

# Breastfeeding and Employment in Kenya

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## Abstract

The aim of this paper is to describe assess the effect of employment on full breastfeeding in the first six months of life in selected hospitals, Nairobi Province, Kenya. A prospective cohort design was undertaken with a sample of 692 working mother-infant pairs recruited at birth and followed up until 6 months of age. The sample was drawn from five major maternity hospitals. Data was analyzed using the SPSS computer software. Slightly above half (58.8%) of the mothers were formally employed and the rest were self-employed. The mean number of working hours was 8.8±2.2, self employed mothers worked for significantly ( $P<0.05$ ) longer hours than mothers in formal employment. At 6, 10, 14 and 19 weeks, there were no significant differences ( $P>0.05$ ) in the full breastfeeding feeding rates between mothers on self-employment and those on formal employment. However, there were significant ( $P<0.05$ ) differences at 23 weeks, with mothers on self-employment being more likely at have ceased full breastfeeding. The number of maternity leave days was significantly ( $P<0.05$ ) associated with cessation of full breastfeeding at 6, 10 and 14 weeks and no significant ( $P>0.05$ ) differences at 19 and 23 weeks. Employed mothers in Kenya are committed to continued breastfeeding; however, the employment status hinders full breastfeeding to meet the WHO recommendation. Self employed mothers work for longer hours which impact negatively on breastfeeding.

**Keywords:** Breastfeeding, employment, working mother, Kenya

## 1 INTRODUCTION

Breastfeeding offers short term and long term health benefits to mothers and children (WHO 2003; U.S. Department of Health and Human Services 2011). Following the WHO global public health recommendation, infants should be exclusively breastfed for the first six months to achieve optimal growth, development and health (WHO 2003). Exclusive breastfeeding is promoted because of its health effects(Kramer and Kakuma 2002). Human milk is uniquely superior for infant feeding and is species specific. Infants who are breastfed are protected from many infections and from a number of chronic diseases later in life. The promotion and support of breastfeeding is of global priority. Many studies associate breastfeeding with substantial health, social and economic benefits, including lower infant morbidity and mortality from diarrhea and other infections(Ip, Chung et al. 2007).

The current rapid growth in education and urbanization in developing countries including Kenya has resulted in many women taking up paid employment. Return to employment is often cited as a major reason for the decision to bottle-fed or early cessation of breastfeeding (Fein and Roe 1998). In many developing countries, labor force participation by women in childbearing years has increased rapidly posing new challenges for women attempting to combine their roles as workers and mothers. The World Health Organization has recommended that successful integration of women's productive and reproduction roles is the basis for child for child survival(WHO 2003). The achievement of this recommendation is probably the biggest challenge in the promotion of breastfeeding. In the US economic incentives encourage mothers to miss as little work as possible so that they maintain employer-specific and tenure wage gains. The conditions of work in many developing countries include long hours at work place other than home and most often in a congested city with high traffic

leading a long time consuming journey to and from work hence many hours of separation between mother and the baby.

Return to work has been shown to reduce the prevalence of exclusive and general breastfeeding. In Thailand Yimyam and Morrow 1999) reported that within a space of one month after return to work 26% of the breastfeeding mother's completely weaned their infants. In Vietnam at week 16 after delivery, 95% of the women had already returned to work and their reasons for changing the feeding patterns included "do not have sufficient milk", "returning to work" and "complementary food is good for the health" (Duong, Lee et al. 2005). Similarly in Nairobi, working mothers were able to continue breastfeeding after return to work, however, return to work and breast milk insufficiency were the main reasons to cessation of exclusive breastfeeding(Lakati, Binns et al. 2002; Lakati, Binns et al. 2002). Increase the days for maternity leave has been recommended as strategy to promote breastfeeding. In the US maternity leave of 6 to 12 weeks after delivery was respectively with a fourfold and twofold higher odds of failure to establish breastfeeding and increased the probability of cessation of breastfeeding. The international Labour Organization recommends a period of maternity leave not less than 14 weeks. This recommendation while it is an important step to supporting breastfeeding among working mothers, it may not impact on many Kenyan women who are commonly self-employed. The aim of this paper is to examine the effect of employment, both formal and self-employment on breastfeeding in Kenya.

## 2 METHODOLOGY

The data for this study was obtained from a prospective cohort study of 692 mothers and compared with a previous cross-sectional study carried in Nairobi and published in referenced sources. The study population for the data sources are self employed and formally employed mothers. Data from the cross-sectional study was obtained from a sample of four hundred and forty four working mothers from low and higher socio-economic status in Nairobi. All mothers with infants 4 to 12 months attending the maternal and child health clinic were invited to participate. Data from the prospective cohort study was obtained a sample of 692 mother infant-pairs who are recruited at birth and follow up to 6 months to measure infant feeding.

