

Research Article

## Determinants of Exclusive Breastfeeding in Lebanon: An Online Survey

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### Abstract

**Background:** Breastfeeding is the ultimate food source for infants and exclusive breastfeeding is recommended until six months postpartum. In Lebanon, the exclusive breastfeeding rates until six months postpartum are amongst the lowest worldwide, and the factors affecting exclusive breastfeeding have rarely been investigated.

**Objectives:** The aim of this study was to explore the association between certain novel demographic, social and cultural factors with exclusive breastfeeding for the six months postpartum across Lebanon.

**Methods:** 593 mothers recruited via social media completed an online questionnaire. Data analysis consisted of bivariate analysis and multivariate logistic regressions.

**Results:** The findings show that exclusive breastfeeding until six months postpartum is not associated with the housekeeper presence, positively associated with having a prenatal plan to breastfeed, the mother disagreeing that free formula samples should be distributed to the mothers after delivery at the hospital, having the baby's crib kept by the mother's bed side at the hospital, not being offered a free formula sample at the hospital, the mother's partner

perceiving breastfeeding as very important, not having the mother's father living in the same household besides the partner and children when the child was between zero and six months and being non-Lebanese.

**Conclusions:** This is the first study conducted in low and middle-income countries to explore novel factors and their association with exclusive breastfeeding until six months postpartum. This study shows that ensuring appropriate systems and support for mothers, while applying the social-ecological model, should be a priority to improve maternal and child health.

**Keywords:** Exclusive breastfeeding; Determinants; Middle-Income country; Social-Ecological model

## **1. Introduction**

Breastfeeding is recognised as the ultimate food source for babies and is crucial for both the infant's and mother's health [1] and has both short-term as well as long-term benefits [2]. For children, some of the advantages of breast milk compared to other nutritional sources, are to reduce the risk of acute illnesses [3], morbidity and mortality [4, 5], and chronic diseases such as obesity [6, 7], type 2 diabetes [8], and cancer [9, 10]. For mothers, breastfeeding has been shown to reduce the risk of maternal hypertension [11, 12], cardiovascular diseases [13-15], type 2 diabetes [16, 17] and cancer [18-21]. In addition, breastfeeding provides psychosocial benefits [22, 23]. Exclusive breastfeeding (EBF) is recommended until six months postpartum [24].

In Lebanon, the rate of EBF until six months (27%) is below the average of developing countries (47%) [25] and worldwide (41%) [26]. Few studies exploring the predictors of breastfeeding behaviour in Lebanon were conducted [27-32]. Reviews exploring the determinants of breastfeeding for the first six months postpartum have shown a gap in the literature addressing the influence of preconception and prenatal breastfeeding plan on EBF [33]. In addition, the following factors were not explored: the physician's gender, the housekeeper presence, breastfeeding preconception plan and maternal opinions about skin-to-skin, rooming-in, free infant formula.

The aim of this study was to identify the association between certain demographic, social and cultural factors with EBF for the six months postpartum in Lebanon. The theoretical framework adapted for this research was the Socio-Ecological model (SEM) [34]. The SEM used in this study consisted of three levels of influence: Individual, Relationship and Community. Therefore, the factors explored in this study were categorized into these three levels. The individual level covered the following variables: maternal age, maternal education, maternal preconception and prenatal breastfeeding plans, maternal attitudes in relation to early initiation of breastfeeding, maternal attitudes in relation to rooming-in, maternal attitudes in relation to skin-to-skin, maternal attitudes in relation to free formula sample distribution. The relationship level covered the following variables: the paternal attitude towards breastfeeding reported by the mother. The community level covered the following variables: housekeeper presence, whether the housekeeper is involved in childcare, type of delivery, pediatrician gender, maternal employment, place of residence, religion.

## **2. Methods**

### **2.1 Design**

An online survey was conducted across Lebanon from January to June 2018. The survey was posted on social media platforms. The research followed the ethical guidelines established from the “Nuremberg Code”, the Belmont Report, the Declaration of Helsinki, and the Council for International Organisations of Medical Sciences. All participants provided their informed consent. The study was approved by Lancaster University Faculty of Health and Medicine Research Ethics Committee (FHMREC17020).

