AWARENESS OF KANGAROO MOTHER CARE (KMC) BY MOTHERS IN ENUGU SOUTH LOCAL GOVERNMENT AREA, ENUGU STATE, NIGERIA

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Abstract

Low Birth Weight is a major problem worldwide with average incidence of 18 per cent globally and 33 per cent in developing countries, thus, the care of such infants becomes a burden for health and the social system. KMC was established to help curb this problem. It provides an appropriate, affordable yet high quality care and can be implemented almost anywhere This study reports a survey aimed at determining awareness of KMC by mothers attending public health facilities in Enugu South Local Government Area Enugu State.. One research question and two null hypotheses were raised to guide the study that involved a sample of 134 drawn from a population of 1339 mothers using proportionate random sampling technique. Instrument for data collection was a 10-item questionnaire known as Awareness of Kangaroo Mother Care Questionnaire (AKMCQ) which was developed by the researcher and validated by three experts in Health Education. Split-half and Pearson's correlation statistics were used to establish the reliability which yielded a correlation coefficient index value of 0.87. Data were collected through the help of 3 research assistants. Data were analysed using frequency and percentage and χ^2 statistic Findings revealed a grand total average of 27 (20%) for aware and 107 (80%) for unaware of KMC. The implication of this finding is that that the mothers are not aware of all the indices of KMC. Also parity (Cal χ^2= 2.77, Critical χ^2=.096 df 1p< 0.05) and educational qualification (Cal χ^2=7.58, Critical χ^2= 5.99 df 1p< 0.05) does not significantly influence awareness of KMC by mothers. Implications of the finding for child health were articulated before recommending that serious education on the benefits of KMC to the child and the mother should be taught to mothers during their clinic visits, also there should be increased enlightenment on KMC practices.

Keywords: Alcohol, Kagaroo Mother Care, Low Birth Weight babies, preterm babies, awareness, mothers

Introduction

Infant Mortality Rate (IMR) is very high in most developing countries including Nigeria. Most of these deaths take place in the early neonatal period mostly due to prematurity and low birth weight (LBW). Low birth weight babies are babies that weight less than 2500g up to and include 2499g regardless of gestational age. According to Ali, Sharma, Sharma and Alam (2009), LBW is a major problem worldwide with average incidence of 18 per cent globally and 33 per cent in developing countries, thus, the care of such infants becomes a burden for health and the social system.

In addition, it has been established that the quality care for LBW infants has reduced IMR in developed countries where there are sophisticated health technologies. But, these technologies are expensive and require highly skilled personnel, effective maintenance and other logistic support like reliable electric supply and they tend to prevent early mother infant contact and breast feeding is one of the essential components for optimal survival of the new born (Ibe, 2003 and Bhutta , Das , Bahl , Lawn , Salam & Paul , et al 2014,). It is in recognition of these facts that an alternative approach for providing thermal care for and improving survival of LBW infants that is both effective and affordable—namely, Kangaroo Mother Care, or KMC was developed (Liu , Oza , Hogan , Perin , Rudan , Lawn , et al 2015)

The term kangaroo is derived from practices similar to marsupial care in which the infant is kept warm in the maternal pouch and close to the breasts for unlimited feeding. It provides an appropriate, affordable yet high quality care and can be implemented almost anywhere,

It was first presented by Rey and Martinez, in Bogotá, Colombia (WHO, 2003) where it was developed as an alternative to inadequate and insufficient incubator care for those preterm newborn infants who had overcome initial problems and required only to feed and grow. Almost two decades of implementation and research have made it clear that KMC is more than an alternative to incubator care (USAID & MCHIP, 2012). Kangaroo Mother Care (KMC) is a strategy created to help and improve the survival of preterm babies (Bergh, Van Rooyen & Pattison, 2008). According to WHO (2003) Kangaroo mother care is care of preterm infants carried skin-to-skin with the mother. It is a powerful, easy-to-use method to promote the health and well-being of infants born preterm as well as full-term. Kangaroo mother care is a method of care of preterm infants. The method involves infants being carried, usually by the mother, with skin-to-skin contact. Kangaroo mother care (KMC) refers to the practice of providing continuous skin-to-skin contact between mother and baby, exclusive breast milk feeding, and early (Ibe, 2003) Kangaroo care is a form of developmental care that has benefits for all newborns, especially those who are in the neonatal intensive care unit. Kangaroo Mother Care Promotions aims to promote the spread and implementation of Kangaroo Mother Care (KMC) as the standard method of care for all. USAID and MCHIP (2012) opined that KMC was an innovative method developed to provide thermal care for LBW newborns. The author further explained that KMC is the early, prolonged, and continuous skin-to-skin contact between the mother (or substitute) and her low birth weight baby, both in hospital and after early discharge until at least the 40th week of postnatal gestation age, with ideally exclusive breastfeeding and proper follow-up with support for positioning, feeding (ideally exclusive breastfeeding), and prevention and management of infections and breathing difficulties. Its key features are: early, continuous and prolonged skin-to-skin contact between the mother and the baby; exclusive breastfeeding (ideally); it is initiated in hospital and can be continued at home; small babies can be discharged early; mothers at home require adequate support and follow-up; it is a gentle, effective method that avoids the agitation routinely experienced in a busy ward (Gupta, Jora & Bhatia, 2007)

