

Barriers to Breastfeeding – A Global Survey on Why Women Start and Stop Breastfeeding

Marko de Jager,¹ Katy Hartley,² Juliette Terrazas³ and Julia Merrill⁴

1. Director of Clinical Marketing, Philips AVENT, Philips Consumer Lifestyle, Amsterdam; 2. Director, The Philips Center for Health & Well-being, Amsterdam;
3. Research Director, One Voice Measurement, New York; 4. Senior Research Associate, One Voice Measurement, New York

Abstract

Breastfeeding is vitally important for the healthy development of the newborn infant. Despite many countries supporting the WHO recommendation that infants be exclusively breastfed for the first six months of life, research shows limited success in both developed and developing nations. Few studies have investigated women's own perceptions of their breastfeeding attitudes and experiences. Our survey investigated these perceptions in 3,994 women, 18–40 years of age, in the US, Brazil, the UK, Egypt, South Africa, China and India in 2011. There were significant variations between countries. Overall, 94 % of women wanted to start breastfeeding, 88 % did start, but 41 % either never started or stopped within the first six months. For 63 %, the key reason why they wanted to start breastfeeding was the health of their infant. Despite their aspirations, women were struggling with the initiation and continuation of breastfeeding. The main reasons reported for stopping were: perceived insufficiency of milk supply (40 %), the baby no longer wanting to nurse (24 %), painfulness (15 %), time needed to breastfeed (14 %) or to pump (7 %), need to go back to work (10 %) and feeling awkward breastfeeding outside the home (9 %). This article argues how most of these barriers to breastfeeding for longer may be addressed through reinforcing existing parental support programmes and an increased acceptance of breastfeeding in the workplace and in public.

Keywords

Breastfeeding, survey, prevalence, duration, barriers

Disclosure: Marko de Jager and Katy Hartley are employees of Philips AVENT. Juliette Terrazas and Julia Merrill are employees of One Voice Measurement.

Received: 20 January 2012 **Accepted:** 31 January 2012 **Citation:** *European Obstetrics & Gynaecology*, 2012;7(Suppl. 1):25–30

Correspondence: Marko de Jager, Philips AVENT, Philips Consumer Lifestyle, Piet Heinkade 55, 1019 GM Amsterdam, The Netherlands. E: marko.de.jager@philips.com

Support: The publication of this article was funded by Philips AVENT.

It has been well established that breastfeeding is vitally important for the healthy development of the newborn infant in the first years of life and has long-term health benefits for both the infant and the lactating mother.^{1–6} For example, epidemiological research has shown that (exclusive) breastfeeding reduces the risk of infectious diseases in both term and pre-term infants^{7,8} and the risk of type 2 diabetes, obesity and asthma-related symptoms later in life.^{9–12} The WHO recommends that infants be exclusively breastfed for the first six months of life and that breastfeeding be continued preferably up to two years of age or beyond.¹³ Many countries support the WHO recommendations, have adopted national guidelines and promote the corresponding United Nations Children's Fund (UNICEF)/WHO Baby-friendly Hospital Initiative¹⁴ to initiate and sustain successful breastfeeding.^{3,15}

However, despite the awareness of, and emphasis on, breastfeeding, epidemiological research conducted on the prevalence of breastfeeding demonstrates limited success with sustaining any – let alone exclusive – breastfeeding for the recommended six months in both developed and developing nations.^{15–18} In a review, Cattaneo et al. found only slight improvements in Europe from 2002 to 2007 and concluded that breastfeeding rates still fall short of the recommendations.¹⁵

Many studies have investigated a variety of demographic, social, biological and psychological factors correlated with (exclusive) breastfeeding duration, often within the confines of a specific country or region. Agreements emerge that shorter breastfeeding duration is associated with lower income, full-time employment, smoking, Caesarean delivery and the infant having received supplementation during the first weeks of breastfeeding, whereas longer breastfeeding duration is associated with adequate professional and peer support, higher educational level, and higher maternal and paternal age.^{19–27} Few studies have investigated women's own perceptions related to their breastfeeding attitudes and experiences, and how these perceptions might correlate with breastfeeding success.^{26,28} A limiting factor when comparing research on the prevalence of breastfeeding is that no standardised approach has been taken,¹⁵ making it more difficult to identify common themes and differences across countries.

We are not aware that any comprehensive standardised survey has been published asking women for their reasons for starting and stopping breastfeeding, as well as comparing economically and culturally diverse countries worldwide. The objective of our research, therefore, was to investigate women's perceptions of breastfeeding initiation on a global level and distil common themes that could have helped mothers to initiate breastfeeding and sustain it for longer.

