



Knowledge and practice of kangaroo mother care among post-natal mothers in a tertiary hospital in north western Nigeria

Mfuh AY¹, Lukong CS², Haruna Adamu³

^{1,3} Department of Nursing Sciences, Ahmadu Bello University, Zaria, Nigeria

² Department of Surgery, Usman Danfodiyo University Sokoto, Nigeria

Abstract

Preterm birth is a major global health issue, with 15 million preterm births occurring each year, and over 1 million of them dying each year. Preterm birth complications directly account for greater than 35% of all neonatal deaths each year because it increases the risk that an infant will die from infection. Preterm births are on the increase globally, both in high and low-income countries. A significant proportion of death among preterm and low birth weight infants is preventable. Kangaroo mother care is a method of care of preterm and low birth weight infants and involves the infants being carried usually by mother with skin to skin contact. This study was conducted to determine the awareness, practice and effectiveness of Kangaroo Mother Care amongst postnatal mothers in Aminu Kano Teaching Hospital Kano, Nigeria. A descriptive cross sectional design was adopted for the study. A structured questionnaire with close ended questions was used to collect the data. The data was analyzed using the Statistical Package for Social Sciences (SPSS) version 22 and presented in frequency distribution tables and percentage using. The findings revealed that 61% of the respondents knew about Kangaroo Mother Care and 57% practiced it. All the respondents who practiced it believed that it has a positive effect on the physical well-being of the infants with a significant weight gain during the period of care. It was recommended that a wider public health campaign be carried out to sensitise the public on the importance of the care.

Keywords: kangaroo mother care, postnatal mothers, preterm infants, low birth weight infants

Introduction

Globally, 44% of under-five deaths occur during the neonatal period, and the proportion due to neonatal causes continue to rise (Bhutta, Das, Bahl, Lawn, Salam, Paul, 2004). Neonatal mortality rate is the number of neonates dying before reaching 28 days of age, per 1,000 live births in a given year (National Academy of Science, 2007) [10]. Preterm birth is a major global health issue, with 15 million preterm births occurring each year, and over 1 million of these preterm infants dying each year (WHO, 2012). Preterm is defined as babies born alive before 37 completed weeks of gestation. There are three sub-categories of preterm based on gestational age: Extremely preterm (<28 weeks), Very preterm (28 to <32 weeks) and moderate to late preterm (32 to <37 weeks) (WHO (2016). Low birth weight (defined as less than 2500g) is commonly used as a surrogate measure of preterm birth. Low birth weight and prematurity are strongly associated with neonatal morbidities and mortality (UNICEF 2004) [15]. Neonatal hypothermia is an important challenge associated with morbidity and mortality (Trevisanuto, Putoto, Pizzol, Serena, Manenti, *et al*, 2016) [14].

Preterm birth complications directly account for greater than 35% of all neonatal deaths each year, and preterm birth indirectly contributes to an even greater percentage because it increases the risk that an infant will die from infection. Preterm births are on the rise globally, both in high-income and low-income settings. The 10 countries with highest rates of preterm births include those that are high-income, such as the USA, middle-income such as India, China, the Philippines, Indonesia and Brazil, and low-income such as Nigeria, Pakistan, Bangladesh, Democratic Republic of Congo (WHO, 2012). Nearly ten per cent of new-born deaths

in the world in 2016 occurred in Nigeria (A new report by the United Nations Children Fund, UNICEF, 2017) [16]. The report showed that 15,000 children died globally before their fifth birthday in 2016, with 46 per cent of the deaths (7,000) occurring in the first 28 days of life. Preterm birth complications during labour or child birth were the causes of 30 per cent of new-born deaths in 2016 (Ayodamola. 2017) [2].

Kangaroo mother care (KMC) is an evidence-based approach to reducing mortality and morbidity in preterm infants which was first developed in Bogotá Colombia. It is a method of care of preterm and low birth weight infants. It is defined as a method of holding a small nappy neonate in skin-to skin contact (STS), prone and upright on the maternal chest. The neonate is enclosed in maternal clothing in order to maintain temperature stability (Charpak, Ruiz, Zupan, Cattaneo, Figueroa, *et al*. 2005) [5]. Although it was initially developed for use with preterm and low birth weight babies, it is beneficial for all babies as constant contact with their mothers and her warmth, breast milk, love and protection are the entire basic requirement needed for their wellbeing and survival (W.H.O, 2003) [17]. There is evidence that Kangaroo Mother Care (KMC), when compared to conventional neonatal care in resource-limited settings, significantly reduces the risk of mortality in infants weighing less than 2000g. KMC also reduces the risk of hypothermia, severe illness, nosocomial infection and length of hospital stay (Lawn, 2010) [9].

According to a study carried out by Solomon and Rosant (2012) [13] on 30 Kangaroo mothers in the Eastern Sub-district of Cape-Town, majority of the mothers (83.3%) did not have prior knowledge of KMC, though practiced it, and were

satisfied with regard to weight gain of their infants. Another study by Kumar and Willimas (2016) on knowledge of postnatal mothers at JSS Hospital showed that, more than half (53%) had poor knowledge regarding Kangaroo Mother Care. Another study by Geetha and Hemavathy (2015) [6] on effectiveness of Kangaroo mother care among mothers of hospitalized new born in Chennai, India. Showed that, 80.0% had inadequate knowledge about KMC.

