

The *Baby-Friendly Hospital Initiative* and breastfeeding duration: Relating the evidence to the Australian context

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ABSTRACT: Objective: The *Baby-Friendly Hospital Initiative* (BFHI) is an effort by UNICEF and WHO to improve health through promoting, protecting and supporting breastfeeding. The key strategy in this Initiative is in transforming care of newborn infants in maternity hospitals. The recently published *Australian Breastfeeding Leadership Plan* (ABLP)¹ strongly advocates, as part of its overall plan to increase breastfeeding rates in Australia, the use of public funding and support to implement the BFHI in Australian hospitals. The purpose of this review is to present evidence related to the BFHI's impact on breastfeeding duration, comment on the relevance of this evidence to the Australian context, and to discuss the value of BFHI in an environment where enhancement of breastfeeding duration appears to be the primary goal. Findings: Australia finds itself in the unique situation of being a high-income country with comparatively high initiation of exclusive breastfeeding and rapid deterioration in exclusive breastfeeding rates to six months. While the BFHI itself has been shown to increase the duration of exclusive breastfeeding, much of the evidence is derived from studies where exclusive breastfeeding initiation is low prior to implementation or there are major socioeconomic or cultural differences between study contexts and the context observed in Australia. Principal Conclusions: There is little evidence to suggest that BFHI implementation has a positive impact on breastfeeding duration in the Australian context. There is an urgent need for research in this area to inform stakeholders in breastfeeding. While implementation of BFHI principles might protect against the deterioration of breastfeeding initiation, limited resources might be better utilised by directing them toward initiatives outlined in the ABLP¹ that are known to increase breastfeeding duration in the Australian context, like improving workplace conditions for breastfeeding and enhancing the knowledge of health professionals in the community, such as general practitioners, who are likely to provide breastfeeding support to mothers once they leave hospital.

Keywords: breastfeeding, Baby-Friendly Hospital Initiative, BFHI, research

Introduction

There is well-documented and steadily accumulating evidence that exclusive breastfeeding for six months is important in preventing health problems in both the infant and the mother.² There is also ample evidence that a number of factors are associated with the length of time for which a woman exclusively breastfeeds her child. Socio-demographic factors such as age³ and return to paid work,⁴ social factors such as the father's infant feeding preferences and level of support for breastfeeding from family and friends,⁶ and mothering practices such as the timing of the introduction of solids,³ and use of a pacifier,⁷ and psychological factors such as the timing of the feeding decision^{3,8} and mothers' confidence in their ability to breastfeed⁹ have all been shown to influence exclusive breastfeeding duration. There is some evidence that certain hospital practices, such as early skin-to-skin contact after birth, having the mother and infant together during their hospital stay, and early discharge from hospital, have an influence on whether a mother initiates and maintains exclusive breastfeeding.¹⁰

The Baby-Friendly Hospital Initiative (BFHI) was launched in 1991, and represented an intensive

effort on behalf of the World Health Organization (WHO) and the United Nations Children's Fund (UNICEF) to transform practice in maternity hospitals. The aim of the BFHI is to protect, promote and support breastfeeding globally. The BFHI was given in-principle support by the Australian Government in 1993. Since 1995, the Australian College of Midwives has facilitated this Initiative. The Australian Breastfeeding Leadership Plan (ABLP) was prepared by the Australian Breastfeeding Association (ABA)¹ to encourage debate and action. In this plan, the BFHI is advocated as part of a multi-pronged attack designed to increase breastfeeding rates in Australia. The plan includes other initiatives such as encouraging breastfeeding-friendly workplaces and removing financial disincentives to breastfeeding.

The *Ten Steps to Successful Breastfeeding* mandated in the BFHI are:

1. Have a written breastfeeding policy that is routinely communicated to all staff;
2. Provide training in implementation skills to all health staff;
3. Inform all pregnant women about the benefits and management of breastfeeding;
4. Promote initiation of breastfeeding within half an hour of birth;
5. Show mothers how to breastfeed and maintain lactation, even if they are separated from their infants;
6. Provide breast milk only, unless medically indicated;
7. Allow mothers and their infants to remain together 24 hours a day (rooming-in);
8. Encourage breastfeeding on demand;
9. Provide no artificial teats or dummies; and
10. Foster the establishment of and referral to breastfeeding support groups.¹¹

Currently, there are 51 BFHI-accredited maternity hospitals in Australia,¹² and active promotion of the BFHI figures prominently in the strategies outlined in the ABLP.¹ Additionally, the ABLP advocates provision of funding and support for BFHI implementation in Australia, BFHI-accreditation of fifty per cent of maternity hospitals in Australia by 2008, and linking of public funding of maternity hospitals to BFHI accreditation by 2014.

