babies are in the incubators, nurses sometimes feed the babies and change nappies when mothers are not around but with KMC, mothers have to be present all the time and care for their babies. Studies conducted on health workers' perceptions on KMC did not reveal the same results but this factor was revealed as an advantage of KMC. According to Cuttaneo, et al (1998), KMC was found to help in the humanization of neonatal care. It is more humane for a mother to take care and spend more time with her low birth weight infant than to nurse the infant in the incubator. No evidence of study that revealed contradictory findings.

#### *5.1.1.2. Less frustration*

Giving birth to a low birth weight baby can be a stressful event in the woman's life, especially if she is not informed of the baby's progress by the health care personnel (Martinez, undated). In this study, five participants felt that mothers practicing KMC tend to be calm, less disturbed by other factors and very cooperative. This is because they monitor the progress of their babies and are not waiting for someone to tell them how their babies are doing. There have been instances where a participant shared an example whereby mothers who did not practice KMC were seen standing on the ward's walk way while those who practiced KMC remained calm in their beds and appeared happy. In the literature, this was also confirmed by the study conducted by Browne (2004), which investigated the physiology of skin to skin contact for parents and their preterm babies. This study reported that KMC mothers were less depressed compared to mothers who didn't practice KMC (Browne, 2004). In another study, mothers who practiced KMC were found to be emotionally stable compared to the control group because KMC helps them recover from emotional shock coupled with preterm birth (Affanso, Wahlberg & Persson, 1989).

#### *5.1.1.3. Self-trust*

Study participants felt that if mothers practice KMC, they tend to trust themselves. Mothers feel that they are rewarded as their babies pick up weight, they actually develop the feeling that it's them helping their babies. Similar findings reported by WHO (2003), indicated that mothers who practiced KMC were confident and empowered. KMC were reported to be.

KMC mothers have more self-confidence, self-esteem and a greater sense of achievement in the parental role (Nyqvist et al, 2010). In contrast to that, a study by Chia, Sellick & Gan (2006) reported that some parents have fear of holding their small infants and lacks self confidence.

#### *5.1.1.4. Increase competence*

According to the mother and baby friendly initiative guidelines, all mothers should be allowed to practice baby care as early as possible after the baby is born in order to be more competent (MOHSS, 1992). This also emerged out of this study as one of the perceptions of health workers regarding KMC implementation. Health workers felt that should KMC be implemented, mothers who practice it will become more competent in caring for their baby. This is because they spend more time together, experience more problems and find solutions on their own or with the health workers assistance. This was also shown in a study by Browne (2004), mothers who practice KMC were reported to be more competent in baby care. There is no evidence of a study that revealed contradictory result to the findings revealed by this study regarding KMC and mothers' competency in baby care.

### **5.1.2. Health worker- related**

#### *5.1.2.1. Reduced workload*

Shortage of health care workers is a problem experienced in almost all health districts in Namibia, including Tsumeb district. In this study, the practice of KMC was reported to reduce health workers' workload. This is because mothers look after their babies most of the time, therefore participants felt that the district will benefit if KMC is to be implemented. Literatures also highlight that KMC is beneficial in terms of health workers' workload. KMC outcomes are significant saving, more resourceful use of health workers time and reduced workload (Cattaneo, Davanzo, Uxa & Tamburlini, 1998).

In contrast to that, study participants felt that implementation of KMC will increase their workload. This is because health workers will spend some time coaching mothers on how to practice KMC. This meant health workers on the other hand are not happy about this practice. This was also the case in other countries, whereby health workers had negative perceptions towards KMC. They eventually did not support KMC because support and training KMC mothers are extra work for them (Charpak & Ruiz-Peleaz, 2006). This was also noted by Chia, Sellick & Gan (2006) who reported issues that are considered as major problems during

staff shortage. These issues are, time involved in preparing the infant, supporting parents and monitoring the infant's condition during KMC increase neonatal nurses' workload.

### **5.1.3. Baby- related**

#### *5.1.3.1. Reduced morbidity*

High neonatal morbidity and mortality remains a challenge in developing countries. However, there is strong evidence that KMC can reduce neonatal morbidity. This was confirmed by many studies such as a randomized trial that found a significant reduction in severe infections such as septicaemia and pneumonia during the first 6 months of a KMC babies' life, compared to incubator cared babies (Hall & Kirsten, 2008). In another study, KMC babies were found to have fewer nosocomial infections and also fewer severe infections at 1 year of corrected age (Charpak, Ruiz-Pelaez, Figueroa & Charpak, 1997).

In this study, perceptions of many participants were that KMC babies are less prone to infections. The rationale was that because the provision of basic care is done by mothers only, this reduces the risk of transmitting microbes to the babies. Another risk factor for infections transmission pointed out by participants is the unclean incubators. They felt that incubators are not cleaned properly and this can also spread infections and incubator cared babies tend to pick up microbes from dirty incubators.

In a study by Ferbes and Morkhoul (2004), KMC cared healthy newborn babies were found to have reduced rates of apnoea attacks and bradycardia. In this study, one participant observed that KMC babies get less apnoeic attack. And another one reported that KMC help control babies' temperature. KMC has an effect on the baby's body temperature. This was confirmed by many studies, for example a comparative study of KMC and incubator care of hypothermic newborn babies. It revealed that within the same time, a larger proportion of KMC warmed babies reached normal body temperatures faster than incubator warmed babies (Johnson, 2009). There is no evidence of a study that revealed opposite findings regarding KMC and its effect on the neonatal morbidity.

#### *5.1.3.2. Increases bonding*

The baby and mother friendly initiative guidelines encourage health workers to ensure that bonding between mother and her newborn baby is achieved (MOHSS, 1992), but the expensive equipments and technologies used in developed countries prevent this to commence early as needed (Cattaneo et al, 1998). The practice of KMC facilitates bonding

between mother and her baby, but low birth weight babies in Tsumeb district maternity department do not room in with their mothers. This study highlighted that because of more time the mother and her baby spend together in KMC practice, bonding is increased. These results support previous findings by Chia, Sellick & Gan (2006) that revealed that neonatal nurses felt that the practice of KMC promotes infant-parent bonding. WHO (2003) also confirmed that KMC contributed to improved bonding between mother and baby irrespective of the type of setting it's practiced. No study revealed contradictory results regarding KMC and bonding.