Table 1: Survey Demographics

Country	n	Mean Age	Socioeconomic Class	Working (%)	Married (%)	College Education (%)
All mothers	3,994	28.8	-	43	79	24
US	401	28.7	General population	55	86	33
UK	789	31.8	General population	55	62	26
China	403	29.0	Middle–higher income in major urban areas	69	100	51
Brazil	400	29.6	Middle–higher income in major urban areas	67	74	16
India	1,501	25.0	Upper middle–higher income in urban areas	7	100	20
Egypt	250	28.7	General population	17	100	9
South Africa	250	28.7	Middle–higher income	32	32	12

Table 2: Primary Reason Reported by Women that Best Described Why They Wanted to Start Breastfeeding*

Reason for Wanting to Breastfeed	All Mothers (%)	US (%)	UK (%)	China (%)	Brazil (%)	India (%)
It is healthier for my child	63	43	42	70	88	81
It is the most natural thing to do	16	12	27	18	10	10
It is safer than formula milk	10	28	3	8	-	7
It is cheaper than formula feeding	3	8	5	1	-	1
For my own health	2	5	3	1	-	2
I did not want to breastfeed	6	3	21	2	1	-

* This question was not asked in Egypt and South Africa. In all tables, percentage figures have been rounded up or down to the next decimal.

Table 3: Duration of Breastfeeding Reported by Women Answering the Question “Thinking About Your Youngest Child, What Was the Age of Your Child When You Stopped/Planned to Stop Breastfeeding”?

Reported Breastfeeding Duration	All Mothers (%)	US (%)	UK (%)	China (%)	Brazil (%)	India (%)	Egypt (%)	South Africa (%)
Did not breastfeed	12	5	34	11	3	1	8	18
0–3 months	10	5	24	3	7	3	2	22
4–6 months	19	35	15	19	33	6	9	7
Did not breastfeed or make it past six months	41	45	73	33	42	10	20	47
7–12 months	32	52	17	53	40	30	9	19
13+ months	28	3	10	15	18	60	71	34

A further aim was to use the survey outcomes to raise awareness and foster discussion among healthcare professionals involved in the promotion, initiation and continuation of successful breastfeeding.

Materials and Methods

The survey reported here was part of a larger worldwide survey commissioned by the Philips Center for Health and Well-being and Philips AVENT that investigated the perceived challenges of early parenthood, outcomes of which have been reported elsewhere.²⁹ This article focuses specifically on the challenges around breastfeeding.

The survey was conducted in 2011 in seven countries: the US, Brazil, the UK, Egypt, South Africa, China and India. Participating women were 18–40 years of age, were pregnant with their first child or had at least one child up to the age of five years and were willing to complete the questionnaire. Structured questionnaires were administered through phone interviews, in person (India) or online (the UK). The questionnaire was standardised, although certain questions were modified to reflect the situation specific to the country examined – e.g., healthcare provision or income stratification.

Descriptive statistics, such as the percentage agreement with given statements, were derived for each country individually and for all countries combined. Cross-sectional analysis was conducted to understand relationships between stopping breastfeeding and related behaviours. No formal statistical analyses were performed on these data. Consequently, interpretation of these results is to generate hypotheses rather than to confirm them.

Results

This article concisely summarises the results and interprets the key findings – more comprehensive and detailed results have been published in the full reports for the individual countries by the Philips Center for Health and Well-being.²⁹

Demographics

In total, 3,994 women completed the survey. *Table 1* provides the demographic details of these women showing that their mean age was 28.8 years, 43 % were working, 79 % were married and 24 % had a college degree.

Aspirations and Duration of Breastfeeding

Overall, *Table 2* shows that an overwhelming 94 % of mothers wanted to start breastfeeding, ranging from 100 % in India to only 79 % in the UK. Of the primary reasons given, 63 % refer to breastfeeding being healthier for the infant, 16 % to it being the most natural thing to do and 10 % to it being safer than formula milk.

Despite 94 % of women wanting to breastfeed, 12 % did not breastfeed and an additional 29 % stopped within the first six months (see *Table 3*). Thus, overall, 41 % never started or did not breastfeed beyond the first six months, with extremes being seen in the UK, where 73 % of women failed to either start or reach six months, compared with India, where only 10 % of women were not breastfeeding at all or stopped within the first six months. These findings indicate that although success can be achieved, many mothers are experiencing challenges when it comes to breastfeeding.