There is ample evidence from both developed^{13,14} and developing countries,¹⁵⁻¹⁷ as defined according to the United Nations,¹⁸ to suggest that implementation of the BFHI produces significant and marked increases in initiation of exclusive breastfeeding, particularly where these rates are low prior to implementation. Initiation of exclusive breastfeeding, however, does not appear to be the major issue of concern in Australia. Australia, in fact, finds itself in a relatively unique context in relation to breastfeeding. It is a high-income country where initiation of breastfeeding is comparatively high, with recent estimates of initiation of any breastfeeding at between 83% and 93% and estimates of exclusive initiation of breastfeeding at over eighty per cent.¹⁹⁻²² This differs from other high-income countries such as the United States of America, where initiation of exclusive breastfeeding is historically low.²³ Duration of breastfeeding in Australia, however, is poor, with only 27% of mothers exclusively breastfeeding their child at 4 months and 5% exclusively breastfeeding at six months postpartum.^{20,21}

Studies examining the effects of BFHI interventions on breastfeeding duration are reasonably common in the literature, and evidence from this literature base is commonly used to make the argument for the implementation of the BFHI in Australian maternity hospitals. It is not known how much of this research is conducted in situations that even approximately match those found in Australia.

The authors thought it timely to examine the empirical basis upon which these assertions are made to discover whether the widespread implementation of the BFHI is a useful and worthwhile strategy for increasing exclusive breastfeeding duration in the Australian context.

The literature regarding the impact of BFHI implementation on duration of breastfeeding was examined. A broad review of the research, including a systematic review in 2000,²⁴ related to the impact of BFHI implementation on breastfeeding duration, is presented. Research is presented first from contexts in which breastfeeding initiation rates are low in comparison to those observed in Australia. Research from contexts closer to those observed in Australia is then presented. Finally, the relevant literature from research conducted within Australia is explored.

Systematic review of effectiveness of the BFHI

In 2000, Fairbank et al conducted a systematic review of studies designed to promote the initiation of breastfeeding.²⁴ As part of this review, they examined randomised controlled trials of BFHI implementation to determine the impact of the BFHI upon both the initiation and duration of exclusive breastfeeding. They concluded from the evidence collected that exclusive breastfeeding duration is improved by introduction of BFHI principles. This conclusion, however, is based upon a single study conducted in Thailand.¹⁷ The results of this study will be examined later, although one would caution against concluding that a particular intervention is effective on the basis of results from a single study. Additionally, considerable research into the impact of the BFHI on breastfeeding duration has been conducted since that time. A broader review of research conducted on this topic was therefore warranted.

The effect of the BFHI in countries with low breastfeeding initiation rates

Examination of the literature of the BFHI's effect on breastfeeding duration reveals that most of the available evidence has been collected from contexts in which initiation of exclusive breastfeeding is low (ie below 50%). Bellamy summarised the impact of a number of BFHI implementations on breastfeeding duration, with generally very positive results.¹⁵ In Iran, for example, rates of exclusive breastfeeding at four months postpartum were 10% pre-BFHI and increased to 53% post-BFHI. In China, BFHI implementation increased exclusive breastfeeding rates at four months postpartum from 10% to 48% in urban areas and from 29% to 68% in rural areas. In Chile, exclusive breastfeeding rates at six months increased from 4% pre-BFHI to 40% post BFHI.

Many of these studies, however, are not specific about whether the statistics presented for exclusive breastfeeding duration relate to all mothers giving birth, including mothers who did not initiate breastfeeding, or just to mothers who initiated breastfeeding. It could be argued that the increase in exclusive breastfeeding duration in these examples can be attributed simply to an increase in the proportion of mothers who initiated exclusive breastfeeding rather than any effect of the intervention upon breastfeeding duration *per se*. The increase in post-intervention breastfeeding rates at six months postpartum compared to corresponding rates pre-intervention can potentially be attributed to two sources: (a) the effect of the intervention on initiation of exclusive breastfeeding; and (b) the effect of intervention on exclusive breastfeeding duration after adjusting for changes in initiation of breastfeeding. The most appropriate method of adjusting for changes in initiation of exclusive breastfeeding is to calculate breastfeeding rates at six months postpartum conditional upon the successful initiation of breastfeeding. Rates based on only those mothers who initiated breastfeeding represent a better measure of the effect of interventions on exclusive breastfeeding duration.

