

ORIGINAL RESEARCH

An exploration of perceptions regarding the feasibility of implementation of kangaroo mother care in the maternity ward of Tsumeb district hospital, Namibia

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ABSTRACT

Aim: To explore perceptions regarding the implementation of KMC in the maternity ward of Tsumeb District Hospital.

Methods: This was a qualitative exploratory study. The study population are doctors and nurses working in Tsumeb District, the Chief Medical Officer (CMO), and 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: KMC is currently not practised at Tsumeb District Hospital despite many infants born with low weight in the district. Perceptions were grouped into three main themes: 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. But some health workers have negative perceptions 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. Most of the health workers' perceptions are similar to the benefits of KMC found in the literature.

Conclusions: The results show that there are many barriers to KMC implementation. The main ones are lack of guidelines on care of the low birth weight infants and KMC policy guidelines.

Key Words: Kangaroo mother care, Pre-term infants, Low birth weight

1. INTRODUCTION

The neonatal period, which is defined as the first 28 days of the child's life, is considered to be the most susceptible time for a child's survival.^[1] This is because the World Health Organization (WHO) reported in 2015 that 45% of deaths of children under the age of five years, occur during the neonatal

period.^[2] This was further supported by the United Nations Children Fund (UNICEF),^[1] who reported that about 5.9 children under the age of five years died in 2015 globally, and, out of that, 2 million died in the first week and 1 million in the first day of life. However, most babies' deaths in Africa occur at home, and are unaccounted for and unknown with

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reference to national or regional policies and programmes.^[3]

The United Nations Inter-agency Group for Child Mortality Estimation (UNIGME) – as reported in the UNICEF maternal mortality report—indicated that sub-Saharan Africa has the highest mortality rates in the world—both for child and neonatal mortality. Furthermore, it is reported that low-income and lower-middle-income countries together contribute 85% of all neonatal deaths. By contrast, only 2% of reported neonatal deaths occur in high-income countries.^[4]

Interestingly, 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 by 50% (20 per 1,000 live births) by 1950 and by another 50% by 1980.^[3] Very high infant mortality rates alert health professionals to the need for more research and for strengthening preventative actions to reduce these rates.^[5]

In sub-Saharan Africa, the neonatal mortality rate is 29 per 1,000 live births. This is almost double the global figure of 19 per 1,000 live births, and compares poorly with the developed region figure of 3 per 1,000 live births, or the UNICEF region of Eastern Asia (6 per 1,000 live births) and Latin American and the Caribbean, with 9 per 1,000 live births. However, high neonatal mortality similar to sub-Saharan Africa were also reported in regions like southern Asia and southeast Asia (29 and 32 per 1,000 live births respectively).^[6] High neonatal mortality rates in these regions can be related to political instability, which negatively affected development and healthcare systems. In Namibia, neonatal mortality in 2009 was estimated at 20 per 1,000 live births,^[7] while the estimated figure of 12 per 1,000 live births in the Oshikoto Region and Tsumeb District was considerably lower. In 2015, the neonatal mortality rate in Namibia was estimated at 15.9 per 1,000 live births, which is lower than the estimate for neighbouring countries like Angola and Zimbabwe—which were 48.7 and 23.5 per 1,000 live births.^[8] Namibia included maternal, neonatal and child health among general public health and social health priorities.^[9] This could be the reason for lower neonatal mortality rates.

Globally, major causes of neonatal deaths are pre-term birth complications (35%) and complications during labour and delivery (24% of neonatal deaths). Other causes are sepsis, pneumonia, congenital abnormalities, tetanus and diarrhoea.^[4] In Namibia, prematurity accounts for 39% of all reported neonatal deaths, followed by birth asphyxia (25%) and neonatal infections (19%). Prematurity is also the most common cause of neonatal deaths in Tsumeb District, followed by intra-uterine growth restriction and other perinatal complications.^[10]

