Trends in Breastfeeding Practices and Mothers' Experience in the French Nutrinet-Santé Cohort.

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Trends in breastfeeding practices and mothers' experience in the French NutriNet-Santé cohort.

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DECLARATIONS

Ethics approval and consent to participate

These ethics committee approved the study :

Institutional Review Board, Comité de Qualification Institutionnelle INSERM, July 10, 2008, n°IRB0000388 FWA00005831

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Consent for publication

Individual participants data were deidentified.

At the beginning, individuals were presented with some text regarding the study's strengths and limitations and an informed consent form to be signed electronically. The registration process is considered complete once the informed consent form has been signed.

Availability of data and materials

The data that support the findings of this study are available from Dr. Leopold K. FEZEU but restrictions apply to the availability of these data, which were used under license for the current

study, and so are not publicly available. Data are however available from the authors upon reasonable request and with permission of Dr. Leopold K. FEZEU.
Deidentified individual participant data will not be made available.

Competing interests

All authors have completed the ICMJE uniform disclosure form at www.icmje.org/coi_disclosure.pdf and declare: no support from any organization for the submitted work; no financial relationships with any organizations that might have an interest in the submitted work in the previous three years; no other relationships or activities that could appear to have influenced the submitted work.
FC and LKF (the guarantors) affirm that the manuscript is an honest, accurate, and transparent account of the study being reported; that no important aspects of the study have been omitted; and that any discrepancies from the study as planned have been explained.

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Authors' contributions

FC and LKF conceptualized and designed the breastfeeding questionnaires to the NutriNet-Santé study, designed the data collection instruments, designed and conducted the research, performed statistical analyses, drafted the initial manuscript, reviewed and revised the manuscript. They have full access to all the data in the study, take responsibility for the integrity of the data and the accuracy of the data analysis; they are the guarantors.

SH conceptualized and designed the NutriNet-Santé study, coordinated and supervised data collection, reviewed and revised the manuscript for important intellectual content.

SP, BS, VAA, MFRC, MT, and PG contributed to the data interpretation, reviewed and revised the manuscript for important intellectual content.

All authors approved the final manuscript as submitted and agree to be accountable for all aspects of the work. No other author meeting the criteria have been omitted.

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ABSTRACT

Background: Despite the suggested health benefits of breastfeeding for infants and mothers, France has one of the lowest rates regarding breastfeeding initiation and duration in the world. Few studies have been performed concerning the extent of breastfeeding practices in France since the middle of the 20th century, or regarding the mothers' practices from initiation to cessation. The purpose of our study is to determine trends in breastfeeding over the past decades and to examine mothers' perceptions about factors known to have an impact on breastfeeding support and cessation.

Methods: 29,953 parous women from the French NutriNet-Santé cohort were included in the prsent study. Using web-questionnaires, they were asked retrospectively if they breastfed or not their youngest child, and if so, the duration of the exclusive and total breastfeeding. For those who had breastfed, we investigated their perceptions about support at initiation and during the entire breastfeeding period and the reasons for breastfeeding cessation. We also asked those who did not breastfeed about their perceptions on non-breastfeeding their youngest child and the reasons for choosing to bottle-fed him or her. Analyses were weighted according to the French census data.

Results: 67.3% of mothers in the NutriNet-Santé cohort breastfed their youngest child. The proportion of breastfed children increased tover the past few decades, from 55.0% (95%CI: 54.3 – 55.6) in the 1970s to 82.9% (82.4 – 83.4) in the 2010s. Mean total breastfeeding duration was 4.7 months (4.5 – 5.0) while exclusive breastfeeding duration was 2.8 months (2.7 – 2.9). Mothers felt supported at initiation and over the breastfeeding period. 59.5% of mothers reported a desire to have

breastfed more than 2 months longer. Mothers who did not breastfeed did it by choice (64.3%). They did not feel guilty (78.2%) and did not perceive a problem not to breastfeed (58.8%), but almost half of them would have liked to breastfeed (45.9%).

Conclusion: Breastfeeding duration has increased in the past decades but did not reach the public health recommendations threshold. Other targets than mothers have to be considered, like the father and her environment, to increase breastfeeding practices.

Trial Registration: The study was registered at ClinicalTrials.gov (NCT03335644).

BACKGROUND

Breastfeeding is recommended as the optimal infant diet due to its protective effect on children against childhood illnesses and mortality, its long-term benefits, as cognitive capacity, that extends into adulthood, and on nursing women[1]. However, despite the World Health Organization recommending exclusive breastfeeding during the first six months of life to achieve optimal growth, development and health, followed by continued breastfeeding along with the introduction of appropriate complementary foods for up to two years or beyond[2], too few infants are breastfed in the world. Only 40% of newborns are exclusively breastfed until the first six months of life, with higher prevalences in low-income countries compared to upper-middle-income countries[1]. Over the past decades, multiple efforts have been made in many countries, through public health programs, to increase breastfeeding initiation and duration. In France, breastfeeding initiation increased stepwise between 1972 (36.0%) and 1998 (52.5%)[3,4]. One of the objectives of the French National Nutrition and Health Program, launched in 2001, was to increase breastfeeding duration and exclusive breastfeeding initiation from 55% (in 2005) to 70% in 2010[5], particularly with a food guide intended for distributed to pregnant women[6,7]. Although this objective was almost reached[4,8], the prevalence of ever breastfeeding in France still remains among the lowest in the world (as for Spain and the USA) in 2010[1]. At one month, over half of infants (54%) are breastfed among whom only 35% exclusively[9], and, at six months, the rates drastically fall to one in five infants being breastfed[10,11] to one infant in four, half of them receiving complementary formula[12]. The median duration of total breastfeeding also has increased in France, from 8[13] to 10 weeks[14,15] in the 1990s to 15 to 17 weeks in the early 2010s[8,11,12]. Despite this progress, France has not yet reached the breastfeeding duration observed in other countries, such as Sweden, Finland or Austria[16].

Breastfeeding initiation and duration depend on the context of birth and parents' characteristics[9,10,17]. As breastfeeding promotion still remains a priority[18], it is important to focus on factors associated with breastfeeding initiation and duration. Thus, the purpose of the present study was to determine

the trends in breastfeeding practices over decades and examine mothers' perceptions about factors that are potential facilitators of breastfeeding support in French parous women participating in the NutriNet-Santé cohort.

