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Knowledge, Attitude and Practice towards Kangaroo Mother Care

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ABSTRACT

Background: Kangaroo mother care is an effective and low cost technique which prevents neonate from hypothermia, a leading cause of preventable neonatal mortality. Knowledge and practice of Kangaroo mother care is of utmost importance in developing countries such as Nepal. Purpose of this study was to find out knowledge, attitude and practice of kangaroo mother care among health workers in tertiary health centres in Nepal.

Methods: This cross sectional study was carried out in three teaching hospitals in Nepal during the period from January 2016 to April 2016. Doctors and nurses working in Paediatrics/Neonatal and Obstetrics/Gynaecology wards were surveyed using pretested questionnaire. Responses from the doctors and the nurses were compared.

Results: Response rate of the survey was 65%. All of the doctors and 95.3% of the nurses who participated in the survey had knowledge about kangaroo mother care.37.7%of the doctors and 48.8% of the nurses thought that this method is only used for neonates with low birth weight (<2500grams) (p= 0.013).Three fourth of the doctors and half of the nurses agreed that KMC is practiced regularly in their ward (p = 0.016). 22.2% participants informed that main reasons for not practicing kangaroo care regularly could be lack of skill and knowledge.

Conclusions: We found that general knowledge and attitude of majority of doctors and nurses towards kangaroo mother care was good, however, its practise was not uniform.

Keywords: Health care worker; kangaroo mother care; low birth weight; Nepal.

INTRODUCTION

Kangaroo Mother Care (KMC) comprises of early, continuous and prolonged skin-to-skin contact between mother and the baby; exclusive breast feeding and early discharge from hospital.[1] KMC is suitable for both preterm and full-term low birth weight (LBW) babies to prevent from hypothermia.[2]

Studies show that it reduces mortality and morbidity in LBW babies.[3-6] A study done by Subedi et al. in the Special Care Baby Unit of Paropakar Maternity and Women's Hospital at Kathmandu found that practice of KMC was associated with early and good weight gain in LBW babies.[7]

A number of studies focusing healthcare workers' attitude and opinions on KMC have been performed in India, Sweden and Australia.[8-11] Purpose of this study was to find out knowledge, attitude and practice of KMC among healthcare workers in tertiary care centres in Nepal, and to compare the same between doctors and nursing staff.

METHODS

This was a cross sectional study, carried out in three tertiary care centre teaching hospitals in Nepal during the period from January 2016 to April 2016. The study places were selected randomly from the list of teaching hospitals in Nepal. The study participants were all the nursing staff and the medical doctors working in gynaecology/obstetrics and paediatrics/neonatal departments of those hospitals. The questionnaire was retrieved from a study performed in Australia, which investigated the nurses' opinions and attitudes towards KMC.[11] After reviewing the questionnaire in a group of six paediatric department nurses and doctors, necessary modifications and rephrasing were made so that it suited the target study population and our health system.The questionnaire was translated into Nepali, and then retranslated into English and verified whether they

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had the same meaning. In total, we distributed 160 questionnaires to the participants.

Ethical approval was taken from Institutional Review Committee, Kathmandu Medical College and formal approval from all the associated teaching hospitals. Informed consent was taken from all the participants.

Data entry and analysis was done in software SPSS version 20. Pearson Chi-Square and Fisher Exact tests were used to find out differences in knowledge, attitude and practice of health personnel.

RESULTS

The response rate of the survey was 65%. Our margin of error was 4% at 95% confidence interval.

Table 1. Basic characteristics of the participants.

Variables		Doctors	Nurses	Total	P value
Age(years) Mean+SD		31.1 (10.314)	25.9 (3.797)	28.7 (8.630)	
Sex	Male	29(47.5)	0(0.0)	29(27.9)	0.000
	Female	32(52.5)	43(100.0)	75(72.1)	
Department/ Ward					
1.	Paediatric	21(34.4)	12(27.9)	33(31.7)	
2.	Obstetrics and Gynaecology	35(57.4)	21(48.8)	56(53.8)	0.098
3.	Neonatal	5(8.2)	10(23.3)	15(14.4)	
Hospital					
1.	Kathmandu Medical College	42(68.9)	16(37.2)	58(55.8)	
2.	Birat Medical College	7(11.5)	18(41.9)	25(24.0)	0.001
3.	Janaki Medical College	12(19.7)	9(20.9)	21(20.2)	
Abroad Study					
Yes		14(23.0)	3(7.0)	17(16.3)	0.030
No		47(77.0)	40(93.0)	87(83.7)	

Table 2. Knowledge and attitude about KMC among the participants.

