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ORIGINAL RESEARCH

The Impact of Nurse-related Barriers on Kangaroo Mother Care Implementation in Kurdistan of Iraq

Sara Amin Mala[1], Dr. Sanaa H. Abdul sahib[2]

[1] Pediatric Nursing, College of Nursing, University of Raparin, Sulaimaniya, Iraq.
[2] Community Health Nursing, College of Nursing, University of Raparin, Sulaimaniya, Iraq.

CORRESPONDING AUTHOR

Sara Amin Mala,
Pediatric Nursing,
College of Nursing,
University of Raparin,
Sulaimaniya, Iraq.
Email:
Sara.ms20p05@uor.edu.krd

ABSTRACT

Background: The practice of Kangaroo Mother Care (KMC) is widely defined as a method of skin-to-skin contact that occurs between the mother and baby. This harmony and contact will reduce the mortality and morbidity among newborns and more specifically the preterm babies.

Objectives: This research paper tends to examine the nurse-related factors as barriers of Kangaroo Mother Care as they may hinder the implementation of KMC as a practice .

Methodology: Cross sectional design was followed to conduct a quantitative research by depending on questionnaires. Around 76 cases were collected in Rania Pediatric and Maternity hospital. The data was analyzed with SPSS software.

Results: The results show that there is a statistically significant negative relationship lack of experience and knowledge and kangaroo mother care, also there is a significant and negative association between special seats and attire with KMC implementation, however the relationship between time and tendency and KMC implementation is not statistically significant.

Conclusion: Kangaroo mother care as an effective way of baby care has been implemented worldwide, however several barriers face the implementation of the practice. Via eliminating the influences of sociocultural and administrative factors, health care providers can implement Kangaroo Mother care.

Keywords: Kangaroo mother car, Sociocultural, Health System, mortality, Administrative Barriers.

INTRODUCTION

According to World health Organization (WHO) every year each year about 20 million infants are born that their weight is less than 2.5kg (Kampekete, Ngoma, & Masumo, 2018). Statistically speaking, in the entire world, 44% of deaths under five years happen during the period of neonatal (Bhutta et al., 2014). On the other hand, according to the WHO (2019) yearly 303 000 deaths of ladies during pregnancy and baby delivery, 2.6 million miscarriages, and 2.7 million deaths of babies during

the first 28 days of life. All these together concern the health systems and parents to think about the preventing ways of losses. One of the methods to establish a similar environment as uterus for newborns is called Kangaroo Mother Care (KMC). It is natural ways of mother's care to the newborn babies, more specifically the preterm babies. KMC consist of first and continuous skin-to-skin contact (SSC) between the newborn and mother, special breastfeeding, quick discharge from health accommodations, and helpful care and follow up (World Health Organization 2003). Among premature babies and low weight babies (less than 2000g) the KMC with its effects is widely demonstrated. The KMC method is well-known as a protecting method for newborns. This has been confirmed even by WHO which recommends to use a continuous skin to skin contact between the mother and her baby as soon as they born. In addition, studies have approved the positive and valuable effect of KMC on newborn mortality and morbidity(Broughton, Gomez, Sanchez, & Vindell, 2013). In support to that, several other studies showed the same effect including Yoshida et al. (2014) WHO 2015;(G. J. Chan, Valsangkar, Kajeepeta, Boundy, & Wall, 2016); (Kujawski et al., 2015).

Despite of the fact that KMC can hugely impact on the health of baby and the mother, there are still obstacles and barriers that prevent the implementation of that practice. Previous studies have shown that baby givers and medical staff have their own excuses of not practicing KMC including lack of time, cultural barriers , lack of nurses support, lack of knowledge (Jamali et al., 2019b; Kinshella et al., 2021; Seidman et al., 2015; Smith, Bergelson, Constantian, Valsangkar, & Chan, 2017). The nurse-related factors are among the most reported barriers across the globe. However, these factors have not been studied in Kurdistan while they are worth investigating in an unexplored research context as Kurdistan. There a clear knowledge gap in Kurdistan research setting because The barriers may differ from country to country based on the cultures and health care systems.

AIMS OF THE STUDY

The Aim of this study is to investigate the main nurse-related barriers that may hinder the Implementation of KMC in Iraqi Kurdistan.

METHODOLOGY

Research design

Cross sectional design was followed to conduct a quantitative research by depending on questionnaires.

Research setting

This study was conducted in the Raparin administration area which consists of districts of (Rania and Pshdar). In each district there is a delivery hospital that provides services related to delivery and neonatal care. The researcher went to the hospital and distributed the questionnaires among the nurses who take care of the birth givers and babies, they were asked to fill the questionnaires. In addition, the nurses who serve in the Neonatal Intensive Care Unit (NICU) were asked to fill the questionnaire as they are dealing with the recently delivered babies beside to their mothers.