Table 4: Barriers to Continuing Breastfeeding Longer – Reasons Most Frequently Reported by Women who Breastfed for Stopping Breastfeeding

What Stopped You Breastfeeding Longer?*	All Mothers (%)	US (%)	UK (%)	China (%)	Brazil (%)	India (%)	Egypt (%)	South Africa (%)
Supply decreased	40	70	32	58	34	50	17	9
Child no longer wanted to nurse	24	5	24	31	35	20	33	21
It became painful	15	30	20	9	4	14	19	12
The time commitment needed to breastfeed	14	3	16	12	7	9	39	14
I needed to go back to work	10	5	13	30	18	1	-	-
It was awkward to breastfeed outside of home	9	2	16	10	1	28	5	7
It was difficult to find time to pump throughout the day	7	2	10	6	1	16	7	13

* Multiple answers were allowed. For other reported reasons, see Philips Mother & Child Care report, 2011.³⁰

Table 5: Barriers Related to Returning to Work – Percentage of Working Women in Agreement with Statements about Their Workplace in Relation to their Breastfeeding Experiences

Breastfeeding Experience at Work	Mothers ¹ (%)	US (%)	UK (%)	China (%)	Brazil (%)	India (%)	Egypt (%)	South Africa (%)
At my work location we did not have good facilities to pump my breasts*	55	45	77	81	80	56	34	40
I felt embarrassed to pump my breasts at work*	55	64	69	80	63	56	39	31
I felt supported by my employer to breastfeed longer**	50	76	49	38	79	74	43	24
I felt supported by my colleagues to breastfeed**	59	80	67	55	92	73	39	36

¹ Working mothers only. * A high percentage of agreement with this statement is indicative of a barrier. ** A low percentage of agreement with this statement is indicative of a barrier.

On a month-by-month basis (data not shown), the decrease in breastfeeding rates was fairly evenly distributed over the first three months but, for the period from Month 4 to Month 6, more than half of the decrease was reported for Month 6, suggesting that, for these women breastfeeding through, the first half-year was seen as an important milestone to achieve. About one-third to one-half of the reported decline in the second half of the first year happened at Month 12. A sharp decline was particularly visible in the US, with 52 % discontinuing between seven and 12 months, and only 3 % continuing beyond that. This decline was also visible to a lesser extent in China and Brazil. This might indicate that the reinforcement of messages around the importance of breastfeeding in this period should be supported to increase breastfeeding rates past the first year.

Stopping

Table 4 summarises the reasons women mentioned that caused them to stop breastfeeding. The main reason, overall, was that 40 % of mothers felt that their supply decreased, with extremes in the US (70 %) and China (58 %), in contrast to South Africa (9 %) and Egypt (17 %). Another important reason women reported for stopping breastfeeding was that the baby no longer wanted to nurse (24 %), though this was more pronounced beyond the first six months, when weaning becomes more common through the introduction of solid foods.³⁰ Other important reasons were pain associated with feeding (15 %), especially in the first three months,³⁰ and the time needed to breastfeed (14 %) or to pump (7 %). Other prominent reasons included the need to go back to work (10 %) and feeling awkward breastfeeding outside the home (9 %).

Table 5 shows underlying reasons why a return to work is perceived as a barrier to continued breastfeeding, highlighting embarrassment and the lack of facilities and support from co-workers.

When looking more closely at the need to go back to work, it appears that the relative importance of this barrier is much greater when considering only the women who work (28 % of them report it as a reason for stopping breastfeeding) versus all the women in the study

(10 %). Based on the views of working women only, the barrier applies to almost half (43 %) of all working women in China, whereas, in the US, it only relates to a minority (9 %). This difference between China and the US may be explained by differences in facilities at the work location and support from employers and colleagues (see Table 5).

Starting and Continuing Successfully

When asked about factors related to getting started with breastfeeding, almost half of all women were worried about how to breastfeed and/or whether it would be easy, though responses differed largely by country (see Table 6). Women in the US and the UK felt most at ease, whereas women in Brazil and Egypt were most worried. This indicates a need to inform women effectively about how to breastfeed. Indeed, help with preparing to breastfeed and getting started may have been present in various forms, notably through breastfeeding classes, hospital support and lactation consultants.

Some 41 % of women completed a breastfeeding class (see Table 6). Of the women who did not complete a breastfeeding class, 38 % felt it was not necessary, 23 % were not aware of the possibility and, for 13 %, such classes were not available.³⁰ Table 7 shows breastfeeding duration as a function of women's completion of breastfeeding class. The proportion of women who completed a breastfeeding class tends to be larger in the group breastfeeding for 7–12 months compared with 0–3 months, except in Egypt and India where most women sustained breastfeeding over 12 months, irrespective of (a comparatively low) breastfeeding class attendance. Data for 13–18 months' breastfeeding duration were less consistent to infer an effect of class attendance. The overall data seem to show that women were more likely to breastfeed longer (i.e., up to 12 months) if they had completed a breastfeeding class. This indicates a further promotion of these classes could increase breastfeeding success.

