



## Original article

### Knowledge, attitudes, and practices of kangaroo mother care among Health care professionals in Keetmanshoop District, Namibia

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#### ABSTRACT

**Background:** Kangaroo mother care (KMC) refers to the practice of providing continuous skin-to-skin contact between mother and baby, exclusive breast feeding, and early discharge from hospital. The study aim to assess the knowledge, attitude, and practices surrounding kangaroo mother care (KMC) among health care professional (HCPs) in Keetmanshoop District; to assess the extent to which HCPs practice KMC in the care of low birth weight (LBW) babies; and to identify challenges in the implementation of KMC among HCPs. **Materials methods:** This quantitative, cross-sectional descriptive study was conducted at 6 health facilities in Keetmanshoop district. A self-reported questionnaire consisting of Closed-ended questions and 5-point Likert scale was used for data collection. Statistical Package for Social Sciences (SPSS), Version 24 was used to analyze data. **Results:** Demographic data revealed that, 79% of participants were females and 21% were males, 30% of participants were between the age of 20 to 30, while 20% were aged between 51 to 60 years. It was discovered that 99% of the respondents believed that KMC promotes bonding between the mother and her baby. Only 39% of health care professionals underwent training on KMC. The majority of HCP 87% agreed that, the policy on kangaroo mother care practice is not displayed in their facilities, while 65% stated that KMC is not effectively implemented in their facilities. **Conclusion:** The result revealed that, lack of policy, guidelines, and space to accommodate mothers are the major obstacles to the successful implementation of Kangaroo Mother Care.

**KEYWORDS:** Attitude, Health care professionals, Kangaroo mother care, Knowledge, practices.

#### INTRODUCTION

Low Birth Weight is a major contributing factor to neonatal deaths in Namibia and the world at large. According to the National Demographic Health Survey (NDHS) of 2013, LBW accounts for 39% of neonatal deaths in Namibia. Pre-term birth is a birth before 37 completed weeks of pregnancy [1]. Globally, 15 million babies are born preterm each year while 1.1 million die due to complications associated with preterm births [1]. Pre-term birth rates are rising worldwide thus posing an array of risks to mothers [2], [1].

This study was conducted at a public health care facilities in the Keetmanshoop district. Keetmanshoop town is situated in the southern part of Namibia, in the //Kharas region. According to the population census of 2011, the population of Keetmanshoop was 20,977. The District Health Information System indicates that, between January to December 2015, 1305 babies were born and 156 were premature (12%), 2150 babies were born between

January and December 2016 and 325 of them were premature (15%).

There is a need to effectively implement evidence-based interventions to reduce complications of preterm births and associated neonatal mortality and one such evidence-based and life-saving intervention is Kangaroo Mother Care (KMC) [3]. Kangaroo Mother Care (KMC) is an evidence-based, life-saving intervention which is associated with 36% reduced risk of neonatal mortality among low birth weight (LBW) babies compared to conventional care [4]. This intervention was introduced by Dr Edgar Rey Senabria in 1979 in Bogota, Colombia as an alternative to incubator care for LBW babies [1]. The term Kangaroo Mother Care is derived from how kangaroos care for their young; keeping them warm in the maternal pouch and close to the breasts for unlimited feeding until they are mature [5]. This intervention involves holding an infant with skin-to-skin contact, prone and upright on the chest of the parents and

fosters the health and well-being of babies by promoting effective temperature control, breast feeding, infection control and bonding [6].

## MATERIALS AND METHODS

This research applied a quantitative, cross-sectional descriptive design to assess the knowledge, attitudes, and practices of health care professionals (HCPs) regarding the practice of kangaroo mother care (KMC). The study was conducted at Keetmanshoop district hospital from September to December 2018. 40 registered nurses/midwives, 53 enrolled nurses/midwives, and 7 medical doctors working at state health facilities in the Keetmanshoop district were included in this study. The total sample size was (n=100).

A self-reported questionnaire was designed to obtain demographic data (age, gender, educational qualifications, work experience) and to assess the knowledge, attitudes, and practices of kangaroo mother care. Attitudes towards kangaroo care were measured using a list of statements that reflected benefits of kangaroo care for mothers and infants

and for each statement, participants were asked to state their opinions, using a 5-point Likert scale ranging from 1= agree, to 5= strongly disagree. Closed-ended questions requiring a 'yes' or 'no' answers were used to ascertain the kangaroo care practices and challenges.

