ECRONICON OPEN ACCESS

EC PAEDIATRICS
Research Article

Preterm Mothers' Perception, Understanding, and Experiences of Kangaroo Mother Care Practice at the Federal Medical Center, Asaba. Nigeria

Omozele Uwadia, Angela Okolo* and Uzoma Ajanwenyi Joseph

Department of Paediatrics, Federal Medical Center, Asaba, Delta State, Nigeria

***Corresponding Author**: Angela Okolo, Department of Paediatrics, Federal Medical Center, Asaba, Delta State, Nigeria.

Received: February 07, 2022; **Published:** February 25, 2022

Abstract

Objectives: To ascertain from the mothers of preterm babies, their perceptions and experiences gained from the practice of kangaroo mother care to identify the bottlenecks to implementation.

Design: Qualitative prospective cross sectional survey of representative sub strata of the preterm mothers' population. Analysis according to these themes was done using standard Centre for Disease Control, Atlanta Georgia package called CDC EZ TEXT.

Setting: The Focus Group discussions: the key informant interviews and the quantitative questionnaires which held in the hospital Neonatal units' preterm clinic at the Federal Medical Center, Asaba. examined eight thematic areas. These focused on Knowledge of the underlying principles of the Kangaroo Mother Care, method of implementation and Implications of observance of the Kangaroo Mother Care.

Participants: Consecutively recruited mothers of preterm children admitted to the neonatal unit of the Federal Medical Center.

Results: We consecutively recruited 10 consenting mothers of preterm who had practiced Kangaroo Mother Care whilst on admission in the unit: 10 participants for the focused group discussion: 6 for key informant interview and 15 for the quantitative questionnaire. They had fair knowledge of the Kangaroo Mother Care and its benefits for preterm baby care. Rather, the interviewees expressed their difficulties, the need for plenty of time and the level of stress experienced. They identified with the measures to alleviate these hardships such as family support and sharing of care responsibilities and household chores.

Conclusion: There is need for family engagement and support and sharing of household responsibilities, in implementation of Kangaroo Mother Care. Further efforts should target community sensitization and engagement.

Keywords: *KMC Perceptions; Preterm Mother; Empowerment; Support*

Abbreviations

KMC: Kangaroo Mother Care; SSC: Skin to Skin Contact; Extended KMC: SSC 24 hours a day for prolonged periods; FMC: Federal Medical Center; NNU: Neonatal Unit; FGD: Focus Group Discussion; KII: Key Informant Interview

Introduction

Kangaroo mother care (KMC) is a best practice that has been introduced into the care of preterm, and appears to be a practice that enables survival of preterm. KMC was first descried and utilized in Bogota in 1978 [1]. This practice includes early, prolonged and continuous skin-to-skin contact with the mother (or any caregiver) and exclusive, frequent breastfeeding (optimal feeding). KMC is one of the best

types of development of supportive care as it satisfies all senses. The baby feels mother's warmth through skin-to-skin contact (touch). Vestibular stimulation through the mother respirations, listens to mother's voice and heartbeat (hearing, known sound in utero). Sucks breast milk (taste) has eye contact with mother (vision, usually preterm are myopic, usually develops last) and smell- mother's odour (olfaction). Touch, balance, taste, smell, hearing, sight (by order of development) all senses are stimulated by KMC. As touch is the first sense to be developed so KMC is utmost important development supportive care at birth than others [5]. Dr Edgar Rey in Bogotá, Colombia, first practiced Kangaroo Mother Care (KMC) in 1978 as a crisis management, as high admission rate and less infrastructure were available. Now WHO has suggested the immediate KMC as a standard of care in Developed countries as well.

Prematurity is one of the leading causes of neonatal deaths globally. In Nigeria, it contributes up to 25% of the neonatal mortality. There is evidence to show that KMC provides both immediate short term [2] and long-term benefits to preterm babies. The benefits include breastfeeding optimization, prevention of nosocomial infections as outcomes of daily-prolonged KMC [1-4]. Asides the bonding effect provided by the practice, its role in building maternal and infant resilience is increasingly recognized [5]. KMC has many components as has been clearly explained by Arjun Jadhao and coworkers. Whilst in hospital, the preterm mother requires health worker support and at home, family and environmental support [5-7]. This practice however has not gained grounds globally. Although It was first introduced in Nigeria, in 1998 it is not yet widely practiced and its practice at the community level is limited [7-12].