When it comes to hospital support, only 60 % of surveyed women felt there was adequate support for getting started with breastfeeding after giving birth – a number fairly consistent across countries (range 45–78 %, see Table 6).

Table 6: Worries About Breastfeeding and Professional Help with Breastfeeding

Proportion of Women Who ...	All Mothers (%)	US (%)	UK (%)	China (%)	Brazil (%)	India (%)	Egypt (%)	South Africa (%)
Were worried about how to breastfeed/whether breastfeeding would be easy	46	23	28	51	61	48	73	36
Completed breastfeeding class	41	73	21	61	51	8	18	54
Felt there was adequate support at the hospital to help them getting started with breastfeeding	60	64	66	47	78	52	59	45
Had access to a lactation consultant	60	91	42	45	72	68	34	72

Table 7: Relationship Between Breastfeeding Duration and Completion of Breastfeeding Class

	Percentage of Women Who Completed Breastfeeding Class by Breastfeeding Duration				
	Any Duration (%)	0–3 Months (%)	4–6 Months (%)	7–12 Months (%)	13–18 Months (%)
All Mothers	41	34	46	56	31
US	73	61	68	79	68
UK	21	15	30	30	31
China	61	30	63	70	59
Brazil	51	48	29	54	82
India	8	13	16	5	10
Egypt	18	21	25	23	18
South Africa	54	58	64	63	35

Table 8: Relationship Between Breastfeeding Duration and Availability of Lactation Consultants

	Percentage of Women Who Had Access to a Lactation Consultant by Breastfeeding Duration				
	Any Duration (%)	0–3 Months (%)	4–6 Months (%)	7–12 Months (%)	13–18 Months (%)
All Mothers	60	54	64	68	60
US	91	78	91	93	85
UK	42	40	50	50	58
China	45	60	46	41	53
Brazil	72	52	61	81	90
India	68	61	71	61	71
Egypt	34	21	22	52	40
South Africa	72	77	78	80	72

Lactation consultants were available to 60 % of the women interviewed, ranging from 91 % in the US to 34 % in Egypt (see *Table 6*). *Table 8* compares the access to lactation consultants with the breastfeeding duration. Except for China, the proportion of women who had access to a lactation consultant fairly consistently increased with increasing breastfeeding duration from 0–3 months up to 7–12 months. These data seem to indicate women were breastfeeding longer if they had had access to a lactation consultant. This would suggest that access to lactation consultants – or, when lactation consultants are least available, other healthcare professionals such as midwives – could increase breastfeeding duration.

Discussion Aspirations

Clearly, women aspire to initiate breastfeeding and they want it for the right reasons, the primary reasons being that it is healthier for the infant, the most natural thing to do and safer than formula milk (see *Table 2*). Though preferences fluctuate somewhat by country, taken together, these three reasons amount to about 90 % and all pertain to safeguarding the health of the infant, indicating that the awareness of the importance of breastfeeding is well established worldwide.

The US score a surprisingly high 28 % on “safer than formula milk”, although both formula and water should be of high quality in that country. The UK findings are interesting since, on the one hand, 27 % of women want to start breastfeeding because it is the “most natural

thing to do”, while, on the other hand, 21 % say they do not even want to start at all. This may suggest a potential dilemma in promoting ‘naturalness’ too fiercely, thereby engaging some while dissuading others, and indicates a need to understand both outcomes better to support breastfeeding initiation in the UK more effectively. With regard to reasons for not starting breastfeeding in the UK, perhaps the results from a study in Ireland might be relevant: they included embarrassment at breastfeeding in public, time and lifestyle restrictions associated with breastfeeding, and a negative perception of breastfeeding.³¹

Duration

In the literature, rates for any breastfeeding at six months in Europe have been reported to be as low as 14 % in Ireland,²⁶ around 30 % in the Netherlands,³² almost 50 % in Italy and Germany,^{33,34} 58 % in Finland²⁰ and as high as 80 % in Norway.^{21,23} In the US, Australia and Russia, breastfeeding rates at six months average around 45–50 %.^{35–38} In metropolitan areas of China, breastfeeding rates at four months average around 60–90 %.¹⁸ In South Asia, breastfeeding rates at one year range from 79–96 %.^{17,39}

