

Prevalence of Adoption of Kangaroo Mother Care among Postnatal Mothers in Nyeri County Referral Hospital, Kenya

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ABSTRACT

Background: Kangaroo Mother Care (KMC) is a strategy for caring for preterm infants. The Ministry of Health in Kenya has recommended KMC practice for the care of stable preterm babies. However, the adoption and implementation KMC has been inconsistent across different counties in Kenya, including Nyeri County. This study's main goal was to assess the prevalence of adoption of KMC in Nyeri county referral hospital, Kenya.

Methods: This study used a cross-sectional descriptive survey. Purposive sampling technique was used recruit 114 postnatal mothers with preterm infants admitted in the NBU. Questionnaires were used to collect data in July- August 2022. A pretest study was carried out in Karatina sub county hospital. The Statistical Package for Social Sciences Software Version 26 was used for data analysis. Results were presented in tables, narratives, and figures and frequencies like percentages were used. To determine the strength of the correlation, the chi-square test and logistic regression were applied.

Results: The prevalence of KMC in Nyeri County was high at 74%. Majority of those who practiced (83.3%) were familiar with it. The majority (83%) reported to have gotten the information from health workers through counselling. Counselling was significantly associated with KMC adoption ($p = 0.001 < 0.05$).

Conclusion: The study recommended increased awareness through counselling on methods of infant care among mothers especially during their antenatal clinics.

Keywords: Prevalence, Adoption, Kangaroo Mother Care, postnatal mothers.

INTRODUCTION

KMC is a preterm infant standard of care that is both secure and affordable¹¹. Its implementation varies across sub-Saharan African countries³. In Kenya, although there are more health institutions offering KMC services, the proportion of newborns initiated on KMC is still low⁵. Integrating KMC into national neonatal care policy might establish the framework for expanding KMC access and coverage¹¹. Maternal factors promoting KMC uptake include; accepting KMC as the method of care for their infant, being willing to utilize KMC, and having access to family and professional support⁷.

In India a study was done to determine the acceptability and acceptance of KMC the majority of women in the community acknowledged that preterm newborns needed special attention⁶. Based on the study findings, this might be improved by holding regular talks with the mothers and other family members and teaching them about KMC. The researcher created an intervention program to start KMC at home using

preliminary data, including household trials and came to the conclusion that high adoption rates of KMC occurred despite concerns about practicality.

In another study done in China, some factors that hindered KMC adoption were hospital related factors such as a staff shortage, work overload and limited space. The adoption of KMC, however, was facilitated by strong family support. To increase KMC acceptance in China, the researcher recommended new laws and policies that particularly addressed these inhibitors and enablers¹³.

In Ethiopia a study done to evaluate the acceptability, knowledge, attitude, and practice of Kangaroo mother care by postnatal mothers who gave birth to preterm and low birth weight babies in public hospitals there was low level of KMC adoption which was as a result of limited resources. For total acceptance of KMC more funding was advocated for⁹.

A study conducted at Kenyatta National Hospital aimed at determining the prevalence of KMC practice, the results indicated that it is still not widely used. Mothers only engaged in intermittent KMC for approximately 2.3 hours a day⁴. According to the study, the identified practice-related obstacles included a lack of staff, a lack of staff training, inadequate space and resources and limited time. In summary, the study discovered that while a lack of proper medical facilities hindered KMC's practice, favorable perception and social support aided it. A study done in western region conducted research on the growth of Kangaroo Mother Care showed that greater access to and use of KMC¹. According to the study, a purposeful interaction among social workers, community health volunteers, and health care professionals is required for KMC to succeed. He came to the conclusion that social aspects are quite important for the general acceptability and existence of the KMC.

Despite the large frequency of preterm births on average, 162 preterm births per year in Nyeri County there is no published study that looked into the prevalence of KMC. Additionally, information gathered in Nyeri County during the previous six years reveals a general rise in the number of premature deliveries. This study will generate information on prevalence of KMC amongst postnatal mothers in Nyeri County referral hospital. The findings will support the Government efforts towards achievement of SDGs 3.2 which seeks at reduction of neonatal deaths to below 12/1000, by the year 2030 through promotion of wellbeing for all at all ages through strategies like KMC. In Nyeri County, the study findings will enable the hospitals management identify gaps in implementing KMC, national policies and guidelines.

