Neonatal Nurses Knowledge and Attitude toward Kangaroo Mother Care Practice

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□ ABSTRACT □

Background: kangaroo mother care (KMC): is a technique of newborn care where baby are kept skin-to-skin contact with mother. It is most commonly used for low birth-weight preterm babies, who are more likely to suffer from hypothermia, while admitted to a neonatal unit to keep the baby warm and support early breastfeeding. Purpose of this study was to find out neonatal nurses knowledge and attitude towards KMC practice in pediatric hospital. Methods: this descriptive study was carried out in neonatal intensive care unit in pediatric hospital in Lattakia. On A convenient sample of 30 nurses. Results: Most of nurses in this study (56.6%) had diploma degree, and (66.6%) of them had more than 6 years of experience. The majority of neonatal nurses (90%) have poor knowledge on KMC definition and benefits. The majority of studied nurses (93.3%) had negative attitude toward KMC practice, while very low percent (6.7%) had neutral attitude. Conclusion: Most of neonatal nurses had low level of knowledge on KMC, and the majority of them had negative attitude toward KMC.

Keywords: Knowledge, attitude, neonatal nurses, Kangaroo mother care.

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معلومات واتجاهات ممرضات الأطفال حول ممارسة رعاية الأم الكنغر

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□ ملخّص □

مقدمة: رعاية أم الكنغر (KMC): هي تقنية لرعاية الأطفال حديثي الولادة، يتم فيها إبقاء الطفل على اتصال جلد–جلد مع الأم. وتستخدم بشكل شائع للأطفال الخدج منخفضي الوزن عند الولادة، والذين هم أكثر عرضة لانخفاض حرارة الجسم، حيث يتم قبولهم في وحدة الأطفال حديثي الولادة للحفاظ على دفء الطفل ودعم الرضاعة الطبيعية المبكرة. كان الغرض من هذه الدراسة هو التعرف على مستوى معلومات ممرضات حديثي الولادة واتجاهاتهم حول ممارسة KMC في مستشفى الأطفال. المنهجية: أجريت هذه الدراسة الوصفية في وحدة العناية المركزة لحديثي الولادة في مستشفى الأطفال في اللاذقية على عينة متاحة من 30 ممرضة. النتائج: حصلت معظم ممرضات حديثي الولادة في هذه الدراسة (56.6%) على درجة الدبلوم، وكان (66.6%) لديهن أكثر من 6 سنوات خبرة. ولدى غالبيتهن (90%) معرفة ضعيفة حول تعريف وفوائد KMC. كما كان لدى غالبيتهن (93.3%) موقف سلبي تجاه ممارسة KMC، في حين أن نسبة منخفضة للغاية (6.7%) كان لديهن موقف محايد. الخلاصة: كان لدى معظم الممرضات حديثي الولادة مستوى معلومات منخفض حول KMC، وكان لمعظمهن موقف سلبي تجاه KMC.

الكلمات المفتاحية: معلومات، اتجاهات، ممرضات حديثي الولادة، رعاية الأم الكنغر.

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Introduction:

kangaroo mother care (KMC), also called kangaroo care or skin-to-skin care is a method of care for preterm babies in which babies are carried skin-to-skin with their mother and sometimes the father.[1] It was developed in 1979 by Rey and Martinez in Bogota, Colombia in order to augment the shortage of incubators and to help reduce hospital infections.[2] KMC was developed to serve as alternative to care for preterm and low birth weight (LBW) babies who were stable and did not require continuous medical care. It has proven to be effective in meeting a baby's needs of warmth, breastfeeding, protection from infection, stimulation, safety and love.[3,1]

According to WHO the key features of KMC include early, continuous and prolonged skin-to-skin contact between the mother and the baby, exclusive breastfeeding, early discharge of small babies, the need for follow up and support for mothers, and it is a gentle and effective method that avoids the agitation routinely experienced in a busy ward with preterm infants.[15,1] About 13 million babies are born prematurely worldwide, Prematurity is considered to account for 27% of four million neonatal deaths annually.[4]

Prematurity is now the second-leading cause of death worldwide. LBW is an underlying factor in 60–80% of all neonatal deaths. LBW infants are approximately 20 times more likely to die compared with heavier babies. Death occurred within the first 12 hours after delivery for one third of LBW babies.[5] One of the major reasons that LBW/premature babies are at greater risk of illness and death due to lack their ability to control the body temperature and their organs did not have enough time to develop.[6,5]

Premature infants have been traditionally separated from their mothers, for receiving the required care in incubator at intensive care units and usually deprived from maternal contact, which can adversely affect the establishment of mother-infant attachment at this critical stage. So that; they need a special care and positive interaction (mother-infant interaction) in order to minimize the risk of developmental delay. For this it was necessary to employ acceptable, simple and inexpensive methods such as KMC to decrease the mortality rate of premature infants in low- and high-income countries.[7,8]