Hitherto, not much attention has been given to documenting the practice of KMC in our local setting. Such information will, if provided, reinforce the implementation and quality of care. If we ascertain the perceptions, knowledge of benefits of KMC and the experiences of the preterm mothers who have successfully practiced KMC at FMC Asaba, then we can utilize such inputs to enhance the current practice locally as we attempt to scale it up.

Objectives of the Study

To ascertain from the mothers of preterm babies, the perceptions and experiences gained from the practice of kangaroo mother care.

Materials and Methods

Study site

In our setting, at the Federal Medical center (FMC), Asaba, where preterm delivery rate is 12%, for a total number of delivery of 1500 - 2000 babies annually. Our annual admission rate into the newborn unit (NNU) is in the range of 900 to 1500 babies. We have limited capacity for admission at the NNU and we serve a wide catchment area. At any point in time, the admission capacity at NNU is for a total of 20 babies: 10 IN born and 10 OUT born.

We have a high admission rate and limited space for admission. We therefore devised a means to free up bed space and promote better ambulatory care for care of small babies as we practice KMC with frequent trice weekly preterm follow up visits. Since, we devised a means of early discharges of very low birth weight babies with use of KMC and outpatient management of such babies using alternate day visits, we have high turnover rate. KMC has provided for increasing our capacity for the care of these babies in the NNU.

KMC is an age long practice that originated form Bogota in 1978. WHO formally endorsed KMC in 2003 and published KMC practice guidelines [8]. Several attempts have been made to institutionalize KMC. One such attempt has included the idea of KMC units in any facility that provides neonatal care for preterm babies [6]. This possibility was explored at the FMC Asaba where there are 2 areas demarcated as KMC units with provision for 4 KMC BEDS. In this area, that expanded the capacity of the unit, preterm mothers can practice continuous KMC. Prior to transfer to extended KMC unit, Intermittent KMC by the babies incubator is commenced for all babies on the ward within 1st to 2nd day of life by the baby's mother or her helper. We transfer preterm mothers with their babies, to enable the practice of extended KMC with supervision 48hrs prior to home discharge. They are evaluated on a KMC score chart [9] and can go home when this assessment has

evaluated the different aspects of their care practices and they have attained a cumulative score of 20 points. This score sheet emphasizes on socioeconomic support. The home discharge counselling emphasizes protection of the baby from infection. We instruct them to stay strictly indoors at home and on extended KMC, isolated from the outside world with their new baby. The babies receive the BCG vaccine at the weight of 1.5 kg, even when they have been discharged home between weights of 1.2 kg to 1.3 kg at follow up they go for the BCG immunization when they attain 1.5 kg.

The Mothers at the NNU receive continuous education on KMC and its benefits. We instruct on the value of KMC, intermittent and extended. We teach that extended KMC entails SSC for periods of 24 hours and they have to sleep with the babies in that KMC position. This is to ensure adequate growth and optimal wellbeing of the baby. In the instructional packages they are taught the need for KMC, and what KMC offers as well as the numerous benefits of KMC and its role in growth and development of their babies. The decision for home discharge is taken when they are able to cite 2 benefits of KMC, they must be able to tell at least 2 danger signs and be able to feed the baby with the cup. They would have obtained 20 points on the KMC discharge score sheet.

The design

The survey utilized qualitative method mainly to allow free discussion with the clientele in the hospital. This technic is particularly useful to elicit the beliefs and opinion of a group, while they provide richness and depth. They have high face validity, easily understood and believable [9,10]. They also provide an opportunity to observe the interaction of participants, which can illustrate the process of composition and development of ideas.

Administration of the survey

Focus group discussion (FGD)

There were two pairs of researchers: one was moderating while the other (the assistant) was recording. The moderating researcher introduced the themes while the assistant observed and noted the non-verbal communication of the participants. The discussion was recorded on tape after obtaining the consent of the participants. The participants' includ1ing the moderator and the assistant sat in a circle so that no one was in an advantageous position, while everybody was visible to the moderator and his assistant. The moderator welcomed everybody and then briefly explaining the purpose of the discussion initiated discussions. To enlist clients' Involvement: at the beginning of each session, the researchers explained the Basis of the session: "we are looking into the understanding of and experiences of the mothers who practiced KMC for the care of their small babies. So, we will initiate discussion with you as a group. We will introduce topics and everyone would have opportunity to contribute for five minutes. We have planned a one-hour discussion for every group. If the rounds finish before the end of one hour, anyone else with further contributions to make can be allowed to speak for three minutes". We equally obtained their consent for the video recording. "We will make video recordings of the activities during the session to enable us generate a report for each session with your kind permission. Before we start, for those of you willing to participate we will request a brief introduction of yourself - Name, age, occupation and highest educational qualification".

