We are facing some barriers: A qualitative study on the implementation of kangaroo mother care from the perspectives of healthcare providers

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Abstract

Health systems at all levels are under pressure to provide comprehensive and high quality of care based on the best evidence-based interventions. The kangaroo mother care (KMC) is one way to care for Low Birth Weight babies (LBW) especially in developing country where the rates of preterm and LBW neonates are higher and the resources are limited. The purpose of this paper is to explore healthcare providers' perspectives of kangaroo mother care implementation in perinatology ward in the rural surgical hospital of East Java Province, Indonesia. We conducted an in-depth interviews to identify KMC implementations. Ten healthcare providers engaged with KMC were interviewed. Data was analyzed using a thematic analysis. Healthcare providers reported positives perceptions of KMC and acknowledged their important roles to give education. The barriers in implementing the KMC including the level of knowledge and the age of the mother of LBW babies. KMC as a method of treating LBW babies is effective intervention care of preterm and LBW babies. This research provides information regarding the need of supports from all levels in KMC implementation.

Introduction

There were 2.4 million children in the world who died in the first month of their lives, or about 6500 neonatal deaths every day in 2020, with almost a third of deaths occurring in the first week after birth.[1] In addition to asphyxia and sepsis, complications due to prematurity are responsible for most death cases in newborns.[2] Low Birth Weight babies (LBW) often occur in premature births, increasing morbidity and mortality.[3] Premature babies and LBW babies (<2500 grams) have an immature immune system and organs, low-fat reserves, and insufficient muscle mass. This condition poses a higher risk for hypothermia, infection, and a higher mortality rate than normal infants.[4,5] The high rate of LBW is a significant health problem because it represents a high rate of morbidity and mortality and causes severe medical consequences and social impacts.[6]

Indonesia is one of the ten countries in the world with the highest premature birth rate, after India, China, Nigeria, and Pakistan.[7] The challenges to reducing Maternal Mortality Rates (MMR) and Infant Mortality Rate (IMR) are getting stricter with the COVID-19 pandemic. The obstacle for mothers in obtaining quality health services is one condition contributing to the high IMR.[8] Healthcare systems on all fronts are currently required to provide high-quality care based on existing scientific evidence. Kangaroo Mother Care method treatment is one of the efforts to treat babies born prematurely, especially in developing countries where the birth rate of premature babies and LBW is high, but the resources available for treatment are pretty scarce.[9]

Kangaroo mother care (KMC) is a method of upbringing in low birth weight babies (LBW) and premature babies by having direct contact (skin to skin) in the chest of the mother (or other family members), breastfeeding exclusively, and conducting strict monitoring.[10] KMC is one of the evidence-based interventions that are beneficial for reducing the risk of hypothermia,[11] increasing the duration of infant feeding, as well as increasing bonding between mother and baby addition.[12] KMC can also increase the growth of head circumference and babies' weight gain,[13] and can reduce parents' anxiety regarding their baby's condition due to frequent contact between the two.[14] However, despite the various evidence of its benefits, the application of KMC is still limited in multiple developing countries, including Indonesia.

From the interviews with ten nurses of the perinatology ward in one of the hospitals located in rural East Java with a relatively high preterm birth rate and limited resources, it was obtained that 60% of healthcare providers stated that the implementation of KMC was not running optimally. The obstacle that is often faced in implementing KMC is that when it comes to involving the baby's parents, most of the baby's mothers are still in the process of postpartum recovery, so it is still difficult to be directly involved in implementing KMC. The first step that can be done is to make health workers perceive the value of KMC and improve the relationship between mothers–healthcare providers.[15] Because of this, care planning for premature babies and LBW is essential for their survival both during and after hospitalization.[16] Support and supervision from health workers, especially nurses and midwives, are nec-

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essary.[17] Therefore, implementing KMC requires an essential role of health workers with managerial skill capacity and autonomy in providing care and education that can strengthen maternal compliance with KMC methods and provide an understanding of the urgency and effectiveness of KMC. Based on the description above, researchers are interested in researching the Implementation of Kangaroo Mother Care from The Perspectives of Healthcare Providers.

Materials and Methods

Study Design and Setting

The study design was qualitative research using semi-structured interviews with open-ended questions to explore informants' experiences. The goal was to identify themes using thematic analysis of the data collection results through interviews to answer research questions about how to implement KMC from the point of view of health workers. The study took place over a period of four weeks in April 2022. The identification of informants was carried out in the first week, and the next three weeks were the process of collecting data. Data was collected in the Perinatology Ward of Hasta Husada Surgical Hospital. It allowed informants to have a flexible time to determine the timing of the interview. The Consolidated Criteria for Qualitative Research Reporting (COREQ) were used for reporting and the thoroughness and validity of the analysis.