Sampling plan

Data was collected using a non-probability (purposive) sampling technique. Nurses with experiences in working in the delivery ward and shift work during the delivery time were asked to participate in the questionnaire. Also, the nurses who serve in the (NICU) were asked to fill the questionnaire. Those who were working outside the delivery ward and NICU were among the exclusion criteria. The questionnaire was divided into two main sections: the first dealt with the demographics of nurses, including information on their age, sex, marital status, and degree of education. And the second section dealt with the KMC-related questions.

The total of 76 nurses participated in the questionnaire.

Data collection tools

Two different questionnaires will be designed; one for the birth givers and the other one for nurses and medical staff. The questionnaires will be distributed among birth givers and midwifery nurses.

Measures

Unless noted otherwise, all measures were based on a 5-Likert type scale as (1= strongly disagree to 5 =strongly agree). 12 items developed by Gakuna, M. N. (2017) were used to check the sociocultural and administrative barriers of Kangaroo Mother care. The Cronbach alpha for sociocultural and administrative barriers was (0.85).

Data analysis

SPSS software will be used to find the descriptive statistics, correlation analysis and linear regression that are required for this study. The data analysis was conducted for both mother's barriers and staff barriers in front of KMC. The findings and results are presented in two parts, the first part is related to mothers and the second part is related to the staff.

RESULTS:

Nurse's demographics

The respondent nurses were from Rania Maternity and pediatric hospital. All the nurses were from delivery wards, surgery room and normal hospital wards. Their ages were ranged between 22-45 years all. The majority of nurses' respondents 30% were between 34-39. Their education level ranged from secondary nursing school graduate till post graduate, the majority of them 59% were college graduates. The employment levels were different from 1 year in service till 18 years or above. The majority of nurse had 12-17 years' service in the hospital. All the other relevant details of nurses' demographics are presented in the table 1.

Table (1): Socio-demographic characteristics of nurse participants. Rania, Kurdistan, 2022.

Variables	Frequency	Percentage
Age		
22-27	19	25%
28-33	21	27.6%
34-39	23	30.2%
40-45	13	17.4%
Education		
Secondary Nursing School graduate	8	10.5%
Institute graduate	16	21%
College Graduate	45	59%
Post graduate	7	9.2%
Marital status		
Married	47	61%
Single	29	39%
Employment years		
1-5	18	23.6%
6-11	20	26.3%
12-17	26	34.2%
18 above	12	15.7%

Reliability test

The reliability of the questionnaire was tested using Cronbach's alpha for each variable (Lack of Knowledge and experience = 0.66), (Lack of special seats and attires= 0.75) and (Lack of Time and tendency =0.65). And the results are presented in table (5). The composite reliability of this questionnaire was good and acceptable as according to Raykov (2009) the observed Cronbach alpha for medical demands should be greater than .60 and based on that measure all of our achieved values are > 0.60, thus the questionnaire reliability is obtained. All the details of factor loading and composite reliability can be found in table 2.

Table (2): Model factor loading with composite reliability measured with Conbach Alpha

	Factors (Independent variables)	Items	Standardized factor Loadings	Composite reliability/ Cronbach alpha
Model	Lack of Knowledge and experience	4	4+3+5+9	.664
	Lack of special seats and attires	4	6+7+8+9	.759
	Lack of Time and tendency	4	2+4+8+10	.658

Correlation test

The correlation table is statistical tool that can be used to ascertain whether two numerical or categorical variables are connected. To put it another way, it is a method of determining how things relate to one another. The analysis of correlation between two or more variables is known as correlation analysis. According to Glen (2021) the Pearson Correlation Coefficient, which is used to detect if two sets of data are linearly related, is by far the most often used measure of correlation.

According to Gogtay and Thatte (2017), "when doing a correlation study, a "coefficient" is calculated whose value might be anywhere from -1 to +1. There are no linear ties between the variables assessed when the correlation coefficient is set to 0, but there are linear links when it is set to 1."

As it is presented in table 3, the correlations between KMC and lack of special seats and attires (LSST) is -.532 and the P-value is 0.00< 0.01 which means the correlation is negative and significant. The correlation for KMC and lack of lack of Knowledge and experience is -0.291 p-value 0.00< 0.01 that shows a negative correlation and significant relationship. Finally, the correlation between KMC and time and tendency (LTT) is 0.098 and the p-value is 0.402 > 0.01 which is positive and not significant.