Our results for the UK at six months (26 %) fall between those reported for Ireland and the Netherlands, and are well below the 50–80 % reported elsewhere in Europe. Our results for China, with 67 % still breastfeeding past six months, appear in agreement with those reported by Xu et al.¹⁸ Our results for India are somewhat lower than

the reported breastfeeding rates of 90 % at one year and 73 % at two years.¹⁷ In part, this may be explained by the fact that our survey included only women in urban areas – a factor that has been associated with lower breastfeeding rates.¹⁷ For the US, our results for breastfeeding initiation (95 %) and over six months (55 %) are higher than the 75 % and 44 % reported in the US National Immunization Survey (NIS) for 2006–2008,³⁶ although both were telephone surveys that sampled the general population using a comparable question (the NIS included more respondents – about 16,000 – yet was restricted to parents with infants aged 19–35 months). No comparative data for Brazil, Egypt or South Africa could be found in the literature.

Cessation

Our findings are largely consistent with other studies also reporting perceived breast milk insufficiency,^{18,23,26,28,40} the child no longer wanting to nurse^{23,28} and the need to return to work^{18,26} among the key reasons for discontinuing exclusive or any breastfeeding.

Most recently, Tarrant et al. gave the primary reasons reported for mothers in Ireland discontinuing breastfeeding before six months as: tiredness/lack of freedom, returning to work, perceived insufficient breast milk supply and planned discontinuation.²⁶ For the US, Li et al. reported that the most frequently used arguments were perceived supply insufficiency and self-weaning of the infant.²⁸ In a review of studies from China, Xu et al. reported primary reasons to include breast milk insufficiency, returning to work, disliking or feeling uncomfortable with breastfeeding and maternal or child illness.¹⁸ Incidentally, breastfeeding problems in the first month,²¹ nipple problems⁴¹ or poor latch-on⁴² have also been reported as being associated with early breastfeeding cessation.

Insufficient milk supply is mostly a perceived problem because, from a physiological perspective, a decrease in supply should not be expected with regular and effective breastfeeding. This suggests that antenatal preparation should be aimed at setting realistic expectations about breastfeeding, relieving women of their concerns about their milk supply and helping them to continue breastfeeding.

An alternative explanation is that supply issues may have been raised by healthcare providers based on their interpretation of infants' growth judged according to older infant growth charts. Previously, infant growth charts were based mostly on formula-fed infants, who have been demonstrated to grow differently compared with exclusively breastfed babies. In 2006, the WHO released updated growth charts to reflect the growth of breastfed infants, but these have not yet been fully implemented.⁴³ Thus when a breastfed infant's growth is lagging behind according to older charts, healthcare providers may be tempted to blame an insufficient breast milk supply and recommend breastfeeding cessation or supplemental feeds. If that were the case, the implementation of growth charts that better reflect the growth of breastfed infants would need to be accelerated and healthcare professionals would need to be informed concurrently.

Another potential explanation was suggested by Xu et al., who also found insufficient supply as a prevalent reason in studies reported for China.¹⁸ In comparing arguments used by women in studies before and after the UNICEF/WHO Baby-friendly Hospital Initiative had been adopted and public awareness of the importance of breastfeeding had been raised, they noted a significant shift from "disliking or feeling uncomfortable with breastfeeding" to "insufficient supply".

They postulated that the latter might now be a (more) socially acceptable reason for mothers to use when they want to stop breastfeeding, thus skewing recent data towards insufficient supply.

Initiation and Continuation

To mitigate anxiety around breastfeeding, professional support programmes exist (see *Table 6*). Breastfeeding class completion was associated with longer breastfeeding duration, but class attendance fell short. This was also apparent for other classes such as antenatal classes.²⁹ Thus further promotion of classes educating mothers about breastfeeding seems justified. It also appeared that hospitals have an opportunity to improve their support, beyond 'labour and delivery', in initiating breastfeeding – a finding that seems to be confirmed by Cattaneo et al., who evaluated the support of health providers towards breastfeeding and reported low compliance with the Baby-friendly Hospital Initiative in Europe,¹⁵ despite the fact that the initiative has been shown to lead to higher breastfeeding rates and longer duration.^{44,45} Availability of lactation consultants was associated with longer breastfeeding duration. Although women with no access to lactation consultants may be turning to other resources, this finding highlights the potentially crucial role of both professional and lay one-to-one breastfeeding support in improving the healthy development of children – a finding recently corroborated by Tarrant et al., who found a strong positive association between breastfeeding support from public health nurses and any breastfeeding over six weeks.²⁶