Healthcare practitioners developed care practices for neonates, including immediate care and care after discharge from hospital. Kangaroo Mother Care (KMC) is one of the care practices. It is defined as a practice of nursing an infant (mostly low birth weight) in 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 is easy to use method that can uphold the health of the baby—both pre-term and full-term.^[11,12] KMC begins in the hospital soon after delivery and continues at home. KMC was developed in a neonatal intensive care unit in Bogotá, Colombia, as an initiative to address lack of technical equipment and staff. In addition, there were also high rates of infections and infants were abandoned.^[13] The central components of KMC are warmth, love and breastfeeding.^[13] In addition, KMC is described with key features such as skin to skin contact, early discharge, and exclusive breastfeeding.^[12] Since its development, KMC has been proven to be more than a substitute for incubator care. It has advantages of increasing the number of feeds per day^[14] and also enhances exclusive breastfeeding.^[15] In addition, it significantly reduces neonatal mortality amongst pre-term babies who weigh less than 2,000 grams at birth.^[16] KMC also empowers the parents by involving them directly in the care of their vulnerable infants. KMC-nursed babies have a shorter period of hospitalisation,^[17] and it can be used when transporting infants.^[14]

KMC is endorsed by WHO and they have also developed a practical guide book for its planning and implementation – which is suitable for use in all settings.^[11]

1.1 Problem statement

KMC was introduced to Tsumeb District Hospital in early 2000 as an initiative from MoHSS to reduce morbidity and mortality in low birth weight infants. Some nursing staff were trained but it was never implemented. KMC is currently not practised at Tsumeb District Hospital maternity unit and needs to be incorporated in the routine new-born baby care package, especially those born premature, as prematurity is the leading cause of neonatal death in Tsumeb District.^[10] Another reason why KMC has to be incorporated in routine newborn baby care, is that the Namibian Integrated Management of newborn and Childhood Illnesses (IMNCI) recommended keeping all premature infants warm using skin to skin care.^[18]

Premature babies were nursed in incubators in a room called prem room—separated from their mothers. Incubators in maternity wards frequently break and the hospital does not have a regular maintenance system for medical equipment in place. No visitors were allowed in the prem room and mothers go

there at scheduled feeding times and sometimes if the baby cry, or to do nappy changing. Caring for premature babies in the incubators predisposes infants to infections, overheating, and sometimes hypothermia—compared to caring for them under KMC.^[11] The Kangaroo Mother Model seems not to be promoted in Namibia and no evidence is available about studies on KMC in the country. This therefore warranted a study to explore perceptions about the feasibility of implementation of KMC in the maternity ward of Tsumeb District Hospital.

1.2 Study setting

The Republic of Namibia is divided into 14 regions. Oshikoto Region is one of the regions in the northwest, and is divided into three health districts. The study was conducted in Tsumeb District in 2011. The District had a population of 28,492 people in 2010, with one district hospital (90 beds) and four Primary Health Care (PHC) clinics.^[10] 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 the Health Information System, 75 out of 690 births in Tsumeb District, in 2010, were babies below 2,500 grams.^[10] Most could have been successfully cared for using KMC, but were nursed in incubators. Eighty percent of mothers who deliver are booked through and attended an ante-natal clinic—at private or state facilities.^[10]

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

1.3 Aim of study

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

1.4 Study objectives

The objectives were to:

- Assess the knowledge of health workers on KMC.
- Assess the perceptions of health workers on KMC.
- Determine challenges in the implementation of KMC.
- Describe the support required by health workers, in order to implement KMC.

2. METHODS

2.1 Study design

This was a descriptive exploratory qualitative study. The descriptive study design usually aims to describe some groups of people or phenomena or other entities.^[19] On the other hand, explorative research is suitable for understanding key issues and to gain greater understanding of phenomena, groups of people or social settings. In addition, explorative research is useful in building a new understanding.^[19] Considering the objectives of the study, the descriptive explorative qualitative design was appropriate, as more exploration and description were required to understand the perceptions of health workers on the feasibility of implementation of KMC.

2.2 Population

The study population was medical doctors and nurses working in the Tsumeb Health District and health programme officers in the Oshikoto Health Regional Directorate. The district had 6 doctors and 65 nurses (38 enrolled and 27 registered) in 2010. The health programme officers population included the Chief Medical Officer (CMO), the Health Programme Administrator (HPA) in the Family Health Division, and the United Nations Population Fund (UNFPA) Reproductive Health Coordinator/Representative.

2.3 Sampling

Purposive sampling was used to sample study participants. In purposive sampling, participants are selected because of some defining characteristics that make them appropriate to give information about the study or data needed for it.^[19] The eligibility criteria for the study were: 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. The regional programme officers involved in the planning, monitoring and evaluation of maternal and child health programmes—which include the CMO, HPA in the Family Health Division and the UNFPA representative for Oshikoto Region—were also included.

