Awareness of Breastfeeding Recommendations and Duration of Breastfeeding: Findings from the Healthy Beginnings Trial

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Abstract

Background: To date, there are no studies examining the role of awareness of the World Health Organization's breastfeeding recommendation in determining mothers' breastfeeding decisions and practice. This study sought to determine whether awareness of the recommendation to breastfeed exclusively to age 6 months and intention to meet this recommendation are translated into breastfeeding practice.

Methods: We analyzed longitudinal data from 201 first-time mothers who participated in the Healthy Beginnings Trial as a control group. The mothers' awareness of the breastfeeding recommendation and their intention to meet the recommendation were assessed at baseline antenatally, and breastfeeding duration was assessed at 6 and 12 months postpartum, through telephone and face-to-face interviews, respectively. Logistic regression and Cox regression analyses were conducted.

Results: Mothers who knew the recommendation were 26% more likely to initiate breastfeeding (adjusted risk ratio [ARR] 1.26, 95% confidence interval [CI] 1.14 to 1.37, $p=0.001$) and 34% less likely to have stopped breastfeeding (adjusted hazard ratio 0.66, 95% CI 0.46 to 0.95, $p=0.03$) at 12 months than those who did not. Having an intention to meet the recommendation was weakly positively associated with the initiation of breastfeeding only (ARR 1.09, 95% CI 1.03 to 1.20, $p=0.07$).

Conclusions: Awareness of the breastfeeding recommendation to breastfeed exclusively for 6 months is an independent positive predictor of breastfeeding initiation and duration. Improving mothers' awareness of the recommendation and strengthening their intention to breastfeed could lead to increased breastfeeding initiation and duration.

Introduction

DESPITE THE WELL-DOCUMENTED health benefits of breastfeeding^{1–4} and the 2001 World Health Organization (WHO) recommendations for breastfeeding,² only 37% of infants in developing countries were exclusively breastfed to age 6 months in 2008.⁵ In the state of New South Wales, Australia, only 16% of babies were exclusively breastfed to 6 months, and 29% were breastfed to 12 months.⁶

Breastfeeding decisions and practices are influenced by multiple factors, including knowledge, attitudes, and beliefs, as well as sociocultural and physiological factors.^{6–12} For example, older maternal age and higher educational level are associated with breastfeeding at 6 months,^{6,7} whereas mothers

in full-time employment are less likely to be breastfeeding at 6 months.⁸ Longer breastfeeding duration is also associated with better maternal infant feeding knowledge, attitudes, and confidence.^{9–11} In addition, mothers who smoke or are overweight or obese are less likely to breastfeed their child.^{13,14}

Women's pre-birth breastfeeding intention is a good predictor of the actual duration of breastfeeding.^{15,16} In a study conducted in Australia, Rempel¹⁷ found that women with a strong desire to breastfeed during the antenatal period were more likely to be breastfeeding at 6 months, whereas those with no intention to breastfeed were less likely to be breastfeeding at 6 months. However, a study by Bakoula et al.¹⁸ in Greece found that maternal intention to breastfeed was influenced by maternity leave provision, maternal age,

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paternal education, the region of upbringing, and season of delivery.

To date, however, there are no studies examining the role of awareness of the WHO breastfeeding recommendation in determining mothers' breastfeeding decisions and practice. As a result, the impact of promoting the recommendation on rates of breastfeeding is less clear.¹⁹ This might be explained by a poor understanding of the breastfeeding recommendation or by poor knowledge, attitudes, and practice of breastfeeding in the community.²⁰

In a previous study, using the baseline data collected from the Healthy Beginnings Trial (HBT),²¹ we reported that 61% of mothers knew the WHO recommendation for breastfeeding but that only 42% of mothers intended to meet this recommendation.²⁰ We found that awareness of the recommendation was independently associated with the intention to meet this recommendation and concluded that there is a need to examine whether this awareness or intention translated into actual practice.

This article reports on the results of the 12-month follow-up for only those mothers in the control group of the HBT (i.e., not affected by potential intervention effects) who were interviewed before giving birth. We sought to determine relationships among awareness of the WHO recommendation to breastfeed exclusively to age 6 months, intention to meet this recommendation, predicted breastfeeding initiation, and duration of exclusive or any breastfeeding.