SUBJECTS AND METHODS

The NutriNet-Santé study is a large web-based prospective observational cohort of adult volunteers aged ≥ 18 years, launched in France in May 2009, with the main objective being the study of the relation between nutrition and health[19]. Briefly, the NutriNet-Santé study was implemented in the general population, targeting Internet-using adult volunteers recruited by multimedia campaigns. Using a dedicated website (www.etude-nutrinet-sante.fr), participants were asked to complete self-administered questionnaires at baseline and every year thereafter, as well as optional questionnaires during follow-up on a monthly basis. The baseline and annual questionnaires provide information on sociodemographics and health status. Among not mandatory questionnaires, one was sent in 2014 to all women participants in the NutriNet-Santé Study; it was intended to collect information on lactation history as well as support and encouragement during breastfeeding. All participants signed an informed consent form. The Institutional Review Board of the French Institute for Health and Medical Research (0000388FWA00005831) and the Commission Nationale de l'Informatique et des Libertés (CNIL; 908450 and 909216) approved the NutriNet-Santé Study (NCT03335644) Women were asked to report if they had biological children. If so, women had to give the year and month of birth for each live birth and if they had breastfed the child. In that case, they were also asked about the duration of exclusive breastfeeding (period when infant receives breast milk only, without any additional food or drink) and the duration of total breastfeeding (period of exclusive breastfeeding followed by complementary foods with continued breastfeeding up to weaning). The corresponding lactation duration could be filled in days, weeks or months. Participants anti-chronologically filled out the questionnaire, starting with the youngest child and finishing with the

oldest one (maximum 5 children). Due to an increasing proportion of missing data, as gradually going back to the siblings, we chose to use only those coming from the youngest child.

Breastfeeding women were asked about their perception of support at initiation and during the overall breastfeeding period, and the reasons of breastfeeding cessation. Mothers who did not breastfeed their youngest child were also asked about the reasons for choosing bottle-feeding and their perceptions of not breastfeeding.

In total, 43,135 women completed the breastfeeding questionnaire. Among them, 12,041 (27.6%) were nulliparous and were thus excluded from these analyses. After excluding women with incomplete information (N = 401), 29,953 women were eligible for analysis. Mothers who were still breastfeeding their child at the time of the study (N = 740) were not included in mother's perceptions about breastfeeding support and reasons for breastfeeding cessation.

To improve the representativeness of our study population, probability sampling weights were computed using the 2009 Census data for the French general population regarding age distribution, educational level, occupation, presence of a child in the household, and area of residence. A sampling probability weight was attributed to each participant using the Stata complex sample design, prior to any statistical analysis. The results are presented as adjusted means and 95% confidence intervals (95% CI) computed using the standard error of the mean for continuous variables and percentages for categorical variables. Quantitative and qualitative variables were compared between mothers who breastfed and those who did not, using either Student t test or Chi square test. Linear regression models were computed using the svy: reg module of stata. Statistical analyses were performed using Stata® 14.2 (College Station, Texas, USA). All tests were two-sided, and the significance level was set at 0.05.

RESULTS

The mean age of the 29,953 participants was 53.0 years (95% CI: 52.8 – 53.1) at the time of the questionnaire completion, with 39.2% aged under 50 years (Table 1). 67.3% of mothers breastfed

their youngest child (Figure 1). Compared to women who did not breastfeed, women who breastfed were younger at the time of the study, but older during their most recent pregnancy; they also had a higher educational level (all p = 0.001). Body mass index, marital status, smoking status, number of children and area of residence varied slightly but significantly among the two groups (Table 1).

The proportion of breastfed children gradually increased with decades from 55% (95% CI: 54.3 – 55.6) in the 1970s to 78.9% (77.9 – 80.3) in the 2000s, and even 82.9% (82.4 – 83.4) in the 2010s, with 19.6% still breastfed (Figure 1). 93.4% of mothers who breastfed knew the duration of total breastfeeding for their youngest child; this percentage increased with decades, from 86.1% for children born before the 1970s to 99.7% for children born in the 2010s (data not shown). Mean total breastfeeding duration was 4.7 months (95% CI: 4.5 – 5.0) for all decades and increased with decades, from 3.3 months (95% CI: 3.1 – 3.4) before the 1970s to 5.9 months (95% CI: 5.6 – 6.3) in the 2010s (Figure 2A, $p_{trend} = 0.001$). On average, exclusive breastfeeding duration and the age of introduction of complementary food were 2.8 months (95% CI: 2.7 – 2.9) and 4.9 months (95% CI: 4.9 – 5.0), respectively. These rates linearly increased over the decades of study (all $p_{trend} = 0.001$, Figure 2A). The introduction of breast-milk substitutes was concomitant with the end of exclusive breastfeeding (data not shown). The mean age of food diversification paralleled the duration of exclusive breastfeeding (Figure 2A).

At breastfeeding initiation, most mothers felt supported by their husband/partner (86.7% totally agreed or somewhat agreed), their personal environment (77.7% totally agreed or somewhat agreed) or the medical staff (81.2% totally agreed or somewhat agreed) (Figure 3A). Other factors, including midwife, physician, pediatrician, Maternal and Child Protection services, lactation consultant and breastfeeding support associations, were reported as not being applicable to most mothers' situation.

During the breastfeeding period, husband/partner and personal environment (85.7% and 77.1% totally agreed or somewhat agreed, respectively) were also sources of support for the mothers

(Figure 3B). Physician, pediatrician, lactation consultant, breastfeeding support associations and professional environment, were cited to be not applicable to most mothers' situation.

Breastfeeding cessation was mothers' choice (66.8% totally agreed or somewhat agreed, Figure 4); returning to work and insufficient milk supply were not factors felt by the mothers to have an impact on breastfeeding cessation (65.1% and 61.1% totally disagreed or somewhat disagreed respectively). Husband/partner, their personal environment, time consuming breastfeeding, medical treatment, nipple cracks/fissure and pain, sucking problems, being separated from the baby, breastmilk refusal by nursery and maternal assistant, breastmilk told to be "not good", baby not wanting to be breastfeed anymore, restarting smoking and fatigue/exhaustion were cited by less than 18.6% of the mothers.

When stratifying by total breastfeeding duration (< 3 months and ≥ 3 months), sucking problems, nipple cracks/fissure and pain, and insufficient milk supply were substantially less likely to be reported as reasons for breastfeeding cessation (a decrease of 87.2%, 81.5% and 45.0% in the percentage of mothers who totally agreed or somewhat agreed, respectively) among mothers who breastfed for more than three months compared to those who breastfed less than three months (Table 2). On the other hand, baby stopping suckling and mother returning to work were more likely to be reported as reasons for breastfeeding cessation after three months (an increase of 187.0% and 36.2% in the percentage of mothers who totally agreed or somewhat agreed respectively).

At breastfeeding cessation, mothers felt supported by their husband/partner (79.8% totally agreed or somewhat agreed) or their personal environment (62.5% totally agreed or somewhat agreed) (Figure 3C). Physician, pediatrician, lactation consultant and breastfeeding support associations were cited to be not applicable to most mothers' situation.