While class attendance and availability of lactation consultants were related to longer breastfeeding durations within countries, this was not the case across countries. The US had the highest class attendance and availability of lactation consultants (and the least worried women), yet breastfeeding duration was about average. Egypt, in contrast, had a low availability of lactation consultants, low breastfeeding class completion (and high anxiety around breastfeeding), yet most women managed to continue breastfeeding for more than 12 months, indicating that other cultural factors must be at play as well. These could include support from other healthcare practitioners (e.g., paediatricians)²⁹ or family members (especially their mothers),^{22,29} the fact that most Egyptian mothers were not working, economic reasons (e.g., alternative feeding too expensive) and social acceptance of breastfeeding (only 5 % felt it was awkward to breastfeed outside the home). These local factors and changes therein need to be understood as well in order to devise successful local strategies towards breastfeeding prolongation.

Nevertheless, taken together, our findings highlight the importance of professional support. This seems to be confirmed in a recent series of papers summarised by Lawrence, stating that prenatal education, an established hospital programme and community-based, out-of-hospital support programmes are shown to increase the initiation and duration of breastfeeding.⁴⁶

Strengths and Limitations

The major strength of our study is that it explored women's own perceptions and reported reasons for the initiation and discontinuation of breastfeeding using a standardised approach across seven culturally and economically diverse countries worldwide, thus providing comparable perspectives on the challenges associated with breastfeeding globally. One limitation is the retrospective nature of recalling actual breastfeeding duration – an issue commonly observed in studies on breastfeeding prevalence.

While the recall of exclusive breastfeeding has been found unreliable,⁴⁷ the recall of the duration of breastfeeding has been found to be fairly accurate, especially when recalled over a period of less than three years.⁴⁸⁻⁵⁰ Another limitation is that both women who were pregnant with their first child as well as mothers with one or more children up to five years of age were included, so that answers combine both aspired as well as actual (i.e., recalled) breastfeeding durations. Research, however, has found that the intention to breastfeed and intended duration were strong predictors of actual duration.^{25,51,52} Thus, even with the imprecision of recalled duration, the outcomes of our study can be considered fair estimates of breastfeeding duration within the constraints of epidemiological surveys. This is further corroborated by the fair-to-good agreement with other reported data, except perhaps for the US.

Conclusions

With 94 % of women wanting to start breastfeeding, 88 % actually starting and 41 % either never starting or stopping within the first six months, one overarching conclusion is that women struggle with both the initiation and continuation of any breastfeeding for prolonged periods, despite their aspirations to breastfeed as long as possible.

Consistent with other reports, the major reason for cessation is a perceived insufficiency of breast milk supply, a perception that can and should be dealt with, since there is no physiological reason for

this to happen with proper and regular breastfeeding. Additionally, applying an effective breastfeeding technique would reduce the incidence of discomfort and pain – another reason frequently reported in our study for stopping breastfeeding. Thus better information to parents and reinforced support from healthcare professionals should allow to reduce these two barriers and increase breastfeeding success. To realise this in practice, appropriate mechanisms already exist, yet it became apparent that breastfeeding class attendance, access to professional support and hospital programmes need to be improved.

Other addressable reasons relate to returning to work, where improvements in facilities and increased support from colleagues and employers would be instrumental in helping women feel at ease and continue breastfeeding for longer. Then, concurrently with greater social acceptance of breastfeeding in public, women would find it less awkward to breastfeed outside the home, so that they might be better able to manage their time and feel less restricted in committing time to breastfeed or pump throughout the day, thus reducing those barriers as well.

In short, most of the key barriers to breastfeeding for longer reported by women in this survey can be addressed through reinforcing existing parental support programmes and an increased acceptance of breastfeeding in the workplace and in public. ■