#### *5.1.3.3. Improved neonatal care*

Participants of this study perceived that KMC will improve quality of care rendered to low birth weight infants. This is because mothers are always with their babies compared to when they are left in the incubators and no nurse is present to continuously observe them. Incubators also add extra cost because they are power operated and need regular maintenance to function. These results confirmed previous results by Cattaneo et al (1998) which found that KMC does not require special equipments and can be applied to any setting but at the same time it can add quality to the care of the neonates without any extra cost. There is no evidence of a study that revealed opposing findings regarding KMC and quality of neonatal care.

## **5.2. Barriers to implementation of KMC**

The study broadly shows that there are barriers to KMC implementation in Tsumeb district, despite its advantages. Three main themes that emerged from the study are health worker related, health system related and mother related.

### **5.2.1. Health worker- related**

#### *5.2.1.1. Lack of knowledge and skills*

NICE (2007) identified factors such as lack of awareness, knowledge and skills of what is to be changed and why it has to be changed as factors that may impede changes to take place in the health care settings. In this study, participants pointed out that they know what KMC is but they don't know much on its benefits. If they don't know its benefits, it means they're not aware that they need to change the care practice of newborn babies. Even participants who have theoretical knowledge on KMC lack practical skills to implement KMC. The literatures

highlighted barriers to KMC implementation, such as lack of knowledge on KMC (Charpack, De Calume & Ruiz, 1998). This was also found in Australia where health workers failed to implement KMC because they were not educated about it (Seattle *et al*, 2002) and a Swedish study that revealed that nurses did not implement KMC because they were uncertain about its importance (Wallin, Ludberg & Gunningberg, 2005).

In contrast, barriers to changes in health care practices are not always related lack of knowledge and skills alone. Titus (2007), reported that health workers are equipped with necessary skills and knowledge but are reluctant to change or the health system lacks necessary equipments to implement change and the health workers still claim to lack knowledge and skills.

#### 5.2.1.2. *Attitudes of nurses*

According to the baby and mother friendly initiative guidelines, all health workers are advised to promote and develop a positive attitude towards the mothers and babies in their health facilities (MOHSS, 1992). This was not echoed in this study whereby some health workers were reported to have negative attitudes towards the mothers and also their colleagues. Nurses give instructions in a rude manner resulting in mothers refusing to follow them and therefore, making it difficult to implement KMC. The literature highlights the health workers' attitudes and behaviour as one of the barriers to KMC implementation. The study by Fenwick, Barclay & Schimied (2001), revealed that the attitudes, behaviours and practices of nurses significantly impacted on the women's experience of mothering in the neonatal intensive care unit.

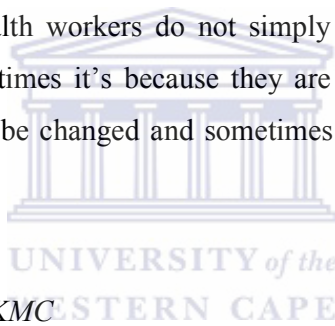
Dissimilar result found in literature regarding attitudes of nurses and implementation of changes in the health care practices is that in general, clients in health care services come with their negative attitudes to the health care facilities and at the end blame it on the health care providers (Titus, 2007).

Sharing of information among health workers is the key to improve neonatal care and need to be strengthened (UNICEF, 1999). This was not the same in this study because some nurses were reported to have negative attitudes towards their colleagues and refused to share information with them. Similar result was also highlighted in the literatures whereby lack of support from peers and poor interpersonal relationships was identified as barriers to changes in the health services (NICE, 2007).

### 5.2.1.3. Resistance to change

According to the mother and baby friendly initiative guidelines, health workers are urged to advocate for new maternal and neonatal care interventions proposed by the ministry and other stakeholders (MOHSS, 1992). However, some health workers refuse to support and implement initiatives such as KMC. This barrier also emerged from this study. Health workers didn't see the need of KMC because of many incubators available in their district. It was reported that KMC is not practiced at other districts therefore, the health workers cannot do it in Tsumeb district. This means health workers in Tsumeb district perceived that KMC is an inferior quality of care compared to incubator care. Similar result was found in Brazil, where health workers' resistance to change was identified as one of the barriers to KMC implementation (MOH, Brazil, 1997).

However, some studies conducted on implementation of changes in health care practices revealed opposite findings. Health workers do not simply reject changes in care practices without valid reasons but sometimes it's because they are often not involved in the initial discussions about what need to be changed and sometimes do not trust the promoter of the propose change (Grol, 1992).



## 5.2.2. Health system- related

### 5.2.2.1. Lack of information on KMC

In 2010, the Ministry of Health and Social Services launched the road map for accelerating the reduction of maternal and neonatal morbidity and mortality in Namibia. This road map documented the interventions that will be used to reduce maternal and neonatal morbidity as well as mortality. One of the interventions is to equip health care providers with adequate knowledge and skills to provide maternal and neonatal health care services (MOHSS, 2010). This can be done through provision and accessibility of information to health workers. This road map is still not fully implemented in Tsumeb district because health workers do not have access to information for example via books or pamphlets. This study revealed that there are no literatures available on KMC for health workers to educate themselves and KMC is not adequately promoted. At some point, one participant shared that information and communication materials are only promoting other programme such as prevention of mother to child transmission of HIV but not KMC. Similar findings were reported at the second international workshop on KMC held in Colombia from 30/11/1998 to 04/12/1998. Lack of

information on KMC was discussed as one of the problems experienced with the implementation of KMC at different settings (Charpak, De Calume & Ruiz, 1998).

However, a conference held in Windhoek from 26-27 October 2007 to discuss problems and solutions to barriers to changes in health care practices reported that in most cases, information are available on changes to be implemented in the health care practices but health care providers are reluctant to do read (Titus, 2007).

#### *5.2.2.2. Lack of KMC guideline or protocol manual.*

According to the WHO Kangaroo Mother Care practical guide, standardized national protocols need to be developed on how to care for small babies. Local written policies and guidelines on KMC should be available at health care facilities implementing KMC and should be adjusted to the local situation and culture (WHO, 2003). This study broadly revealed that KMC was not implemented because there is no directive on how to care for low birth weight infants and no policy or guideline on KMC. Some participants find it difficult to practice it because they were not told to do it and they have a lot of questions such as when to start or how to start it. There is no guideline available to direct them.

This was also highlighted in the literature. For example lack of policies on KMC, the absence of policies and procedures for holding infants in the neonatal intensive care units (Charpak, DeCalume & Ruiz, 1998; Charpak & Ruiz-Palaez, 2006), and absence of clear protocols (Chia, Sellick & Gan, 20006) were found to be barriers to KMC implementation.