### **2.2 Setting**

Lebanon is an upper-middle-income country [35] with a population of 6,184,701 [36]. 80.4% of the Lebanese population are internet users [37]. The young, female, rate of literacy in Lebanon is 99.1% [38]. More than 80% of the female population are enrolled in secondary education, and around 50% of the women are enrolled in tertiary or university education [39]. Lebanon positions first in the region in terms of women in the workplace [40] and the maternity leave consists of 70 days [41]. The necessary equipment for safe maternal and newborn health care is accessible [42], 96% of deliveries are undertaken in health facilities and the cesarean section constitute 46% of all deliveries [43].

### **2.3 Sample**

Mothers residing across the Lebanese territory and having a child between six and 24 months of age, were invited to the study. They were recruited via the internet, using social media platforms, in particular, Facebook and Whatsapp which are the most frequently used social media platforms in Lebanon [44]. Recruitment was via a study Facebook page, Facebook pages of groups that focus on maternal and child health or parenting topics and from health and care organisations such as health centres, hospitals and day care centres across the Lebanese territory. We were aiming for a sample size of 593 mothers.

### **2.4 Data collection**

An online survey questionnaire was designed using Qualtrics and was available in English and Arabic. The researcher (NZ) pretested the survey. The questionnaire items were developed from previous literature [45, 46], and some questions regarding the housekeeper presence or maternal opinions concerning certain postpartum practices were developed for this study. The questionnaire consisted of 45 questions, in four sections relating to: the child, the mother, child feeding, and opinions about postpartum practices- (Appendix 1).

### **2.5 Data analysis**

Data analysis was conducted using the SPSS package 26. Descriptive statistics were conducted to compare the characteristics of EBF for six months postpartum versus non-EBF groups. Bivariate (chi-square and t-test) and multivariate logistic regression analyses were conducted to explore the factors that impact the exclusive breastfeeding. For small cell sizes, the Fisher test was used instead of Chi-Square. Variables where p values were

less than 0.05 in the bivariate analyses were considered statistically significant, and in turn, included in the multivariate regressions. Factors in the multivariate regressions with odds ratio's 95% CI that did not include one were deemed to be statistically significant. In the event of small cell sizes, the Firth regression was conducted [47]. The regression analysis was guided by the SEM model and categorized into three regression models: the individual, relationship and community levels.

### 3. Results

The researcher (NZ) contacted around 140 organisations which used social media outlets to reach their clients, and sought their formal written approval. 39 administrators agreed to sign the approval forms. 52% of the organizations were day care centres, 28% social media groups for mothers and parenting, 10% were health care centres, and 10% were social media groups for infant feeding. After data cleaning, 567 out of 593 surveys collected were included in the analysis.

#### Section 1: Youngest child demographic characteristics

The child demographic characteristics of the mothers who participated in the study are presented in table 1.1.

<b>Youngest child characteristics</b>	<b>n (Percentage %)</b>	<b>Mean (Standard Deviation) *</b>	<b>Median (Interquartile Range)</b>
<b>Gender</b>			
Girls	266 (46.9)		
Boys	301 (53.1)		
<b>Age (months)</b>		13.3 (6)	12 (10)
<b>Birth weight</b>			
<1,000 g	4 (0.7)		
Between 1,000 g and 1,500 g	15 (2.6)		
Between 1,500g and 2500g	64 (11.3)		
Between 2,500 and 4,000g	432 (76.2)		
Between 4,000 and 4,500g	32 (5.6)		
>4,500g	20 (3.5)		
<b>Pregnancy duration</b>			
Full-term	501 (88.4)		
Early	66 (11.5)		
<b>Type of delivery</b>			
Vaginal delivery	296 (52.2)		
Cesarean delivery	271 (47.8)		
<b>Born in a hospital</b>			

Yes	565 (99.6)		
<b>Pediatrician gender</b>			
Male	336 (59.3)		
Female	231 (40.7)		
<b>Child having a chronic disease between zero and six months</b>			
Yes	49 (8.6)		
<b>Child taking chronic medications between zero and six months</b>			
Yes	40 (7.1)		

\*(Percentages for categorical variables; mean ± standard deviation (SD) for continuous variables)

**Table 1.1:** Youngest child demographic characteristics<sup>1</sup>. (<sup>1</sup> of mothers who responded to the survey included in the analysis (n=567).

**Section 2: Maternal demographic characteristics**

The characteristics of the mothers who participated are presented in table 1.2.