KMC has shown to have more advantages it enhances mother-infant bonding. And it has physiological, behavioral, psychosocial and cognitive developmental benefits, improves the sleep cycle and oxygenation in sick preterm and reduces the apneic spells. A number of studies have shown that during and after KMC the heart rate, respirations and oxygen levels of the neonate remain within normal limits. In addition, it promotes breastfeeding, enables the mother to become more confident when caring for her infant, and results in early hospital discharge.[9]

KMC is widely well-known as a beneficial intervention to clearly improve the development of premature and LBW infants. Several international studies of staff Knowledge and attitudes to KMC have shown that this practice is strongly supported in NICUs. It was observed more than 82% of neonatal nurses practiced KC in their neonatal intensive care units (NICUs) in the USA. Over 50% of all hospitals in South Africa also practice KMC in some form or another. KMC is widespread in NICUs in several European countries.[10]

However, in other countries some of staff members at neonatal units have barriers toward implementing KMC include whether it should begin within a few hours of birth, some have concerns for the safety of preterm infants, and other staff has concerns over increased workloads furthermore, insufficient education or experience, lack of organizational support and absence of clear protocols, especially for LBW infants. As in the study conducted by (Al-Shehri, 2019) in Saudi Arabia to assess the level of knowledge and competency of

KMC among nurses which illustrated that there is reasonable knowledge among NICU nurses, and most of them are actively engaged in practice. But several barriers were apparent including lack of time due to workload, fear of accidental extubation, and lack of privacy during KMC practice. [11,12]

Another study conducted by (Solomons, 2012) to determine the knowledge and attitude of nurses staff towards KMC in eastern sub-district of Cap Town reported that all of the nursing staff who were engaged in KMC had a positive attitude towards it.[4]

Some studies shown nurses who worked in facilities that practiced KMC had gaps in their knowledge on the subject. They also reported that nurses who perceived the practice of KMC to be beneficial to themselves (by decreasing their workload), and the infant, were more willing to implement KMC in their units. Clearly, the attitudes of neonatal nurses are a major determinant of the degree to which KMC is a positive experience for parents. They need to receive ongoing education and to have a positive attitude towards implementing KMC in order to motivate and encourage mothers. Since Knowledge alone does not change practice; Attitudes strongly influence action. [4,13]

Neonatal nurse's work in varying conditions, ranging from high-tech, state-of-the art neonatal intensive care units to facilities with limited resources, their role should not be limited to general care, but also to the development of KMC protocols. They play a pivotal role in facilitating the attachment process by promoting early parent-infant contact through encouraging parents to touch, hold and care for their infant as well as establishing collaborative and positive relationships with the parents. [13]

Importance and aim of the study:

Importance of the study

According to WHO about 15 million premature and LBW babies are born each year, which may expose them to health problems in vision, hearing, the respiratory system and the brain. Some of them lives in low-resource areas there is no enough (incubators, staff nurses) to maintain and provide care for babies. So to address a shortage of incubators and medical personnel, KMC method was described as a human incubator low birth weight babies. Education of nursing staff and their attitude regarding KMC has been shown to be critical for its successful implementation. However, there is scant knowledge about the practice of KMC. Consequently, this study conducted to investigate nurses' knowledge and attitude regarding KMC practice in NICUs in Lattakia.

Aim of the study:

- To assess neonatal nurses knowledge towards KMC practice.
- To identify neonatal nurses attitude towards KMC practice.

Material and methods:

Study design:

A descriptive design was used in this study.

Setting and Period of research: The study was conducted in Obstetrics and Children Hospital in Lattakia, at a period between 1/6/2019 to 30/9/2019.

Subjects: A convenient sample of 30 neonatal nurses working in a neonatal unit from the previously mentioned setting.

Tools of the study:

Appropriated structured knowledge questionnaire and (5-points) Likert scale (ranging from "strongly disagree" to "strongly agree") was used to assess nurses' attitudes towards KMC.

It was developed by the researcher from reviewing literature to collect the data.[4,2,1] It consists of three parts:

Part one: demographic data about neonatal nurses such as (age, qualification, years of experience...)

Part two: nurses knowledge on KMC, it consists of 7 items, each item has three answers scored by (yes =3, no =2, I don't know =1). The nurses' knowledge in all definitions items was considered accurate according to the percentage of the total score. The level of nurses' knowledge was categorized as follows: Very good: equal 75% or more, Good: from 50% to less than 75%, Poor: less than 50%.

Part three: Nurse's attitude toward KMC, it consists of 9 items. Each item has five answers scored by using Likert attitude scale as follows (Strongly agree =5, agree =4, neutral =3, disagree =2, strongly disagree =1). The level of nurses' attitude was categorized as follows: Positive attitude: equal 75% or more, neutral attitude from 50% to less than 75%, negative attitude: less than 50%.