In contrast, Grol (1992), reported that lack of Guidelines cannot sometimes be considered a major barrier in general care practice because their availability do not guarantee that change will be implemented as guidelines are not self implementing.

#### *5.2.2.3. Shortage of nursing staff*

This study revealed that participants did not implement KMC because of shortage of nursing staff. They therefore rather nurse babies in the incubators instead of spending time coaching mothers on how to practice KMC. Nursing staff's preference of incubator care over KMC is also associated with them being overworked. Some participants mentioned that there are times when one or two nurses work in the maternity ward and two expecting mothers may

arrive at the same time. This limits them from interacting with mothers who need to be couched on KMC.

In contrast to those findings, it is reported in the WHO Kangaroo Mother Care practical guide that KMC do not require additional staff more than the incubator care (WHO, 2003).

### **5.2.3. Mother- related**

#### *5.2.3.1. Resistance to change*

According to the baby and mother friendly initiative guidelines, the family and mothers are essential for the successful implementation of this initiative (MOHSS, 1992). They should also have positive attitudes. This study revealed that some mothers resisted KMC because they felt it is not the right way to care for their low birth weight babies. Traditionally, people have a believe that a low birth weight baby have to be cared for in the incubator and this negatively contributed to lack of implementation of KMC as mothers failed to understand why they need to practice it. Barriers to KMC implementation in the literature highlighted factors such as non acceptance by mothers of abnormal and ill babies (Lawn, Mwansa-Kambafwile, Horta, Barros & Cousens, 2010). In addition, It is difficult to implement changes if a client is attached to his/her own traditional beliefs (Titus, 2007).

#### *5.2.3.2. Breast problems*

One of the ten steps in successful breast feeding is to show mothers how to breastfeed and maintain lactation (MOHSS, 1992). And according to MOHSS (2010), one of the interventions to achieve availability and quality maternal and neonatal services is to provide all pregnant women a complete package of focused antenatal care and counselling on breastfeeding. Should proper counselling on breastfeeding not be done, mothers might not know how to manage breastfeeding problems.

One of the barriers to implementation of KMC that emerged from this study is that mothers develop problems such as engorged breasts and cracked nipple if management of breastfeeding is not properly done. This is because mothers do not regularly express the milk or babies are attached poorly to the breast, causing them to crack or engorge. In return, mothers do not practice KMC. There is no evidence of a study that revealed similar findings or studies the relation between KMC and breast problems.



### 5.2.3.3. *Lack of cooperation*

WHO KMC practical guide identified the mother, personnel and supportive environment as the most important resources in KMC (WHO, 2003). This means KMC implementation will be challenging if there is no cooperation between mothers and health workers. This study revealed that lack of cooperation between health workers and mothers hinders implementation of KMC, as some mothers failed to follow health workers instructions. Literature also revealed that some families are reluctant to initiate and practice KMC (Browne, 2004). However, it was reported that there is always a reason why people do not cooperate in the process of implementing changes in the health care practices, therefore health care providers should investigate what caused lack of cooperation (Titus, 2007).

## **5.3. Factors required for making KMC implementation a success.**

The three themes that emerged from this study as factors required for making KMC implementation a success are support, health system related and environment.

### **5.3.1. Support**

#### *5.3.1.1. Financial support*

Participants mentioned that one of the barriers to KMC implementation is lack of information. A way to do away with this barrier is to have financial support. Financial support provided can be used to organise and conduct trainings needed to equip health workers with information regarding KMC. Some participants felt that financial support can also be used to buy items needed to support KMC, such as gowns, babies' blankets and heaters. According to the WHO practical guide, the support binder is the only unique item needed for KMC (WHO, 2003). The support binder has to be made from the soft piece of fabric and it's used to hold babies to their mother's chest. This can be made available through financial support.

According to the baby and mother friendly initiative guidelines, breastfeeding mothers need extra food (MOHSS, 1992), as they require extra calories to produce milk. Participants suggested that financial assistance may be used to buy extra food for mothers. This can be done because hospital meals are supposedly served in small portions and are insufficient for breastfeeding mothers. Extra food will be given to all breastfeeding mothers in the ward

whether they physically put babies on the breasts or express breast milk. This may uplift the mothers' spirit and in turn, contribute to successful implementation of KMC.

#### *5.3.1.2. District KMC focal person/mentor*

This study revealed the perception that it's necessary for the district to have a focal person or mentor for the successfulness of KMC implementation. This person can monitor and evaluate KMC in the district and at the same time can also act as a KMC support person. Mentoring in KMC was also highlighted in the literature. According to Ludington-Hoe, Morgan & Abouelfetoh (2008), some health workers require mentoring during 2 to 3 sessions to become comfortable in the practice of KMC.

#### *5.3.1.3. External supporters*

Although study participants have indicated that they do not think it's necessary to implement KMC in Tsumeb district, there are few health districts that are currently practising KMC in Namibia, such as Onandjokwe and Windhoek. Another factor to facilitate implementation of KMC emerged from this study is to get experts in the field of neonatology from other districts or region. They can be taken from the regions or districts that successfully implement KMC. These people can advise health workers on different aspects related to KMC.

#### *5.3.1.4. Mothers support and involvement*

The presence of the mothers is continuously required in KMC, therefore they need to be supported on different aspects regarding baby care (WHO, 2003). They also need to be fully involved. This study revealed that mothers need to be educated from the early stage of their pregnancies. Psychological support should also be provided to mothers, especially those whose infants are sick or of low birth weight. According to Seattle et al, (2002), parents need support from nursing staff to promote self-reliance in using KMC and to alleviate their anxiety about handling their infant. No contradictory results were found in the literature.

### **5.3.2. Health system- related**

#### *5.3.2.1. Availability of guidelines*

The first European conference and seventh international workshop on KMC that took place in October 2008 in Uppsala, Sweden, recommended that every health care facility providing infants' services should have a written policy on KMC (Nyqvist et al, 2010). It should be communicated to all health care professionals. The policy should also document all

components in the process of providing KMC. WHO also recommended all health care facilities implementing KMC to have written policies (WHO, 2003). Lack of KMC guidelines emerged as a major barrier to implementation of KMC and most participants felt that availability of the guidelines will make KMC implementation a success.

In contrast, literature highlighted that availability of clear guidelines improves clinical practices only when introduced in the context where regular evaluations are conducted (Grimshaw & Russell, 1993).