Kadam, Binoy, and Kanbur (2005) opined that traditionally, these infants born in hospital are kept in incubators/ radiant warmers/ warm room with open cots. Hospital neonatal intensive care of LBW babies is difficult in developing countries due to high cost, difficulty in maintenance and repairs of equipment's, intermittent power supply, inadequate cleaning of instruments and shortage of skilled staff. Frequently

and often unnecessarily incubators and radiant warmers separate babies from their mothers, depriving them of the necessary contact

It has been shown to be effective for thermal control, breastfeeding and bonding in all newborn infants, irrespective of setting, weight, gestational age, and clinical Many of the benefits of kangaroo care to a newborn revolve around their feelings of safety, warmth and comfort. Research shows greater bonding with parents and as a result more calm and less stress which positively impacts their brain and emotional development of both the mother and their underweight babies (Blacke, & Gregson,2011, Neu, & Robinson, 2010, and. Blomqvist, Flolund, Nyqvist, & Rubertsson,2012).

According to Suman, Udani, Nanavati (2008) in addition to these benefits that are observable, research points to long-term advantages as well. Newborns that experienced kangaroo care in the NICU were more attached and bonded to their mothers over time. Babies were more alert after six months and their mothers were more attuned to their infant's cues and experienced less depression[1]. In early childhood, children receiving kangaroo care also show increased social competence, a positive sense of self and improved cognitive and motor development; these benefits are all signs of healthy brain development.

WHO (2003) noted that when KMC can begin for those small babies must be judged individually, and full account should be taken of the condition and status of each baby and his mother. However, the mother of a small baby can be encouraged to adopt KMC very early on. Also according to USAID & MCHIP (2012) when baby is ready for KMC, arrangement should be made with the mother by the health personnel on a time that is convenient for her and for her baby. Depending on the baby's condition, kangaroo care can begin immediately after delivery or may start after they are more stable. Once a baby is stabilized, sessions should be at least an hour even up to 24 hours as anything less can be stressful for the baby also it is advised that nurse or other neonatal professional should be able to give advice about when a baby is ready for kangaroo care and help prepare parents for this special time together (Beatty, 2016)

Another important factor on KMC is the positioning of the child. WHO (2003) emphasized that the baby is placed between the mother's breasts in an upright position, chest to chest, secured him with the binder. The head turned to one side, in a slightly extended position. The top of the binder is just under baby's ear. This slightly extended head position keeps the airway open and allows eye-to-eye contact between the mother and the baby. The hips of the baby should be flexed and extended in a "frog" position; the arms should also be flexed. Tie the cloth firmly enough so that when the mother stands up the baby does not slide out. Make sure that the tight part of the cloth is over the baby's chest. Baby's abdomen should not be constricted and should be somewhere at the level of the mother's epigastrium. This way, baby has enough room for abdominal breathing because mother's breathing stimulates the baby, this position makes breastfeeding easier.

Furthermore, Ibe (2003) observed that through KMC the baby is held close to the mothers breast and holding the baby near the breast stimulates milk production by this the mother can easily breast feed the baby without stress even in caring for twins, each baby is placed on one side of the mothers chest both babies can be fed at once while in kangaroo position.

According to Chan, Valsangkar, Kajeepeta, Boundy, and Wall**.** (2016),. Components of KMC are Skin–to–skin contact, breastfeeding, and discharge criteria from facility, follow up, clothing recommendations, newborn positioning, and temperature monitoring. It is worthy of note that when the mother and baby are comfortable, skin-to-skin contact continues for as long as possible, first at the institution, then at home. It tends to be used until the baby reaches term (gestational age around 40 weeks) or 2500g. Around that time the baby also outgrows the need for KMC. She starts wriggling to show that she is uncomfortable, pulls her limbs out, cries and fusses every time the mother tries to put her back skin-to-skin. WHO (2003) opine, that this is when it is safe to advise the mother to wean the baby gradually from KMC.