Study Participants and Recruitment

The population of this study was healthcare providers with sampling techniques using the purposive sampling method. An in-depth interview was conducted with ten informants consisting of 7 nurses implementing the perinatology unit, one midwife, and one head of the perinatology ward. The inclusion criteria applied were healthcare providers who worked in the perinatology ward and could provide information that was "richly-textured information" and relevant to research questions.

Data Collection

Interview guides for the target population were designed by a team of researchers covering the following topics: perceptions about KMC, KMC practices, barriers to KMC implementation, and proposed strategies to improve performance. The research team previously attended a 1-day training (briefing) on data collection procedures, the content of interview guides, and a short module on KMC practices. This briefing was conducted to ensure the understanding of the questions by the data collectors totaling two people. These interview guides were initially piloted on a small sample to ensure that the questions were relevant and accessible for the interviewed informants to understand. All informants in the study agreed to be recorded during interviews. Before starting the interview, all informants are asked to give written consent after being allowed to read the interview procedure. The interview took place with an average interview time of 45-60 minutes using Indonesian.

Saturation has been achieved after the 10th interview. After collecting data every day, debriefing is carried out to get an overview of the collected data and make adjustments if during data collection there are challenges or unexpected events to strengthen the quality and trustworthiness of the data.

Analysis

All interview results were conducted using a verbatim transcription process obtained from audio recordings. The researcher then re-listened to the entire interview recording while examining the transcript results. Thematic analysis was performed using an inductive and deductive approach by the researcher independently by reading each transcript several times to identify the theme. The transcript was then coded line by line, and each meaningful statement was given a name or word that encapsulated the main idea. After going through a discussion process to review the code that has been formed, researchers then discussed emerging themes (Table 1). Researchers triangulated data sources. Several strategies were used to ensure trustworthiness. Transferability was done by giving a thick description.

Meanwhile, to establish conformability, researchers made records and field notes (field notes) to be reaccessed during reanalysis. Dependability was done by explaining the research process in detail and through trial interviews. Credibility was achieved with interviews followed by peer debriefing. To verify the credibility of the data, the researcher also validated the study's results to the participants.

Declaration of Ethics

Approval and consent to participate all participants and their respective guardians gave written consent to participate in the study. This study has been approved by the regional review board in STIKes Kepanjen (311/S.Ket/KEPK/STIKesKPJ/VI/2022). The study was conducted in line with research ethics based on Declaration of Helsinki.

Results

Characteristics of Participants

A total of 10 healthcare providers consisting of 9 (90%) nurses and one midwife (10%), aged between 24-32 years, have met the inclusion criteria in this study. One of the nurses who became the informant was the head of the perinatology unit, and the other informant was the executing nurse and midwife who worked in the perinatology ward. The last level of education of the informants was undergraduate and diploma, with a service period of between 1-3 years.

Table 1. Themes extracted from the study.

Theme	Category
Healthcare Provider's Perceptions of KMC	Healthcare Provider's Knowledge of KMC Healthcare providers' views on their role in KMC Practice
Implementation of the role of healthcare providers in KMC practice	Educating Patients and Families Demonstrate and Provide Support SPO as a Guideline
Obstacles in KMC Implementation	Level of knowledge The age of young mothers
Proposed strategies used in KMC practice	The use of leaflet media Repeated Education Organizing Training Supervision

Theme 1: Healthcare Provider's Perceptions of KMC

Healthcare Provider's Perceptions of KMC

All Healthcare providers have understood the importance of KMC implementation, especially for LBW babies. Although they did not explain in detail, the healthcare providers have understood the benefits of KMC and are very supportive of its implementation. According to the workers, KMC Health is a simple intervention, does not cost much, and is easy to study and apply, as in some of the following statements of informants:

"... Yes, you could say that KMC is an intervention that does not cost much, it is easy to learn, but it can help premature babies and LBW babies."

".. regarding the benefits... the term is instead of the incubator, if the incubator is expensive and the number is small if this KMC does not need money."

Healthcare Providers' Views on Their Role in KMC Implementation

Healthcare providers realize that their role is very vital in the implementation of KMC as a caregiver and also as an educator. But they also recognize that the role of healthcare providers must be supported by the role of the family and community.

"Our role is significant, as a service provider and a patient educator. Who else taught those mothers who had given birth, if not the nurses and midwives."