Statement	Doctors	Nurses	Total	P value
KMC keeps close contact between parents and child				
1. Yes	61(100.0)	42(97.7)	103(99.0)	
2. No	0(0.0)	1(2.3)	1(1.0)	0.231
3. Don't Know	0(0.0)	0(0.0)	0(0.0)	
KMC maintains child's temperature, heart beat and respiration				
1. Yes	61(100.0)	42(97.7)	103(99.0)	
2. No	0(0.0)	1(2.3)	1(1.0)	0.231
3. Don't Know	0(0.0)	0(0.0)	0(0.0	
KMC helps to make breast feeding more effective				
1. Yes	59(96.7)	40(93.0)	99(95.2)	
2. No	0(0.0)	1(2.3)	1(1.0)	0.454
3. Don't Know	2(3.3)	2(4.6)	4(3.8	
KMC is only useful for the infant having low weight, below 2500 gm				
1. Yes	23(37.7)	21(48.8)	44(42.3)	
2. No	24(39.3)	21(48.8)	45(43.2)	0.013
3. Don't Know	14(23.0)	1(2.3)	15(34.9)	

KMC must be initiated as soon as possible after the birth of neonate.				
1. Yes	55(90.2)	39(90.7)	94(90.4)	
2. No	4(6.6)	2(4.7)	6(5.8)	0.868
3. Don't Know	2(3.3)	2(4.7)	4(3.9)	
More advantages have been assumed in KMC than possible in its application.				
1. Yes	33(54.1)	22(51.2)	55(52.9)	0.928
2. No	13(21.3)	9(20.9)	22(21.2)	
3. Don't Know	15(24.6)	12(27.9)	27(26.0)	
Parents must be encouraged to adopt KMC				
1. Yes	57(93.4)	41(95.3)	98(94.2)	0.774
2. No	3(4.9)	1(2.3)	4(3.8)	
3. Don't Know	1(1.6)	1(2.3)	2(1.9)	
KMC could be the most satisfactory if it is made easy accessible.				
1. Yes	58(95.1)	41(95.3)	99(95.2)	
2. No	0(0.0)	1(2.3)	1(1.0)	0.395
3. Don't Know	3(4.9)	1(2.3)	4(3.8)	
It would be overload to the health workers if KMC is made easy accessible				
1. Yes	8(13.1)	2(4.7)	10(9.6)	
2. No	40(65.6)	38(88.4)	78(75.0)	0.030
3. Don't Know	13(21.3)	3(7.0)	16(15.4)	

Table 3.Practices of kangaroo mother care by the participants.

Statements	Doctors	Nurses	Total	P value
Is KMC used regularly in your ward?				
1. Yes	45 (73.8)	21 (48.8)	66 (63.5)	
2. No	16 (26.2)	20 (46.5)	36 (34.6)	0.016
3. No response	0 (0.0)	2 (4.7)	2 (1.9)	
If No, then why?				
1. Due to lack of sufficient time	2 (12.5)	4 (20.0)	6 (16.7)	
2. Due to lack of skill, knowledge about KMC	7 (43.8)	1 (5.0)	8 (22.2)	
3. It is difficult to apply	0 (0.0)	1 (5.0)	1 (2.8)	
4. It is difficult to convince the parents	2 (12.5)	0 (0.0)	2 (5.6)	
5. Other	5 (31.2)	14 (70.0)	19 (52.6)	
How much KMC is applied in your ward to cure the babies?				
1. Never used	11 (18.0)	14 (32.6)	25 (24.0)	
2. Everyday	39 (63.9)	22 (51.2)	61 (58.7)	0.008
3. Once a week	10 (16.4)	2 (4.7)	12 (11.5)	
4. Once a month	1 (1.6)	0 (0.0)	1 (1.0)	
5. No response	0(0.0)	5 (11.6)	5 (4.8)	