<b>Maternal characteristics</b>	<b>n (Percentage %)</b>	<b>Mean (Standard Deviation)</b>	<b>Median (Interquartile Range)</b>
Number of children (N=553)		1.6 (0.8)	1 (1)
<b>Age (years)</b>		30.4 (4.5)	30 (6)
<b>Nationality<sup>1</sup></b>			
Lebanese	499 (88)		
<b>Marital status</b>			
Married	564 (99.5)		
Divorced, Separated, Single	3 (0.5)		
<b>Education</b>			
Intermediate level (grade 9)	8 (1.4)		
Secondary level (grade 12)	40 (7.1)		
University level (Bachelors)	253 (44.6)		
University level (Masters)	232 (40.9)		
University level (Doctorate)	34 (6.0)		
<b>Mother having a chronic disease when the child was between zero and six months</b>			

Yes	24 (4.2)		
No	543 (95.8)		
<b>Mother taking a chronic medication when the child was between zero and six months</b>			
Yes	25 (4.4)		
No	542 (95.6)		
<b>Working status when the child was between zero and six months of age</b>			
Working	292 (51.5)		
Not working	275 (48.5)		
<b>If yes, hours per week</b>		35.5 (12.5)	40 (15)
<b>Mother's place of residence when the child was between zero and six months old</b>			
Akkar	6 (1.1)		
Baalbek-Hermel	8 (1.4)		
Beirut	174 (30.7)		
Beqaa	25 (4.4)		
Mount-Lebanon	241 (42.5)		
North	53 (9.3)		
Nabatiye	18 (3.2)		
South	42 (7.4)		
<b>Family member living with the mother besides the partner and the children when the child was between zero and six months</b>			
Mother's mother	139 (24.5)		
Mother's father	32 (5.6)		
Partner's mother	51 (9)		
Partner's father	16 (2.8)		
Mother's siblings	34 (6)		
Partner's siblings	14 (2.5)		
None	363 (54)		
Other	28 (4.9)		
<b>Presence of live-in housekeeper/cleaner when the child was between zero and six months</b>			
Yes	150 (26.5)		

No	417 (73.5)		
<b>Presence of live-out housekeeper/cleaner when the child was between zero and six months</b>			
Yes	113 (19.9)		
No	454 (80.1)		
<b>Involvement of live-in housekeeper/cleaner in childcare</b>			
Never	68 (45.3)		
Seldom	30 (20)		
Sometimes	32 (21.3)		
Often	13 (8.7)		
Almost always	7 (4.7)		
<b>Involvement of live-out housekeeper/cleaner in childcare</b>			
Never	87 (77)		
Seldom	11 (9.7)		
Sometimes	11 (9.7)		
Often	1 (0.9)		
Almost always	3 (2.7)		

<sup>1</sup> The mothers enrolled in the study were from 22 nationalities.

**Table 1.2:** Maternal demographic characteristics.

**Section 3: Feeding practices characteristics**

The feeding practices of the mothers who participated are presented in table 1.3.

<b>Feeding practices characteristics</b>	<b>n (Percentage%)</b>	<b>Mean (Standard deviation)</b>	<b>Median (Interquartile Range)</b>
<b>Preconception plans</b>			
Breastfeed only	336 (59.3)		
Formula feed only	11 (1.9)		
Both breast and formula feed	109 (19.2)		
Had not decided	111 (19.6)		
<b>Prenatal plans</b>			
Breastfeed only	372 (65.6)		

Formula feed only	17 (3.0)		
Both breast and formula feed	141 (24.9)		
Had not decided	37 (6.5)		
<b>If you intended to breastfeed, how old did you think your child will be when first given food or formula</b>		6.4 (3.4)	6 (0)
<b>If the mother ever breastfed the child</b>			
Yes	513 (90.5)		
No	54 (9.5)		
<b>How long did the mother breastfeed the child</b>			
Duration of breastfeeding (months)		6.5 (5.5)	4.25 (7)
The child is still breastfeeding	210 (37)		
Not applicable	41 (7.2)		
<b>How long did the mother exclusively breastfeed the child (in months)</b>		4.6 (2.2)	5 (3)
<b>Initiation of breastfeeding</b>			
Within an hour of birth	185 (32.6)		
After an hour of birth	277 (48.9)		
Exclusively breastfed until six months			
Yes	(214) 37.7%		
No	(353) 62.3%		

**Table 1.3:** Feeding practices characteristics.

**Section 4: Beliefs/opinions regarding some feeding practices**

The mothers' beliefs/opinions regarding some feeding practices are shown in table 1.4