Most mothers did not neither feel guilty nor relieved to stop, but most of them felt disappointed that breastfeeding came to an end (Figure 5); 59.5% reported a desire to have breastfed their youngest

child longer (data not shown). Total breastfeeding duration desired by mothers was 6.9 months (95% CI: 6.7 – 7.27) for all decades and increased with decades, from 6.1 months (95% CI: 5.6 – 6.5) before the 1970s to 8.3 months (95% CI: 8.0 – 7.2) in the 2010s (Figure 2B, $p_{trend} = 0.001$). This represents more than two months longer than reported total breastfeeding duration.

Among those who did not breastfeed, the majority decided not to (Figure 6). Incitement by husband/partner, by personal environment or by a health professional, returning to work, medical treatment, mother's or baby's illness, childbirth complications, being separated from the baby, breastmilk told to be "not good", insufficient breastmilk supply, restarting smoking and baby not able to suckle were reported (from 84.8% to 97.5%) by these mothers not to be responsible for the decision to bottle-feed their youngest child (data not shown). They did not feel guilty nor did they feel that their decision had unfavorable consequences (Figure 7). Nevertheless, almost half of them would have liked to breastfeed their youngest child (45.9% totally agreed or somewhat agreed).

DISCUSSION

More than two thirds of mothers in our cohort breastfed their youngest child, thus confirming the findings in other studies in France[4,8,10,17,20]. Similar to prior research, we noted increasing proportion of breastfed children through decades, going from one out of every two in the 1970s (36.0% in 1972 and 45.5% in 1977)[3] to more than four out of every five since the early 2000s (74.0% in 2012-2013)[8]. Social and demographic factors associated with breastfeeding were those frequently found in the literature: women who breastfed had a higher educational level[21] were more often non-smokers[9] and were older during the most recent pregnancy[10,11].

Exclusive and total breastfeeding duration has increased in the last 50 years in a ratio of one to two in France. The median duration of total breastfeeding for all decades was similar to that found in other cohorts (13 weeks vs 15 to 17 weeks)[8,11,12], but when comparing the rates in each decade, we observed slightly higher durations, going from 13 weeks (3 months) until the 1990s (8 to 10 weeks)[13–15] to 21 weeks since the 2010s (15 to 17 weeks)[8,11,12]. Similarly, the median duration of

exclusive breastfeeding was higher (11 weeks vs 3.4 to 7 weeks)[8,11,12] in our study. In the 2010s, even if we did not observe the decrease in breastfeeding percentage that the National Perinatal Survey noted in 2016[20], a decrease in total and exclusive breastfeeding duration was seen, confirming an evolution in mothers' behavior in this decade.

In agreement with our results at initiation and during the breastfeeding period, fathers play a significant role in the maternal decision to breastfeed[22,23], in breastfeeding initiation[24–26], and support, decreasing the perception of milk insufficiency and therefore reducing breastfeeding interruption, especially when fathers are trained to prevent and manage the most common lactation problems[27,28]. This high percentage of mothers being supported by their husband/partner could explain why our cohort had a higher exclusive and total breastfeeding duration compared with other cohorts in France.

Returning to work and insufficient milk supply are both known to be the most common reasons for breastfeeding discontinuation and cessation, especially before 4 months[8,29,30]. In our cohort, mothers who breastfed less than 3 months were more likely to stop breastfeeding because of sucking problems, nipple cracks/fissure and pain, and insufficient milk supply compared to those who breastfed more than 3 months. Moreover, insufficient milk supply was more likely to be perceived as the cause of breastfeeding cessation: almost half (47.8%) of mothers who breastfed less than 3 months totally agreed or somewhat agreed with this versus only one fourth (26.3%) among those who breastfed more than 3 months. On the other hand, baby stopping suckling and mother returning to work were more cited as a cause of breastfeeding cessation by mothers who breastfed for more than 3 months. In France, maternity leave is 10 weeks (2.5 months) after delivery, corresponding to the exclusive breastfeeding duration (median: 2.54 months) and the moment of breastmilk substitute introduction we have observed. As it has been shown that including bottle feeding is one of the most frequent reasons for early breastfeeding discontinuation as mothers perceive that the baby prefers the bottle to the breast[31], it might be possible that exclusive breastfeeding cessation due to

returning to work led to a preference for bottle feeding by the baby, thus stopping to suckle. Mothers' own choice was most often reported as the main reason for breastfeeding cessation, and they felt supported by their husband/partner or their personal environment at that moment. This support may have played a role in not perceptions guilty at that moment (67,5%). They did not seem to have stopped breastfeeding due to lassitude as they were not relieved to stop (72.8%), but approximately two thirds (63.7%) of them felt disappointed that breastfeeding had come to an end, thus leading most of them (59,5%) to the desire to have breastfed their last child more than 2 months longer. The husband/partner or the environment were not cited to have played a role in breastfeeding cessation, but it was interesting to see that even if the main reason was the mother's own choice, they nevertheless would have liked to breastfeed longer. We could have compared this choice to the fact that mothers felt it was time to stop breastfeeding, but this matches to mothers with 8 months duration and over[8], As most mothers did not reach WHO's recommendations for exclusive and continued breastfeeding, this choice might be influenced by other factors that have to be determined.

Most mothers, who did not breastfeed their youngest child, did it by themselves; they did not feel guilty and, in a lesser extent, felt no problem not to breastfeed the child. Even if they were not incited to bottle-feed by their husband/partner, nor by their personal environment, it has been shown that the fathers have misperceptions and a lack of education about breastfeeding, and are more likely to think that it is bad for the breasts, makes the breasts ugly and interferes with sex[32].

The question remains whether mothers would have liked to breastfeed their child displayed a less clear distribution of answers compared to those observed about guilt; indeed, 45.9% of them agreed with the opportunity to breastfeed their youngest child. These findings show for the first time that some non-lactating mothers have ambivalent perceptions regarding breastfeeding. Public health programs may play a role in people's perception of breastfeeding and its benefits.

One limitation of our study is that this cohort of mothers was not representative of the overall population in France. Compared to other cohorts, our mothers had higher educational level, were mostly multiparous and had higher total and exclusive breastfeeding durations, but they were of mostly the same age[8,9,11,12]. Another limitation is the memory bias, as some mothers had to think back to the 1970s or earlier, while keeping in mind that Amissah *et al.* have shown that maternal recall of breastfeeding duration is accurate 6 years after childbirth[33].

