Milk Man: Investigating the impact of a father-focused breastfeeding app on exclusive breastfeeding duration

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Introduction

Breastfeeding is an important public health issue and has significant health benefits for infants and mothers. The World Health Organization recommends exclusive breastfeeding (EBF) for six months, yet few countries achieve this rate.[1] Partner support is important for breastfeeding women.[2] Research has demonstrated that interventions aiming to increase the support of fathers can have a positive impact on breastfeeding duration.[3] Mobile technology has great potential in terms of reach, but little is known about how it can be used to engage fathers with a breastfeeding intervention, and the subsequent impact this will have on breastfeeding.

Aims

This study aimed to investigate the impact a breastfeeding app targeted at fathers had on EBF duration, and to understand how different levels of app user engagement may have impacted on those outcomes.

Methodology

The Milk Man app was trialled in the Parent Infant Feeding Initiative randomised control trial (ACTRN12614000605695) and used a range of strategies designed to encourage fathers to use the app and engage with breastfeeding information.[4] Fathers had access to Milk Man from recruitment (~ 8-10 weeks antenatally) until 26 weeks postpartum. This abstract reports on EBF outcomes at 6 weeks postpartum, comparing the risk of EBF cessation with those who had downloaded the app (n=286), and the control group (n=229). A customised Engagement Index (EI) was developed, informed by previous studies, to categorise users into a high, medium or low engagement group. The EI was based on five criteria – app content read, points received, loyalty over time, user feedback and the last visit to the app prior to 6 weeks postpartum.

A Kaplan Meier survival analysis was conducted to compare the impact the Milk Man app had on the cessation of EBF. The final event was when an infant ceased to be EBF, participants still breastfeeding at 6 weeks were censored. Participants were divided into three groups depending on their EI score and a chi square test examined differences in EBF between engagement groups, and the control group.

Results

All three Kaplan Meier survival tests had a p-value of about 0.05 (log rank test p=0.052; Breslow p=0.046; Tarone-Ware p=0.049) which supports the visual inspection of the survival function plot (see Figure 1) showing partners of participants who installed Milk Man were less likely to have ceased EBF at any time point from birth to 6 weeks postpartum. Mean survival time for those who did not have the Milk Man app were 4.70 weeks (95% CI. 4.39-5.00) and 5.06 weeks for those who did (95% CI. 4.83 – 5.30). The average EI score was 29.68. There was no significant difference in the proportion of women EBF between any of the three engagement groups (p=0.754), or when comparing any of the engagement groups and the control group (p=0.828) (see Table 1).

Figure 1. Kaplan Meier curve showing exclusive breastfeeding survival

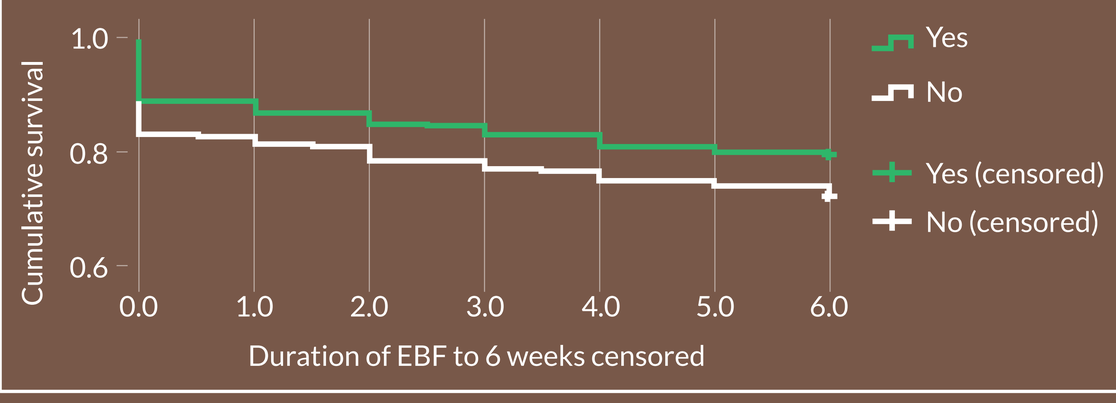

Table 1 . Exclusive breastfeeding, engagement and control group (p=0.828)

EBF at 6 weeks	Control Group	Poor engagement	Moderate engagement	High engagement	Total
No	63 (27.3%)	24 (24.5%)	30 (27.5%)	**27 (23.3)**	144 (26%)
Yes	168 (72.7%)	74 (75.5%)	79 (72.5%)	**89 (76.7%)**	410 (74%)

Conclusion

The Milk Man app had a modest effect on the duration of breastfeeding with those couples who installed the Milk Man being less likely to cease EBF during the first 6 weeks postpartum. Level of engagement did not impact on breastfeeding duration and more research about what constitutes effective engagement, as well as new methods to measure and report, is needed. Overall, the cohort was highly motivated and participants in all groups were more likely to be breastfeeding than the Australian average. This study shows that an app for fathers has the potential to prolong EBF and further analysis at 26 weeks will be carried out.

Key message for research: A father-focussed mobile app can have a modest positive impact on exclusive breastfeeding duration. More research is needed on measuring and tailoring engagement to the individual.

Key message for practice: Fathers play an important role in breastfeeding. Mobile apps can be an effective way to reach them, and increase support for mothers.

Conflict of interest

The authors have no conflicts of interest to declare.

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