Breastfeeding, of course, continues. Mother can return to skin-to-skin contact occasionally, after giving the baby a bath, during cold nights, or when the baby needs comfort. KMC at home is particularly important in cold climates or during the cold season and could go on for longer.

According to USAID and MCHIP (2012), despite the recognition, benefits and longevity of KMC, few developing countries have made the intervention available and accessible to families with LBW babies, may be, that was why one of the action plan for a KMC programme is raising the awareness of KMC not only for the health care personnel but to families and communities. Awareness in the context of this study is the understanding of the content of KMC which include the meaning, benefits, components and other attributes of KMC. Mothers in Enugu South Local Government Area of Enugu State, Nigeria may or may not be aware of KMC also, the parity of as well as educational level these mothers may or may not influence the awareness of KMC, hence the need for this study.

Parity may be grouped into two via: a multiparous mother (mother of two or more pregnancy) and primiparous; mothers of one pregnancy. Mostafa –Kamal (2012), observed that women undergoing first pregnancy utilized skilled services more than multiparous mothers. In a related report, Ndau-Brumblay, Mbanuku and Kruk (2013), reported that multiparous women institutional delivery higher when compared with women that had one-four children. Also Benda (2013), noted that in Ntchisi districts of Malawi multiparous mother utilize health facilities and also services at a low rate This perhaps suggests that awareness of health service like KMC and consequently its utilization could be associated with parity. Following this Lotrean, Laza, Lonut and Vries (2010) also, observed that educational level of women could influence the assess and utilization of health services. Consequently, whether these factors influenced the awareness of KMC in the study area is yet to be ascertained, hence the need for study. The research question is: are mothers attending public health facilities in Enugu south local government area of Enugu state, Nigeria aware of KMC? The hypotheses tested at 0,05 level of significance were:

1. Awareness of KMC among mothers in Enugu south local government area of Enugu state, Nigeria will not significantly differ by parity.
2. Awareness of KMC among mothers in Enugu south local government area of Enugu state, Nigeria will not significantly differ by their educational qualification.

Methods

The descriptive survey design was adopted for the study to enable the researchers identify vividly the awareness of KMC among mothers in Enugu South Local Government Area of Enugu State, Nigeria .The population for the study comprised of 1339 mothers attending the five public health facilities in Enugu South Local Government Area of Enugu State namely; Uwani, Amechi, Obeagu, Ikiriki and Ugwuagba. A sample of 134 (32 primiparous and 102 multiparous, 42 tertiary, 71 secondary and 18 primary school) mothers representing 10 percent of the population was drawn and used for the study.

Instrument for data collection was a 10-item questionnaire known as Awareness of Kangaroo Mother Care Questionnaire (AKMCQ) which was developed by the researchers after a thorough literature review. The instrument was presented in two sections; A and B. The Section A elicited information on the parity and educational qualifications of the respondents while Section B contained 8 items with two response options. The instrument was validated by 3 experts in Health Education and few copies were administered on 20 mothers at the Oji-River General Hospital and Split into two halves for test of reliability. The Pearson's Correlation Statistic was employed to determine the correlation coefficient index value which yielded 0.87 and was considered high enough to adjudge the instrument reliable. Data were collected through the help of 3 research assistants who are nurses working in the clinics. All the 134 copies of the questionnaire distributed, were duly completed and retrieved representing 100 percent and therefore qualified for data analysis.

Data were analysed using frequency and percentage for research question while Chi Square was employed to test the null hypotheses of the study at .05 level of significance.

Results

Table 1: Awareness of KMC of the Mothers n = 134

S/No	Item	Yes %	No %
3.	Aware of the meaning of KMC?	42 (31.3)	92(68.7)
4.	Aware of when to practice KMC?	21(15.7)	113(84.3)
5.	Aware of how to carry the baby?	12 (9)	122 (91)
6.	Aware of how to breastfeed the baby in KMC?	10(7.5)	124(92.5)
7	Aware of the benefits of KMC	42 (31.3)	92(68.4)
8	Aware of who can practice KMC?	41(30.6)	93(68.4)
9	Aware of the components of KMC?	10(7.5)	124(92.5)
10	Aware of where you can practice KMC?	38 28	96 (72)
	Grand Total Average	**27 (20)**	**107 (80)**

Table 1 showed the responses of the awareness of KMC among mothers in Enugu South Local Government Area Enugu State. The table also revealed a grand total average of 27 (20) for aware and 107 (80) for unaware of KMC. This shows that the mothers are not aware of all the indices of KMC.