Do you give any information about KMC to the parents?				
1. Yes	47 (77.1)	34 (79.1)	81 (77.9)	
2. No	9 (14.7)	2 (4.7)	11 (10.6)	0.114
3. No Response	5 (8.2)	7 (16.3)	12 (11.5)	
Do you ever encourage to the mothers to participate in KMC?				
1. Yes	52 (85.2)	34 (79.1)	86 (82.7)	
2. No	4 (6.6)	2 (4.7)	6(5.8)	0.427
3. No response	5 (8.2)	7(16.3)	12 (11.5)	
Have you ever helped to the mothers to adopt KMC?				
1. Yes	54 (88.5)	33 (76.7)	87 (83.7)	
2. No	6 (9.8)	8 (18.6)	14 (13.5)	0.266
3. No response	1 (1.6)	2 (4.7)	3 (2.9)	
If yes				
1. was it for the children of normal weight	11 (20.4)	4 (12.1)	15 (17.2)	
2. was it for the children of below normal weight(<2500gm)	38 (70.4)	25 (75.8)	63 (72.4)	
3. no response				
	5 (9.3)	4 (12.1)	9 (10.4)	
Have you ever encouraged fathers to participate in KMC?				
1. Yes	24 (39.3)	22 (51.2)	46 (44.2)	
2. No	36 (59.0)	14 (32.6)	50 (48.1)	0.003
3. No response	1 (1.6)	7(16.3)	8(7.7)	
Have you ever helped the fathers to practice KMC?				
1. Yes	21 (34.4)	21 (48.8)	42 (40.4)	
2. No	40 (65.6)	15 (34.9)	55 (52.9)	0.000
3. No response	0(0.0)	7 (16.3)	7(6.7)	
if yes				
1. Was it for the children born of normal weight	2 (10.5)	1 (4.8)	3 (7.1)	
2. Was it for the children born below normal weight	9 (90.5)	20 (95.2)	39 (92.9)	
Have you ever involved in formal educational programs regarding KMC?				
1. Yes	19 (31.4)	11 (25.6)	30(28.8)	0.104
2. No	42 (68.8)	29 (67.4)	71(68.3)	
3. No response	0 (0.0)	3(7.0)	3(2.9)	
If yes, then the provided education regarding KMCwas sufficient?				
1. Yes				
2. No	16 (84.2)	5(45.4)	21 (70.0)	
	3 (15.8)	6 (54.6)	9 (30.0)	
In your opinion, is KMC getting used effectively in Nepal?				
1. Yes	37 (60.7)	22 (51.2)	59(56.7)	
2. No	22 (36.1)	15 (34.9)	37 (35.6)	0.126
3. No response	2 (3.3)	6 (14.0)	8 (7.7)	

Table 1 shows the socio basic characteristic of the study participants. Mean age of participants was 29.1 year (SD= 8.51) and 71% of them were female.

Nearly 3/5th of the participants were medical doctors. Majority (57.4%) of them were from obstetrics and gynaecology department. Regarding the knowledge of KMC, all doctors and 95.3% nurses have heard of KMC before. However, only 31.1% doctors and 25.6% nurses were involved in the formal educational program regarding KMC.

Table 2 illustrates knowledge of KMC among doctors and nurses. About 90% of participants (90.2% doctors and 90.7% nurses) believed that KMC should be initiated immediately after birth. Nearly two fifth doctors and half of the nurses have perception that KMC is only used for the infant having low weight, below 2500 gm (P value 0.013).

Table 3 demonstrates the practice of KMC among health care workers in the studied hospitals. Three fourth of the doctors and half of the nurses agreed that KMC was practiced regularly in their wards (p value 0.016). According to the participants replying that KMC was not used regularly in their ward, main reason for so was lack of skill and knowledge of this method (22.2%) followed by lack of sufficient time for its practice (16.7%). Similarly, 34.4% of doctors and 48.8% nurses had helped fathers to participate in KMC (p value 0.000) in case of low birth weight babies (92.9%).

DISCUSSION

Kangaroo Mother Care (KMC) is more useful for developing countries like Nepal where incubator or such advance services is still out of reach for majority of the rural populations.[1] However, studies regarding its use in Nepal are very limited.