All data was coded, entered and analyzed using the SPSS (Statistical Package for Social Sciences). Descriptive statistics involved measures of central tendency and dispersion for all continuous variables and frequencies and proportions for categorical variables. Chi-square tests were used at univariate level to determine variables associated with full breastfeeding.

Multivariate logistic regression analysis was employed to determine which individual variables could best predict early introduction to complementary feeding. All variables found to be significantly ( $P < 0.05$ ) associated with complementary feeding were included in the full model. The full model was reduced using the backward stepwise procedure and the fitness of the model was assessed at every step to avoid dropping non-significant variables that affected the model fitness.

Ethical approval for the cross-sectional study was granted by the National Science Council, Ministry of Education and for the prospective cohort study, approval was granted by the Kenya Medical Research Institute (KEMRI). The participating hospital also granted approval and mothers signed an informed consent.

## 3 RESULTS

The overall rates of 'any breastfeeding' were high and in the cross-sectional study at six months of age the prevalence of 'any breastfeeding' was 92.2% (CI 89.1-95.3%), 98.4% among the lower socioeconomic group and 87.1% among the higher socioeconomic group. Significant differences were evident in the duration of 'exclusive breastfeeding' ( $\chi^2 = 12.216$ ;  $df = 5$ ,  $P = 0.032$ ) between the two groups (Figure 1). The exclusive breastfeeding rate at four weeks was 50.5% among mothers from public hospital (low socioeconomic group) compared to 43.2% in the private hospital (high socioeconomic group). The median age for the introduction of solid foods was seven months. Only seven mothers out of 444 had not introduced solid foods by six months of age.

Data from the prospective study showed that 'exclusive breastfeeding' assessed based on WHO definitions was at 54% at six weeks and by 23 weeks this had dropped to 12.1% (Figure 2). A big proportion of infants were on predominant breastfeeding (84% at 6 weeks). The introduction of sips of

water was the cause of the shift from 'exclusive' to 'predominant breastfeeding' (Figure 2) The frequency of breastfeeding while the mother is at home was 'on demand' in the two studies. However, when the mother was at work, mothers from the low socioeconomic status who are self employed were able to breastfeeding even during the day.

Early introduction of complementary feeding was very common and the type of complementary food given to infants varied with the time period and mothers socio economic status. Data from study shows that cow milk and porridge are the most common complementary foods (see Table 1). Data from the prospective cohort study shows that the most common complementary food at 6 and 10 weeks is infant formula and by the use of formula reduces and porridge among other complementary food are common (Figure 3).

The reasons for introduction of complementary varied, in the earlier study, the most cited reason was "breast milk is not enough (54.53%) and work by 27.65%, while a few (16%) indicated they were advised by the health professional. Data from the prospective cohort study shows that the most common reason for introducing complementary foods was the mothers perception that they had inadequate breastmilk supplies. By 23 and 25 weeks, the most common reason is that 'it is the right time'.

Mothers who returned to work earlier were more likely to introduce complementary foods earlier. At six weeks 85.1% of the mothers who had not returned to work had not introduced complementary food but less than half (41.2%) of infants who mothers had returned to work were still 'full breastfeeding'. This pattern was observed throughout the follow up period. The differences were significant ( $P < 0.05$ ) up to the time when the infants has an average age of 25 weeks (Table 1.)