Subjects and Methods

Study design

This was a longitudinal study following up a group of participating mothers who were assigned to the HBT control group.²¹ The HBT was initiated in southwest Sydney, Australia in 2008 and approved by the Ethics Review Committee of Sydney South West Area Health Service (RPAH Zone). The details of the HBT research protocol have been reported elsewhere.²¹

Study participants

Between July 2007 and November 2008, a total of 667 first-time mothers at 24–34 weeks of pregnancy were recruited for the HBT; 337 were randomized to the intervention group and 330 to the control group. They were approached, when attending antenatal clinics of Liverpool and Campbelltown Hospitals located in southwestern Sydney, by research nurses with a letter of invitation and information about the study. Women were eligible to participate if they were 16 years of age and over, were expecting their first child, were between weeks 24 and 34 of pregnancy, were able to communicate in English, and lived in the local areas.

In this particular analysis we included only those 201 mothers who were randomly assigned to the control group and were interviewed before they gave birth. A further 129 mothers from the control group were excluded as we were not able to conduct their baseline assessment before they gave birth.

Data collection and key measures

A face-to-face interview was conducted by one of four research nurses with participating mothers at their home at baseline and at 12 months postpartum. The baseline inter-

views lasted 20–30 minutes and included a range of standard questions from the New South Wales Health Survey about age, employment status, education level, marital status, language spoken at home, country of birth, smoking status, and weight (before pregnancy).²² Mothers' intended time of returning to work was also asked, where appropriate.

Awareness of the breastfeeding recommendation and their intention

To assess mothers' awareness of the WHO recommendation to breastfeed exclusively to age 6 months and their intended duration of exclusive breastfeeding,²⁰ they were asked the following questions at baseline: "What do you understand to be the recommended age to which you should continue to exclusively breastfeed your child?," "Do you plan to breastfeed your child?," and "To what age do you plan to exclusively breastfeed your child?"

Breastfeeding duration

At 6 and 12 months postpartum the mothers were interviewed by a research assistant by telephone and face-to-face, respectively, to collect information about the duration of breastfeeding. For example, mothers were asked, "Has 'child' ever been breastfed?" and "Is 'child' currently being breastfed?" If they answered "no," they were further asked, "Including the time of weaning, what is the time 'child' was breastfed?" The questions on breastfeeding have been described in detail elsewhere.²³

In this article the term "breastfeeding" refers to a child receiving breastmilk, whether or not other solid foods or liquids are also being received. A child was considered to be exclusively breastfed when he or she received only breastmilk without any other liquids or solids.²

Analysis

Statistical analyses were carried out using the computer package Stata release 10 (2007) (StataCorp LP, College Station, TX). Pearson's χ^2 test and the Mantel-Haenszel χ^2 test for trend in proportions were used to compare the sociodemographic characteristics of the study participants with those who were lost to follow-up. On bivariate analysis, Pearson's χ^2 or the Mantel-Haenszel χ^2 test was used to examine the factors associated with the initiation of breastfeeding, and the log-rank test was used to examine factors associated with the duration of breastfeeding at 6 and 12 months.

To determine the factors associated with the initiation of breastfeeding, two logistic regression models were developed: One for awareness of the breastfeeding recommendation to breastfeed exclusively to 6 months and one for intention to meet the recommendation, as these two factors were highly correlated.²⁰ Variables with $p < 0.10$ on bivariate analysis were entered into logistic regression models, and then the least significant terms were progressively dropped until only those significant at $p < 0.05$ and those that confounded the effect of these variables remained in the model. Adjusted risk ratios (ARRs) with 95% confidence intervals (CIs) were calculated by refitting the final models using log-binomial regression with the Stata binreg command.

To determine the factors associated with duration of breastfeeding, variables with $p < 0.10$ for duration of breastfeeding on bivariate analysis were entered into Cox regression

models, and then the least significant terms were progressively dropped until only those significant at $p < 0.05$ remained in the model. The adjusted hazard ratio for stopping breastfeeding was calculated using Cox proportional hazards regression after checking the proportional hazards assumptions. For all survival analyses, breastfeeding time was censored if participants were still breastfeeding at 12 months.