No one opted out. They all introduced themselves including the researchers. However, they indicated that they would not want to have their identity disclosed in the reporting of the data.

After introduction of the themes, each participant gave their views on the subject for five minutes. During the discussion, the moderator followed the 8-point thematic guide in the systematic order and every participant contributed to the discussion on each item of the guide.

During the group discussion, the FGD method allowed free flow communication with only 5 participants at a one-hour session. During the activity, asides taking of notes, there were recordings both video and audio of this event to enable transcription of the activity and proper summaries to be generated for each session.

The key informant interviews (KII)

We continued the process with key informant Interview for in-depth discussion: The KII was conducted with another set of 6 preterm mothers attendees of the preterm follow up clinic. This delved deeper into the topic and was on a one to one basis.

The questionnaires (Quantitative aspect)

At the end of the FGDs and KIIs, an 8 - point questionnaires was prepared from the content of the FGDs and KII. This was to enable quantification of these expressions. We administered the questionnaires to another set of 15 mothers. They were also attendees of the preterm follow up clinic. This enabled the quantification of the various key practices and sentiments expressed earlier on.

Data analysis

We transcribed these qualitative data into the coded Summaries. The coded data was grouped into key themes based on the objectives of the study. Analysis according to these themes was conducted using standard Centre for Disease Control, Atlanta Georgia package called "CDC EZ TEXT".

The quantitative data was analysed using the frequencies, means and standard deviations.

Results

We consecutively selected 10 participants, mothers of preterm babies attending the preterm follow up clinics from their homes with babies on KMC for the focused group discussion (FGD); 6 for key informant interview (KII) and 15 for questionnaire application.

Focused group discussion FGD

The 10 participants for FGD comprised consecutively selected mothers of preterm babies. They were all in a marital relationship and 4 had attained secondary school education, the rest 6 had tertiary education. Their age ranged between 18 and 30 years. Some of them were stay-at-home wives while others were businessmen/women, civil servants and hairdressers. There were 2 subgroup sessions of 5 participants per group.

The first Theme explored their knowledge of KMC and their understanding of the concept of KMC. Majority of them had a good knowledge of KMC, they said, "it involves keeping the child on your chest", to keep the baby warm. They all understood that it was needed to make the baby grow/gain weight.

On "Who do you think should get KMC?" a good number of them said premature babies while others said "KMC is for small babies".

On "Why would you want to engage in the practice?" They indicated that they would want to engage in the practice because it was good for the emotional, Psychological and physical well-being of the baby.

On: If they would do KMC whenever required of them, they all said yes they would without hesitation.

When asked whether there are specific benefits derived from this practice, whether they could tell some of these. All respondents said KMC was beneficial to them and their baby as they said that it kept their baby's weight from fluctuating and they grow better.

One mother coming from about 30 km distance said "When I came home with the Baby on KMC, people in the Yard came to see what I had in front of my chest and were amazed. Eventually as I would come out of the house to make for the clinic follow up visit, they were commenting that oh, "the smallie baby don de grow big ooo". Confirming that it makes baby grow big.

On: what were the distressing aspects of this practice are and which aspect of KMC they did not like: majority of them said it was stressful with accompanying back pain, while a few others said they did not find it stressful. One mother said: "It was stressful but if that is what I have to do to keep baby alive, I will do it" Others also said they did not like the fact that it took up all their time with little or no time left to do anything for themselves. They said "I no fit do anything for myself throughout the day".

On: how we can we make the stress of the situation better: most mothers said family support in form of involving a spouse, sister or other close relative would go a long way to make the situation better while others said "lying propped up on pillows while doing KMC would help. One mother said, "My husband and I alternate KMC and it reduces the stress a lot". When asked, "What do you think, should be done for the other new mothers of preterm and whether they would recommend KMC?" They said that KMC should be introduced to them and they would recommend KMC for new mothers of preterm babies.