METHODOLOGY

This study was conducted in the postnatal wards of Nyeri County referral hospital in Nyeri County, Kenya. The facility offer basic and specialized care for newborn babies to include preterm infants thus making it suitable for this study. The study used a cross-sectional descriptive survey approach. The study population involved all postnatal mothers with preterm infants in Nyeri county referral hospital.

An average of data collected over six years for preterm deliveries in Nyeri County (n-162) was used to determine the total population. The sample size was calculated using the Fishers *et al.*, (1998) formula as follows: $N = Z^2 \times P(1-P)/d^2$ giving a total of 384 participants. However since the sample size was larger than the actual population, thus to adjust the population size based on the few numbers of preterm babies the researcher applied the Cochran's formulae (1963) for a population of less than 10,000. $nf = \frac{1}{1+(n/N)}$ resulting to 114 participants.

Purposive sampling was used to get the postnatal mothers with preterm babies who met the inclusion criteria admitted in Nyeri County referral hospital during the period of study.

Eligible mothers were approached and the study explained. If the mother is willing an informed consent was

obtained. The researcher used self-administered questionnaires to collect data from the postnatal mothers. Both structured open and close ended questions were used. They were conducted in both Kiswahili and English depending on the respondents' preference. Pretesting of the questionnaire was done at Karatina sub count hospital which involved administering of the questionnaire to a random 11 mothers, representing 10% of the total sample size. Data analysis was done using SPSS Software Version 26 to clean, code, and input the data at a significance level of $p < 0.05$. Results were presented as graphs, tables, frequency distributions, and percentages. At a 95% confidence level, the prevalence of KMC adoption was reported. In order to identify the independent variables associated with adoption, logistic regression was used. A P-value of below 0.05 was considered statistically significant.

RESULTS

The study findings on socio-demographic characteristics of the postnatal mothers showed that out of the 114 participants, majority were aged between 18-35 years $n=94$ (82.4%). The proportion of unemployed mothers was $n=61$ (53.5%), while the employed ones accounted for $n=53$ (46.5%). All the participants attended school with the majority having attained secondary education $n=67$ (58.7%). From the findings $n=87$ (76%) of the participants attended antenatal clinics. Table 1.

Table 1: Socio-demographic characteristics of the postnatal mothers

| Characteristics | Frequency n=114 | Percentage |
|---------------------------------|-----------------|---------------|
| Age | | |
| Young mothers (15 -35 yrs.). | 94 | 82.4 % |
| Elderly mothers (36 – 50 yrs.). | 20 | 17.6 % |
| Occupation | | |
| Employed | 53 | 46.5 % |
| Non employed | 61 | 53.5 % |
| Level of education | | |
| Primary | 18 | 15.8 % |
| Secondary | 67 | 58.7 % |
| Tertiary | 29 | 25.5 % |
| Did you attend ANC | | |
| Yes | 87 | 76 % |
| No | 27 | 23 % |

Prevalence of adoption of KMC among postnatal others.

The study sought to establish how many postnatal mothers with preterm babies practiced KMC. From

Figure 1, it is observed that most of the respondents n=84 (74 %) showed that they were using the Kangaroo mother care as a method of infant care.