Results

Of the 201 first-time mothers at baseline, 162 remained at 12 months, and 39 (19%) were lost to follow-up. The main

characteristics of the mothers participating in this study are shown in Table 1. Apart from employment status, there were no statistically significant differences between those who remained in the study and those lost to follow-up. Those lost to follow-up were significantly more likely to have been unemployed at baseline. Among mothers remaining in the study, 40% were 24 years of age or younger, and 22% were 30 years of age or older. Most of the mothers (88%) were either married or living with their de facto partner. Eighteen percent had completed tertiary education, and 11% spoke a language other than English at home. In addition, 17% were unemployed, and 30% had a household income before tax of less

TABLE 1. CHARACTERISTICS OF THE STUDY PARTICIPANTS AT BASELINE AND COMPARISONS BETWEEN THOSE REMAINING IN THE STUDY AND THOSE LOST TO FOLLOW-UP AT 12 MONTHS

Variable	Total [n=201 (%)]	Remaining [n=162 (%)] ^a	Lost to 12-month follow-up [n=39 (%)] ^a	p ^b
Mother's age (years)				0.08 ^c
≤24	86 (43)	64 (40)	22 (56)	
25–29	73 (36)	62 (38)	11 (28)	
≥30	42 (21)	36 (22)	6 (16)	
Marital status				0.81
Married /de facto partner	176 (88)	143 (88)	33 (87)	
Never married/single	24 (12)	19 (12)	5 (13)	
Mother's employment status				0.01
Employed/paid and unpaid maternity leave	108 (54)	94 (58)	14 (36)	
Unemployed	42 (21)	27 (17)	15 (38)	
Home duties/student/other	51 (25)	41 (25)	10 (26)	
Household income (Australian dollars)				0.37 ^c
≤39,999	62 (31)	49 (30)	13 (33)	
40,000–79,999	66 (33)	51 (32)	15 (39)	
≥80,000	73 (36)	62 (38)	11 (28)	
Mother's education				0.23 ^c
Completed primary school to school certificate	44 (22)	32 (20)	12 (31)	
HSC to TAFE certificate or diploma	121 (60)	100 (62)	21 (54)	
University	35 (18)	29 (18)	6 (15)	
Intended time back to work				0.99 ^c
Before 3 months	16 (10)	13 (10)	3 (14)	
Within 4–6 months	37 (23)	32 (23)	5 (23)	
Within 7–12 months	31 (19)	29 (21)	2 (9)	
After 12 months or no plan to go back to work	76 (48)	64 (46)	12 (54)	
Language spoken at home				0.20
Other	24 (12)	17 (11)	7 (18)	
English	176 (88)	144 (89)	32 (82)	
Mother's smoking status				0.12
Nonsmoker	164 (82)	136 (84)	28 (74)	
Smoker	35 (18)	25 (16)	10 (26)	
Mother's BMI				0.68 ^c
Underweight	11 (6)	8 (5)	3 (9)	
Normal	101 (53)	83 (53)	18 (55)	
Overweight	53 (28)	46 (30)	7 (21)	
Obesity	24 (13)	19 (12)	5 (15)	
Mother's awareness ^d				0.69
No	82 (41)	65 (40)	17 (44)	
Yes	119 (59)	97 (60)	22 (56)	
Mother's intention ^e				0.96
No	123 (61)	99 (61)	24 (61)	
Yes	78 (39)	63 (39)	15 (39)	

^aData do not add up to 162 or 39, respectively, because of missing values.

^bBy Pearson χ^2 test.

^cMantel-Haenszel χ^2 test.

^dAwareness of the World Health Organization's breastfeeding recommendation.

^eIntention to meet the World Health Organization's breastfeeding recommendation.

BMI, body mass index; HSC, higher school certificate; TAFE, technical and further education.