#### *5.3.2.2. Training of health workers*

Providing training to health workers is an intervention necessary for the success of new initiatives and is documented in health related guidelines such as road map for accelerating the reduction of maternal and neonatal morbidity and mortality (MOHSS, 2010). The WHO KMC practical guide also recommends that health workers should get sufficient training in all aspect of KMC and each facility to have a continuous education programme in the area of KMC (WHO, 2003). Participant of this study also suggested that for KMC implementation to be a success, they should be trained and continuous refresher courses should be conducted. Refresher courses are necessary for keeping health workers up to date with new developments regarding KMC. In the literature, an international workshop on KMC that took place in Trieste, Italy from 24-26 October 1996 identified training of health workers on KMC as one of the five groups of critical requirements for KMC implementation (Cuttaneo, Davanzo, Uxa & Tamburlini, 1998). Training of health workers in skills necessary to implement KMC is one of the steps in the successful KMC implementation as pointed out by WHO (2003).

#### *5.3.2.3. Involvement of stakeholders*

According to the MOHSS (2010), strategies and interventions related to maternal and child health can only be achieved with involvement of all stakeholders. These stakeholders are such as other ministries, tertiary education institutions, civil society organizations, faith based organizations, health professional councils and development partners. They can be involved through financial support, training of health workers, dissemination of information and also implement KMC. In this study, stake holders identified in the maternal and child health are WHO, UNFPA, UNICEF, family health division (MOHSS) Oshikoto region, Nurse Manager

and supervisor of maternity ward. Participants suggested they should give material and financial support.

However in contrast, involvements of stakeholders in inducing change in health care practices are not effective in the implementation of the practice itself but only effective in the dissemination of information (Wensing, Van der Weijden & Grol, 1998).

#### *5.3.2.4. Incorporation of KMC into the routine newborn baby care*

WHO KMC practical guide recommended that KMC should not be an isolated programme but should be integrated into existing neonatal services (WHO, 2003). This study revealed that incorporation of KMC into the routine newborn baby care will make its implementation a success. It should be a standard practice for all newborn babies and this way, lot of babies can benefit from it. According to Wensing, Van der Weijden & Grol (1998), an intervention incorporated in other existing interventions are more effective than a single.

#### *5.3.2.5. Health workers' motivation*

Lack of motivation prevents changes in health care practices (NICE, 2007). This study revealed that motivation of health workers can make implementation of KMC a success. It's necessary for health workers to be motivated in order for them to encourage mothers to practice KMC. An example of health workers' motivation system that emerged from this study is to award certificates of appreciation or recognition to health workers who successfully coached mothers to practice KMC.

In contrast, a study by Solberg et al (2000) revealed that implementation efforts with single strategy that focus on clinicians are not likely to succeed but rather use a multiple strategy that include the external environment.

### **5.3.3. Environmental- related**

#### *5.4.3.1. Availability of visual aids*

According to Nyqvist et al (2010), information on KMC should be made available to the mothers in writing or in the appropriate layout for illiterate parents. Appropriate format for illiterate mothers can be posters and models. It was echoed in this study that the use of posters and models can serve as a reminder and facilitate the practice of KMC. Participants further mentioned that it can make it easy for mothers to understand KMC.

In contrast, availability of visual aids does not guarantee that changes will be implemented because health care providers and clients sometimes ignore them and continue with their traditional practices (Titus, 2007).

#### *5.4.3.2. Comfortability of environment*

The WHO KMC practical guide recommended that KMC rooms' temperature should be warm and suitable for small babies (at least 20-24 degree Celsius) (WHO, 2003). Participants from this study also suggested that the room temperature should be friendly to the baby for KMC implementation to be a success but they did not specify the range of the temperature.

As far as the environment is concerned, this study also revealed that mother's privacy should be considered when choosing a KMC room. For KMC implementation to be a success, visiting to the rooms should be restricted except for close relatives.

### **5.4. Conclusion**

This chapter emphasises that health workers have both positive and negative perceptions regarding KMC implementation. The results of the study show that there are many barriers to KMC implementation, the main ones being lack of guidelines on care of the low birth weight infants and KMC policy guidelines. Participants of this study suggested factors that can make KMC implementation a success and they are in line with the KMC requirements according to the WHO KMC practical guide.

## CHAPTER 6

### 6. CONCLUSION AND RECOMMENDATIONS

#### 6.1. Conclusion

The study explored perceptions of health workers regarding the implementation of Kangaroo Mother Care in Tsumeb district hospital maternity ward. Three broad themes emerged from the perceptions of health workers: parent- related perceptions, health worker- related as well as baby- related perceptions. Perceptions of health workers found in this study were not really similar to perceptions of health workers in other countries, except for increased workload that was also found in developing countries.

Most health workers seemed to have perceptions that are parents' related, those include less frustration in KMC mothers, self trust, increased competency and parents are perceived to be active participant in baby care when KMC is implemented. Other perceptions are related to the health workers themselves. Some health workers felt that KMC might increase their workload but at the same time some perceived that it might reduce their workload and make them role models. Perceptions that emerged from this study that are baby- related are reduced morbidity, increased mother-baby bonding and improved babies' care. Those were similar to the findings of trials that studied the benefits of KMC.

Participants gave the barriers to KMC implementation and also suggested factors that might make KMC implementation a success. Themes that emerged from the study as factors to make KMC implementation a success are support, health system related and environmental related factors.

#### 6.2. Recommendations

In this section, the overview of the available guidelines that are related to the child's health will be given, followed by the recommendations made based on the results of this study and measures to ensure implementations of the recommendations.

- The Ministry of Health and social services have the following guidelines that are related to child health.
- The Integrated Management of Newborn and Childhood Illnesses (IMNCI) guidelines that were revised in 2011 to include care practices for low birth weight infants

(MOHSS, 2011a). These guidelines clearly indicated that low birth weight infants can be kept warm through KMC practice. Training can be conducted to orientate health workers to the revised IMNCI guidelines and nursing students should be introduced to these guidelines in their training in order to facilitate the implementation process. The IMNCI guidelines are optimal in the successful implementation of KMC.