2.4 Data collection

Data were collected during December 2011–January 2012. The researcher met with the management of the Tsumeb District and explained the aim of the study and the sampling criteria for participants. After that, the researcher approached the nurse manager's office to see previous allocation lists. This helped to identify nurses and doctors who worked in the maternity department. This was followed by a visit to different units, and potential participants who met the sampling criteria were approached, and those who were not on duty were contacted by telephone. The researcher explained

the aim of the study to potential participants and they were asked if they were prepared to take part in the study. In addition, information sheets and consent forms were given to participants to read further and to give signed consent to participate in the study. Of potential participants selected, only one did not agree to participate in the study. The total number of 8 of 38 enrolled and 8 of 27 registered nurses in Tsumeb District and the HPA in the FH Division Oshikoto Region, participated in the study, while the total number of registered nurses was 9 because the HPA is also a registered nurse. More registered nurses were selected because they comprise the majority of nursing staff working in the maternity ward compared to enrolled nurses. As far as hierarchical positions are concerned, registered nurses are in 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. A total of four focus-group discussions were conducted and each group comprised four participants. The researcher also conducted six in-depth interviews with key informants such as nurse manager, HPA–FH Division, and the CMO. All focus-group discussions and interviews were audio-taped; A total of 22 participants were included in the study.

Table 1. Summary of characteristics of participants

Characteristic	Enrolled nurse	Registered nurse	Doctor	Total
Years of experience				
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
Total	8	9	5	22
Years in Tsumeb District/Oshikoto region				
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

2.5 Data analysis

Data analysis started soon after the data collection-process began. It was done manually following a thematic content process, which is the most common used analytical strategy in qualitative research. The researcher concurrently analysed data during collection in order to note new emerging issues and 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 that no information was lost before data

analysis commenced. The transcribed interviews and focus-group discussions were coded by reading carefully and dividing data into meaningful units.^[19] This was followed by the grouping of similar meaningful units to form a sub-theme and then similar sub-themes formed a theme. Field notes were also analysed together with transcripts, in order to include non-verbal or body gestures in the findings. Member and peer checking was done by confirming the results with participants and the study supervisor, before the final report was compiled.

2.6 Rigour

The researcher ensured rigour from the beginning of the study by keeping a research dairy, recording 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 discussion questions were clear enough to address research aim and objectives.

Two methods were used to collect data—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 establish whether they help achieve the study's aims and objectives.

During data collection, 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.

2.7 Ethical consideration

Ethical approval was obtained from the University of the Western Cape Ethics Committee and the consent forms were also approved. This is because the principal investigator was a student at the time the study was conducted and the study was for partial fulfilment of her masters degree in Public Health. 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 Unit 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 requesting 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 at any time should they have wish to do so. Confidentiality was 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, data were entered into the computer and the passwords were only known by the researcher.

3. RESULT

Content analysis was used to organise the raw data obtained from the participants – into themes and sub-themes, in order to synthesise valuable information and meaning. Furthermore, the results obtained from all the participants were consolidated, thus giving a clear understanding of perceptions regarding the feasibility of implementation of KMC in the maternity ward of Tsumeb District Hospital.

3.1 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 summarised in Table 2 (below).

Table 2. Themes identified as perceptions of health workers regarding implementation of KMC

Themes	Perceptions
Parent-related	<ul style="list-style-type: none"> • Parents are active participants in their babies’ care • Less frustration • Self-trust • Increase competence
Health Worker-related	<ul style="list-style-type: none"> • Reduce workload • Increase workload • Role model
Baby-related	<ul style="list-style-type: none"> • Reduced morbidity • Increased bonding • Improved care

3.1.1 Parent-related perceptions

1) Parents are active participants in their babies’ care

Participants felt that parents, especially mothers, will be ac-

tively involved in caring for their babies—as they spend most of their time together. Mothers become the primary caregivers of the babies as they undertake most of the tasks done routinely by health workers when the babies are in the incubators. Examples given by participants are feeding, nappy changing and cleaning. One participant indicated:

[“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.”]

2) Less frustration

Other participants indicated that if mothers are practising 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. One participant indicated:

[“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 time in the ward’s walkway 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.”]