Method of the study

1. An official letters was taken from faculty of nursing and obstetric and children hospital to facilitate the research implementation.
2. Tool of the study developed by the researcher from reviewing literature to collect the data.
3. Validation of tool was assessed by presenting it to experts in pediatric nursing field in Faculty of Nursing, and no modifications were done.
4. Tool reliability was asserted. The reliability of the instrument was estimated using the Cronbach's Coefficient alpha test to measure the internal consistency of the tool which was (re=0.75).
5. A pilot study was carried out on 10% of neonatal nurses in a previously mentioned setting to test the applicability and visibility of the tool and no modification was done.
6. Oral consent of nurses for their participation in the study was obtained after explaining the aim of the study; with confirm the confidentiality of the data taken.
7. Every nurse was asked to answer the questionnaire individually to assure obtaining the unique knowledge and attitude toward KMC for every one of them.
8. The time needed for every nurse to answer the questionnaire ranged from 10 to 15 minutes.
9. Data were analyzed using Personal computer with Statistical Package for Social Sciences (SPSS) version 20. Data were expressed in numbers (N) and percentage (%).

Results and Discussion

Results:

Table 1: Percent distribution of nurses according to their demographic data

demographic Variables		N = 30	
		N	%
Age (year)	<25	1	3.3
	30 - 25	11	36.7
	> 30	18	60.0
Qualification	Nursing Institute 2 years	2	6.7
	Diploma of Nursing	17	56.6
	Baccalaureate	11	36.7
Years of experience	1 – 3	5	16.7
	3.1 – 6	5	16.7
	> 6	20	66.6

Table (1) shows the percent distribution of nurses according to their demographic data. The highest percent of nurses in this study 60% were more than 30 years of age. Concerning the qualification 56.6% of nurses had diploma degree, and 36.7% had baccalaureate degree, while only 6.7% of them had technician degree. According to years of experience it was noticed that 66.6% of nurses had more than 6 years of experience.

Table 2: Percent distribution of nurses' knowledge about Kangaroo mother care (KMC).

items	Yes		No		Don't know	
	N	%	N	%	N	%
1. Kangaroo mother care is a method of caring stable low birth weight preterm infant below 2000 grams	7	23.3	8	26.7	15	50.0
2. Kangaroo mother care involves skin-to-skin contact between the mother and the low birth weight preterm baby	1	3.3	2	6.7	27	90.0
3. In kangaroo mother care method the baby is placed in a kangaroo position on a mother's chest	2	6.7	5	16.7	23	76.7
4. The baby can be breast fed while on kangaroo mother care method	3	10.0	7	23.3	20	66.7
5. The preterm infant on kangaroo mother care method can be discharged early	4	13.3	13	43.3	13	43.3
6. Infant on kangaroo mother care method can be discharged if the infant is stable Gaining weight 15-20gm/kg/day	4	13.3	1	3.3	25	83.3
7. The mother practicing kangaroo mother care needs support in the hospital and at home	1	3.3	2	6.7	27	90.0

Table 2: Presents percentage distribution of nurses' knowledge about KMC. It was noticed that the majority of nurses did not have information about KMC, as 90% of them did not know that KMC involves skin-to-skin contact between the mother and the low birth weight preterm baby, and the mother which practicing KMC needs support at the hospital and at home. In addition, 83.3% of them did not know that Infant on KMC method can be discharged if the infant is stable Gaining weight 15-20gm/kg/day. Also it was noticed that (76.6%, 66.7% respectively) of studied nurses did not know that newborn baby is placed in a kangaroo position on a mother's chest, and can be breast fed while on KMC method.

On the other hand, the percentage of nurses who had knowledge about KMC was very few it formed 23.3% and less for all items.

Table 3: Percent distribution of nurses according to their attitude toward KMC.

items	strongly disagree		Disagree		neutral		Agree		Strongly agree	
	N	%	N	%	N	%	N	%	N	%
1. Kangaroo mother care has positive effect on physical well- being of the infant.	15	50.0	12	40.0	2	6.7	1	3.3	0	0
2. Infants on Kangaroo mother care have a low risk of hypothermia and infection.	7	23.3	20	66.7	3	10.0	0	0	0	0
3. Kangaroo mother care results in more effective breastfeeding	14	46.7	10	33.3	3	10.0	1	3.3	2	6.7
4. Kangaroo mother care will reduce hospital stay and cost of health care	9	30.0	12	40.0	5	16.7	4	13.3	0	0
5. Kangaroo mother care enhances the parents‟ confidence	15	50.0	14	46.7	1	3.3	0	0	0	0
6. Kangaroo mother care will promote mother infant bonding	17	56.7	12	40.0	1	3.3	0	0	0	0
7. All parents should be encouraged to practice kangaroo care	17	56.7	9	30.0	3	10.0	1	3.3	0	0
8. All parents should be given relevant information on kangaroo care	18	60.0	12	40.0	0	0	0	0	0	0
9. Facilitating kangaroo care is an added burden to the health staff	11	36.7	6	20.0	5	16.7	8	26.7	0	0