- De Kroon ML, Renders CM, Buskermolen MP, et al., The Terneuzen Birth Cohort – Longer exclusive breastfeeding duration is associated with leaner body mass and a healthier diet in young adulthood, *BMC Pediatr*, 2011;11:33.
- Fewtrell MS, The long-term benefits of having been breast-fed, *Curr Paediatr*, 2004;14:97–103.
- Gartner LM, Morton J, Lawrence RA, et al., American Academy of Pediatrics Section on Breastfeeding, Breastfeeding and the use of human milk, *Pediatrics*, 2005;115:496–506.
- Ip S, Chung M, Raman G, et al., Breastfeeding and maternal and infant health outcomes in developed countries, *Evid Rep Technol Assess (Full Rep)*, 2007;153:1–186.
- Kramer MS, Kakuma R, The optimal duration of exclusive breastfeeding: a systematic review, *Adv Exp Med Biol*, 2004;554:63–77.
- World Health Organization, Evidence on the Long-term Effects of Breastfeeding – Systematic Reviews and Meta-analyses, WHO, 2007. Available at: http://whqlibdoc.who.int/publications/2007/9789241595230_eng.pdf (accessed 03 March 2012).
- Duijts L, Ramadhani MK, Moll HA, Breastfeeding protects against infectious diseases during infancy in industrialized countries – A systematic review, *Matern Child Nutr*, 2009;5:199–210.
- Quigley MA, Henderson G, Anthony MY, McGuire W, Formula milk versus donor breast milk for feeding preterm or low birth weight infants, *Cochrane Database Syst Rev*, 2007;(4):CD002971.
- Harder T, Bergmann R, Kallitschnigg G, Plagemann A, Duration of breastfeeding and risk of overweight: a meta-analysis, *Am J Epidemiol*, 2005;162:397–403.
- Lanigan J, Singhal A, Early nutrition and long-term health: a practical approach, *Proc Nutr Soc*, 2009;68:422–9.
- Sonnenschein-van der Voort AM, Jaddoe VV, van der Valk RJ, et al., Duration and exclusiveness of breastfeeding and childhood asthma-related symptoms, *Eur Respir J*, 2012;39:81–9.
- Stettler N, Nature and strength of epidemiological evidence for origins of childhood and adulthood obesity in the first year of life, *Int J Obes (Lond)*, 2007;31:1035–43.
- World Health Organization, Global Strategy for Infant and Young Child Feeding, WHO, 2003. Available at: www.who.int/nutrition/publications/gsi_infant_feeding_text_eng.pdf (accessed 03 March 2012).
- Baby-friendly Hospital Initiative. Available at: www.babyfriendly.org.uk (last accessed 03 March 2012).
- Cattaneo A, Burmaz T, Arendt M, et al., Protection, promotion and support of breast-feeding in Europe: progress from 2002 to 2007, *Public Health Nutr*, 2010;13:751–9.
- Callen J, Pinelli J, A review of the literature examining the benefits and challenges, incidence and duration, and barriers to breastfeeding in preterm infants, *Adv Neonatal Care*, 2005;5:72–88.
- Dibley MJ, Roy SK, Senarath U, et al., South Asia Infant Feeding Research Network, Across-country comparisons of selected infant and young child feeding indicators and associated factors in four South Asian countries, *Food Nutr Bull*, 2010;31:366–75.
- Xu F, Qiu L, Binns CW, Liu X, Breastfeeding in China: a review, *Int Breastfeed J*, 2009;4:6.
- Dennis CL, Breastfeeding initiation and duration: a 1990–2000 literature review, *J Obstet Gynecol Neonatal Nurs*, 2002;31:12–32.
- Erkkola M, Salmenhaara M, Kronberg-Kippilä C, et al., Determinants of breast-feeding in a Finnish birth cohort, *Public Health Nutr*, 2010;13:504–13.
- Häggkvist AP, Brantsæter AL, Grijbovski AM, et al., Prevalence of breast-feeding in the Norwegian Mother and Child Cohort Study and health service-related correlates of cessation of full breast-feeding, *Public Health Nutr*, 2010;13:2076–86.
- Ingram JC, Johnson R, Greenwood R, Breastfeeding in Bristol: teaching good positioning, and support from father and families, *Midwifery*, 2002;18:87–101.
- Kristiansen AL, Lande B, Øverby NC, Andersen LF, Factors associated with exclusive breast-feeding and breast-feeding in Norway, *Public Health Nutr*, 2010;13:2087–96.
- Ludvigsson JF, Ludvigsson J, Socio-economic determinants, maternal smoking and coffee consumption, and exclusive breastfeeding in 10205 children, *Acta Paediatr*, 2005;94:1310–9.
- Scott JA, Binns CW, Factors associated with the initiation and duration of breastfeeding: a review of the literature, *Breastfeed Rev*, 1999;7:5–16.
- Tarrant RC, Younger KM, Sheridan-Pereira M, Kearney JM, Factors associated with duration of breastfeeding in Ireland: potential areas for improvement, *J Hum Lact*, 2011;27:262–71.