CONCLUSION

A great improvement in breastfeeding initiation has been done in France in the past decades, thanks to public health programs such as the French Nutrition and Health Program. But, even if we have observed that breastfeeding duration (exclusive and total) has increased over decades in this study, the objective of exclusive breastfeeding during the first six months of life, followed by continued breastfeeding with appropriate complementary foods for up to two years or beyond is not achieved. More worrying is the fact that this tendency seems to be unstable as exclusive and total durations of breastfeeding of children born in the 2010s, have, for the first time, started to decline. The results of this study emphasize the need to keep working on how to reach this objective and maybe find other targets apart from the mothers as the fathers seem to play a major role and also well trained medical staff in order to prevent sucking problems, nipple cracks/fissure and pain, and insufficient milk supply. Maternity leave duration should also be considered. Further researches are needed to evaluate fathers' impact, and other determinants, on breastfeeding durations.

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428 **Table 1: Characteristics of the mothers according to breastfeeding status concerning their**

429 **youngest child: The NutriNet-Santé Study.** (This table should appear page 10)

Characteristics of the women	Total population	Breastfed	Did not breastfeed	P
N	**29953**	**20153**	**9800**	
Age in years	53.0 (52.8 - 53.1)	51.3 (51.2 - 51.5)	56.4 (56.2 - 56.6)	0.001
Age during the latest pregnancy	30.0 (29.9 - 30.0)	30.4 (30.3 - 30.5)	29.1 (29.0 - 29.2)	0.001
Body mass index, kg/m^2	23.8 (23.7 - 23.8)	23.6 (23.5 - 23.6)	24.2 (24.1 - 24.3)	0.001
Age categories, %				0.001
< 40 years	19.3	23.3	11.0	
40 – 49.9 years	19.9	21.1	17.4	
50 – 59.9 years	27.1	27.0	27.1	
60 + years	33.8	28.6	44.5	
Educational level, %				0.001
< high school degree	21.4	15.8	32.9	
< 2y after high school degree	15.9	14.0	19.9	
≥ 2y after high school degree	62.7	70.2	47.2	
Marital status, %				0.001
Single	3.0	3.2	1.6	
Married	81.4	81.4	80.8	
Divorced	11.9	12.0	11.7	
Widowed	3.7	3.4	5.9	
Smoking status, %				0.001
Never smokers	51.3	51.6	50.7	
Former smokers	36.6	37.4	36.8	
Current smokers	13.1	11.0	12.5	
Childbirth order, %				0.001
1st child	24.4	24.1	24.6	
2nd child	47.0	46.0	49.8	
3rd child or more	28.6	29.8	25.6	
Decade of childbirth, %				0.001
< 1970	6.1	4.4	9.6	
1970 - 1979	19.6	15.9	27.3	
1980 - 1989	24.4	24.1	24.9	
1990 - 1999	19.7	19.8	19.5	
2000 - 2009	18.7	21.8	12.4	
2010 - 2016	11.5	14.0	6.3	
Area of residence*, %				0.001
Parisian region	18.7	19.1	18.0	
Paris Basin	14.8	13.4	15.6	
North	3.9	3.8	4.1	
East	8.0	8.6	6.7	
West	15.5	14.7	17.2	

South-West	11.6	11.2	12.3
Center-East	14.8	15.6	13.2
Mediterranean	12.7	12.6	12.9
Overseas Regions and Departments	0.01	0.02	0.00

*Research and National Development Zones (ZEAT in French) : Parisian region (Île-de-France), Paris Basin (Basse-Normandie, Bourgogne, Centre-Val de Loire, Champagne-Ardenne, Basse, Haute-Normandie et Picardie), North (Hauts-de-France), East (Alsace, Franche-Comté, Lorraine), West (Bretagne, Pays de la Loire, Poitou-Charentes), South-West (Aquitaine, Limousin, Midi-Pyrénées), Center-East (Auvergne, Rhône-Alpes), Mediterranean (Languedoc-Roussillon, Provence-Alpes-Côte d'Azur, Corse), Overseas Regions and Departments (Guadeloupe, Guyane, Martinique, Mayotte, La Réunion). https://www.insee.fr/fr/metadonnees/definition/c1910

Data are mean (95% confidence intervals computed using the standard error of the mean) for continuous variables and percentages for categorical variables.

P values are linear trends for quantitative variables and chi square for qualitative variables.

Table 2: Comparison of factors known to have an impact on breastfeeding cessation depending on breastfeeding duration. (This table should appear at the end of the paragraph when it's cited)

Agreement to the question	Insufficient milk supply		Nipple cracks-pain		Sucking problems	
	< 3 months	≥ 3 months	< 3 months	≥ 3 months	< 3 months	≥ 3 months
Totally agree	34.3	12.5	11.9	1.2	8.2	0.7
Somewhat agree	13.5	13.7	7.0	2.3	5.1	1.0
Somewhat disagree	4.2	4.9	6.1	4.2	5.8	3.5
Totally disagree	48.0	68.9	75.0	92.3	80.9	94.8
P values	0.001		0.001		0.001	

Agreement to the question	Returning to work		Baby stopped suckling	
	< 3 months	≥ 3 months	< 3 months	≥ 3 months
Totally agree	22.3	26.5	3.7	12.1
Somewhat agree	8.1	14.9	3.2	7.7
Somewhat disagree	6.5	7.7	5.5	4.6
Totally disagree	63.1	50.9	87.6	75.6
P values	0.001		0.001	

Breastfeeding duration: < 3 months and ≥ 3 months

Results are percentages of answers. Mothers had choice to answer from totally agree to totally disagree for each item (see legend).

446 **Figure 1: Proportion of mothers who breastfed versus did not breastfeed their youngest child**

447 **through decade.**

448 Results are percentages of mothers whom last child was born in the corresponding decade. (*still

449 breastfed: 2001-2010: 0.3%; Total: 2.4%)

Figure 2: Evolution of breastfeeding duration and age of introduction of complementary food.

Evolution, through decades of birth of the last child, of (A) total and exclusive breastfeeding duration and age of introduction of complementary food, and (B) declared total breastfeeding duration and desired total breastfeeding duration.

Results are mean (linearized standard error). P for trend for total and exclusive breastfeeding duration and age of introduction of complementary food = 0.001 and for desired total breastfeeding duration = 0.007.

Figure 3: Mothers' perceptions on (A) support to breastfeeding initiation and (B) support during breastfeeding period.

Self-reported mothers' perceptions about factors known to have an impact on support to breastfeeding.

Results are percentages of answers. Mothers had choice to answer from totally agree to totally disagree for each item (see legend); a not applicable answer was possible if the item was not adapted to the mother's life.

Figure 4: Mothers' perceptions on (A) breastfeeding cessation and (B) support to breastfeeding cessation.

Self-reported mothers' perceptions about factors known to have an impact on (A) breastfeeding cessation (B) support to breastfeeding cessation.

Results are percentages of answers. Mothers had choice to answer from totally agree to totally disagree for each item (see legend); a not applicable answer was possible if the item was not adapted to the mother's life.