Table 3: it was shown from the table (3) that the majority of nurses distributed between disagree and strongly disagree to practicing KMC by mothers, whereas 60% of them strongly disagreed to give all parents information on KMC, and 56.7% of them strongly disagreed on the statements “KMC will promote mother infant bonding, and all parents should be encouraged to practice KMC”. Also regarding the statements “KMC has positive effect on physical well- being of the infant, it enhances the parents confidence” about 50% of studied nurses strongly disagreed.

In addition the same table illustrated that 66.7% of studied nurses disagreed the statement “Infants on KMC have a low risk of hypothermia and infection”.

Table 4: Percent distribution of nurses according to their knowledge level on KMC

Level of knowledge on KMC	Low		Average		High	
	N	%	N	%	N	%
	16	53.3	14	46.7	0	0

Table 4: presents distribution of nurses according to their knowledge level on KMC. It is obvious that more than half of studied nurses 53.3% had low level of knowledge on KMC and less than half 46.7% had an average level of knowledge.

Table 5: Percent distribution of nurses according to their attitude toward KMC

Attitude toward KMC	Negative attitude		Neutral		positive attitude	
	N	%	N	%	N	%
	28	93.3	2	6.7	0	0

Table 5: shows distribution of nurses according to their attitude toward KMC. It was noticed that the majority of studied nurses 93.3% had negative attitude toward KMC, while very low percent 6.7% had neutral attitude.

Discussion

In general, the majority of nurses in this study did not have good knowledge about KMC practices, and they did not know that KMC involves skin-to skin contact between the mother and the low birth weight preterm baby (table 2). This result was agreed with the results of other studies (Adzitey et al., 2017; Dalal et al., 2014) who mentioned in their studies that a good number of nurses had poor knowledge on KMC and its benefits. [1,14] while disagreed with a study conducted in Kenya by (Charpak et al., 2005) on health care providers knowledge and attitudes toward KMC practices, which mentioned that the majority of health care providers had knowledge regarding low birth babies requiring KMC and knew that KMC involve skin to skin contact. [15]

Infants on KMC have better weight gain and therefore are discharged early. This also translates to reduced cost of health care especially to the mother.[16] The results of this study was shown that the majority of nurses did not know that Infant on KMC method can be discharged if the infant is stable Gaining weight 15-20gm/kg/day, and more than one third of them did not know that Infant on KMC method can be discharged early (table 2).This attributed to lack of education programs about KMC and lack of nurses' awareness on its advantages on mothers, babies and health care providers. This study was concord with a study conducted by (Adzitey et al., 2017) who mentioned in their study that three quarters of nurses did not know that KMC promotes early discharge of infants. [1]

Regarding to neonatal nurses attitudes toward KMC practices. The present study shown that the majority of studied nurses had negative attitude toward KMC practices as regard to its benefit in low risk of hypothermia and infection, encouraging parents to practice KMC, and promoting mother infant bonding (table 3).This study disagreed with (Adzitey et al., 2017) who notified that a good number of nurses in Tamale Metropolis had positive attitude toward KMC practices.[1] While agreed with (Higman et al., 2012) who reported that the majority of nurses had negative attitude and confidence toward KMC.[17]

Most of nurses in this study were ranged between strongly disagreed and disagreed about statements that parents should be encouraged to practice KMC, and be given information regarding the method. These results disagreed with the results of the study conducted by (Bogonko, 2013) who mentioned that the majority of nurses felt that parents should be encouraged to practice KMC, and be given information regarding the method.[16]

However, both studies agreed about the statement "Facilitating kangaroo care is an added burden to the health staff".[16]

Conclusion and Recommendations:

Conclusion

Based on the results of this study it can be concluded that: The majority on neonatal nurses did not know that KMC involves skin-to-skin contact between the mother and the low birth weight preterm baby. More than half of studied nurses had low level of knowledge on KMC, and the majority of studied nurses had negative attitude toward KMC.

Recommendations:

1. All pediatric nursing staff should receive education program in promoting and facilitating KMC practice in intensive care unit, and provide them with up-to-date information on the efficacy and beneficial effect of KMC for infant and parents.
2. All pediatric nurses should receive training course on KMC techniques
3. Further researches on the nurse's and mother's role and involvement in KMC is indicated, since KMC plays an integral role in decreasing the mortality and morbidity of premature and LBW infants.

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