Returned questionnaires were coded and data were entered on computer for analysis using Statistical Package for Social Sciences (SPSS), Version 24. The researcher used descriptive statistics to provide answers to the research questions. Descriptive statistics allowed the researcher to organize the data in the way, which gave meaning and facilitated insight and examine the phenomenon from different angles. Demographic data are presented as percentages. Descriptive measures were presented in the form of frequency tables and graphs for easy interpretation. The researcher made use of the professional statistician to analyze and summarize the data.

## RESULTS

**Table1: Percentage distribution of participants by Socio-Demographic Characteristics**

Age in years	Number of participants	%
20 -30	30	30.0
31- 40	29	29.0
41- 50	21	21.0
51 – 60	20	20.0
<b>Total</b>	<b>100</b>	<b>100</b>
<b>Gender</b>		
Female	79	79.0
Male	21	21.0
<b>Total</b>	<b>100</b>	<b>100.00</b>
<b>Highest qualification obtained</b>		
Certificate	46	46.0
Diploma	31	31.0
Degree	23	23.0
<b>Total</b>	<b>100</b>	<b>100.00</b>
<b>Years of experience of participants</b>		
0 – 4	32	32.0
5- 9	24	24.0
>10	44	44.0
<b>Total</b>	<b>100</b>	<b>100.0</b>

The study revealed that, 30% participants were between the age of 20 – 30, 29% were between the ages of 31 – 40, 21% were between 41 – 50 years, and 20% were between 51 – 60 years old. Most of the participants were predominantly female (79%), while 21% were males. This is an indication that, the nursing profession is dominated by females. Participants who hold certificates were 46%, 31% were

diploma holders, and 23% were degree holders. The study indicates that 32% participants had an experience of 0-4years, 24% have an experience of between 5-9 years, while 44% have an experience of 10 years and more. It appears that the majority of participants have more years of experience in providing health care services.

**Table 2: Knowledge of participants about the components of KMC**

Number of components listed	Number of participants	%
0 component	84	84.0
1 component	8	8.0
2 components	5	5.0
3 components	3	3.0
<b>Total</b>	<b>100</b>	<b>100</b>

The study revealed that, the majority of participants (84%) could not list the four components of KMC, 8% could list

only one component, 5% listed two components, 3% of participants managed to list three components.

**Table 3: Training on KMC**

Job title	Training on KMC	%
Medical Doctors	Yes 2	2.0
	No 5	5.0
Registered Nurse/Midwives	Yes 35	35.0
	No 5	5.0
Enrolled Nurses/Midwives	Yes 2	2.0
	No 51	51.0
Total	100	100

In total, 61% of participants received training on KMC, while 39% did not receive training.

**Table 4: Attitudes of HCPs towards KMC**

Probing responses from participants	Agreed (%)	Disagreed (%)	Not sure (%)
Low birth weight babies need KMC the most	99	1	0
Provision of KMC during transportation of the baby To the high level to prevent hypothermia	48	35	17
Kangaroo care can be Provided at home	86	5	9
Involvement of family members in kangaroo care	75	2	23
KMC promote bonding between mother and bay	99	1	0
KMC promote bonding between mother and bay	99	1	0
KMC improves mother's confidence in handling her baby	92	0	8
KMC promotes breastfeeding	91	2	7
KMC promotes the baby's mental development	72	26	2
HCPs should facilitate kangaroo care	98	1	1
Facilitating KMC is a burden to HCPs	11	80	9
Babies who are kangarooed sleep deeply	75	2	22
Incubator care stabilizes baby's temperature than KMC	51	31	18
KMC prevents postpartum depression	45	5	50
Babies who are given kangaroo care cry less	80	5	15
KMC promotes the baby's growth and development	97	1	2
KMC reduces infection in the baby	66	13	21
KMC leads to early discharge	86	6	8
KMC should be started immediately after birth	77	9	14

The study indicates that 99% of participants agreed that KMC promotes bonding between the mother and the baby, while 1% disagreed. The majority of HCPs (92%) agreed that KMC improves the mother's confidence in handling her baby, No one disagreed, while 8% were not sure. While 91% of participants agreed that KMC promotes breast feeding, 7% were not sure, and 2% disagreed. The study indicates that 72% of participants agreed that KMC promotes mental development of the baby, 26% were not sure, while 2% disagreed. The majority of participants in this study, 98% agreed that HCPs should facilitate Kangaroo Mother Care, 1% were not sure, while 1% disagreed. 11% participants were of the opinion that, facilitating KMC is a burden to HCPs, 9% were not sure, 80% disagreed. 75% participants agreed that babies who are given KMC sleep deeply, 22% were not sure, 3% disagreed. To the question