Figure 5: Self-reported mothers' perceptions about stopping breastfeeding.

Results are percentages of answers. Mothers had choice to answer from totally agree to totally disagree for each item (see legend); there was no possible not applicable answer as the questions were applicable to each mother.

Figure 6: Mothers' reason for not breastfeeding.

Results are percentages of answers. Mothers had choice to answer between totally agree to totally disagree for each item (see legend); there was no not applicable answer possible as the questions were applicable to each mother.

Figure 7: Self-reported mothers' perceptions about not breastfeeding.

Results are percentages of answers. Mothers had choice to answer from totally agree to totally disagree for each item (see legend); there was no possible not applicable answer as the questions were applicable to each mother.

Figures

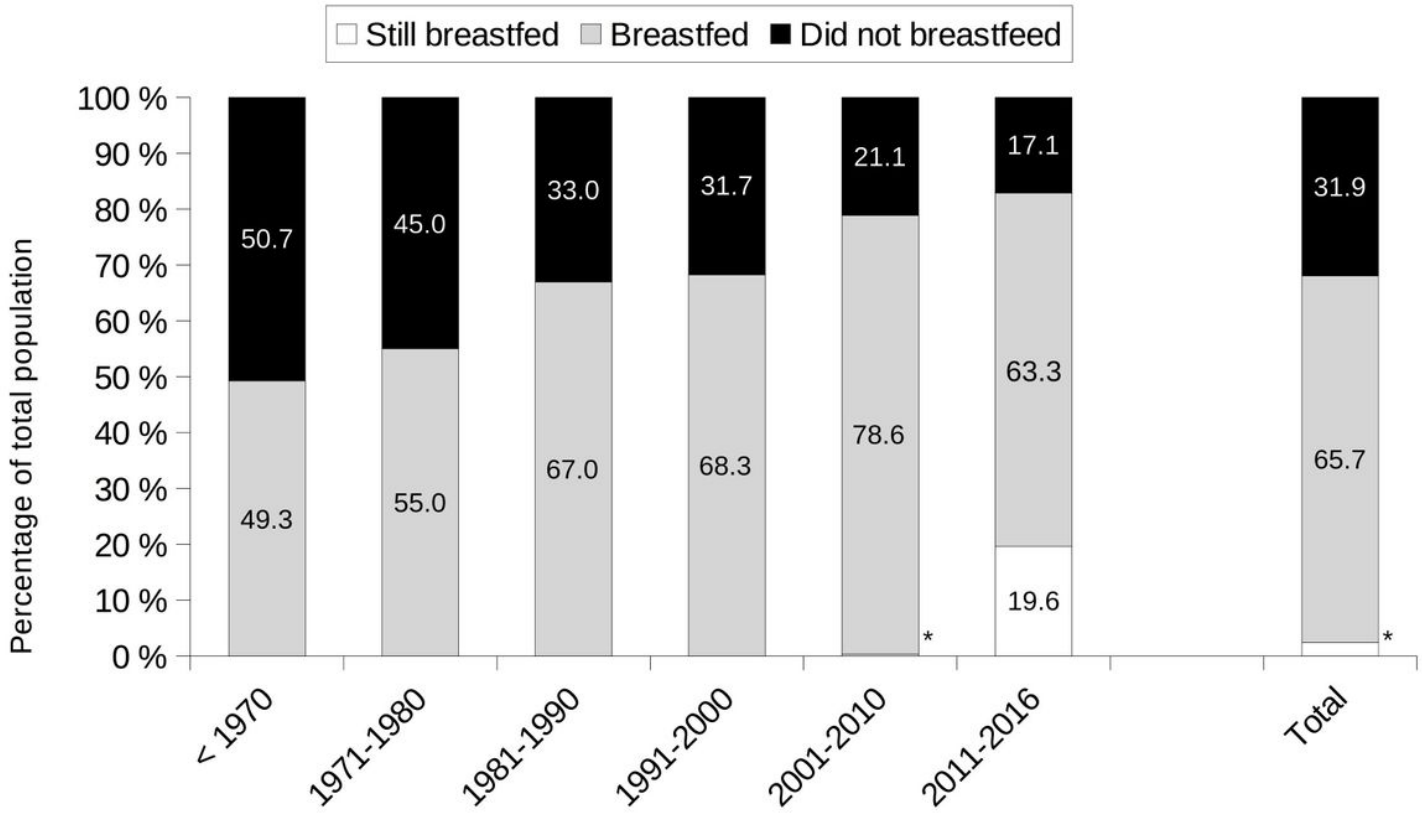

Figure 1

Proportion of mothers who breastfed versus did not breastfeed their youngest child through decade. Results are percentages of mothers whom last child was born in the corresponding decade. (*still breastfed: 2001-2010: 0.3%; Total: 2.4%)

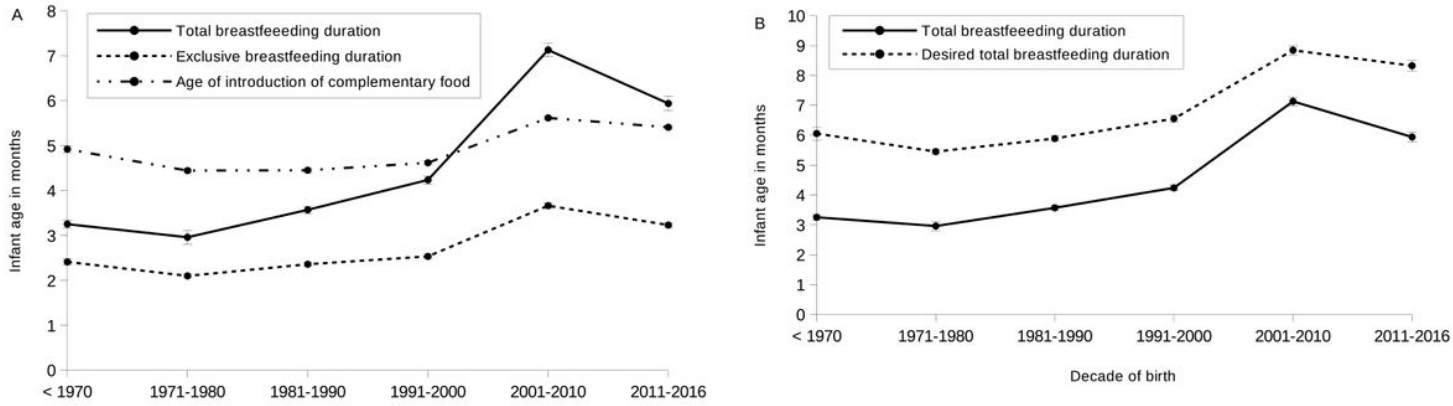

Figure 2

Evolution of breastfeeding duration and age of introduction of complementary food. Evolution, through decades of birth of the last child, of (A) total and exclusive breastfeeding duration and age of introduction of complementary food, and (B) declared total breastfeeding duration and desired total breastfeeding duration. Results are mean (linearized standard error). P for trend for total and exclusive breastfeeding duration and age of introduction of complementary food = 0.001 and for desired total breastfeeding duration = 0.007.