<b>Beliefs/opinions regarding some feeding practices</b>	<b>n (%)</b>
<b>Importance of breastfeeding within an hour of birth according to the mother</b>	
Not important	12 (2.1)
Slightly important	7 (1.2)
Fairly important	32 (5.6)
Important	95 (16.8)
Very important	421 (74.3)
<b>Importance of keeping the baby's crib by the mother's bedside according to the mother</b>	
Not important	11 (1.9)



Slightly important	12 (2.1)
Fairly important	51 (9.0)
Important	114 (20.1)
Very important	379 (66.8)
<b>Whether the mother asked for the baby's crib to be kept by her bedside at the hospital</b>	
Yes	387 (68.3)
No	180 (31.7)
<b>Whether the baby's crib was kept by her bedside at the hospital</b>	
Yes	378 (66.7)
No	189 (33.3)
<b>Importance of holding the baby skin-to-skin after delivery according to the mother</b>	
Not important	10 (1.8)
Slightly important	16 (2.8)
Fairly important	34 (6.0)
Important	98 (17.3)
Very important	409 (72.1)
<b>Whether the mother asked for holding the baby skin-to-skin after delivery</b>	
Yes	351 (61.9)
No	216 (38.1)
<b>Whether the mother held her baby skin-to-skin after delivery</b>	
Yes	323 (57.0)
No	244 (43.0)
<b>To what extent does the mother agree or disagree with the following statement: Free formula samples should be distributed to the mothers after delivery at the hospital?</b>	
Strongly disagree	247 (43.6)
Disagree	139 (24.5)
Undecided	91 (16.0)
Agree	73 (12.9)
Strongly agree	17 (3.0)
<b>Whether the mother asked for a free formula sample at the hospital</b>	
Yes	29 (5.1)
No	358 (94.9)
<b>Whether the mother was offered a free formula sample at the hospital</b>	
Yes	180 (31.7)
No	387 (68.3)
<b>Best description of the partner's support regarding the mother's breastfeeding</b>	

<b>according to the mother (N=558)</b>	
Very supportive	349 (61.6)
Supportive	134 (23.6)
Neither supportive or not supportive	60 (10.6)
Unsupportive	10 (1.8)
Very unsupportive	5 (0.9)
<b>How important is breastfeeding in the partner's opinion according to the mother</b>	
Not important	14 (2.5)
Slightly important	24(4.2)
Fairly important	61 (10.8)
Important	139 (24.5)
Very important	329 (58.0)

**Table 1.4:** BeliefsMothers' beliefs/opinions regarding some feeding practices.

**Determinants of EBF until six months postpartum**

The odds of EBF until six months postpartum are reduced by 31.8% when mothers do not plan to breastfeed while they are pregnant (Table 2.1). Besides, the odds of EBF until six months postpartum are lowered by 15.7% when the mother agrees with the following statement: free formula samples should be distributed to the mothers after delivery at the hospital (Table 2.1). Furthermore, the odds of EBF until six months postpartum are lowered by 60.4% when the mother's father was living in the same household when the child was between zero and six months (Table 2.2). Moreover, the odds of EBF until six months postpartum are reduced by 39.7% when the baby's crib is not kept by the mother's bedside at the hospital (Table 2.3). In addition, the odds of EBF until six months postpartum are reduced by 60.8% when mothers have Lebanese nationality (Table 2.3). On the other hand, mothers whose partners perceive breastfeeding as very important are 41% more likely to EBF until six months postpartum (Table2.2). Besides, the mother not being offered a free formula sample at the hospital was 47% more likely to EBF until six months postpartum (Table 2.3).

Multivariate Model 1	Independent variable	Adjusted Odds ratio (according to each level)				
		P-value	beta coefficient	95% CI of coefficient	OR	95% CI
Model 1	Preconception plans	0.684	-0.04	[-0.21; 0.14]	0.97	[0.81; 1.14]
Model 1	Prenatal plans	0.001*	-0.38	[-0.62; -0.16]	0.68	[0.54; 0.86]
Model 1	Importance of breastfeeding within an hour of birth according to the mother	0.194	0.17	[-0.08; 0.43]	1.18	[0.92; 1.54]