whether incubator care stabilizes the babies' temperature than KMC, 51% of the participants agreed, 18% were not sure, and 31% disagreed. 45% of participants agreed that KMC prevents postpartum depression, 50% were not sure, and 5% disagreed. This study indicates that 80% participants agreed that babies who are given kangaroo care cry lees than those who are not given kangaroo care, 15% were not sure, 5% disagreed. 97% of participants agreed that KMC promotes baby's growth and development, 2% were not sure, and 1% disagreed. Participants who agreed that KMC reduces infections in the baby were 66%, 21% were not sure, and 13% disagreed. In this study 86% of participants agreed that KMC leads to early discharge, those who were not sure were 8%, and 6% disagreed. 77% of participants agreed that KMC should be started immediately after birth, 14% were not sure, those who disagreed were 9%.

**Table 5: kangaroo mother care practice among HCPs**

The practice of KMC among HCPs	Yes (%)	No (%)
Supporting mothers to initiate KMC	88	12
Providing information to family members on KMC	69	31
Encouraging mothers to practice KMC	59	41
Assisting mothers to practice KMC	68	32
Mothers of premature babies practice KMC	33	77
KMC is effectively implemented in facilities	35	65
<b>Challenges experienced by HCPs in implementing KMC</b>		
Displaying of policy on KMC in facilities	13	87
Availability of space to accommodate mothers of premature babies in facilities	80	20
The effects of staff shortage on KMC practice	57	43
Influence of religion and culture on KMC practice	46	54
Effects of C/S on initiation of KMC	70	30
Support of HCPs to implement KMC	90	10

The majority of participants (88%) stated that they do support mothers to initiate KMC, only 12% said that they do not support mothers to initiate KMC. The pie-chart above shows that 69% of participants provide information on KMC to family members and 31% confirmed that they do not provide information. 59% of participants encourage mothers to practice KMC, while 41% of them do not encourage mothers to practice KMC. Sixty eight percent of participants revealed that they assist mothers to practice Kangaroo Mother Care and 32.0% indicated that they do not assist mothers to practice KMC. Most participants agreed that mothers do not practice KMC 77% and 33% related that the mothers do practice KMC. About 35% participants said that KMC is effectively implemented in their facilities, the rest, 65% show that KMC is not effectively implemented in their facilities. Most participants 87% stated that, the policy

on KMC is not displayed in their facilities while 13% agreed that the policy is displayed in their facilities. 80% of participants pointed out that there is no enough space in their facilities to accommodate mothers of LBW babies and there other 20% agreed that the space in their facilities is adequate to accommodate mothers. It is evident from the pie chart above that 57% participants agreed that staff shortage has effects on KMC, whereas 43% disagreed. The researcher found out that 46% believed that religion and culture have a negative influence on KMC, while 54% disagreed. It is apparent that 70% of participants believe caesarean section negatively affects the initiation of KMC, while 30% disagreed. The study shows that most participants 90% need support to implement KMC, and 10% indicated that they do not need support.

## 4. DISCUSSION

### 4.1 Demographic characteristics

In this study the participants' age ranged between 20 and 60 years. 70 (70%) are between the ages of 31-60, while 30% are between the ages of 20-30. This indicates that, most participants were adults. Young people associate the nature of nursing work with poor working conditions, shift work and a limited level of autonomy [7]. Additionally, young people do not recognize the educational requirements or the career pathways in the nursing and described the status of nursing as low in the society [7]. The majority of participants 79% were female nurses, male nurses were 14.0%, while male doctors were 7%. The reason for a high number of female nurses might be that nursing is still regarded as a profession for women. Such stigmatizing factors form barriers to patient care, prevent men from entering the profession and play a major role in problems related to male nurses' retention [8]. The majority of participants had an experience of 10 years and more. This indicates that many HCPs had experience in health care because of their long service as health care workers. According to their job titles, most participants were enrolled nurse/midwives and were certificate holders. This indicates

that much still needs to be done to accelerate the upgrading program for enrolled nurses as this would enhance their knowledge and skills in managing low birth weight (LBW) infants.