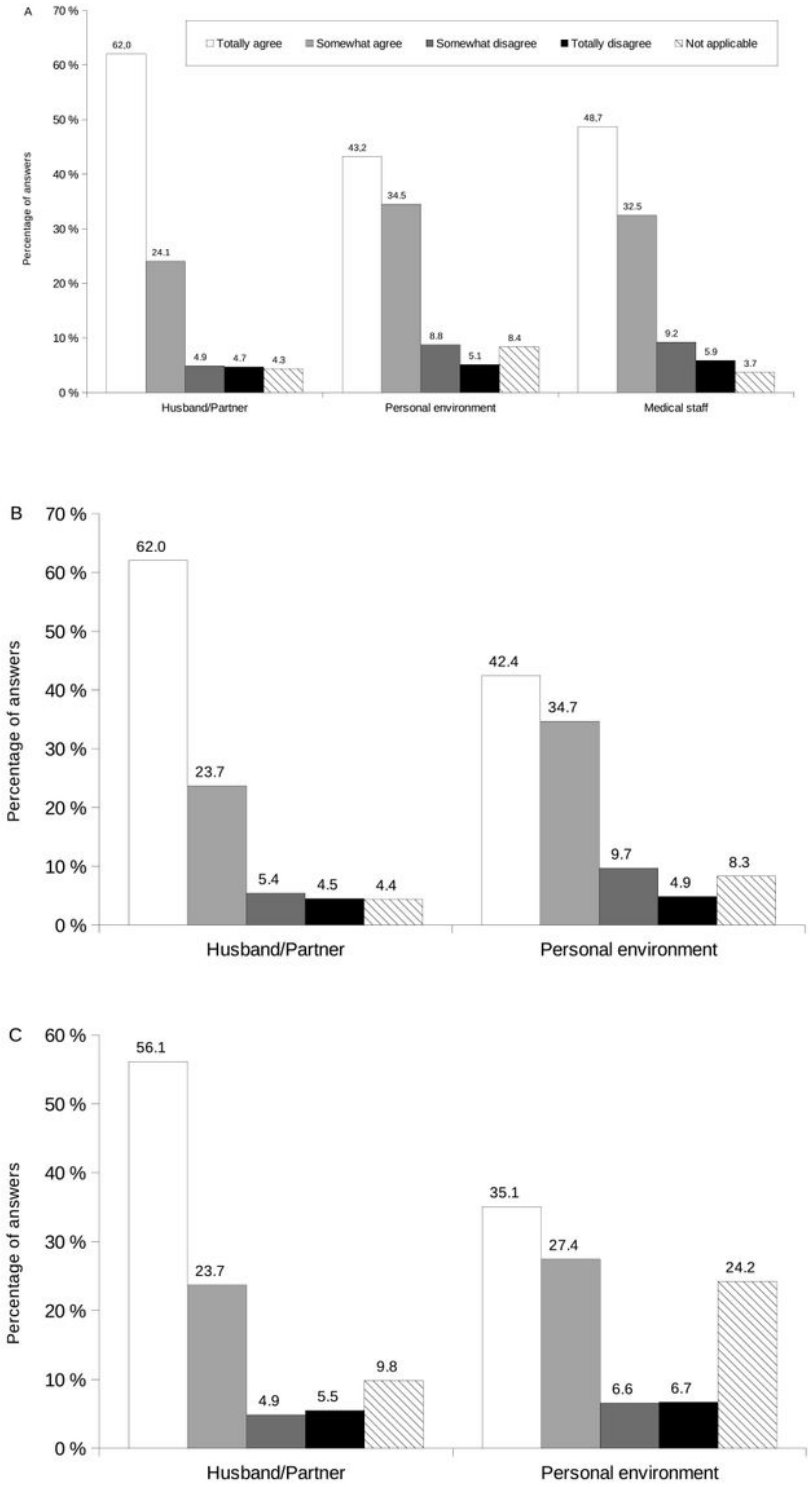

Figure 3

Mothers' perceptions on (A) support to breastfeeding initiation and (B) support during breastfeeding period. Self-reported mothers' perceptions about factors known to have an impact on support to breastfeeding. Results are percentages of answers. Mothers had choice to answer from totally agree to totally disagree for each item (see legend); a not applicable answer was possible if the item was not adapted to the mother's life.