On what role family support can play to improve the situation: Some of them said it will give the mother time for herself and the baby. They said, "The person will help out with household chores".

Key informant interview (KII)

The 6 KII participants were mothers of the preterm attendees of the follow up clinics who were also beneficiaries of KMC whilst on the unit and who were attending the follow up clinics from their homes with their babies on KMC. Of these 6 interviewees, 2 of these mothers' babies had outgrown KMC as they were weighing more than 2500 gms. All the respondent mothers gave positive recall of their knowledge of KMC and its benefits while more information on their babies' behavior and expressions when not on KMC was also provided. They indicated that asides the benefits they confirm, they observed that the babies were calmer on KMC and wanted to be on KMC all the time. When not on KMC if the mother had to attend to her personal needs, they cried a lot more. In their own words, "the babies are addicted to KMC and want it all the time." One of the mothers indicated that even when her baby had outgrown KMC, her baby would not sleep until put to KMC position. They confirmed the fact that the babies tried to suckle the breast by themselves spontaneously while on KMC as they moved their position to attach themselves to the breast and suckle.

The questionnaire (Quantitative)

Fifteen mothers responded to the 8-point questionnaire drawn from the responses to the themes of the FGDs. These were all mothers of preterm attendees of the preterm follow up clinic. The questionnaire were interviewer administered to these set of clinic attendee mothers some weeks after the FGDs and KIIs were conducted. These other attendee mothers were also beneficiaries of KMC whilst on admission. The researchers interviewed these mothers on a one to one basis.

Theme 1

The response from the FGD on this theme was further buttressed by the responses from the quantitative survey where 13/15 (86%) said KMC involves having skin to skin contact with the baby to keep the baby warm and make them gain weight.

Theme 2

The response on who they think should get KMC was also similar to what was obtained from the qualitative survey as 12 of the 15 participants (80%) said it was for preterm babies while 3/15 (20%) said it was for small babies.

Theme 3

The response on whether they would do KMC whenever required of them was similar to what was obtained from the qualitative survey: all 15 mothers (100%) said yes they would.

Theme 4

All respondents corroborated the specific benefits derived from this practice by the quantitative survey. All the 15 of 15 (100%), mothers said it was beneficial to their babies as it made them grow.

Theme 5

When asked about the aspect that they did not like majority of them said it was stressful as in the qualitative analysis, the findings were not different as 13 of the 15 mothers (86.6%) thought it was stressful with only 2 of the mothers not finding KMC stressful.

Theme 7

Exploring the views on: What should we do for the other new mothers of preterm and whether they would recommend KMC for mothers of preterm babies; they FGD responses were affirmed. All participants of the quantitative survey, 15/15 (100%) interviewees said they would recommend KMC.

Discussion

The interaction revealed a heightened level of knowledge of KMC and its benefits amongst mothers of preterm in this survey. This level of mothers' knowledge might have arisen because of the maternal education provided and their level of retention at home discharge. Olawuyi., *et al*. [13] in their report similarly observed that the knowledge of their mothers regarding KMC significantly influenced its use. The knowledge level in this report has provided the mothers a high level of empowerment, which enabled them build resilience. Tessier and his coworkers had opined that this empowerment of the mothers goes beyond the bonding effect [5]. They indicate that the early contact, KMC within the 1st 2 days of life builds the mothers empowering experience and confidence. These authors indicate that early timing is more effective as a means to enhance the mothers' sense of competence toward her premature infant than late timing. Our practice of early introduction of KMC corroborates this suggestion by Tessier and coworkers. This survey also gave first hand opportunity to learn from mothers' experiences. They all accepted this mode of care despite the stress they experienced and were prepared to recommend KMC practice to others who might need it. Their experience and expression confirm their state of resilience, as they would do KMC despite the stress it caused them because they believed that their baby needed it for survival. Such expressions of their sentiment might have arisen from the level of knowledge, which translated, into positive behavior and willingness to continue the process of continuous KMC even after discharge home. The practice of KMC has been associated with early home discharge because of the empowerment and confidence, which the practice conferred on the mothers. This is confirmed by the effect of our practice at the FMC as the mothers of this survey all accept this mode of care and would recommend to other new preterm mothers. We however did not explore how to create further awareness of KMC to the community although their early home discharge created a window for such opportunity for the dissemination of this method of care as they came from their homes for follow up visits on KMC. Coming from home on KMC to the hospital actually created a window of opportunity for community sensitization in those communities where the mothers came from.