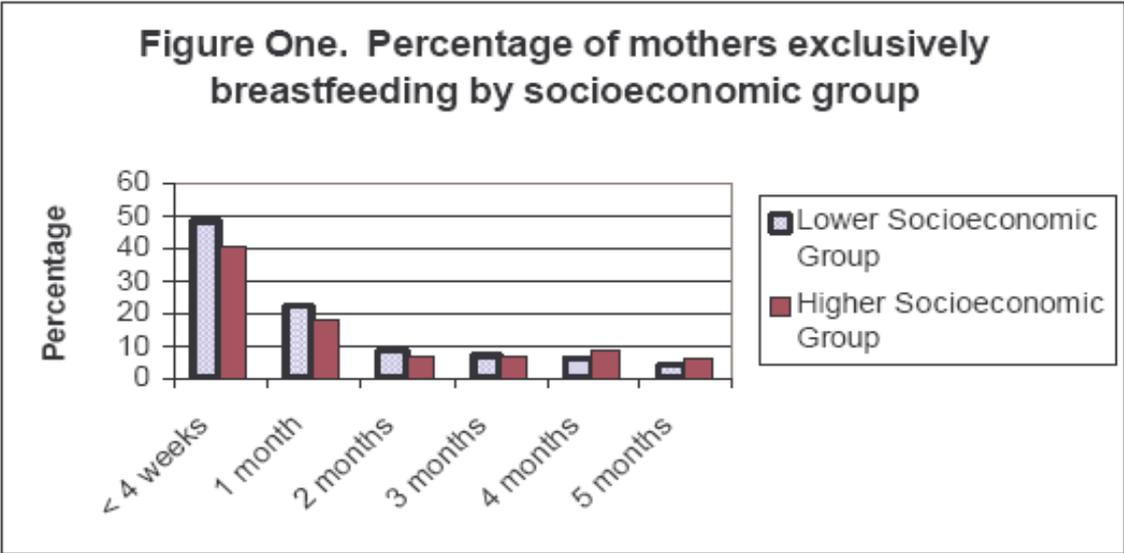
## 4 DISCUSSION

This study adds to the evidence that any breastfeeding rates in a developing country (Kenya) remain high, even among employed and self employed mothers. The high initiation rate is similar to findings reported in a cohort study in China of 1520 mothers which found 96.9% of the mothers had initiated breastfeeding at discharge (Qiu, Zhao et al. 2009). The rates in Kenya are higher than reported in Australia among Aboriginal mothers of 89.4% and a rate of 76% reported in Egypt (Clemens, Elyazeed et al. 1999; Binns, Gilchrist et al. 2004). Exclusive breastfeeding continues to remain far below the international recommendation of exclusive breastfeeding for six months in many countries. Our prospective data study showed exclusive breastfeeding rates were low and the early introduction of complementary feeding was common. By six to 14 weeks, infant formula was the most common complementary food. The use of other complementary foods including cow milk, porridge, potatoes, bananas and vegetables such as pumpkin increased after 14 weeks as the use of infant formula declined. The cost of infant formula is most likely the reason for its low use among mothers of low socio-economic status. The increase in the use of infant formula by urban mothers in Kenya may be as a result of the adoption of western practices of infant formula feeding in developing world cities. In Vietnam, a similar pattern was also observed where the use of formula increased from week 1 to week 16 and decreased by week 24 (Duong, Binns et al. 2005). That study reported that the use of formula was related to the culture where mothers tended to follow other people who used formula in health settings. In Gambia mothers considered formula a "good food" for infants during the first months but recognized that cost of formula as prohibitive (Semega-Janneh, Bohler et al. 2001). In China, it was found that infant formula was a popular gift for new mothers (Qiu, Zhao et al. 2009). These results suggest that more efforts are needed to promote the dangers of formula feeding and to restrict the distribution of formula through hospitals and health services.

Return to work was found to be significantly ( $P < 0.05$ ) associated with lower rates of full breastfeeding. Despite the evidence that mothers on self-employment had flexible working hours there were no significant differences in the introduction of complementary feeding at 6, 10, 14 and 19 weeks. This findings compares favorably with a Nigerian study (Onayade et al 2004), that found that mothers who are unemployed (working at home) were more likely to start complementary feeding before six months (Onayade, Abiona et al. 2004). Similarly in Taiwan return to work was associated with low breastfeeding rates despite the provision of lactation rooms by a manufacturing company that employed women (Chuang, Chang et al. 2010).

## Conclusion

Currently more women in Kenya have taken up employment either formal or informal. However the mothers of Nairobi in Kenya have maintained high rates of 'any breastfeeding' despite often having to return to work within a few months of delivery. However the rates of 'exclusive breastfeeding' are below the rates recommended by WHO due to the early introduction of complementary foods. Exclusive breastfeeding for the first six months of life promotes the optimal health for all infants. There is a need to promote the benefits of breastfeeding and the dangers of artificial formula use to all mothers.