Even after adjusting for changes in initiation of breastfeeding, however, there is strong evidence that implementation of the BFHI increases breastfeeding duration in countries where initiation rates are low. In Cuba, exclusive breastfeeding rates at six months rose from 40% to 74% following BFHI implementation,¹⁵ In Brazil, the duration of exclusive breastfeeding increased by one month for children born after BFHI implementation, though improvement in rates of exclusive breastfeeding at six months postpartum were negligible.¹⁶ Merewood et al introduced Baby-Friendly practices into a neonatal intensive care unit (NICU) at a US hospital experiencing

low initiation rates (34.6% pre-intervention).¹⁴ They observed a greater proportion of NICU babies being exclusively breastfed two weeks postpartum post-BFHI (adjusted rates - 52.4% vs 26.9%). Cautions are warranted in concluding that the BFHI would increase breastfeeding duration in this context, however, as these results were derived from a restricted population, and the duration period was much shorter than that normally utilised to determine if an intervention has affected breastfeeding duration.

The PROBIT Study (Belarus)

Subsequent to the Fairbank et al review,²⁴ a large randomised controlled trial conducted in the Republic of Belarus examined the impact of the BFHI on breastfeeding duration.²⁵ The trial involved 17,046 women, and only women intending to initiate breastfeeding were included in the trial. Compared to hospitals in which the BFHI was not implemented, infants born in BFHI hospitals were more likely to be exclusively breastfeeding at three months (43.3% vs. 6.4%) and six months (7.9% vs. 0.6%) postpartum. Kramer et al however, caution against the generalisation of results from this trial to other contexts for two reasons.²⁶ Major changes in hospital practices occurred in Belarus as a result of the implementation of the BFHI. The extent of changes to hospital practices in Australia is likely to be less drastic, meaning that the significant changes in exclusive breastfeeding rates that occurred in Belarus would be unlikely to occur in the Australian context. Additionally, postpartum stays in Belarus were generally 6-7 days, meaning that hospital practices were likely to have a major influence on the establishment of breastfeeding. In Australia, postpartum stays of 6-7 days represent a small proportion of all postpartum stays, with stays in public hospitals in Australia usually not exceeding 48 hours.²¹ Thus, it could be argued that changes to hospital practices in Australia as a result of BFHI implementation would be less likely to influence exclusive breastfeeding duration than changes to hospital practices in Belarus.

The BFHI and breastfeeding duration in East Asia

The impact of the BFHI on breastfeeding duration has been examined in two countries in the East Asian region. In Taiwan, there is a high breastfeeding initiation rate' (estimated rates of 80-90%),^{26,27} although initiation of exclusive breastfeeding is much lower (approximately 30%).¹⁷ Gau investigated the effect of BFHI implementation on breastfeeding duration in seven intervention hospitals compared to five control hospitals in Taiwan.¹⁷ She concluded that breastfeeding duration was higher in the intervention hospitals. However, examination of the paper reveals that statistical analyses may have been misinterpreted in arriving at these conclusions. In fact, examination of data presented suggests that, while the BFHI implementation increased initiation of exclusive breastfeeding, after adjusting for differences in initiation rates across hospitals, there is little evidence for any beneficial effect of the BFHI on breastfeeding durations at two weeks, one month, or two months postpartum. Similarly, Weng, Hsu, Gau, Chen and Li found no difference between thirty-eight BFHI and eighteen non-BFHI Taiwanese hospitals in breastfeeding rates at one month postpartum after adjusting for improvements in initiation as a result of BFHI implementation.²⁸

In Thailand, initiation of exclusive breastfeeding is reasonably high.²⁹ Buranasin analysed the effect of implementing the BFHI on breastfeeding duration in a regional Thai hospital,¹⁷ Exclusive breastfeeding rates at four months increased by 23% from pre-implementation levels.