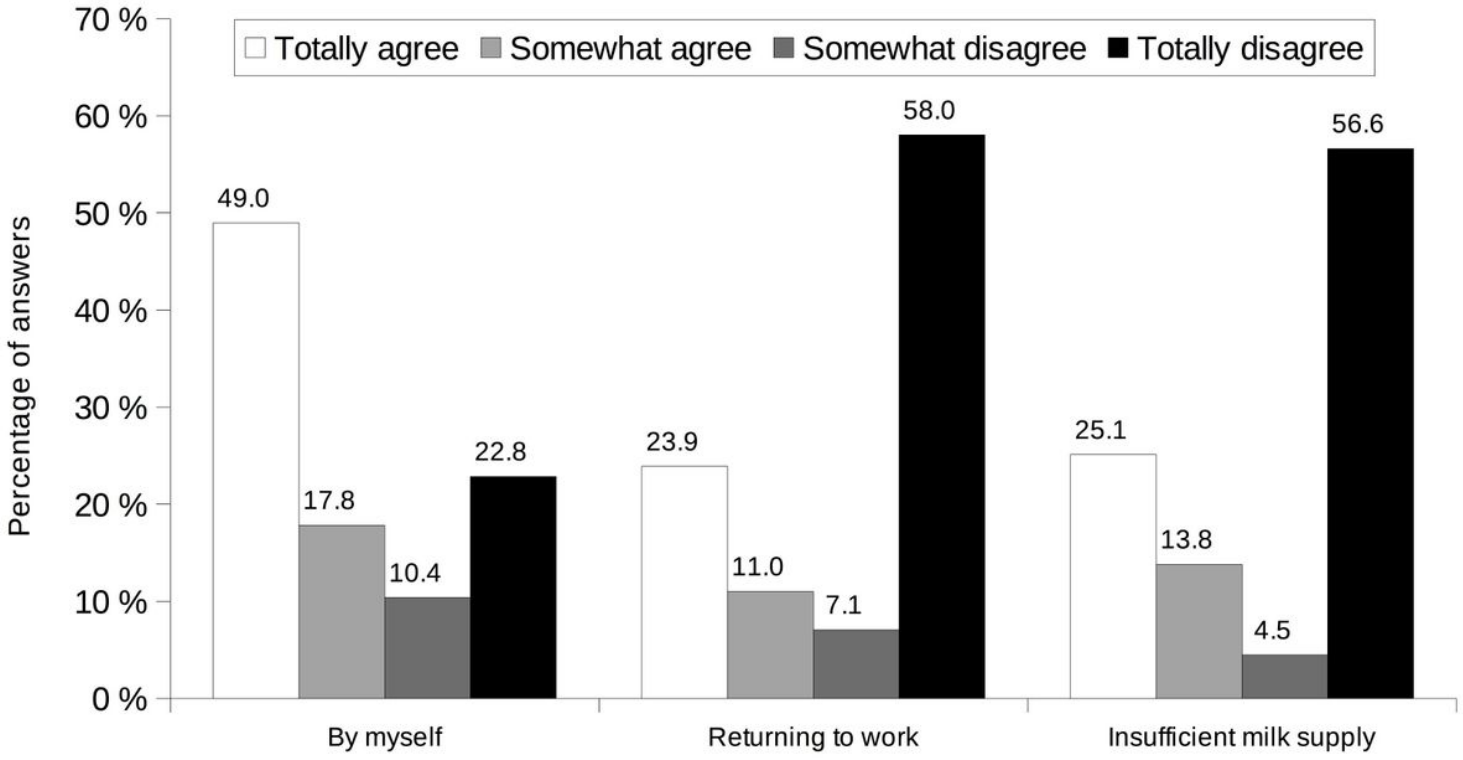

Figure 4

Mothers' perceptions on (A) breastfeeding cessation and (B) support to breastfeeding cessation. Self-reported mothers' perceptions about factors known to have an impact on (A) breastfeeding cessation (B) support to breastfeeding cessation. Results are percentages of answers. Mothers had choice to answer from totally agree to totally disagree for each item (see legend); a not applicable answer was possible if the item was not adapted to the mother's life.

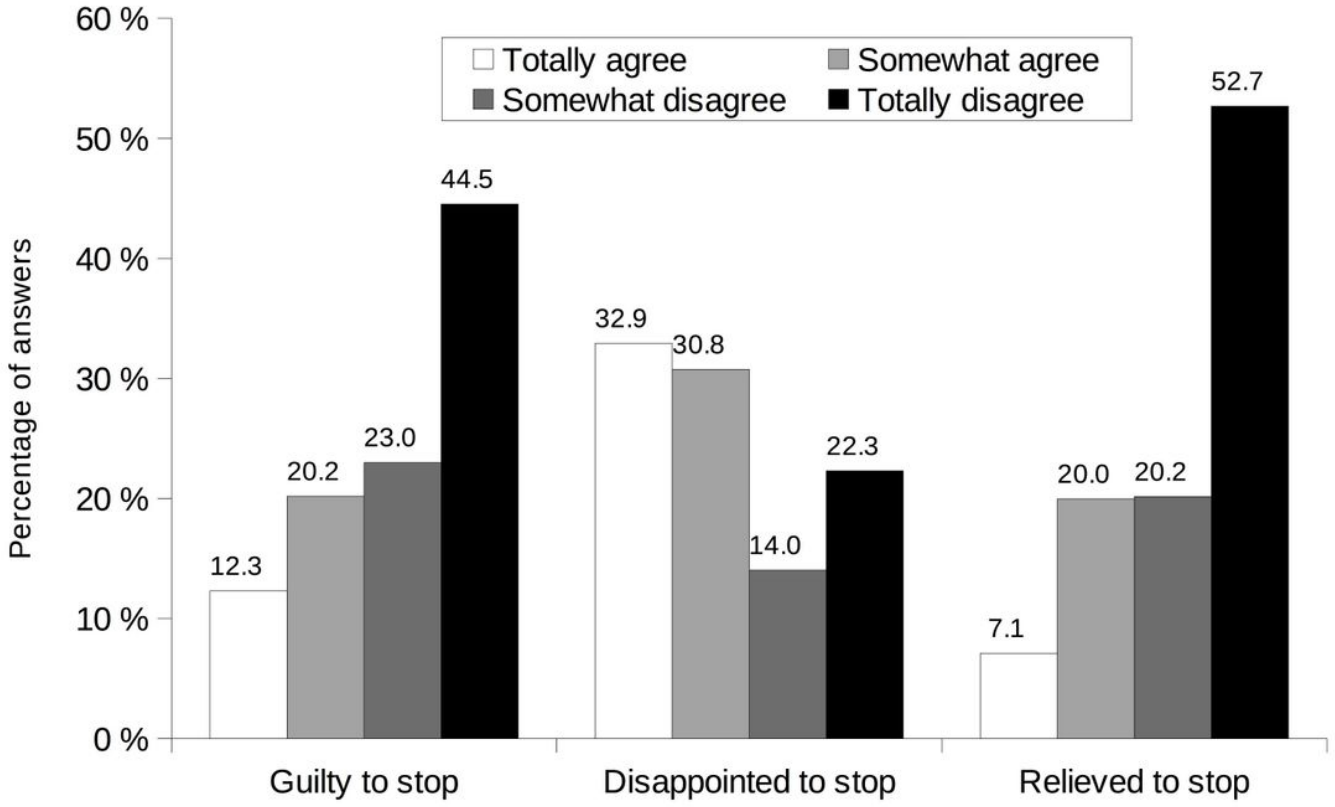

Figure 5

Self-reported mothers' perceptions about stopping breastfeeding. Results are percentages of answers. Mothers had choice to answer from totally agree to totally disagree for each item (see legend); there was no possible not applicable answer as the questions were applicable to each mother.