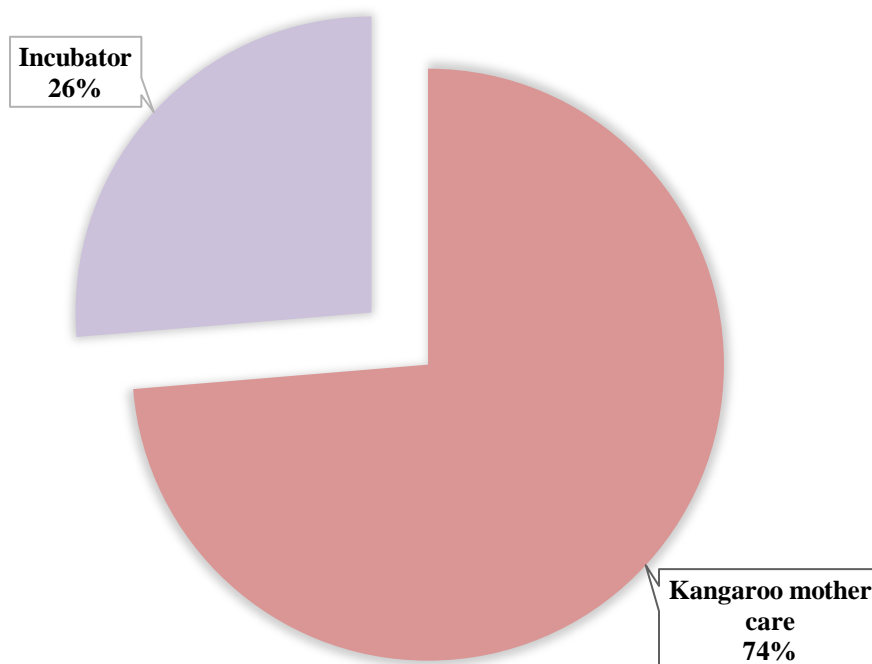


Figure 1: Method of Infant Care

Maternal factors influencing adoption

The study sought to establish the maternal knowledge on KMC among postnatal mothers. From the figure 2, shows that 83.3% (n=95) had some information on KMC.

HAVE YOU HEARD OF KMC

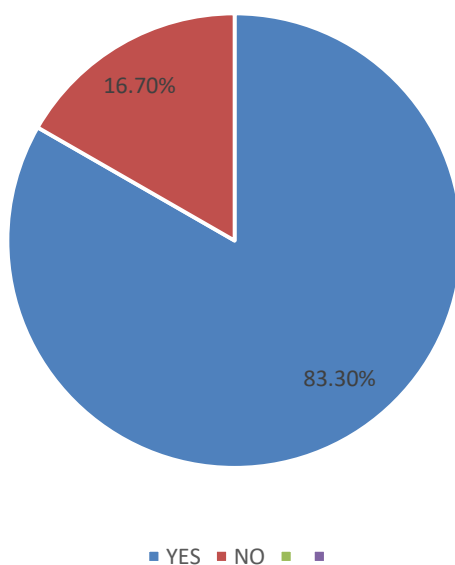
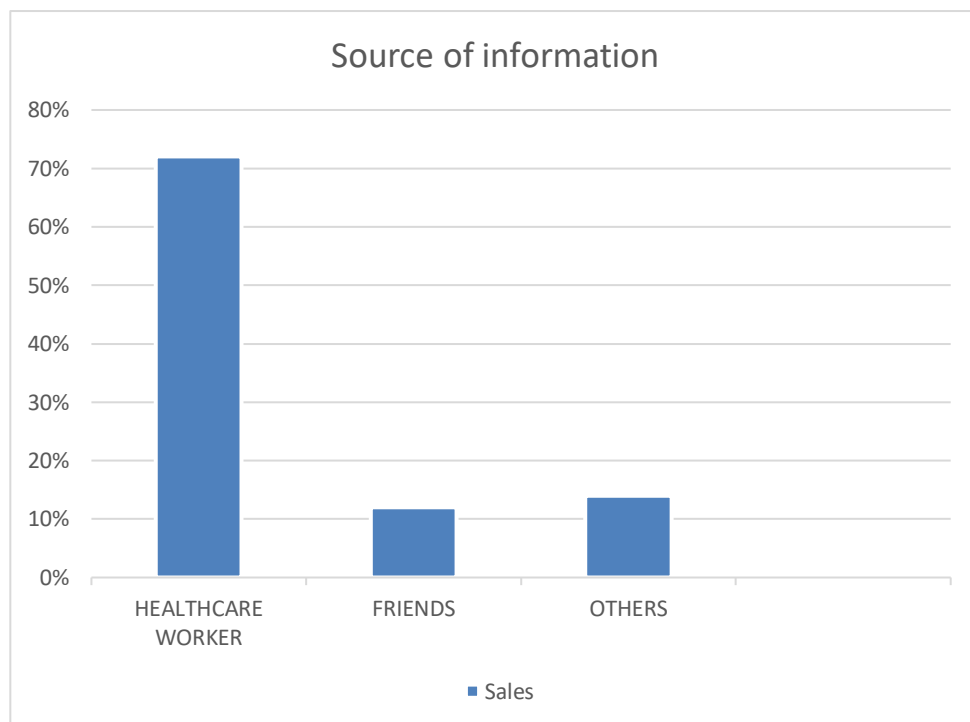


Figure 2: Knowledge on KMC

Source of information on KMC

The study sought to find where the mothers got the information on KMC from. They reported to have received the information mostly from counselling done by healthcare providers 72% (n=67) as in table 2.