Source; Lakati et al 2002

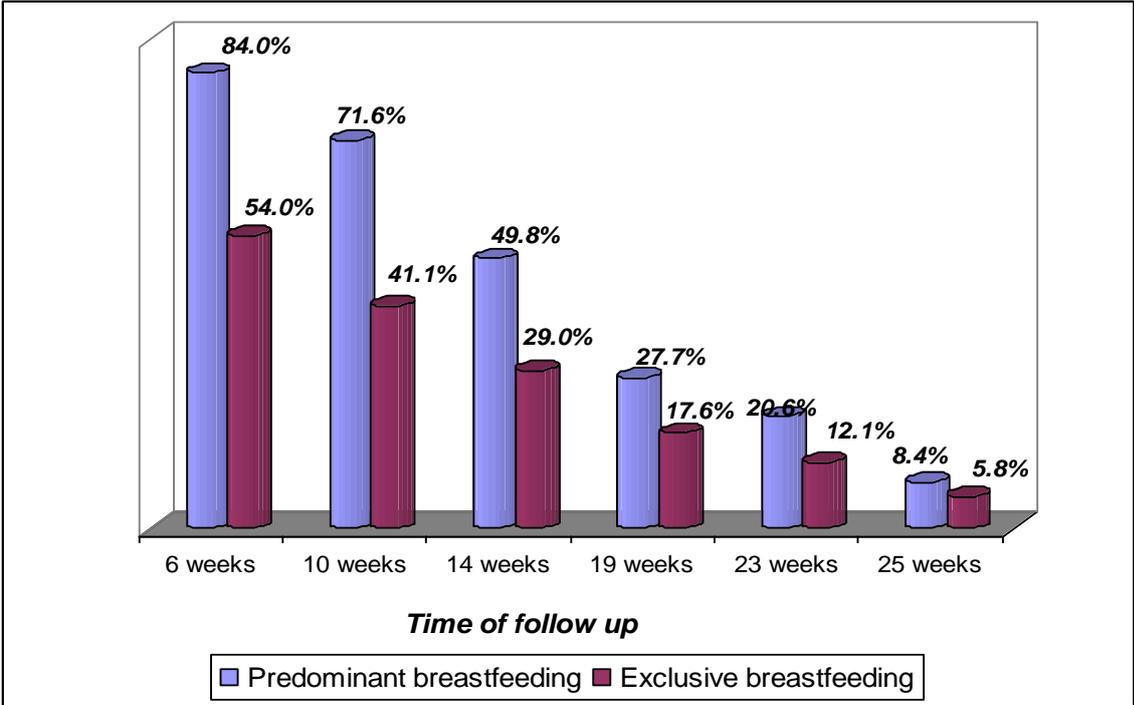


Figure 2: Exclusive and predominant breastfeeding at different time periods

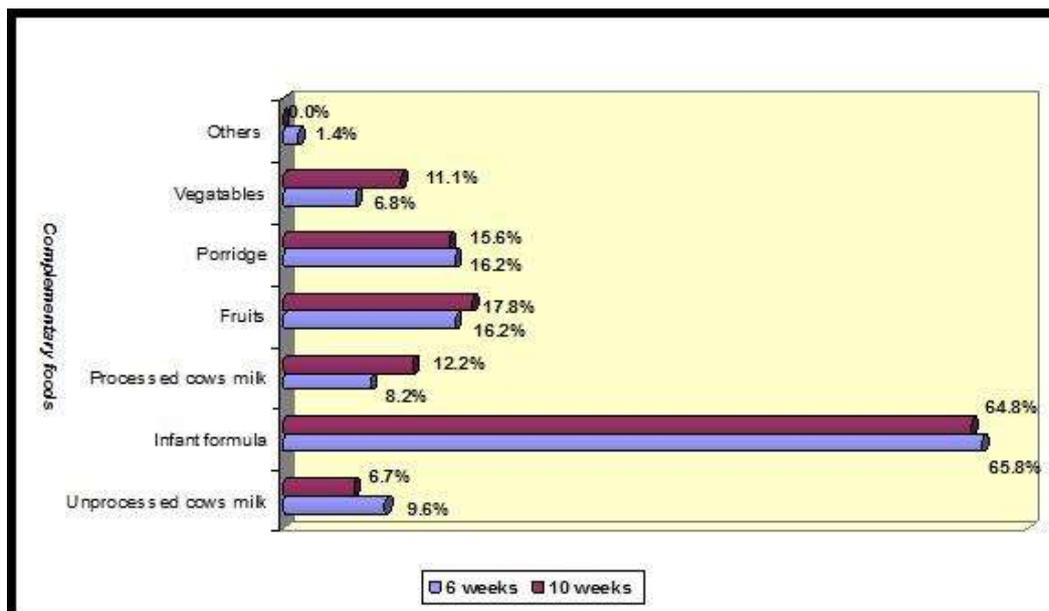


Figure 3; Complementary foods at different time periods

Time of follow up	Mother work status	% on full breastfeeding	OR (95% CI)
6 weeks	Returned to work	41.2	3.94 (2.5 – 6.24)
	On maternity leave	85.1	
10 weeks	Returned to work	35.3	2.73 (1.98 -3.78)
	On maternity leave	76.3	
14 weeks	Returned to work	31.2	1.81 (1.45 -2.27)
	On maternity leave	62.0	
19 weeks	Returned to work	16.6	1.52 (1.24 – 1.86)
	On maternity leave	46.7	
23 weeks	Returned to work	14.9	1.44 (1.15 – 1.79)
	On maternity leave	40.7	
25 weeks	Returned to work	6.8	1.16 (0.99 -1.35)
	On maternity leave	19.5	

Table 1 Effect of employment on full breastfeeding

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