- The baby and mother friendly initiative guidelines, these guidelines were developed to contribute to the development, survival and protection of the babies and also to improve health status of the mothers (MOHSS, 1992). They outlined the advantages of breastfeeding, ten successful steps to breastfeeding, and roles of key actors in the mother and baby friendly initiatives in Namibia. The mother and baby initiative guidelines encouraged mothers and baby to spend almost 24 hours together to facilitate bonding, however they did not clearly indicate how it suppose to be done. These guidelines can be amended to indicate that mother- baby bonding can be promoted through KMC practice as it's proven to increase bonding. These guidelines are also optimal in the successful implementation of KMC.
- The National guidelines on infant and young child feeding, these guidelines were developed in line with the WHO HIV and Infant feeding revised principles and recommendations, rapid advise that was released in 2010 but contain information relevant to all mothers, irrespective of their HIV status (MOHSS, 2011b). These guidelines are also optimal in the successful implementation of KMC in Tsumeb district as they already support the practice of skin to skin care. Supervisors need to get more copies and make them accessible to health workers in the district.
- Guidelines for the prevention of mother to child transmission of HIV (MOHSS, 2008). Although these guidelines were developed to prevent transmission of HIV from mother to her baby, they also contain information on the immediate care and the management of newborn babies that can be applied to all babies, irrespective of their mothers' HIV status. These guidelines also encourage rooming in for mothers and their babies but they need to be amended to include the encouragement of prolonged skin to skin contact between mothers and their babies.

- Amendments to the guidelines can be made through submitting these study findings to the Management, Information and Research sub division in the directorate Policy Planning and Research in the Ministry of Health and Social services who can then forward it to the stakeholders and act on it.

➤ The following recommendations can be made based on the findings of this study:

- It's feasible to implement KMC at Tsumeb district hospital but there is a need for a policy guideline. Firstly, the result of this study will be given to the person in charge of the Family Health Division of Oshikoto region and the Principal Medical Officer of Tsumeb district hospital and all the stakeholders. All health workers in the district will be convinced to implement KMC because they all rotate to the maternity department. This can be done by educating them on the advantages of KMC and the researcher will design a standard training package for new health workers allocated in maternity department for the first time.

The researcher will then works together with the stakeholders and coordinate the formulation of KMC policy guidelines at Tsumeb district hospital, since there is no policy in existence. This formulation of the policy will use the WHO KMC practical guide, the IMNCI guidelines as well as the Namibian baby and mother friendly initiative guidelines.

KMC needs to be implemented in Tsumeb district because prematurity have been the leading cause of neonatal deaths in the district. KMC will improve the quality of care rendered to the premature baby and in return, it will reduce neonatal morbidity and mortality. It will be cost effective to implement KMC since it does not need additional staff or any expensive equipment that might be a burden to the budget of the district. KMC will help reduce power consumption of the hospital since incubators will no longer be used to care for the babies.

To make KMC readily accepted, mothers attending ante natal care clinic will be educated about the possibility of delivering low birth weight babies and care practices of these babies. KMC information can also be disseminated via local radio since there is already a program aired once in a week that discusses health related issues. This platform can be used to educate mothers who are pregnant and did not book at the



ante natal clinic yet. This exercise will not be costly because the program is already in existence, KMC should just be included in the topics to be discussed in the radio talks.

➤ The study revealed that health workers do not have information required to implement KMC. The recommendations are to:

- Establish an information resource centre in the maternity department for health workers to have access to books, journals, pamphlets and policy guidelines related to maternal and newborn care.
- Computers in the nurse manager and PMO's offices should be accessible to the health workers who want to search information related to maternal and child health since they have internet connections.
- Health workers who attended training should give feedbacks and share training manuals with their colleagues.
- Through the Family Health division in Oshikoto region, the Information, Education and Communication division in the Ministry of Health and Social Services can develop educational materials for the health workers.

➤ The study also revealed that many health workers are not trained on KMC. The recommendations are:

- Regular training need to be conducted to educate health workers on all theoretical and practical aspects of KMC.
- Incorporate KMC into existing in-service training programme.
- Strengthen the integration of KMC into training curriculum of nurses for MOHSS and the University of Namibia.

➤ Attitudes of health workers also emerged in this study as one of the barriers to KMC. The recommendations are:

- Train health workers on interpersonal skills and stress management to facilitate communication.
  - Encourage health workers with psycho-social problems to seek assistance.
- To bridge the gap between what guidelines entail and what is practiced:
- Unit supervisors are encouraged to ensure availability of guidelines that are related to their units and make sure all staff understand the content.
  - Unit supervisors should have a supervisory checklist and regularly evaluate whether what is practised correspond to what is in the guidelines and inform staff about what is expected from them.
  - Health workers are encouraged to regularly read guidelines in order to update themselves.
- To ensure the implementation of the recommendations from this study, the following should be put in place:
- The researcher will develop a work plan for KMC implementation in Tsumeb district and delegate tasks to different health workers in the district.
  - The researcher will develop a monitoring system with progress markers that could measure the progress of the district in the implementation of KMC.
  - Develop an internal rule for all health workers who attended training to give feedback to their colleagues at least five days after the training.

## REFERENCES

- Affonso, D.D., Wahlberg, V, & Persson, B. (1989). Exploration of Mothers Reactions to the Kangaroo Method of Prematurity Care. *Neonatal Network* 7: 43-51
- Anderson,G.C., Marks, E.A, & Wahlberg, V. (1986). Kangaroo Mother Care for Premature Infants. *American Journal of Nursing* 86(7): 807-809
- Beaglehole, R., Bonita, R. & Kjellstrom, T. (1993). *Basic Epidemiology*. Geneva: WHO
- Bergh, A.M., Arsalo, I., Melan, A.F., Patrick, M., Pattinson, R.C. & Phillips, N. (2005). Measuring Implementation Progress in Kangaroo Mother Care. *Acta Paediatrica* 94: 1102-1108
- Bergh, A.M. & Pattinson, R.C. (2003). Development of a Conceptual Tool for the Implementation of Kangaroo Mother Care. *Acta Paediatr* 92:709-714
- Bergman, N., (2005). *Kangaroo Mother Care Promotions*. [Online], Available: <http://www.kangaroomothercare.com/drbergman.htm> [Downloaded 20/09/2010]
- Bergman, N.J & Jurisoo, L.A. (1994). The Kangaroo Method for Treating Low Birth Weight Babies in a Developing Country. *Trop Doct.* 1994 Apr 24 (2): 57-60
- Brantlinger, E., Jimenez, R., Klingner, J., Pugach, M. & Richardson, V. (2005). Qualitative studies in special education. *Exeptional Children*, 72 (2): 195-207
- Browne, J.V. (2004). Early Relationship Environment: Physiology of Skin to Skin Contact for Parents and their Preterm Infants. *Clinics in Perinatology* 2004 (31): 287-298
- Cattaneo, A., Davanzo, R., Uxa, F. & Tamburlini, G. (1998). Recommendations for the Implementation of Kangaroo Mother Care for Low Birthweight Infants. *Acta Paediatr* 87: 440-445
- Charpak, N., Ruiz-Pelaez, J.G., Charpak, Y. & Figueroa, Z. (1997). Kangaroo mother versus traditional care for newborn infants <2000 grams: A randomized, controlled trial. *Paediatrics* 100(4): 682-688
- Charpak, N., De Calume, Z.F., & Ruiz, J.G. (1998). *II International workshop on KMC: Problems and Solutions for the Implementation of Kangaroo Mother Care According to the*

*Level of Care and Country's Development.* Bogotá, Colombia 30/11-04/12/1998. Bogotá: Fundacion Canguro.