3.1.2 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 they are working hard and being rewarded. This was pointed out by participants in managerial positions:

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

3.1.3 Increase competence

Other participants in 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 the problems and find solutions on their own—or sometimes with the health-workers’ assistance. When the same problems happen at home after discharge, they already know what to do.

3.1.4 Health worker-related perceptions

1) Reduced workload

Participants in managerial positions perceived that implementing KMC will relieve health workers, especially nursing staff, from their heavy work load. This was noted:

["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."]

2) Increased workload

On the other hand, participants in non-managerial positions felt that KMC will increase health-workers' workload, as mothers need to be trained how to practise KMC. This was noted:

["I am supporting KMC, but I think it will just further increase health workers' workload because each mother with a low birth weight baby needs 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."]

3.1.5 Baby-related perceptions

1) Reduced morbidity

Participants in non-managerial positions felt that KMC babies are less prone to infections, as they are not handled by many people—only by their mothers. One participant indicated:

["I think KMC is a good initiative and we should just encourage mothers to practise 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 a day, their risks of contracting infections are very low."]

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

In addition, participants in managerial positions perceived that KMC is beneficial, as it reduces morbidity of low birth weight infants. This was noted:

["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 saw 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."]

2) Increased bonding

It was also perceived that bonding between mother and her low birth weight baby, increases with KMC. This is because mother and baby spend more time together. This was noted:

["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."]

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 always someone with the babies—compared to when they are 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 9are) touched by someone and not left alone like in (the) case of incubator care where they spend up to 2 hours alone."]

3.2 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

Theme	Barriers
Health worker-related	<ul style="list-style-type: none"> • Lack of knowledge and skills • Attitudes of nurses • Resistance to change
Health system-related	<ul style="list-style-type: none"> • Lack of information on KMC • Lack of KMC guidelines/protocol manual • Shortage of nursing staff
Mother-related	<ul style="list-style-type: none"> • Resistance to change • Breast problems • Lack of cooperation

3.2.1 Health worker-related

1) Lack of knowledge and skills

Participants in non-managerial positions mentioned that many health workers don't know much about KMC. Health workers admitted that they lack knowledge of the benefits of KMC and also lack practical skills on KMC—or don't even know when or how to start KMC. This was noted:

["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 practising KMC; if someone asks me to start it here, I really won't know where to start."]

2) Attitudes of nurses

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 return the same attitude and refuse to follow instructions.

On the other hand, some nurses who attended training refused to give feedback to their colleagues. They don't even bring the literature they were given—but preferred to leave it at their houses. This was mentioned by participants:

["Sometimes nurses are also contributing to failure of some programmes, 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!", (and) then the mother refused and left the baby in the incubator."]

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

3) Resistance to change

Participants in 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 other districts not practising KMC, and it's not necessary for them to start it. This was noted:

["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?"]

3.2.2 Health system-related

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 literature on KMC which health workers can easily access—and KMC is not adequately promoted. The most used and simple method of communication in a health setting—the posters—are also not used at all. This was pointed out by participants in 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, promote other programmes, but not KMC."]

2) Lack of KMC guidelines or protocol manual

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

["There is no directive here in maternity wards on how to care for low birth weight infants and KMC guidelines or (a) 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 supplements, 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?"]

3) Shortage of nursing staff

Participants in managerial positions felt that shortages 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 for them. On the other hand, nurses with knowledge of 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 has (a) severe shortage of nursing staff; sometimes nurses work one or two in a maternity ward. And sometimes two mothers can arrive at the same time and both 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 on their chests for KMC. It's better to put them in the incubators, because some mothers really need time to become competent and to be trusted to be left alone with their babies."]

3.2.3 Mother-related

1) Resistance to change

Both participants from the managerial and non-managerial groups stated that it is difficult to implement KMC because mothers who give birth to low weight babies already know that they are supposed to be cared for in the incubator until they reach a certain weight. If you tell them to practise 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 because they are not well informed about it or prepared for it. This was noted:

["Mothers believe that the only way a low birth weight baby picks up weight is when it's in the incubator – it's like a tradition. Whoever proposes a mother to nurse a 1.200 kg baby with KMC will be considered crazy by that mother. I will not try it (laughing)."]

["People generally tend to resist changes without concrete reasons, (and) this can also hinder the district to implement KMC."]