TABLE 2. FACTORS ASSOCIATED WITH THE INITIATION OF BREASTFEEDING AND BREASTFEEDING DURATION ON BIVARIATE ANALYSES

Variable	Total [n=162 (column %)]	Breastfeeding				p ^b
		Initiation [n=142 (row %)]	p ^a	At 6 months [n=58 (row %)]	At 1 year [n=31 (row %)]	
Mother's age (years)			0.09 ^c			<0.001
≤24	64 (40)	51 (80)		13 (22)	5 (8)	
25–29	62 (38)	59 (95)		28 (47)	15 (24)	
≥30	36 (22)	32 (89)		17 (50)	11 (31)	
Marital status			0.001			0.001
Married/de facto partner	143 (88)	130 (91)		57 (42)	29 (20)	
Never married/single	19 (12)	12 (63)		1 (11)	2 (11)	
Mother's employment status			0.21			0.28
Employed/paid and unpaid maternity leave	94 (58)	85 (90)		41 (45)	19 (20)	
Unemployed	27 (17)	21 (78)		8 (35)	4 (15)	
Home duties/student/other	41 (25)	36 (88)		9 (24)	8 (20)	
Household's income (Australian dollars)			0.45 ^c			0.50
≤39,999	49 (30)	41 (84)		15 (33)	9 (18)	
40,000–79,999	51 (32)	46 (90)		16 (34)	10 (20)	
≥80,000	62 (38)	55 (89)		27 (45)	12 (19)	
Mother's education			0.03 ^c			0.09
Completed primary school to school certificate	32 (20)	24 (75)		7 (24)	5 (13)	
HSC to TAFE certificate or diploma	100 (62)	90 (90)		35 (37)	21 (21)	
University	29 (18)	27 (93)		16 (57)	5 (19)	
Time back to work			0.50 ^c			0.75
Before 3 months	13 (10)	10 (77)		7 (54)	2 (15)	
Within 4–6 months	32 (23)	29 (91)		12 (38)	3 (9)	
Within 7–12 months	29 (21)	23 (79)		19 (33)	5 (17)	
After 12 months or no plan to go back to work	64 (46)	57 (89)		22 (37)	17 (27)	
Language spoken at home			0.70			0.27
Non-English	17 (11)	16 (94)		6 (40)	5 (29)	
English	144 (89)	125 (87)		52 (38)	26 (18)	
Mother's smoking status			0.48			0.008
Nonsmoker	136 (84)	121 (89)		55 (43)	29 (21)	
Smoker	25 (16)	21 (84)		3 (13)	2 (8)	
Mother's BMI			0.30			0.19
Underweight/normal	91 (58)	82 (90)		38 (45)	19 (21)	
Overweight/obesity	65 (42)	55 (85)		19 (31)	12 (19)	
Mother's awareness ^d			<0.001			0.004
No	65 (40)	49 (75)		15 (26)	8 (12)	
Yes	97 (60)	93 (96)		43 (46)	23 (24)	
Mother's intention ^e			0.02			0.21
No	99 (61)	82 (83)		32 (35)	18 (18)	
Yes	63 (39)	60 (95)		26 (43)	13 (21)	

^aBy Pearson χ^2 test.^bBy log-rank test.^cBy Mantel-Haenszel χ^2 test.^dAwareness of the World Health Organization's breastfeeding recommendation.^eIntention to meet the World Health Organization's breastfeeding recommendation.

than \$40,000 (Australian) per year. At baseline 10% of mothers reported that they planned to return to work or study within 3 months after giving birth, and a further 23% planned to do so within 4–6 months after giving birth.

Table 1 also shows that among the participating mothers, at baseline, 59% knew the recommendation to breastfeed exclusively for the first 6 months of life, and 41% either did not know or answered incorrectly. Only 39% of all mothers intended to meet this recommendation. In addition, 16% of mothers smoked, and 42% were either overweight or obese on self-reported anthropometry.

Of the 162 mothers remaining in the study at 12 months, 88% initiated breastfeeding. Breastfeeding rates were 38% and 19% at 6 and 12 months, respectively. At 12 months the median breastfeeding duration was 11 weeks. It is notable that only 3% of the children were breastfed exclusively at 6 months.

Factors associated with the initiation of breastfeeding

As shown in Table 2, on bivariate analysis maternal awareness of the breastfeeding recommendation to breastfeed exclusively to 6 months and intention to meet the recommendation

TABLE 3. FACTORS ASSOCIATED WITH BREASTFEEDING INITIATION OR RISK OF DISCONTINUING BREASTFEEDING ON MULTIVARIATE ANALYSES

	Breastfeeding initiation			Risk of discontinuing breastfeeding		
	ARR	95% CI	p ^a	AHR	95% CI	p
Mother's age (years)			0.19			0.01
≤24	1			1		
25–29	1.03	0.96 to 1.24		0.56	0.35 to 0.79	
≥30	0.99	0.93 to 1.3		0.55	0.32 to 0.83	
Mother's marital status			0.14			0.23
Married /de facto partner	1			1		
Never married/single	0.79	0.56 to 1.1		1.51	0.77 to 2.93	
Mother's education			0.59			
Completed primary school to school certificate	1					
HSC to TAFE certificate or diploma	1.12	0.95 to 1.43				
University	1.11	0.93 to 1.46				
Mother's smoking status						0.06
Nonsmoker				1		
Smoker				1.69	1.01 to 2.23	
Mother's awareness ^b			0.001			0.03
No	1			1		
Yes	1.26	1.14 to 1.37		0.66	0.46 to 0.95	
Mother's intention ^c			0.07			
No	1					
Yes	1.09 ^d	1.03 to 1.20				

^ap value from logistic regression.