Table (3): show the correlation test for nurse dimensions and KMC

* KMC= Kangaroo Mother Care, LSSA= Lack of special seats and attires, LKE= Lack of knowledge and experience, LTT= Lack of time and tendency.

Correlations					
		KMC	lack of special seats and attires	lack of knowledge and experiences	lack of time and tendency
.KMC	Pearson Correlation	1			
	Sig. (2-tailed)	.000			
	N	95			
.LSSA	Pearson Correlation	-.532**	1		
	Sig. (2-tailed)	.000			
	N	76	76		
.LKE	Pearson Correlation	-.291*	.000	1	
	Sig. (2-tailed)	.011	1.000		
	N	76	76	76	
.LTT	Pearson Correlation	.098	.000	.000	1
	Sig. (2-tailed)	.402	1.000	1.000	
	N	76	76	76	76
**. Correlation is significant at the 0.01 level (2-tailed).					
*. Correlation is significant at the 0.05 level (2-tailed).					

Table (4): Model summary and Nagelkerke test.

Model Summary			
Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	69.659[a]	.364	.488
a. Estimation terminated at iteration number 4 because parameter estimates changed by less than .001.			

REGRESSION RESULTS

According to table 5, binary logistic regression was chosen to determine the association of independent variables (Kurdish cultural factors & Lack of family support) with KMC implementation. As long as p value is greater than 0.05 in Hosmer and Lemeshow test which indicated the model is fitting the data. Based on results, Kurdish cultural factors significantly have negative effect on the implementation of KMC B (-.848) P-value is 001<0.05, thus the hypothesis #1 is confirmed. while the effects of lack of family support is insignificant as the p-value is 0.161> 0.05. thus the Hypothesis #2 is rejected. All the coefficients and p-values are presented in table 6.

There are a number of pseudo-R2 values that have been proposed using this general logic, including the Cox and Snell (Cox & Snell, 1989; Cragg & Uhler, 1970; Maddala,1983), Nagelkerke (1991). Based on the results, about 50% of the changes in the dependent variable are explained by the independent variables. According to table 5, a binary logistic regression was performed to determine the relationship of independent variables (lack of special seats and attires, lack of knowledge and experience and lack of time and tendency) with KMC. As long as p value is greater than 0.05 in Hosmer and Lemeshow test which indicated the model is fitting the data. Based on results, lack of special seats and attires B (-1.653) P-value 0.000< 0.05 negatively and

significantly affect the implementation of KMC. Also, lack of knowledge and experiences B (-.914) P-value 0.008< 0.05 is negatively and significantly related to KMC implementation. Thus, both hypotheses #4&#5 are confirmed. While the effects of lack of time and tendency are insignificant, the coefficient value is B (.261) and the p-value .423 > 0.05 thus the hypothesis#5 is rejected. All the details of binary logistic regression are presented in table 6.

Table (5): shows the variables in the equation.

		B	S.E.	Wald	df	Sig.	Exp (B)
Step 1[a]	lack of special seats and attires	-1.653	.416	15.784	1	.000	.192
	lack of knowledge and experiences	-.914	.347	6.953	1	.008	.401
	lack of time and tendency	.261	.326	.643	1	.423	1.299
	Constant	-.306	.297	1.065	1	.302	.736

a. Variable(s) entered on step 1: lack of special seats and attires, lack of knowledge and experiences, REGR factor score 3 for analysis 2.

Table (6): shows the hypotheses status after testing

NO	Hypotheses	P-Values	Status
1	lack of knowledge and experiences from nurses is positively related to ignoring implementation of Kangaroo mother care	.000	Confirmed
2	lack of special seats and attires hinders the implementation of kangaroo mother care	.008	Confirmed
3	lack of time and tendency is positively related to KMC implementation	.423	Rejected

DISCUSSION

The main aim of this study was to explore the nurse-related barriers of kangaroo mother care in Kurdistan Region of Iraq. This research project tried to answer some crucial questions such as: to How Kurdish nurses see KMC in terms of implementation? What are the mothers' barriers to KMC implementation?

According to our conceptual framework, kangaroo mother care is a complex intervention because user (i.e., caregiver) participation is high and caregiver behavior—the key "adoption system"—dominates our definition of "successful implementation." it is crucial to give caregivers the tools they need to implement KMC. We discovered that the main themes defining the interaction between families and the KMC intervention were buy-in and bonding, social support, time, and medical concerns. The adoption of KMC within the context of the health system was further hindered (and possibly enabled) by culture and health systems, which we identified as

such. Furthermore, we discovered social and cultural norms that were crucial in the adoption process of KMC.