Model 1	Importance of keeping the baby's crib by the mother's bed-side according to the mother	0.682	0.05	[-0.2; 0.32]	1.05	[0.82; 1.37]
Model 1	To what extent does the mother agree or disagree with the following statement: Free formula samples should be distributed to the mothers after delivery at the hospital?	0.003*	-0.17	[-0.29; -0.06]	0.84	[0.75; 0.94]
Model 1	Whether the mother asked for the baby's crib to be kept by her bedside at the hospital	0.210	-0.28	[-0.72; 0.16]	0.76	[0.49; 1.17]

**Table 2.1:** Multivariate logistic regressions: Model 1-Individual level.

Multivariate Model 2	Independent variable	Adjusted Odds ratio (according to each level)				
		P-value	beta coefficient	95% CI of coefficient	OR	95% CI
Model 2	Best description of the partner's support regarding the mother's breastfeeding according to the mother	0.454	-0.11	[-0.41; 0.18]	0.89	[0.66; 0.84]
Model 2	How important is breastfeeding in the partner's opinion according to the mother	0.005*	0.35	[0.10; 0.61]	1.42	[1.11; 1.84]
Model 2	Presence of mother's father in the household besides the partner and children when the child was between zero and six months	0.049*	-0.93	[-2.01; 0.00]	0.4	[0.13; 1]
Model 2	None present at home besides the partner and children when the child was between zero and six months	0.268	0.22	[-0.17; 0.6]	1.24	[0.85; 1.82]

**Table 2.2:** Multivariate logistic regressions: Model 2-Relationship level.

Multivariate Model 3	Independent variable	Adjusted Odds ratio (according to each level)				
		P-value	beta coefficient	95% CI of coefficient	OR	95% CI
Model 3	Employment status when the child was between zero and six months	0.080	0.32	[-0.04; 0.68]	1.38	[0.96; 1.97]
Model 3	Whether the baby's crib was kept by her bedside at the hospital	0.009*	-0.51	[-0.89;-0.13]	0.6	[0.41; 0.88]
Model 3	Whether the mother was offered a free formula sample at the hospital	0.048*	0.39	[0.003;0.78]	1.47	[1; 2.17]
Model 3	Nationality	0.001*	-0.94	[-1.48;-0.41]	0.39	[0.23; 0.67]

**Table 2.3:** Multivariate logistic regressions: Model 3-Community level.

**4. Discussion**

This study has reported novel findings that have not been previously reported. The determinants of EBF until six months postpartum encompassed the three levels of the SEM. At the individual level, the determinants were the mother having prenatal plans and having an opinion regarding the distribution of free formula samples at the hospitals, the latter being a novel finding, because no other study has looked at this. Other researchers have also noted that having the intention to breastfeed during pregnancy is associated with EBF until six months postpartum [48, 49]. At the relationship level, the determinants were the importance of breastfeeding in the partner's opinion according to the mother and the mother's father living in the same household when the child was between zero and six months, the latter being a novel finding. The first determinant is consistent with previous research which has found that being in nuclear families and the partner's appreciation of BF [50] and support [49], are determinants of EBF until six months postpartum. However, the second determinant has not been previously explored or determined to be associated with EBF until six months postpartum in developing countries. The superior role of the male gender and the patriarchal structure of the Lebanese society [51] may explain how women's behaviours are influenced by the men in her family. The current Lebanese system of personal status laws infringes women's human rights, comprising non-discrimination, equality in marriage and marriage termination, physical integrity and health [52]. The father is the central figure of a family, and in some regions, if the woman is assumed to impair an honor, her father can kill her [53]. Women traditionally married in order to bear sons as a protection for their own future, and if she does not bear any children, particularly sons, she can be threatened with divorce [53]. In the event of a divorce, a Lebanese mother does not maintain the custody of her children [54]. At the community level, the determinants were i) keeping the baby's crib by the mother's bedside, ii) the mother being offered a free formula sample and iii) the nationality. The first two determinants are consistent with the WHO recommendations to attain successful breastfeeding [55], where practicing rooming-in, respecting the "International Code of Marketing of Breast-Milk Substitutes" and refraining from offering milk substitutes at the hospitals [56] should be implemented. The third