^bAwareness of the World Health Organization's breastfeeding recommendation.

^cIntention to meet the World Health Organization's breastfeeding recommendation.

^dAdjusted for mother's age.

AHR, adjusted hazard ratio from Cox regression models, adjusted for mother's age and awareness; ARR, adjusted risk ratio from log-binomial regression, adjusted for mother's age and awareness; CI, confidence interval.

were significantly associated with the initiation of breastfeeding ($\chi^2_1 = 15.1$, $p < 0.001$; or $\chi^2_1 = 5.5$, $p = 0.02$, respectively). The rates of breastfeeding initiation were significantly higher among mothers who were aware of the recommendation (96%) and who intended to meet the recommendation (95%). Maternal age, marital status, and education level were also associated with initiation of breastfeeding, but mothers' intended time back to work was not.

After adjusting for mothers' age, a confounding factor, maternal awareness of the recommendation remained significantly associated with breastfeeding initiation. Mothers who knew the recommendation were 26% more likely to initiate breastfeeding than those who did not (ARR 1.26, 95% CI 1.14 to 1.37, $p = 0.001$). Having an intention to meet the recommendation was weakly positively associated with initiation of breastfeeding, after adjusting for age (ARR 1.09, 95% CI 1.03 to 1.20, $p = 0.07$) (Table 3).

After adjusting for maternal age and awareness of the breastfeeding recommendation, marital status and education level were no longer significant (Table 3).

Factors associated with duration of breastfeeding

Table 2 also shows the factors associated with duration of breastfeeding on bivariate analysis. Mothers who were aware of the breastfeeding recommendation breastfed significantly longer (median, 19 weeks) than those who were not (median, 4 weeks) (log-rank $p = 0.004$). However, maternal intention to meet the recommendation at baseline was not associated with duration of breastfeeding (log-rank $p = 0.21$).

Maternal age was significantly associated with duration of breastfeeding (log-rank $p < 0.001$): Those under 25 years of age had a median breastfeeding time of 4 weeks compared with 21 weeks in those 25 years of age or older. Married mothers and those with a de facto partner breastfed significantly longer (median, 15 weeks) than single mothers (median, 2 weeks) (log-rank $p = 0.001$). Mothers' employment status and education level were not significantly associated with duration of breastfeeding. In addition, nonsmoking mothers breastfed significantly longer (median, 15 weeks) than smokers (median, 4 weeks) (log-rank $p = 0.008$).

Table 3 also shows the factors associated with the risk of discontinuing breastfeeding using Cox proportional hazards regression. Maternal awareness of the breastfeeding recommendation at baseline was a significant predictor of the risk of discontinuing breastfeeding after adjusting for maternal age. Mothers who knew the recommendation were 34% less likely to stop breastfeeding (adjusted hazard ratio 0.66, 95% CI 0.46 to 0.95, $p = 0.03$) than those who did not.

On multivariate analysis, mothers 25 years of age and over were significantly less likely to stop breastfeeding than younger mothers (Table 3). However, marital status and smoking status were not associated with the risk of stopping breastfeeding, after adjusting for mother's age and awareness (Table 3).

Discussion

In this longitudinal analysis we followed up a group of 201 first-time mothers for 12 months postpartum. We found that

there were low rates of breastfeeding at 6 and 12 months, with an extremely low rate (3%) of exclusive breastfeeding at 6 months among first-time mothers in southwest Sydney, Australia. Maternal awareness, in the antenatal period, of the breastfeeding recommendation to breastfeed exclusively to age 6 months was significantly and positively associated with subsequent initiation and duration of any breastfeeding. Having an intention to meet this recommendation was only weakly and positively associated with mothers initiating breastfeeding.

To our knowledge, this study is the first to establish a possible causal relationship between awareness of the WHO recommendation to breastfeed exclusively to 6 months and subsequent initiation and duration of breastfeeding among first-time mothers. This finding provides some evidence that improving mothers' awareness and understanding of the breastfeeding recommendation may be a major focus in efforts to encourage mothers to breastfeed their child. In the past, most studies on breastfeeding awareness have focused on the health benefits of breastfeeding and infant feeding practices.^{9,12,23} Few studies have looked into whether mothers actually understand the recommendations and what the recommendations mean to them.²⁰ No study has investigated whether increasing maternal awareness of the breastfeeding recommendation could actually improve the initiation and duration of breastfeeding.