Table 2: Chi-square analysis verifying awareness of KMC among mothers in Enugu South Local Government Area of Enugu State by parity

Parity	Aware	Unaware	Total	χ^2cal	χ^2crit	Df	Dec
Primiparous	05	27	32	2.77	.096	01	reject
multiparous	102	65	102				

Cal χ^2= 2.77, Critical χ^2=.096 df 1p< 0.05

Table 2 showed that the Cal χ^2 value is 2.77 which is higher than the table value of 0.096 and at one degree of freedom of 0.05 level of significance. This thus formed the basis to reject the null hypothesis which stated that awareness of KMC among mothers in Enugu South Local Government Area of Enugu will not significantly differ by parity. This shows that number of children determines the awareness of KMC.

Table 3: Chi-square analysis verifying awareness of KMC among mothers in Enugu South Local Government Area of Enugu State by Educational level

Edu Leve	Aware	Unaware	Total	χ^2cal	χ^2crit	Df	Dec
Tertiary	23	19	42				reject
Secondary	13	61	74	7.58	5.99	02	
Primary	01	17	18				

Cal χ^2=7.58, Critical χ^2= 5.99 df 1p< 0.05

Table 3 showed that the Cal χ^2 value of 7.58 which is higher than the table value of 5.99 and at one degree of freedom of 0.05 level of significance. This thus formed the basis to reject the null hypothesis which stated that awareness of KMC among mothers in Enugu South Local Government Area of Enugu will not significantly differ by level of education. This shows that level of education determines the awareness of KMC among mothers in the study area.

Discussion

The purpose of the study is to determine the awareness of KMC by mothers attending public health facilities in Enugu South Local Government Area of Enugu State, Nigeria .The findings reveal interesting results. Results according to the data in Table 1 show the awareness of KMC among mothers in Enugu South Local Government Area Enugu State. The table also revealed a grand total average of 27 (20%) for aware and 107 (80%) for unaware of KMC. The implication of this finding is that that the mothers are not aware of all the indices of KMC.

The finding is not surprising to the researchers because it agrees with USAID and MCHIP (2012), who stated that despite the recognition, benefits and longevity of KMC, few developing countries have made the intervention available and accessible to families with LBW babies, this might be the case among Nigeria mothers in general and mothers in Enugu Sought LGA of Enugu State in particular. Although, Kadam, Binoy, and Kanbur (2005) opined that. Hospital neonatal intensive care of LBW babies is difficult in developing countries due to high cost, difficulty in maintenance and repairs of equipments, intermittent power supply, inadequate cleaning of instruments and shortage of skilled staff, one would have expected that the mothers would have being taught KMC as an alternative lifesaving technique for the preterm an LBW babies. Hence child survival in developing countries such as Nigeria is experiencing a paradox of agony and pains due to high infant mortality instead of hopeful expectations and joy.

In addition, the results of the study show that the awareness of KMC by mothers is influenced by parity. This implies that there is significant difference in awareness of KMC based parity. This finding is in line with the speculations of Mostafa –Kamal (2012), who observed that women undergoing first pregnancy utilized skilled services more than multiparous mothers. In a related report, Ndau-Brumblay, Mbanuku and Kruk (2013), reported that multiparous women institutional delivery higher when compared with women that had one-four children. Also Benda (2013), noted that in Ntchisi districts of Malawi multiparous mother utilize health facilities and also services at a low rate, this perhaps suggests that awareness of health service like KMC and consequently its utilization is influenced by parity.

Result of the study also showed that awareness of KMC of the mothers is influenced by their educational qualifications. This implies that awareness of KMC by mothers is significantly based on their educational qualifications. This finding is in agreement with the earlier findings Lotrean et al (2010) that educational level could influence awareness of health services like KMC

Conclusion and Summary

Mothers in Enugu South L G A, Enugu State are not aware of KMC. Also, parity and educational attainment of these mothers influences there awareness. This is unacceptable considering the benefits accrue in KMC to the babies and also to their family. Hence the need to sensitize the mothers on KMC

Recommendations

Based on the findings, the following recommendations were made.

1. Serious education on the benefits of KMC to the mothers during their clinic visits.
2. Increased enlightenment on KMC practices.

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