"Yes, it's true that we must teach. Her family, especially her husband, should also support her. Then when they go home, the environment must also be supported."

Theme 2: Implementation of the Role of Healthcare Providers in KMC Practice

Educating Patients and Families

One of the roles of healthcare providers in KMC practice is as an educator.

"So whenever there is a birth with LBW babies, we always try to apply KMC or kangaroo method, the effort we make with friends of other health workers is to provide education or KIE (doing Communication, information, and education) to patient's parents (Baby patients)"

Demonstrate and Provide Support

The implementation of KMC is stated by healthcare providers not only limited to education but also demonstrating, supervising, and evaluating the performance of KMC.

"*….We demonstrate how to have proper KMC, which is suitable to the standards to parents."*

"We're always there in the KMC room and seeing moms do it. Then at the end, we give advice, input, and support to mothers whose babies are premature /LBW are often sad and cry when looking at their babies. When returning control to the hospital, we also ask whether it is done at home."

SPO as a Guideline for KMC Implementation

In its implementation, healthcare providers mentioned that the performance of their role as educators and caregivers of kangaroo method care refers to standard operating procedures (SPO).

"....This SOP is from the hospital. The hospital has its SOP to do this KMC earlier, so we are guided by that" (IU3).

Theme 3: Obstacles in KMC Implementation

Healthcare providers identified the most common obstacles encountered in implementing KMC education, including related to the level of knowledge of patients and the age of young mothers.

"The obstacle is the level of knowledge of patients and families so that if you only do KIE once, you often don't understand, especially if it is not accompanied by a demonstration"

"..... which is our obstacle,.... with a very young age, it is usually also difficult for us to educate them because the mothers often still focused on themselves, so sometimes the grandmothers are educated as well"

Theme 4: Proposed Strategies Used in KMC Practice

Some strategies identified by the healthcare providers reviewed to overcome several obstacles in KMC practice include using leaflet media, repeated education, organizing training, and supervision methods.

"..... We have provided leaflets to make them easier to understand, and the leaflets can later be taken home, so at home, they can be read and studied again."

"In this perina ward (perinatology), there is training. Since I am new, I get information from senior who have received training for how to care for babies with LBW and kangaroo methods."

"..... With repeated education until they understand."

"So far, it has been quite effective to overcome these problems, first we do KIE, and when they are going home, we ask again if parents still remember how, and we also give advice for handling babies with LBW, we emphasize again"

"It seems that there is a need for periodic supervision related to its implementation, then it will be evaluated how much premature baby coverage is carried out by KMC, how much success the baby survives after KMC is carried out so that it can increase the enthusiasm of the mother and healthcare providers."

Discussion

Kangaroo mother care is an essential component in neonatal care and is one of the family-centered care treatments. In this case, healthcare providers, families, and communities have a crucial role in supporting mothers so that the implementation of KMC runs effectively and continuously.[18,19] The study, which aims to explore the implementation of KMC from the point of view of healthcare providers, produced four themes that include healthcare providers' perceptions of KMC, the performance of the role of healthcare providers in KMC practices, obstacles, and proposed strategies. The study results showed a positive perception possessed by healthcare providers related to KMC practices. Healthcare providers supported the implementation of KMC and its benefits. However, some did not explain in detail how the KMC method was beneficial, especially in building bonding between mothers and their babies, gaining LBW baby weight, stabilizing the baby's body temperature, and preventing hypothermia. The understanding of healthcare providers who consider KMC primarily perceived as skin-to-skin care for thermoregulation and do not understand other components, such as promoting exclusive breastfeeding and early discharge, can be an obstacle to its implementation.[20] However, on the contrary, according to Pratomo *et al.* (2012) healthcare providers who understand the benefits of KMC can have a positive impact, such as reducing treatment costs. In addition, a good percep-

tion possessed by healthcare providers can increase the capacity to care for babies, especially LBW and neonates' babies, as well as being able to increase self-efficacy and job satisfaction and give meaning to being witnesses of premature babies or LBW successfully surviving.[21,22]