Nurses are the technical and human factors of KMC implementation. (G. Chan, Bergelson, Smith, Skotnes, & Wall, 2017; Jamali et al., 2019a; Smith et al., 2017). The support and guidance from nurses guarantees the KMC implementation. Based on the research questions and hypotheses, the findings show that nurses in Kurdistan hospitals are not enough aware and concerned about kangaroo mother care. And that result goes parallel with results from other countries (Adisasmita, Izati, Choirunisa, Pratomo, & Adriyanti, 2021; Al-Shehri & Binmanee, 2021). First of all, the nurses were not enough aware about KMC as a procedure, they claimed that they have only heard about it in theory. and the findings supported the hypothesis 3 claiming that "Lack of knowledge and experiences from nurses is positively related to ignoring implementation of Kangaroo mother care". And this is common in most of the hospitals around the world and that is due to the fact that KMC is not regulated as a procedure in the health system (Gao et al., 2015; Ludington-Hoe, Ferreira, Swinth, & Ceccardi, 2003). Second, lack of medical facilities and special wards is another barrier of KMC implementation. Most of the mothers pointed out the pressure that they face from the hospitals to be discharged soon, and that is due to the fact that there is not enough space for the mothers to stay for a longer time and practice KMC. These findings supported our hypothesis 4 when it claims that "lack of special seats and attires hinders the implementation of kangaroo mother care". Furthermore, the nurses were asked regarding the time and their workload during their shifts of work, some of them expressed that they have no intention to practice KMC. The reasons of refusing KMC might refer to the mothers' privacy. Some others believed that technology (such as incubators) is a better option instead of KMC. On the other hand, some nurses expressed their concerns regarding lack of time due to the fact that their time should be spent for the procedures and protocols that are regulated by hospitals management. Previous studies in other countries have supported this claim as well ... Despite these concerns from nurses' perspective, our hypothesis 5 were rejected as it said "lack of time and tendency is positively related to KMC implementation". That might be because some nurses expressed their interest and intention to implement kangaroo mother care. Also, some other nurses express their readiness to allocate some of their time to teach mothers the way of practicing KMC.

limitations of the study and future direction

Each and every study has some own limitations and barriers. For this study there were some challenges as well. First of all, the culture of research is not cultivated within the organizational setting and peoples' mentality. The researcher spent too much time with the participants to convince them in the importance of the study. In addition, most of the administrative and medical staff in hospitals do not consider researching process as a part of their organizational commitment. Second, the nurses and other medical staff were too busy that made the researcher to visit the ward in different times. Third, the time and period which was dedicated for the study was short and insufficient. The researcher did not have enough time to take more cases and distribute more questionnaires.

This study was only focused on the nurse-related barriers. Future researches may expand the idea to other barriers for mothers such as psychological barriers and lack of awareness. On the other hand, some other barriers of nurses should be other barriers to consider such as lack of knowledge, personal perception, increased workload, lack of guidance and procedures.

Implications of the study

The results of this study can be applied to the same research context because it was carried out in

a genuine hospital setting. First of all, nurses might use this thesis as an educational study to identify the gaps and implementation hurdles for KMC. They can also understand that the success of KMC significantly depends on their readiness and willingness to put it into practice, so they should consider the following while deciding whether to put KMC into practice. Second, this study demonstrates the competencies and abilities that nurses need to grow and advises them to educate themselves, acquire new competencies, and train in their current ones. Third, health care executives at the hospital management level can review the conclusions and suggestions to comprehend the gaps and challenges within their businesses. For instance, the hospital managers may become aware that there isn't a single ward specifically designated for KMC practice, which will prompt them to consider the situation. Finally, family groups and NGOs interested in putting KMC into practice might concentrate on the cultural aspects of this practice and pinpoint its needs and obstacles in order to solve issues. For instance, the need for their assistance in practicing KMC might be explained to families and society at large.

CONCLUSION

Kangaroo mother care as an effective way of baby care has been implemented worldwide, however several barriers face the implementation of the practice. This study mainly focused on the sociocultural and administrative barriers. The first barrier is mother-related and the second one is related to medical and administrative staff. Identifying these barriers will help the health leadership to think about the mechanisms and strategies for a more effective implementation of KMC. The findings of this paper may help the ministry of health and directorate of health in Raparin to have a better understanding of the KMC barriers and how to solve them. This practice should be a culture then the medical benefits of it can be explained. Finally, the Kurdistan health infrastructure needs to developed in terms of quantity and quality of medical staff. More study should be done to determine the obstacles to and enablers of KMC. Relevant nurses should receive training and development, and the public and families should be made aware of the benefits of KMC in order to assist the moms and urge them to use it.

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