In another study by Abdel (2012) in the rural centre of India revealed that, 65% of mothers had inadequate knowledge on KMC. Nguah, Wobid, Obeng, Yakubu, Kerben and Lawu (2011) [12] in their study on perception and practice of KMC on 201 mothers showed that 84.6% of mothers initiated KMC within 24 hours. Another research conducted by Herdberg (2011) [7] in Sweden among mothers by staff in the neonatal unit showed positive impact of Kangaroo Mother Care in the management of prematurity and low birth weight infants with 62% effectiveness.

Despite showing evidence for mortality and morbidity reduction in low and middle income setting and endorsement from World Health Organization, adoption and implementation of KMC has been limited and has been identified as an intervention with significant health system barriers to scale up including leadership and governance, health financing, health workforce, health service delivery and health information system. It is part of an integrated reproductive maternal newborn and child health package (Bahl, Martines, Bhandari, Biloglav, Edmond, Iyengar 2012) [3]. This study thus investigated the awareness and practice of KMC among postnatal mothers in Aminu Kano Teaching Hospital Kano State, Nigeria.

Objectives of Study

1. To determine the awareness of postnatal mothers on Kangaroo Mother Care
2. To assess the practice of Kangaroo Mother Care by postnatal mothers towards newborn premature and/or low birth weight infants
3. To determine the perceived effectiveness of Kangaroo Mother Care on premature and low birth weight infants

Scope of the Study

This study is limited to the awareness and practice of KMC among postnatal mothers who had given birth to preterm babies in Aminu Kano Teaching Hospital Kano State, Nigeria.

Research Design

A descriptive cross sectional design was used for the study

Research Setting

The study was carried out in Aminu Kano Teaching Hospital located in Tarauni Local Government of Kano State. The hospital was established in August, 1988 when the Kano State Government formally handed over the then Aminu Kano Cottage Hospital which temporarily started operation at Murtala Mohammad Specialist Hospital moved to its permanent in 1996. The hospital has now grown to a full 500 bedded Teaching Hospital with some modern equipment and facilities. The hospital has a staff strength of two thousand four hundred out of which over one hundred are consultants in various specialists. The hospital also has various units, wards and departments like the Obstetric s and Gynaecological with antenatal, labour and Postnatal units

including an intensive care unit. The hospital render services ranging from treatment of minor illnesses, laboratory services, surgical and medical services, surgery, provision of drugs.

Target Population

The target population comprises of all women admitted to Aminu Kano Teaching Hospital and gave birth to low birth weight/ premature infants during a period of one month of study. According to hospital records and statistics (2017), 115 mothers were admitted within a period of one month.

Sample Size

This was determined using Nwana's (2007) formula for calculating sample size which states that if the population for the study is a few hundreds, 40% can be used as a representative sample. Thus the sample size used was 46.

Sampling Techniques

Non probability purposive sampling technique was employed to select post-natal mothers with low birth weight and premature infants.

Instrument for Data Collection

Structured questionnaire with closed ended questions based on the research objectives was used as the instrument for data collection. The instrument consisted of sections "A", "B", "C" and "D" with 23 questionnaire items. Section A consist of socio-demographic data, Section B will consist of awareness of mothers on Kangaroo Mother Care, Section C consist of practice of Kangaroo Mother Care and Section D consist of the effectiveness of Kangaroo Mother Care.

Validity and reliability of the instrument were ensured before administering the instruments.

Method of Data Collection

The questionnaires were distributed to respondents with the help of two research assistance.

Method of Data Analysis

All the 46 questionnaires were completely filled and returned with a response rate of 100%. The data were cleaned, entered into the Statistical Package for Social Sciences (SPSS) version 22 and analysed. The results were presented in frequency distribution tables and percentages.

Ethical Consideration

Permission to conduct the study was granted by the Chief Matron of Aminu Kano Teaching Hospital, Kano. Each respondent had insight about the purpose of the study and all information obtained for the purpose of the study was treated with utmost confidentiality as anonymity maintained.

Results and Discussion

Table 1 shows that, more than half of the respondent (54.4%) were between the ages of 21-30 years. The entire respondents were married. Majority (76.09%) had 1-5 children. Most (56.52%) were house wives and majority of the infants (63.04%) were males. Most (63.05%) of the infants' gestational age were between 36-40 weeks but were of low birth weight. A large proportion of the others (34.79%) had attended secondary school and had babies with birth weight of 2.5-3kg (76.09%). Table 2 showed that, most (60.87%) of the respondents were aware of Kangaroo Mother Care. The

source of information for most (92.86%) of the respondents was during ante-natal. Majority (60.87%) knew the benefits of kangaroo mother care. Most (60.87%) were aware that low birth weight and premature infants required Kangaroo Mother Care. This result is contrary to that of Solomon and Rosant (2012) ^[13] which showed that majority of the mothers (83.3%) mothers did not have prior knowledge of KMC. Table 3 shows that, more than half (56.5%) of respondents did not practice Kangaroo Mother Care. Among those who practice it, 75% had been practicing for less than 1 year while the remaining (25%) had been practicing for 2-3 years. Majority of the respondents (65%) said that Kangaroo Mother Care is not practicable in their setting. Among those who practice it, most (70%) encountered some problems.