In the present study, almost all the participants have heard of KMC, and their knowledge and attitude toward KMC was found to be positive. Study conducted by Rosant C. at University of the Western Cape in Eastern Sub-district, Cape Town found that the majority of nursing staff had some knowledge of the advantages of KMC, appreciated its value and had a positive attitude towards KMC.[12] Similarly, Bang KS in a study done in the hospitals of Korea mentioned that nurses and doctors agreed that Kangaroo mother care promoted attachment and parental confidence as well as physical health of the infants.[13] Study by Strand et al. in the neonatal intensive care unit found that staff working in the NICU that gave unrestricted access was more positive about KMC.[14]

Bera et al. in their study on effect of KMC on vital physiological parameters of the low birth weight newborn in India found improvement in all 4 recorded physiological parameters- temperature, respiratory rate, heart rate and oxygen saturation(SpO_2) during KMC session.[3] These benefits were well perceived by our participants, as majority of them believed that KMC has good effect in baby's health, like it maintains child's temperature, heart beat and respiration.

One interesting fact we noticed was the response to the statement: *More advantages have been assumed in Kangaroo Mother Care than possible in its application.* This was the only statement perceived negatively by our participants, and we think that a misunderstanding or misinterpretation could have occurred. It may also be because the same facilities are not available in Nepal (for example a private room for the parent and the new born) as in more developed countries, and the overall experience of performing the method may therefore be less positive. An Australian study done by Chia et al. revealed that all of the nurses who participated in the study assisted and encouraged parents to provide KMC and the majority agreed on the benefits of KMC for both infants and parents, found facilitating KMC professionally satisfying.[11]

Nearly 90% doctors and about 80% of the nursing staff who participated in our study said they encouraged the mother especially of low birth weight babies about practicing Kangaroo care. The findings of our study also corroborates with the study done by Muddu et al. at a teaching hospital in India where they concluded that mothers of preterm babies can understand and implement KMC with simple and clear oral instructions in local language, positive feeling being developed even with one hour session on KMC.[15] A study done by Nguah et al. in Kumasi Ghana found that mothers initially had low knowledge of KMC, but, once initiated and mothers continued practicing KMC in hospital and at home, their infants started gaining optimal weight. It is important to highlight the importance of counselling by health personnel to discharging mothers.[16]

Srinath et al. in their study "Kangaroo care by father and mothers: comparison of physiological stress responses in preterm infants" found no significant difference in physiological and stress responses following KMC or Kangaroo Father Care (KFC) in preterm neonates, concluding that KFC may be as safe and effective as KMC.[17] However, we found some disagreement among our participants regarding encouraging father to adopt Kangaroo Care, slightly more among doctors.

Majority of our respondents, mainly doctors were in favour of starting kangaroo care to neonates soon after birth. According to a study by Sharma et al. in a hospital of Hyderabad, initiating early shifting to Kangaroo ward is cost effective intervention and have huge monetary implication in resource poor countries.[18]

Approximately 36% of participants in our study believe that KMC is not getting effectively used in Nepal. This shows the importance of National guidelines for the effective implementation of KMC in Nepal. Nagar et al. in their study found effectiveness of neonatal nurse's guideline on improving their knowledge and practice toward kangaroo mother care as a means of facilitating parent-infant attachment, and provides valuable insights into the attitudes and practices of neonatal nurses in promoting KMC within the highly specialized NICU environment.[19] Multi-country analysis of health system done by Vesel et al. in 2015 came with conclusion that there are at least a dozen countries worldwide with national KMC programme, also identifying three pathway to scale: champion-led; project-initiated and health system designed, the combination of which leading to more rapid scale-up.[20] They also mentioned that KMC has potential to save live, and change face of facility-based newborn care, whilst empowering women to care for their preterm newborns.[20]

Limitations of this study were the sample size, which was small due to financial limitations and logistic constraints. Another limitation of our study was the closed ended questions in the questionnaire. Open ended questions or qualitative interviews could have given a deeper understanding on their knowledge and attitudes towards KMC, but that was unfortunately not possible due to limited resource and time. This study was performed in three hospitals; therefore the results might not be generalized to all hospitals in Nepal. The results may also not be applied to the rural health care settings that are not using KMC. This limitation suggests possibilities for further investigations.

CONCLUSIONS

Majority of the healthcare personnel working in Pediatric/Neonatology and Gynecology/Obstetric wards in our study have heard of Kangaroo mother care. Overall knowledge and attitude toward KMC was found satisfactory. They were eager to learn more about KMC. As nursing staff spend more time with the mothers, they should be well informed and trained about the benefits of KMC. Since almost all participants believe that KMC is beneficial to the infants and its uses should be encouraged, it is important to have proper guideline and separate Kangaroo mother care unit in health centers in Nepal.

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