The fact that the mothers all uniformly expressed that it was stressful but were willing to continue in the practice of KMC confirms the resilience effect as suggested by Tessier., *et al* [5]. The mothers of our report alluded to the empowering effect of the practice as it enabled them understand their babies' cues better. They expressed that it was time consuming as stated in their own words "I no fit do any other thing" and did not allow them to do anything else yet they would recommend it. This effect was actually interpreted by the Tessier and coworkers as the resilience effect. These authors suggested that the effect of KMC (SKIN to SKIN) on the parents formed the basis for the increased responsiveness to their babies' need. This increased responsiveness was actually expressed in the statement that the babies were "addicted to the KMC position because they cry a lot when taken out of KMC". When asked how the stress they felt could be "alleviated" These mothers, in their own words, indicated that the availability of family support would alleviate their stress. In their theory, Tessier and coworkers suggested adding social support as an integral component of KMC. This aspect of continuous support had been previously highlighted by Jado., *et al*. in their review article as an important component of KMC. It is actually implemented on the units where family centered care is provided to the mothers and their baby's without realizing it.

Conclusion

We conclude that the mothers of our survey developed a high level of resilience and responsiveness to their baby's cues because of the high level of information and understanding of the benefits of KMC that they derived through the process of continuous education received whilst on the ward. The work is however limited by the fact that we did not explore how to extend their knowledge to the community members.

Acknowledgements

The Authors greatly acknowledge: the supportive care of the NNU Nurses to KMC implementation; the contribution of the resident doctors to maternal education on aspects of KMC and the contribution of the preterm mothers to KMC implementation and for their participation in this survey.

Conflict of Interest

The authors have no conflict of interests to declare.

Bibliography

1. Jadhao A., *et al*. "Kangaroo mother care review article". *International Journal of Contemporary Pediatrics* 7.3 (2020).
2. Pavlyshyn H., *et al*. "Kangaroo Mother Care Can Improve the Short-term Outcomes of Very Preterm Infants". *Journal of Neonatal-Perinatal Medicine* 14.1 (2021): 21-28.
3. Wang Y., *et al*. "Positive Effects of Kangaroo Mother Care on Long-Term Breastfeeding Rates, Growth, and Neurodevelopment in Preterm Infants". *Breastfeeding Medicine* 16.4 (2021): 282-291.
4. Conde-Agudelo A and Díaz-Rossello JL. "Kangaroo mother care to reduce morbidity and mortality in low birthweight infants". *Cochrane Database of Systematic Reviews* 22.4 (2014): CD002771.
5. Tessier R., *et al*. "Kangaroo mother care and the bonding hypothesis". *Pediatrics* 102.2 (1998): e17.
6. USAID- MCHIP/ Jhpiego (April 2012) Kangaroo Mother Care Implementation guide. Monograph.
7. Onubogu UC and Okoh BA. "Implementation of Kangaroo mother care by health workers in Nigeria". *Nigerian Journal of Paediatrics* 43.4 (2016): 252-257.

8. Kangaroo mother care: A practical guide WHO monograph (2013).
9. Kisely S and Kendall E. "Critically appraising qualitative research: a guide for clinicians more familiar with quantitative techniques". *Australasian Psychiatry* 19.4 (2011): 364-367.
10. DeLyser D., *et al*. "Teaching Qualitative Research: Experiential Learning in Group-Based Interviews and Coding Assignments". *Journal of Geography* 112.1 (2012): 18-28.
11. Bergh A-M., *et al*. "Progress with the implementation of kangaroo mother Care in four regions in Ghana". *Ghana Medical Journal* 47.2 (2013): 57-63.
12. Bergh AM., *et al*. "Translating research findings into practice-the implementation of kangaroo mother care in Ghana". *Implementation Science* 7 (2012): 75.
13. Olawuyi O., *et al*. "Knowledge, attitude and practice of kangaroo mother care among mothers in the neonatal wards of a tertiary care center". *Pan African Medical Journal* 38 (2021): 364.

Volume 11 Issue 3 March 2022
©All rights reserved by Angela Okolo., *et al.*