Charpak, N., & Ruiz-Pelaez, J.G. (2006). Resistance to Implementing Kangaroo Mother Care in Developing Countries and Proposed Solutions. *Acta Paediatrica*. 95(5):529-534

Cheater, F., Baker, R., Gillies, C., Hearnshaw, H., Flottorp, S., Robertson, N., Shaw, E.J. & Oxman, A.D (2009). Tailored Interventions to Overcome Identified Barriers to Change: Effects on Professional Practice and Health Care Outcomes (Review). *The Cochrane Library* 2009 (4): 1-32

Chia, P., Sellick, K. & Gan, S. (2006). The Attitudes and Practices of Neonatal Nurses in the Use of Kangaroo Care. *Australian Journal of Advanced Nursing*. 23 (4): 20-27

Creswell, J.W. (1998). *Qualitative Inquiry and Research Design*. Thousands Oaks: SAGE Publications

Denscombe, M. (2007). *The Good Research Guide for Small-scale Social Research Projects*. Berkshire: Open University Press.

Edmond, K. & Bahl, R. (2006). *Optimal Feeding for Low Birth Weight Infants: Technical Review*. Geneva: WHO

Ferber, S.G. & Morkhoul, I.R. (2004). The Effects of Skin to Skin Contact (Kangaroo Care) Shortly After Birth on the Neurobehavioral Responses of the Term Newborn: A Randomized Control Trial. *Paeditrics* 113 (4): 858-865

Fenwick, J., Barclay, L. & Schimied, V. (2001). Chatting : An Important Clinical Tool in Facilitating Mothering in Neonatal Nurseries. *Journal of Advanced Nursing*. 33(5): 583-593.

Green, J. & Thorogood, N. (2004). Ch 8- Analysing Qualitative Data. *In Qualitative Methods in Health Research*. London: SAGE Publications: 173- 200.

Grimshaw, J.M., Shirran, L., Thomas, R., Mowatt, G., Fraser, C., Bero, L., Grilli, R., Harvey, E., Oxman, A. & O'Brien, M.A. (2001). Changing Provider Behaviour: An Overview of Systematic Reviews of Interventions. *Med Care* 38 (2): 2-45

Grimshaw, J.M. & Russell, I.T. (1993). Effect of Clinical Guidelines on Medical Practice: A Systematic Review of Rigorous Evaluations. *The Lancet* 2 (8883): 1317-1322

- Grol, R. (1997). Beliefs and Evidence in Changing Clinical Practice. *British Medical Journal* 1997 (315): 418-420
- Grol, R. (1992). Implementing Guidelines in General Practice Care. *Quality in Health Care*. 1992 (1): 184-191
- Johnson, J.D.C. (2009). Close Encounters: The Case for Kangaroo Mother Care. *Newsletter of MotherNewBorNet* 4 (1): 1-14
- Hall, D. & Kirsten, G. (2008). Kangaroo Mother Care- A review. *Transfusion Medicine* 18: 77-82
- HIS (Health Information System). (2009). *Annual Maternity Summary*. Tsumeb District Hospital: Tsumeb
- Ibe, O.E., Austin, T., Sullivan, K., Fabanwo, O., Disu, E. & Costello, A.M.DE.L. (2004). A Comparison of Kangaroo Mother Care and Conventional Incubator Care for Thermal Regulation of Infants <2000 g in Nigeria Using Continuous Ambulatory Temperature Monitoring. *Annals of Tropical Paediatrics* 2004 (24): 245-251
- Kilbourne, A.M., Neumann, M.S., Pincus, H.A., Bauer, M.S. & Stall, P. (2007). Implementing Evidence-based Interventions in Health Care: Application of the replicating Effective Programs Framework. *Implementation Science* 2 (42): 1-10
- KMC INDIA. (2009). Concepts of KMC. [Online], Available: <http://www.kmcindia.org/healthcare/concepts-kmc.html> [Downloaded: 05/03/2010]
- Lawn, J., Mongi, P. & Cousens, S. (2006). *Africa's newborns- counting them and making them count*. [Online], Available: <http://www.who.int/pmnch/media/publications/aonsection-1.pdf> [Downloaded 09/3/2011]
- Lawn, J.E., Mwansa-Kambafwile, J., Horta, B.L., Barros, F.C. & Cousens, S. (2010). Kangaroo Mother Care to Prevent Neonatal Deaths due to Preterm Birth Complications. *International Journal of Epidemiology* 2010 (39): i144-i154
- Lincetto, O. Nazir, A.I & Cattaneo, A. (2000). Kangaroo Mother Care with Limited Resources. *Tropical Pediatrics* 46 (5): 293-295
- Litosseliti, L. (2003). *Using Focus Groups in Research*. London: Continuum

Ludington-Hoe, S.M., Morgan, K. & Abouelfetoh, A. (2008). A Guideline for Implementation of Kangaroo Care with Premature Infants of 30 or more Weeks Postmenstrual Age. *Advances in Neonatal Care* 8 (35): s3-s23

Mack, N., Woodsong, C., MacQueen, K.M., Guest, G. & Namey, E. (2005). *Qualitative Research Methods: A Data Collectors Field Guide*. North Carolina: FHI

Mahmoud, F.F & Mohamed, M.F.F. (2004) *A Practical Guide for Health Researchers*. Cairo: WHO Regional Office for the Eastern Mediterranean.

Maree, K. (2007). *First Steps in Research*. Pretoria: Van Schaik.