Breastfeeding duration in a high-income country with moderate to high breastfeeding initiation

Italy represents a high-income country with a modern healthcare system and good infrastructure. Research suggests exclusive initiation rates vary between 66% and 91 %, with northern regions of the country having higher rates. Additionally, much like Australia, there is a rapid decrease in exclusive breastfeeding duration to six months postpartum.³⁰

In a recent study conducted in Italy, Cattaneo and Buzzetti investigated the effect of BFHI

implementation in eight Italian hospitals.³⁰ The hospitals were separated according to region, with four hospitals from the northern and central regions of the country and four hospitals from southern regions participating in the study. Exclusive breastfeeding rates were reported at three and six months postpartum. After adjusting for differences in breastfeeding initiation, exclusive breastfeeding rates in the northern and central region hospitals improved markedly at both three months (65% vs 49%) and six months postpartum (18% vs 5%). In the southern region hospitals, improvements in adjusted exclusive breastfeeding rates were much more modest (three months - 61% vs 56%; six months - 6% vs 3%). In spite of these mixed results, the study does appear to provide some evidence that the BFHI might be effective in enhancing breastfeeding duration in a context similar to that observed in Australia.

The BFHI and breastfeeding duration in Australia

To our knowledge, no studies have looked specifically at the effectiveness of BFHI initiatives upon breastfeeding duration in the Australian context. However, Rowe-Murray and Fisher, provide some indirect evidence that BFHI implementation may not influence breastfeeding duration in this context.³¹ These researchers surveyed 203 mothers who had undergone caesarean births at four metropolitan hospitals in Melbourne at two days and eight months postpartum. Of the four hospitals involved, one was BFHI-accredited. Mothers were asked questions on BFHI-related hospital practices, such as early-skin-to-skin contact, and breastfeeding duration. The BFHI-accredited hospital had significantly shorter times between birth and first breastfeed. No differences were observed, however, across hospitals in relation to breastfeeding rates at eight months postpartum. It must be noted, however, that the sample represented a restricted portion of the population of mothers giving birth and the socioeconomic status of mothers was a potential confounding factor. Additionally, Rowe-Murray and Fisher noted that skin-to-skin contact was not common practice in any of the four hospitals examined. Finally, breastfeeding rates were measured at eight months postpartum whereas target rates are measured at six months postpartum.

Summary and Conclusions

There is strong evidence that the BFHI increases breastfeeding duration in countries where the cultural and breastfeeding contexts are very different from that observed in Australia. When data from countries with high initiation of breastfeeding is examined, the evidence for the BFHI impacting upon breastfeeding duration is less convincing. Only one study was found that provides evidence that breastfeeding duration can be enhanced by BFHI implementation in a country in a similar cultural and economic context to Australia with high rates of breastfeeding initiation.³⁰ Other than this study, there is little available evidence at this time to support the claim that implementation of the BFHI would make a major difference to breastfeeding duration in the Australian context.

However, Baby-Friendly practices in Australian hospitals can be improved and the implementation of the BFHI is likely to protect against future erosion of exclusive breastfeeding initiation in Australian maternity hospitals. The focus of this paper, however, is upon the effect of the BFHI upon breastfeeding duration, and it would appear from the review findings that there is limited evidence at this time to demonstrate the effectiveness of BFHI in increasing breastfeeding duration in a high-income country with high exclusive breastfeeding initiation. It is important therefore, that research in this area is undertaken in order to provide evidence upon which to base strategies.

The ABLP advocates that governments provide funding and support for BFHI implementation in Australia, and that a target of 50% of maternity hospitals in Australia be BFHI-accredited by 2008.¹ Perhaps most importantly, the ABLP also recommends public funding of maternity hospitals to be linked to BFHI accreditation by 2014. While this is important to improve and

maintain breastfeeding initiation rates, consideration needs to be given to strategies which will improve breastfeeding duration and that when significant funding is being considered, there needs to be evidence that BFHI implementation is an effective means of increasing breastfeeding duration in the Australian context as well as protecting against decreases in breastfeeding initiation.

Therefore, consideration also needs to be given to allocation of funds to interventions mentioned in the ABLP that are not part of the BFHI and likely to improve breastfeeding duration. Such initiatives include: improving workplace conditions for breastfeeding; establishing a human milk bank network in Australia; promoting the acceptability of breastfeeding in public; educating partners and engendering their support for breastfeeding; and enhancing the knowledge of peers and health professionals such as general practitioners and pharmacists, who are likely to provide informal and formal breastfeeding support to mothers once they leave hospital. Such an approach will ensure that breastfeeding promotion strategies are multipronged and will target initiation of breastfeeding, and importantly, duration of breastfeeding

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