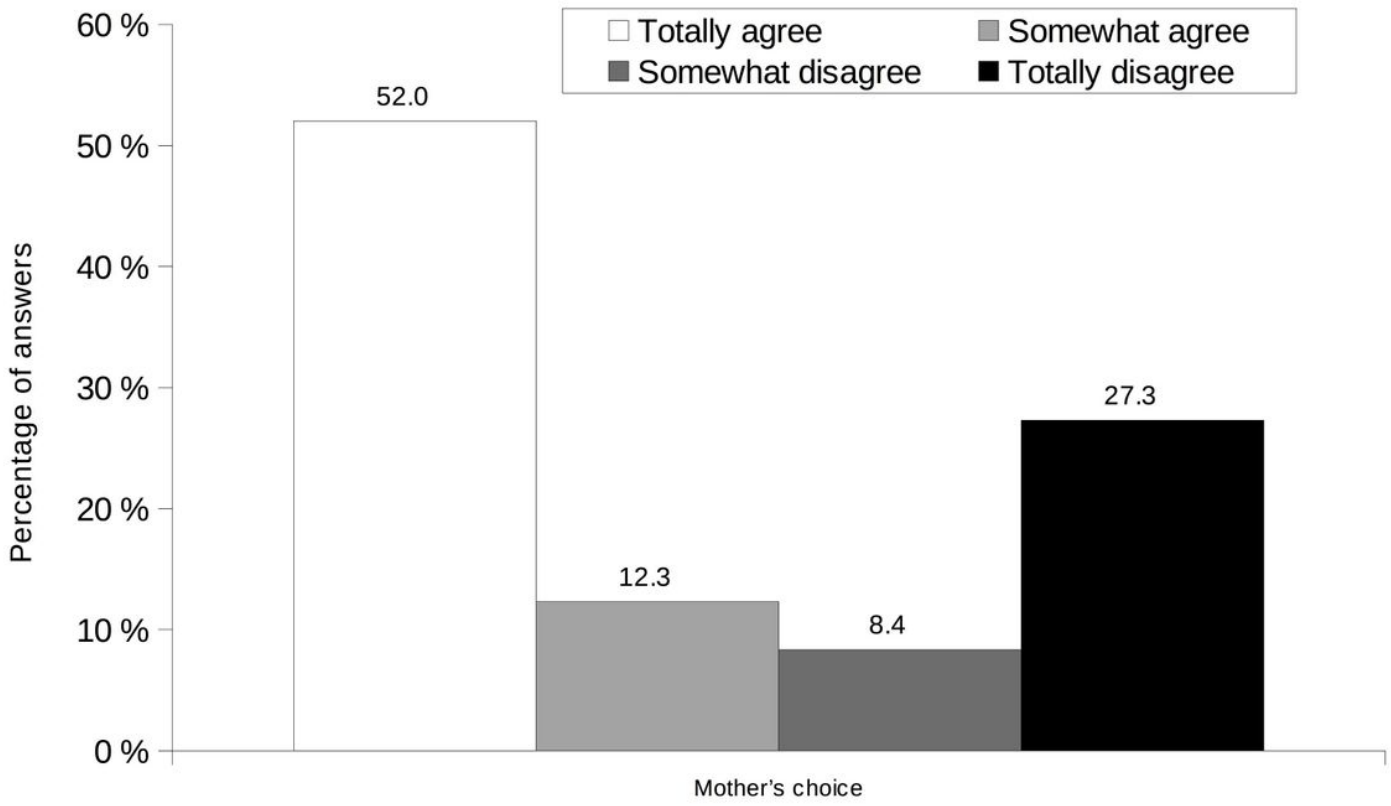

Figure 6

Mothers' reason for not breastfeeding. Results are percentages of answers. Mothers had choice to answer between totally agree to totally disagree for each item (see legend); there was no not applicable answer possible as the questions were applicable to each mother.

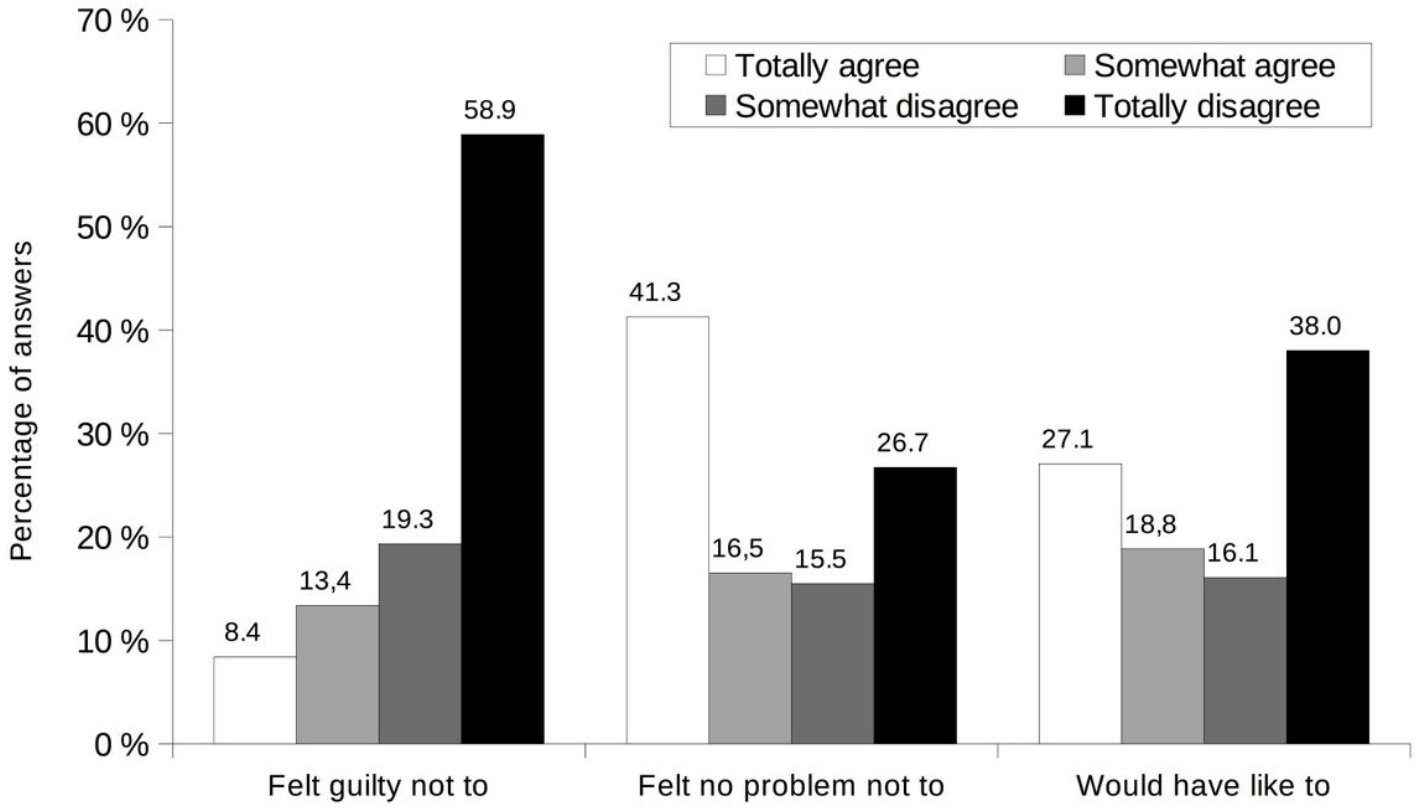

Figure 7

Self-reported mothers' perceptions about not breastfeeding. Results are percentages of answers. Mothers had choice to answer from totally agree to totally disagree for each item (see legend); there was no possible not applicable answer as the questions were applicable to each mother.