Martinez, H. (undated). *The mother Kangaroo Method*. [Online], Available: <http://www.ideassonline.org/innovations/brochTesti.php?id=17&brld=11> [Downloaded 09/03/2010]

MOHSS. (1992). *Towards a Baby and Mother Friendly Nation: The baby and Mother Friendly Initiative Guidelines*. Windhoek: MOHSS

MOHSS. (2008). *Guidelines for the Prevention of Mother to Child Transmission of HIV*. Windhoek: MOHSS

MOHSS. (2009). *National Health Policy Framework 2010-2020*. Windhoek: MOHSS

MOHSS. (2010). *Road map for Accelerating the Reduction of Maternal and Neonatal Morbidity and Mortality*. Windhoek: MOHSS

MOHSS. (2011a). *Integrated Management of Newborn and Childhood Illnesses: Charter Booklet*. Windhoek: MOHSS

MOHSS. (2011b). *National Guidelines on Infant and Young Child Feeding*. Windhoek: MOHSS

Ministry of Health, Brazil. (1997). *Kangaroo Mother Care*. [Online], Available: [www.paho.org/english/DD/ikm/Rc/BRA\\_3191\\_Res\\_pdf](http://www.paho.org/english/DD/ikm/Rc/BRA_3191_Res_pdf) [Downloaded: 29/04/2010]

National Institute for Health and Clinical Excellence (NICE). (2007). *How to Change Practice. Understand, Identify and Overcome Barriers to Change* [Online], Available: [www.nice.org.uk](http://www.nice.org.uk) [Downloaded: 24/09/2011].

Nyqvist, K.H., Anderson, C.C., Bergman, N., Cattaneo, A., Charpak, N., Davanzo, R., Ewald, U., Ludington- Hoe, S., Mendoza, S., Pallas- Allonso, C., Pelaez, J.G., Sizun, J. & Widstrom, A.M. (2010a). State of the Art and Recommendations. Kangaroo Mother Care: Application in a High-tech Environment. *Breastfeeding Review* 18 (3):21- 28

Nyqvist, K.H., Anderson, G.C., Bergman, N., Cattaneo, A., Charpak, N., Davanzo, R., Ewald, U., Ibe, O., Ludington-Hoe, S., Mendoza, S., Pallas-Allanso, C., Ruiz Pelaez, J.G., Sizun, J. & Widstrom, A.M. (2010b). Towards Universal Kangaroo Mother Care: Recommendations and Report from the First European Conference and Seventh International Workshop on Kangaroo Mother Care. *Acta Paediatrica* 2010 (99): 820-826

Pattinson, R., Arsalo, I., Bergh, A., Malan, A., Patrick, M. & Phillips, N. (2005). Implementation of Kangaroo Mother Care: A randomized trial of two outreach strategies. *Acta Paediatrica* 94(7):924-927

Roller, C.G. (2003). Getting to know you: Mothers' Experiences on Kangaroo Care. *The Journal of Obstetrics, Gynaecology & Neonatal Nursing* 34 (2): 210-217

Settle, M., Williams, D., Engler, A., Ludington-Hue, S.M., Cusson, R.M., Adams, R., Bahnsen, M., Brumbaugh, E., Caotes, P., Grieb, J., McHargue, L. & Ryan, D.L. (May/June 2002). Kangaroo Care: National survey of practice, knowledge, barriers and perceptions. *MCN, The American Journal of Maternal/Child Nursing*, 27 (3): 146-153.

Solberg, L.I., Brekkie, M.L., Fazio, C.J., Fowles, J., Jacobsen, D.N., Kottke, T.E., Mosser, G., O'Connor, P.J., Ohnsorg, K.A. & Rolnick, S.J. (2000). Lessons from Experienced Guideline Implementers: Attend to Many Factors and Use Multiple Strategies. *The Joint Commission Journal on Quality Improvement*. 26 (4): 171-188

Titus, M. (2007). *Problems and Solutions to Barriers to Changes in Health Care Practices*. Windhoek, Namibia 26/10/2007-27/10/2007, Windhoek: MOHS

Tornhage, C.J., Stuge, E., Lindberg, T. & Serenius, F. (1999). First Week Kangaroo Care in Very Preterm Infants. *Acta Paediatr* 1999 (88) :1402-1404

Tucker, J. & McGuire, W. (2004). ABC of Preterm Births: Epidemiology of Preterm Birth. *BMJ* 329 (18 September 2004): 675-678

UNICEF. (1999). *Programming for Safe Motherhood: Guidelines for Maternal and Neonatal Survival*. New York: UNICEF

Venancio, S.I. & Almeida, H. (2004). Kangaroo Mother Care: Scientific Evidences and Impact on Breastfeeding. *Jornal de Pediatria* 80 (5): S173-S180

Wallin, L., Rudberg, A. & Gunningberg, L. (2005). Staff Experiences in Implementing Guidelines for Kangaroo Mother Care – A Qualitative Study. *International Journal of Nursing Study* (42): 61-73.

Wensing, M., Van der Weijden, T. & Grol, R. (1998). Implementing Guidelines and Innovations in General Practice: Which Interventions are Effective? *British Journal of General Practice* 48 (427): 991-997

WHO. (2003). *Kangaroo Mother Care: A Practical Guide*. Geneva: WHO

WHO. (2006). *Neonatal and Perinatal Mortality. Country, Regional and Global Estimates*. [Online], Available: <http://www.who.int/entity/pregnancy-makingsafer/publications/neonatal.pdf> [Downloaded 02/03/2010]

WHO. (2008). *The Global Burden of Diseases*. [Online], Available: <http://www.who.int/mediacentre/factsheets/20090804-figure.jpg> [Downloaded 01/03/2010]

WHO. (2009a). *Maternal and Child Health in Namibia*. [Online], Available: <http://who.int/entity/pmnch/topics/maternal/2009-mch-namibia/en/> [Downloaded 01/03/2010]

WHO. (2009b). *Preterm Births: A Significant Perinatal Health Problem- first world wide estimate*. [Online], Available: <http://www.who.int/reproductivehealth/publications/posters/en/> [Downloaded 24/07/2011]

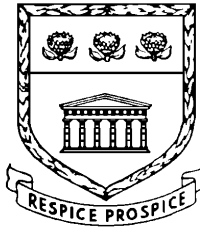
WHO. (2009c). *Maternal Mortality*. [Online], Available: <http://www.who.int/making-pregnancy-safer/topics/maternal-mortality/en/> [Downloaded 31/07/2011]

WHO. (2010). *WHO Statistics 2010*. Geneva: WHO



## Appendix 1

---



### UNIVERSITY OF THE WESTERN CAPE

#### School of Public Health

Private Bag X17 • BELLVILLE • 7535 • South Africa

Tel: 021- 959 2809, Fax: 021- 959 2872

#### Participant Information Sheet

##### Dear participants

Thank you for your willingness to listen and participate in this research project. The research is being conducted for a mini-thesis which is part of the requirement for a Masters degree in Public Health (MPH) that I am completing at the University of the Western Cape.