determinant, having a Lebanese nationality, was novel to this study. This finding supports the work of other studies in this area, linking racial and ethnic disparities with differences in breastfeeding practices [57]. Lebanon has been lagging in the rates of EBF compared to other countries [25]. Moreover, the laws that empower EBF until six months postpartum, such as the law 47/2008 for “Organizing the Marketing of Infant and Young Child Feeding Products and Tools”, have not been properly implemented in Lebanon [58]. In Lebanon, endorsing the breastfeeding policies and applying them are not always in line [59]. This, in turn, impacts the mothers living in Lebanon decisions and behaviours in relation to breastfeeding. We did not find any statistically significant association between EBF until six months postpartum and the presence of a housekeeper or with whether the housekeeper was involved in childcare. However, this may be due to the small number of participants who had housekeepers. Female migrant workers relocate to the Arab countries to gain their living and provide for their families [60]. In Lebanon, there are around 250,000 women migrant domestic workers [61]. This is a considerable number given that the Lebanese population was about 4,000,000 [62] before reaching recently around 6,000,000 [36], where more than 1,300,000 refugees were expected [63]. Many of the women migrant domestic workers living in Lebanon are housekeepers [60]. Very few studies have explored the presence of housekeepers’ relation with breastfeeding, such as in the Arabic gulf regions [64] and Singapore [65]. The mean EBF rate reported was 37.7%, which is higher than the national 27% rate in 2015 [25]. This may be due to the fact that the women who decided to partake in this survey were interested in maternal and child health, or that certain initiatives and organizations in the country have recently contributed to raising awareness about breastfeeding, such as the campaign initiated by the Ministry of Public Health [39], or pro-breastfeeding Non-Governmental Organizations and Facebook groups.

## **5. Conclusions**

This is the first study exploring breastfeeding conducted using an online methodology, covering all the Lebanese territory, and using social media as a recruitment channel. This research adds to the existing body of knowledge of the determinants of EBF until six months postpartum by exploring certain factors for the first time. This research provides health care professionals, policy-makers and advocates with the necessary information to guide public health policies and ensure appropriate systems, services and support for breastfeeding, in particular targeting mothers and their families.

## **Recommendations**

A natural progression of this work would be to explore raising the awareness of breastfeeding to the fathers of the mothers on EBF. Furthermore, given that most of the housekeepers were involved in child care raises important issues and could be usefully explored in further research. Considering the high rate of c-section performed in Lebanon, it would be interesting to investigate the impact of the c-section on the skin-to-skin practice. Moreover, given the recent increase in breastfeeding support groups in Lebanon, further research could be conducted to determine their impact on the breastfeeding practices. This study has shown that the government and healthcare policy-makers should reinforce the implementation of the existing law that prohibits offering the formula for the mothers in the hospitals after delivery. Hospitals should abide by, and reinforce, the baby-friendly practices. The

mother and her family should be provided with the proper breastfeeding information which will lead to her empowerment and taking the right decisions. Adopting the social-ecological model by targeting the family, and using the breastfeeding social marketing, such as awareness mass media campaigns could be conducted as these have contributed to a positive change in various health practices and behaviours [40].

### **Limitations**

The sample of the participants may be limited in representativeness and biased to excluding people not having access to the internet. The children were aged 13 months on average, therefore recall bias could be considered a limitation in this study. The highly educated sample of participants may have biased the results and contributed to the limitations of this research towards finding a statistical significance of certain factors.

### **Conflict of Interest**

The authors declare that they have no conflict of interest.

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## **Appendix 1**

Thank you for agreeing to be part of the research. The following questions will take around 10-15 minutes. If you have more than one child between 6 and 24 months, please fill out the survey for your youngest child.

### **Please answer the next questions regarding your youngest child**

1-Is your youngest child a boy or a girl?

Boy

Girl

2-How old is your youngest child? (in months)

...

3-What was your youngest child's birth weight?

<1,000 g

Between 1,000 g and 1,500 g

Between 1,500g and 2500g

Between 2,500 and 4,000g

Between 4,000 and 4,500g

>4,500g

4-Did your pregnancy reach full term or was your child born early?

Full-term

Born early

5-Did you deliver vaginally or by caesarean section?

Vaginal delivery

Caesarean delivery

6-Was your child born in a hospital?

Yes

No

7-What is the gender of the child's paediatrician?

Male

Female

8- Did your child have a chronic disease (lasting three months or longer) when he/she was between 0 and 6 months old?

Yes (please specify)

No

9-Was your child on medications for chronic diseases when he/she was between 0 and 6 months old?

Yes (please specify)

No

**Please answer the next questions regarding you**

10-How many children do you have?

.....

11-How old are you? (in years)

....