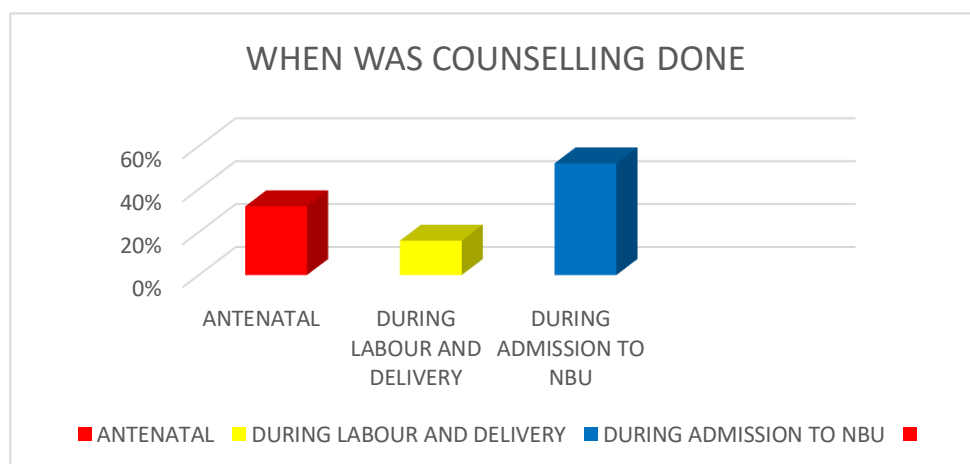
Table 2: Source of information on KMC



Time of counselling

The study sought to establish when counselling was done. Table 3 shows that majority 52% (n=40) received the information during admission to NBU.

Table 3: When counselling was done



Chi- square test was used to establish the relationship between counselling and KMC adoption. The results are presented in Table 3 shows that there was a statistically significant relationship between counselling and KMC adoption ($p = 0.001 < 0.05$). This showed that the respondents who got counselling on baby care

techniques were more likely to choose KMC as a method of infant care compared to those who did not get counselling.

Table 3: Chi-square results between counselling and KMC adoption.

| Did you receive counselling on KMC (n=84) | | | | Statistics |
|---|-----------|----------|----------|--|
| | | Yes | No | $\chi^2 = 10.886$ $df = 1$ $p = 0.001$ |
| Preferred method of infant care | KMC | 64(76%) | 20 (24%) | |
| | INCUBATOR | 13 (43%) | 17 (57%) | |

DISCUSSION

The study included 114 participants. Majority of the participants were young mothers n=94 (85%). They had all attended schools with majority having attained secondary education n=67(58.7%). From the findings n=87 (76%) of the participants attended antenatal clinics. The prevalence of adoption of KMC at Nyeri County Referral hospital was more than half n=84 (74%) owing to the multiple benefits KMC has been shown to have for both mothers and babies. This shows a higher prevalence of mothers using KMC in comparison to another study done in Kiambu, which recorded a 52% prevalence. Majority of the participants n=95 (83.3%) had some knowledge in regard to KMC. They reported to have received the information mostly from counselling by healthcare providers 72% (n=67). Majority 52% (n=40) received the information when counselling was done during admission to NBU. This was different from a study done in Ethiopia, which indicated that health education sessions during the follow-up of prenatal care were crucial for the full acceptance of KMC⁹.

Mother’s knowledge on KMC is a key element in KMC adoption². From the findings, counselling was statistically significantly to adoption of KMC among postnatal mothers in Nyeri county referral hospital. This study had a higher prevalence than that of a study done in Lusaka, Zambia, which showed a 60% acceptance rate after receiving information and education about KMC from healthcare providers¹⁰.

CONCLUSION

The study concludes that KMC prevalence in Nyeri county referral hospital was high. Most of the mothers had adequate knowledge about KMC and they reported that the source of information was from healthcare workers through counselling which is mostly done after the delivery outcome.

The study recommends increased awareness through counselling on method of infant care among mothers especially during antenatal clinics. The study suggests a further study involving other facilities in the county as it will give a broader comparison and generalization of the study.

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CONFLICT OF INTEREST

The authors declare that they have no competing interests whatsoever

ETHICAL APPROVAL

Approval to undertake this study was sought from Chuka University and National commission for science, technology and Innovation (NACOSTI) through the Chuka University Ethics and Research Committee for review and approval (Ref. NO. 436299). The researcher also sought permission from the Nyeri County Health management team.

INFORMED CONSENT

The researcher clarified the purpose of the study to the participants before recruitment and obtain a verbal and written consent. They were allowed to withdraw from the study without any penalty and no follow up was required. Confidentiality and privacy of the respondents was maintained at all times.

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