2) Breast problems

Some participants in 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 expressing milk and feeding the baby in the incubator, they develop breast problems such as engorged breasts and

cracked nipples, because they will be struggling to attach the baby to the breast if they stop expressing milk. This was noted:

["Long time ago, I remember we took one baby out of the incubator and the mother was supposed to practise KMC. She was not getting enough time to express milk as the baby kept her busy. She later developed cracked nipples and (her) 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."]

3) Lack of cooperation

Participants in 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. This was noted:

["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. DISCUSSION

In discussing these findings, participants in this study felt that the implementation of KMC will increase their workload. Nursing staff preference for incubator care over KMC was associated with them being overworked and a shortage of staff. This is because health workers will spend some time coaching mothers on how to practise KMC. Similar results were also revealed in previous studies—which indicated that nurses eventually did not support KMC because support and training in KMC for mothers meant extra work for them.^[20] A previous study reported issues that are considered as being major problems during staff shortages:^[21] time involved in preparing the infants, and supporting parents and monitoring the infant's condition during KMC increases neonatal nurses' workload. In contrast, it is reported in the WHO Kangaroo Mother Care practical guide that KMC does not require additional staff—i.e. more than is required by incubator care.^[11]

Providing training to health workers is an intervention necessary for the success of new initiatives. Therefore, the WHO KMC practical guide also recommends that health workers should get sufficient training and basic knowledge of all aspect of KMC, and each facility should have a continuous education programme in the area of KMC.^[11] In this study, the results highlighted a lack of knowledge as being one of the barriers to implementation of KMC. This could have been addressed with training and availing information related to KMC practice.

Furthermore, 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 guidelines on KMC. Some participants find it difficult to practise it because they were not told to do it, and they have many questions such as when to start or how to start it. There are no guidelines available to direct them. This was also highlighted in the literature. For example, lack of policies on KMC, absence of policies and procedures for holding infants in the neonatal intensive care units,^[20] and absence of clear protocols^[21] were found to be barriers to KMC implementation. Moreover, a previous study revealed that there is a need for a protocol on KMC for the successful rollout of the KMC practice.^[22]

One of the barriers to implementation of KMC that emerged from this study, is that mothers develop problems such as engorged breasts and cracked nipples 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 the nipples to crack or engorge. In return, mothers do not practise KMC. There is no evidence of a study that revealed similar findings or which studies the relationship between KMC and breast problems.

This study revealed the perception that it's necessary for the District to have a focal person or mentor to ensure 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. Some health workers require mentoring during two to three sessions, in order to become comfortable with the practise of KMC.^[23]

The presence of the mothers is continuously required with KMC, Therefore they need to be supported on different aspects regarding baby care^[11] and 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 Ludington-Hoe, Morgan & Abouelfetoh, information on KMC should be made available to the mothers in writing, or in the appropriate manner for illiterate parents. An appropriate format for illiterate mothers can be posters and models.^[23] It was echoed in this study that the use of posters and models can serve as a reminder and can facilitate the practice of KMC. Participants further mentioned that it can make it easy for mothers to understand KMC.

High neonatal morbidity and mortality remain a challenge in developing countries. However, there is strong evidence that KMC can reduce neonatal morbidity.^[11] In addition, it has reduced risks of nosocomial infections and sepsis, and has increase mother-infant attachment.^[24] In this study, participants perceived that babies will be less prone to infections, and there will be improvement in care and bonding with the mother—which are proven benefits of KMC.

5. CONCLUSIONS

The results of this study show that there are many barriers to KMC implementation. The main ones are lack of guidelines on care of low birth weight infants and lack of KMC policy guidelines.

6. RECOMMENDATIONS

The following recommendations are made based on the findings of this study:

- Regular training needs to be conducted to educate health workers on all theoretical and practical aspects of KMC.
- Incorporate KMC into existing in-service training programmes.
- Strengthen the integration of KMC into training curricula of nurses for MOHSS and the University of Namibia.
- Establish an information resource centre in the maternity department—for health workers to access books, journals, pamphlets and policy guidelines related to maternal and newborn care.
- Computers with internet access in the Nurse Manager and PMO's offices should be accessible to the health workers who want to search for information related to maternal and child health.
- Health workers who attended training should give feedback 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.

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CONFLICTS OF INTEREST DISCLOSURE

The authors declare that they have no financial or personal relationship(s) which may have inappropriately influenced them in terms of writing this article.

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