##### Title of the research

**An exploration of perceptions regarding the feasibility of implementation of Kangaroo Mother Care in the maternity ward of Tsumeb district hospital, Namibia.**

##### Purpose of the study

The purpose of this study is to obtain an understanding of the factors associated with lack of implementation of Kangaroo Mother Care in Tsumeb district hospital, maternity department, in Namibia. Recommendations to the Ministry of Health and social services as well as stakeholders will be made based on the findings of the study.

##### Who is the researcher?

The study is being conducted by, Mrs Vistolina N Nuuyoma, as a partial fulfilment of a Masters Degree in Public Health, at the University of the Western Cape, South Africa.

##### Description of the research

The study will include interviews with UNFPA regional representative and the health programme administrator in the family health division of MOHSS in Oshikoto region. Nurses and doctors who are working in Tsumeb district will also be interviewed. Furthermore, four focus group discussions

will be arranged, to compose of six people each and will purposively chosen from nurses and doctors in Tsumeb district. Participants will be asked to give their opinions about challenges, difficulties in the implementation of KMC as well as their experiences and feelings about it. It will take about 45 minutes – 1 hour to complete. If you agree to be interviewed or participate in the focus group discussions, please sign the consent form provided. By signing, it will be understood that you have consented to participate in the project, and that you consent to publication of the results of the project with the understanding that anonymity will be preserved.

### **Participation**

Your participation is voluntary and there is no penalty if you do not participate. If you feel uncomfortable about certain questions during the interview you may refuse to answer these questions or you may withdraw from the study completely without providing any reason for your withdrawal. However, I will appreciate it very much if you participate.

### **Benefits and cost from the study**

There will be no direct benefits to you from this study. However, the results of this study will be used in making recommendations and develop implementation guideline for KMC in Tsumeb district. There are no costs for participation in this study other than the time that will be spent on interviewing you.

### **What will be done to ensure confidentiality?**

This is an entirely anonymous and confidential interviews and focus group discussions, and so your responses will not be linked to you personally in any way. Individuals who agree to participate in focus group discussions will also have to keep all information that will be shared in the focus group discussion confidential. To ensure security, the audio recorded tapes will be kept in a locked cupboard. Data will be stored electronically in a database on a secured server and access is restricted by password to the researcher only.

### **Questions**

Should you have further questions or concerns regarding your participation in this study, please contact me as follows:

Mrs Vistolina Nuuyoma

E-mail: [vnuuyoma@iway.na](mailto:vnuuyoma@iway.na)

Cell: +264 811275709

Telephone at work +264 63 2209016

### **Or my supervisor**

Prof Rina Swart

University of the Western Cape

Private Bag X17, Belville 7535

Telephone: (021)959-2809

E-mail: [rswart@uwc.ac.za](mailto:rswart@uwc.ac.za)



Appendix 2



---

UNIVERSITY OF THE WESTERN CAPE

School of Public Health



Private Bag X17 • BELLVILLE • 7535 • South Africa

Tel: 021- 959 2809, Fax: 021- 959 2872

**CONSENT FORM (Interview)**

**Title of Research Project: An Exploration of perceptions regarding the feasibility of implementation of Kangaroo Mother Care in the maternity ward of Tsumeb district hospital, Namibia.**

If you choose to participate in the study, your signed consent is required before you can proceed for the interview. By signing you have agreed to the following: the study has been described to me in language that I understand and I freely and voluntarily agree to participate. My questions about the study have been answered. I understand that my identity will not be disclosed and that I may withdraw from the study without giving a reason at any time and this will not negatively affect me in any way.

**Participant's name**.....

**Participant's signature**.....

**Researcher's signature** .....

**Date**.....

Should you have any questions regarding this study or wish to report any problems you have experienced related to the study, please contact the study coordinator:

Study Coordinator's Name: Prof Rina Swart

Private Bag X17, Belville 7535

Telephone: (021)959-2809

**Appendix 3**



**UNIVERSITY OF THE WESTERN CAPE**

**School of Public Health**

Private Bag X17 • **BELLVILLE** • 7535 • South Africa

Tel: 021- 959 2809, Fax: 021- 959 2872

**CONSENT FORM (Focus group discussions)**

**Title of Research Project: An Exploration of perceptions regarding the feasibility of implementation of Kangaroo Mother Care in the maternity ward of Tsumeb district hospital, Namibia.**

If you choose to participate in the study, your signed consent is required before you can proceed for the focused group discussions. By signing you have agreed to the following: the study has been described to me in language that I understand and I freely and voluntarily agree to participate. I will keep all information that will be discussed in the focus group discussion confidential. My questions about the study have been answered. I understand that my identity will not be disclosed and that I may withdraw from the study without giving a reason at any time and this will not negatively affect me in any way.

**Participant's name.....**

**Participant's signature.....**

**Researcher's signature .....**

**Date.....**

Should you have any questions regarding this study or wish to report any problems you have experienced related to the study, please contact the study coordinator:

Study Coordinator's Name: Prof Rina Swart

Private Bag X17, Belville 7535

Telephone: (021)959-2809

## Appendix 4

### Interview and focused group discussions themes guide.

#### 1. Personal information

- Occupation
- Training institution
- Post basic qualification in neonatology
- Years of experience
- Years work in Tsumeb district or Oshikoto region

#### 2. Kangaroo Mother Care

- What does KMC mean?
- Have you ever seen a baby cared under KMC?
- Did you or any one you are working with attend training on KMC before?
- Where was the training held?
- When was the training conducted?
- Are there guidelines in maternity ward about newborn and premature babies care?
- Where does these guidelines originate?
- Is there a guideline in maternity ward about KMC?
- Where that KMC guideline does originates?
- How do you feel about KMC?

#### 3. KMC implementation and support

- How do you feel about implementing KMC at maternity department?
- What makes it difficult to implement KMC at maternity department?
- What factors / things will make implementing KMC a success?