Notwithstanding, all the respondents intend to continue practicing Kangaroo Mother Care. This result is similar to the study by Abdelfatah (2012) which showed that only 23.3% of the mothers practiced KMC adequately. Table 4 indicates that all the respondents that practice KMC agree that it promotes bonding. All also believe that Kangaroo Mother Care has positive effects on the physical wellbeing of infants. Similarly, all believe that their babies feed well and have significant weight gain during the period of Kangaroo Mother Care. This is in line with the study by Herdberg (2011) ^[7] in Sweden which showed that there was a positive impact on infants in the management of prematurity and low birth weight infants (62%) with Kangaroo Mother Care.

Table 1: Socio-Demographic Data (N=46)

Characteristics	Frequency	Percentage (%)	
Age group (years)	≤ 20	6	13.04
	21 – 30	25	54.4
	31 – 40	13	28.26
	41 – 50	2	4.35
	Total	46	100
Marital Status	Single	-	0
	Married	46	100
	Widows	-	0
	Divorced	-	0
	Total	46	100
Number of Children	1-5	35	76.09
	6-10	11	23.91
	11-15	-	0
	16 and above	-	0
	Total	46	100
Occupation	Civil Servant	12	26.09
	Housewife	26	56.52
	Others	8	17.39
	Total	46	100
Sex of Infant	Male	29	63.04
	Female	17	36.96
	Total	46	100
Gestation Age of Infant	25-30 weeks	6	13.04
	31-35 weeks	11	23.91
	36-40 weeks	29	63.05
	Above 40 weeks	-	0
	Total	46	100
Level of Formal Education	No formal education	14	30.43
	Primary	6	13.04
	Secondary	16	34.79
	Tertiary	10	21.74
	Total	46	100
Birth Weight of Baby	1.5-2kg	6	13.04
	2.5-3kg	35	76.09
	3.5-4kg	5	10.87
	Above 4kg	-	0
	Total	46	100

Source: Field Survey, 2017

Table 2: Awareness on Kangaroo Mother Care (N=46)

Options	Frequency	Percentage	
Do you know about kangaroo mother care	Yes	28	60.87
	No	18	39.13
	Total	46	100
How do you get to know about kangaroo mother care	During Antenatal/postnatal	26	92.86
	Mass Media	0	0
	Family and Friends	2	7.14
	Other Sources	0	0
	Total	28	100

Do you know the benefit of kangaroo mother care?	Yes	28	60.87
	No	18	39.13
	Total	46	100
Do you know why low birth weight and premature infants require kangaroo mother care?	Yes	28	60.87
	No	18	39.13
	Total	46	100
Do you know that kangaroo mother care is important for the growth of infants?	Yes	28	60.87
	No	18	29.13
	Total	46	100

Source: Field Survey, 2017.

Table 3: Practice of Kangaroo Mother Care (N=46)

Option		Frequency	Percentage (%)
Do you practice kangaroo mother care	Yes	20	43.5
	No	26	56.5
	Total	46	100
What type of Kangaroo Mother Care do you practice (if above is yes)	Continuous	0	0
	Intermittent	20	100%
	Total	20	100
How long have you been practicing kangaroo mother care	< 1 year	15	75%
	2-3 years	5	25%
	4-5 years	0	0
	Above 5 years	0	0
	Total	20	100
Do you think kangaroo mother care is practicable in your community by other women?	Yes	7	35%
	No	13	65%
	Total	20	100
Did you encounter any problem during the practice of kangaroo mother care?	Yes	14	70%
	No	6	30%
	Total	20	100
Will you continue kangaroo mother care at home?	Yes	20	100%
	No	0	0
	Total	20	100

Source: Field Survey, 2017

Table 4: Perceived Effectiveness of Kangaroo Mother Care (N=20)

Option		Frequency	Percentage (%)
Do you agree that Kangaroo Mother Care promote bonding?	Yes	20	100
	No	0	0
	Total	20	100
Does kangaroo mother care has positive effect on physical wellbeing of infants?	Yes	Yes	100%
	No	0	0
	Total	20	100
Does your baby feed well during kangaroo mother care?	Yes	20	100%
	No	0	0
	Total	20	100
Was there any significant weight gain during period of kangaroo mother care?	Yes	20	100%
	No	0	0
	Total	20	100

Source: Field Survey, 2017

Conclusion

Awareness of Kangaroo Mother Care was high among post-natal mothers in Aminu Kano Teaching Hospital. Among the mothers who practiced KMC, a very high proportion continued practicing it. There was high spousal support in the practice of KMC. Babies gained optimal weight and a high proportion were exclusively breastfed while their mothers practiced KMC.

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