- Thulier D, Mercer J, Variables associated with breastfeeding duration, *J Obstet Gynecol Neonatal Nurs*, 2009;38:259–68.
- Li R, Fein SB, Chen J, Grummer-Strawn LM, Why mothers stop breastfeeding: mothers' self-reported reasons for stopping during the first year, *Pediatrics*, 2008;122(Suppl. 2):S69–76.
- Philips Mother & Childcare Index, 2011. Available at: www.philips-thecenter.org/the-philips-global-index/Philips-Mother-Childcare-Index/2011/ (accessed 03 March 2012).
- Philips Mother & Child Care report – global outlook on breastfeeding, 2011. Available at: www.philips-thecenter.org/the-philips-global-index/Philips-Mother-Childcare-Index/2011/Global-Outlook-on-Breastfeeding/ (accessed 03 March 2012).
- Tarrant RC, Younger KM, Sheridan-Pereira M, et al., The prevalence and determinants of breast-feeding initiation and duration in a sample of women in Ireland, *Public Health Nutr*, 2010;13:760–70.
- Lanting CI, Van Wouwe JP, Reijneveld SA, Infant milk feeding practices in the Netherlands and associated factors, *Acta Paediatr*, 2005;94:935–42.
- Giovannini M, Riva E, Banderali G, et al., Feeding practices of infants through the first year of life in Italy, *Acta Paediatr*, 2004;93:492–7.
- Kersting M, Dulon M, Assessment of breast-feeding promotion in hospitals and follow-up survey of mother-infant pairs in Germany: the SuSe Study, *Public Health Nutr*, 2002;5:547–52.
- Amir LH, Donath SM, Socioeconomic status and rates of breastfeeding in Australia: evidence from three recent national health surveys, *Med J Aust*, 2008;189:254–6.
- Centers for Disease Control and Prevention, Breastfeeding Among U.S. Children Born 2000–2008, CDC National Immunization Survey. Available at: www.cdc.gov/breastfeeding/data/NIS_data/ (accessed 03 March 2012).
- Grijbovski AM, Yngve A, Bygren LO, Sjöström M, Socio-demographic determinants of initiation and duration of breastfeeding in northwest Russia, *Acta Paediatr*, 2005;94:588–94.
- Scott JA, Binns CW, Oddy WH, Graham KI, Predictors of breastfeeding duration: evidence from a cohort study, *Pediatrics*, 2006;117:e646–55.
- Hanif HM, Trends in breastfeeding and complementary feeding practices in Pakistan, 1990–2007, *Int Breastfeed J*, 2011;6:15.
- Lewallen LP, Dick MJ, Flowers J, et al., Breastfeeding support and early cessation, *J Obstet Gynecol Neonatal Nurs*, 2006;35:166–72.
- Cernadas JM, Noceda G, Barrera L, et al., Maternal and perinatal factors influencing the duration of exclusive breastfeeding during the first 6 months of life, *J Hum Lact*, 2003;19:136–44.
- Santo LC, de Oliveira LD, Giugliani ER, Factors associated with low incidence of exclusive breastfeeding for the first 6 months, *Birth*, 2007;34:212–9.
- Zorlu G, New WHO child growth standards catch on, *Bull World Health Organ*, 2011;89:250–1.
- Spiby H, McCormick F, Wallace L, et al., A systematic review of education and evidence-based practice interventions with health professionals and breast feeding counsellors on duration of breast feeding, *Midwifery*, 2009;25:50–61.
- Abrahams SW, Labbok MH, Exploring the impact of the Baby-Friendly Hospital Initiative on trends in exclusive breastfeeding, *Int Breastfeed J*, 2009;4:11.
- Lawrence RA, Increasing breastfeeding duration: changing the paradigm, *Breastfeed Med*, 2011;6:367–8.
- Bland RM, Rollins NC, Solarsh G, et al., Child Health Group, Maternal recall of exclusive breast feeding duration, *Arch Dis Child*, 2003;88:778–83.
- Cupul-Uicab LA, Gladen BC, Hernández-Avila M, Longnecker MP, Reliability of reported breastfeeding duration among reproductive-aged women from Mexico, *Matern Child Nutr*, 2009;5:125–37.
- Li R, Scanlon KS, Serdula MK, The validity and reliability of maternal recall of breastfeeding practice, *Nutr Rev*, 2005;63:103–10.
- Promislow JH, Gladen BC, Sandler DP, Maternal recall of breastfeeding duration by elderly women, *Am J Epidemiol*, 2005;161:289–96.
- Donath SM, Amir LH, ALSPAC Study Team, Relationship between prenatal infant feeding intention and initiation and duration of breastfeeding: a cohort study, *Acta Paediatr*, 2003;92:352–6.
- Colaizy TT, Saftlas AF, Morriss FH, Maternal intention to breast-feed and breast-feeding outcomes in term and preterm infants: Pregnancy Risk Assessment Monitoring System (PRAMS), 2000–2003, *Public Health Nutr*, 2012;15:702–10.