We also found that mothers who have an intention to meet the recommendation to breastfeed exclusively to 6 months are more likely subsequently to initiate breastfeeding, although ultimate breastfeeding duration is not affected. Such information adds to the existing, although inconclusive, literature in relation to breastfeeding intention and practice.¹⁵⁻¹⁸ Results from our study suggest that having a good intention is not enough for prolonging the duration of breastfeeding. Peat et al.²⁴ have argued that intended duration of breastfeeding is not a predictor of breastfeeding duration, but in fact lies directly on the causal decision-making pathway.

The initiation rates of breastfeeding are higher in Australia than in many other western countries,²³ which is also the case in our study population, with a breastfeeding initiation rate of 88%. Maternal age and level of education have been found by others to be significantly associated with breastfeeding initiation.^{8,15,25} However, we found that, after allowing for awareness of the breastfeeding recommendation, maternal education was no longer associated with initiation. In our previous article²⁰ we showed that maternal age and education were both associated with awareness of the breastfeeding recommendation. It is likely therefore that older age and higher education increase awareness of the breastfeeding recommendation, which in turn predicts breastfeeding initiation.

Of note is that we found an extremely low proportion of participating mothers followed the recommendation of exclusive breastfeeding to 6 months, even among those who were aware of the recommendation and intended to meet it. This low proportion is consistent with another Australian study.²⁶ Misinterpretation of infant cues and behaviors may partially explain this.^{26,27} Our qualitative study with first-time mothers in a pilot study of HBT supports this explanation. We found that mothers had a limited understanding of the term "exclusive breastfeeding." In addition, they expressed concerns about the quantity and quality of breastmilk and

whether breastmilk alone would be sufficient for their infant for 6 months.²⁸

Previous research suggests that mothers who are obese or who smoke breastfeed for a shorter duration than normal weight women or nonsmokers.^{13,14} In this study, although smoking status was associated with shorter duration of breastfeeding on bivariate analysis, it was not significant after allowing for maternal age and awareness. Maternal weight status was not associated with initiation or duration of breastfeeding, possibly because of the relatively small sample size and hence insufficient statistical power to detect small differences. Because of the small sample size we could not separate overweight and obesity in this analysis. As obesity and smoking are associated with lower socioeconomic status in Australia, which in turn is associated with awareness of the breastfeeding recommendation, it is possible that putting awareness in the regression model absorbs any effect of socioeconomic status and its correlates.

Although this is the first longitudinal study to generate possible causal evidence linking mothers' awareness of the breastfeeding recommendation to breastfeed exclusively to 6 months with breastfeeding initiation and duration, we acknowledge that there are several limitations in the study. First, its generalizability is limited because of selection of the study participants as they were able to communicate in English and all from southwestern Sydney, which is the most socially and economically disadvantaged area of metropolitan Sydney.²² Second, the sample size was smaller than planned because of the exclusion of 129 mothers for whom we were not able to complete the baseline assessment before they gave birth. In addition, we did not collect information on social, cultural, and environmental factors that are likely to influence breastfeeding practice. Further studies are required to establish more definitively whether being aware of breastfeeding recommendations actually improves breastfeeding initiation and duration in a broad community sample.

Conclusions

This study found that there was a low rate of exclusive breastfeeding at 6 months among first-time mothers in southwest Sydney, Australia. The initiation and duration of breastfeeding were independently and positively associated with awareness of the WHO recommendation on exclusive breastfeeding. Our results suggest that improving mothers' awareness of the recommendation may lead to an improvement in breastfeeding initiation and duration. Efforts to encourage mothers to breastfeed their child may include a focus on improving mothers' knowledge and understanding of the breastfeeding recommendations. In addition, ongoing public health policies to help mothers to breastfeed to at least 6 months and to remove the barriers to breastfeeding will be required to meet the WHO recommendations.

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Disclosure Statement

L.M.W. conceived the idea of this study, undertook literature review, data analysis and interpretation, and wrote the original draft. J.M.S. provided advice on data analysis. C.R., J.M.S., and L.A.B. made significant comments on the draft. All authors have read and approved the final manuscript. The authors declare that they have no competing interests in this study.

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