Indonesia with a high infant mortality rate among Southeast Asian countries, with various challenges such as shortage of human resources and staff, limited infrastructure and budget, high levels of fatigue, especially in the delivery room, and follow-up care after discharge from the hospital that is not optimal, make this KMC practice very meaningful, especially for health workers who work in the frontline The healthcare providers in this study realized that their role is vital in implementing KMC as caregivers and educators. But they also expressed their hopes for the support of the family, especially the husband. The mother is the core of care. The main focus for facilitating the conditions is often placed only on the mother.[23] So the lack of support from the family, especially the husband, has been identified as the barrier since many KMC practice lack support from fathers. It is one of the critical issues. Some causes could be a lack of knowledge and cultural norms play a determining role.[24] Counseling is also needed for fathers so that they can carry out their role in supporting mothers to do KMC so that they can also improve care for infants. Other findings from this study highlighted the role of healthcare providers in KMC practice. The healthcare providers revealed that the KMC practice had been based on the hospital's SOP (standard operating procedures). SOP was one of the proofs of commitment to KMC implementation. Initially, KMC was introduced in Indonesia in the 1990s and has been practiced in several hospitals. However, KMC uptake and service coverage have not progressed well in many countries, including Indonesia.[25] A national commitment to KMC implementation can be achieved if KMC is included in the national policy framework for mothers and newborns.

The role of healthcare providers in several studies was a supporting factor and an obstacle to implementing KMC. The healthcare providers identified in this study included the role of caregivers and KMC educators. In addition to carrying out this role, ten Ham *et al*. (2016),[26] in their research, emphasize the importance of healthcare providers carrying out their role as leaders. Effective implementation of KMC also requires leadership skills in the organization to strengthen the efforts and support of managerial ranks to provide training skills to the staff so that KMC can be viewed as a priority for hospitals and get resource allocation.[27] Several factors support the implementation of KMC from the side of healthcare providers, one of which is adequate training. This training should include the different components and benefits of KMC. Meanwhile, factors often referred to as obstacles to implementing KMC from the side of healthcare providers have staffing shortages, workload, inadequate knowledge, healthcare provider's attitudes, and non-acceptance like being skeptical like only equipment can help survival LBWI.[28]

Healthcare providers and mothers are the main actors in KMC implementation. A good interpersonal relationship between healthcare providers and mothers will be very beneficial. It will be found that it is not uncommon to encounter obstacles in its implementation. It requires healthcare providers to give counseling. This study also identified the most common barriers faced in implementing KMC education, including related to the level of knowledge of mothers and the age of young mothers. Most of the mothers did not know anything about KMC services. Seidman *et al*.[29] (2015) mentioned in their study that mothers were less likely to accept KMC if healthcare workers could not clearly explain its benefits. In addition, in this study, mothers gave birth to premature babies and LBW. Mothers' stress and fear of having a preterm or LBW infant may influence their beliefs about survival and KMC care practice. Other studies have shown that fear, stigma, shame, guilt, or anxiety about having a preterm infant were barriers to KMC initiation.[30]

The mother's level of knowledge is one of the critical factors for the success of KMC. Lack of awareness by the mother can affect the entire family's health, which a study in Nigeria supports by affirming that ignorance and lack of formal education or non-availability of information are implicated as a cause of prematurity.[2] Also, the age of mothers who are too young go through several mental changes and face many challenges. The mother often focuses on herself and does not have adequate time to care for the baby, let alone receive information. Healthcare providers, in this case, have an essential role in providing informational and emotional support and encouraging families to form an adequate support system for young mothers.

To improve the implementation of KMC, healthcare providers have proposed some solutions, such as using media leaflets, recurring IEC, organizing training, and supervision methods. The use of educational media such as leaflets aims to enable patients to understand the health information presented. However, what needs to be underlined, in addition to the use of media in providing health information, what is even more important is the education and counseling process given to mothers and their families. It is imperative to devote more time to these activities. In a study in Zambia, mothers accepted KMC after receiving information and education through good communication.[30] In addition to the use of media in conveying information, adequate training of healthcare providers is also one of the KMC implementation strategies. Pre-service curricula can achieve effective training methods in nursing and medical programs, complemented by continuous in-service training, face-to-face facilitation with multimedia materials and training sessions, coordinated by regional levels, and refreshed by meetings, workshops, and exposure to current literature on the topic.[28] In addition, supervisory visits during KMC intervention practices by providing feedback and goals to improve KMC practices are considered to impact practice significantly. This effort can increase the motivation of healthcare providers, and enthusiasm and commitment from health workers can certainly bring success in implementation.

Conclusions

Although KMC is a relatively simple intervention, its ongoing implementation requires support from the health system, health workers, mothers and families, and communities. The results of our study revealed some unique barriers for KMC, such as the mother's age being too young and the lack of paternal support. The study also provided proposed strategies to improve KMC implementation. To address the challenges of implementing KMC, it was imperative to strengthen health systems, community support, and the relationship between the community and hospital-level services. Further research can explore the role of the community in implementing KMC in home settings.

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