### 4.2 Knowledge of HCP towards KMC

Pertaining to the knowledge about the Ministry's policy on Kangaroo Mother Care, 44 (44%) responded that they know about the policy, while 56 (56%) do not know about the policy. The study revealed that only 2 (2%) of the medical doctors received training on KMC, while 5 (5%) did not receive training on KMC. Thirty five (35%) of registered nurses/ midwives/accoucheurs were trained on KMC while 5 (5%) were not trained. When it comes to enrolled nurses/midwives/accoucheurs, 2 (2%) of them received training and 51 (51%) did not receive training. When participants were asked to list the four components of KMC, 84 (84%) of them could not list the components of Kangaroo Mother Care, 8% (n=8) could list only one component, 5 (5%) listed two components, 3 (3%) of

participants managed to list 3 components, while no participant could list all four components of Kangaroo Mother Care. This is an indication of poor knowledge about the components of KMC. This was followed by 99 (99%) of participants who agreed that low birth weight babies need Kangaroo Mother Care the most, while only 1 (1%) disagreed. In this study, 72 (72%) of participants agreed, 17 (17%) were not sure, and 10 (10%) disagreed that the latter is very important. This result indicates that most participants are knowledgeable about the KMC practice.

#### 4.3 Attitudes of HCPs towards KMC

99 (99%) of participants believe KMC promotes bonding between the mother and the baby, while only 1 (1%) was not in agreement with the statement. When the participants were asked whether KMC improves the mothers' confidence in handling their babies, 92 (92%) of them agreed, and 8% (n=8) were not sure. Most participants 91 (91%) agreed that, KMC promotes breastfeeding, 7 (7%) indicated that they were not sure, while 2 (2%) felt that KMC does not promote breastfeeding. The result of this study correlates with the previous study conducted by Campbell-Yeo, et al. (2015) which found out that, mothers who practice kangaroo care are more likely to breastfeed exclusively and, on average, they breastfeed three months longer than those who didn't practice KMC.

Meanwhile, 72 (72%) of the participants agreed that KMC promotes the baby's mental development, 26 (26%) were not sure, and 2 (2%) disagreed. Low birth weight babies who received kangaroo care have better brain functioning at 15 years old, compared to those who had been placed in incubators [9]. Low birth weight babies who are given kangaroo care sleep more deeply and wake up less often than those who sleep in incubators [10]. In this study, 75 (75%) of participants agreed that babies who are given KMC sleep deeply, 22 (22%) of them were not sure, while 3 (3%) disagreed.

#### 4.4 The practice of KMC among HCPs

In this study, 88 (88%) of the participants stated that they support the fact that mothers should initiate KMC and 12 (12%) said that they do not support mothers to initiate KMC. The study established that, 69 (69%) of the participants provide information on KMC to family members and 31 (31%) confirmed that they do not provide information. If kangaroo care is to be implemented successfully, all those involved in the practice should be well informed. Most participants 59 (59%) indicated that they encourage mothers to practice KMC, while 41 (41%) of them do not encourage mothers to practice KMC. Sixty eight (68%) of the participants revealed that they assist mothers to practice Kangaroo Mother Care and 32 (32%) said that they do not assist mothers to practice KMC, while 77 (77%) alleged that mothers do not practice KMC and 33 (33%) related that the mothers do practice KMC. In this study, 35 (35%) participants said that KMC is effectively implemented in their facilities, while the rest 65 (65%) were of the opinion that KMC is not effectively implemented in their facilities.

#### 4.5 Challenges experienced by HCPs in the implementation of KMC

In this study, 87% of participants stated that, the policy on KMC is not displayed in their facilities. Without uniform knowledge and protocols within a facility, HCPs were uncomfortable to promote Kangaroo Mother Care [11]. Most participants pointed out that there is no enough space in their facilities to accommodate mothers of low birth weight babies. Lack of private space for the mothers to perform kangaroo care and to remain in the hospital with their babies hinders the practice of KMC [12]. More than half participants agreed that staff shortage has negative effects on KMC. These findings disagree with the statement by the World Health Organization that, KMC practice requires less staff. The reality is that KMC is inexpensive, easy to implement, and can reduce the workload of HCPs. Almost all participants indicated that they need support to implement KMC. This support can be in the form of on-the-job trainings and workshops for the staff, to keep them up-to-date with the practice.

### 5. CONCLUSION

The study revealed that most HCPs have not received training on KMC. Only 39% of health care professionals underwent training on KMC, while 61% never received training. However, most HCPs demonstrated knowledge and understanding of the Kangaroo Mother Care practice, which may be attributed to their long time of service and experience. It also emerged that, HCPs had some positive attitudes towards KMC. It further emerged that the lack of space to accommodate mothers and family members of LBW babies as well as the lack of policy and guidelines are the major obstacle to the successful implementation of Kangaroo Mother Care in the Keetmanshoop district. The authors declare that, there are no competing interests.

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