12-What is your nationality?

Lebanese Other (please specify):

13-What is your marital status?

Married

Divorced

Widowed

Separated

Single

Other (please specify):

14-What is the highest degree you have received?

Elementary level (grade 6)

Intermediate level (grade 9)

Secondary level (grade 12)

University level (Bachelors)

University level (Masters)

University level (Doctorate)

Other (please specify):

15- Did you have a chronic disease (lasting three months or longer) when your child was between 0 and 6 months old?

Yes (please specify)

No

16-Were you on medications for chronic diseases when your child was between 0 and 6 months old?

Yes (please specify)

No

17-What was your employment status when your child was between 0-6 months old?

Working

Not working

18-If you were working, please specify how many hours per week

....

19-What is your religion?

Christian

Muslim

Other (please specify):

20-In which governorate were you born?

Akkar

Baalbek-Hermel

Beirut

Beqaa

Mount-Lebanon

North

Nabatiye

South

Other-born outside Lebanon

21- In which governorate were you residing when your child was between 0 and 6 months old?

Akkar

Baalbek-Hermel

Beirut

Beqaa

Mount-Lebanon

North

Nabatiye

South

22- Which member of your family was living with you in your home besides your partner and children when your child was between 0 and 6 months old?

My mother

My father

My mother-in-law

My father-in-law

My sibling(s)

My partner's sibling(s)

None

Other (please specify)

23- Was there a live-in housekeeper/cleaner present in your home when your baby was between 0 and 6 months old?

Yes

No

24- How often did this housekeeper/cleaner take care of your child when your child was between 0 and 6 months old ? (Shows up if previous answer is yes)

Never

Seldom

Sometimes

Often

Almost always

25- Was there a live-out housekeeper/cleaner present in your home when your baby was between 0 and 6 months old?

Yes

No

26- How often was this housekeeper/cleaner involved in caring for your child when your child was between 0 and 6 months old? (Shows up if previous answer is yes)

Never

Seldom

Sometimes

Often

Almost always

**Please answer the next questions regarding feeding practices of your youngest child**

27- Before you got pregnant, how did you intend to feed your child?

Breastfeed only (baby will not be given formula)

Formula feed only

Both breast and formula feed

Had not decided

28- During pregnancy, how did you intend to feed your child?

Breastfeed only (baby will not be given formula)

Formula feed only

Both breast and formula feed

Had not decided

29- If you intended to breastfeed, how old did you think your child will be when he/she will be first given other food or formula:

(age in months):...

N/A

30- Did you ever breastfeed your youngest child?

Yes

No

31- How long did you breastfeed your child?

Duration of breastfeeding (in months):....

My child is still breastfeeding

N/A

32-How long did you exclusively breastfeed your child (baby receiving only breastmilk, no water, no solids or liquids, only medications)?

Duration of exclusive breastfeeding (in months):.....

My child is still being exclusively breastfed

N/A

33-When were you able to initiate breastfeeding?

Within an hour of birth

After an hour of birth

N/A

**Please answer the following questions regarding your beliefs/opinions in relation to some postpartum practices**

34-How important is initiating breastfeeding within an hour of birth in your opinion?

Not Important

Slightly important

Fairly Important

Important

Very important

35-How important is keeping the baby's crib by your bed side at the hospital in your opinion?

Not Important

Slightly important

Fairly Important

Important

Very important

36-Did you ask for your child's crib to be kept by your bed side at the hospital?

Yes

No

37-Was your child's crib kept by your bed side at the hospital?

Yes

No

38-How important is holding your child skin-to-skin in your opinion?

Not Important

Slightly important

Fairly Important

Important

Very important

39-Did you ask to hold your child skin-to-skin after delivery?

Yes

No

40-Did you hold your child skin-to-skin after delivery?

Yes

No

41-To what extent do you agree or disagree with the following statement: Free formula samples should be distributed to the mothers after delivery at the hospital?

Strongly disagree

Disagree

Undecided

Agree

Strongly agree

42-Did you ask for a free formula sample at the hospital?

Yes

No

43-Were you offered a free formula sample at the hospital?

Yes

No

44-Which of the following best describe your partner's support regarding your breastfeeding?

Very supportive

Supportive

Neither supportive or not supportive

Unsupportive

Very unsupportive

N/A

45-How important is breastfeeding in your partner's opinion?

Not Important

Slightly important

Fairly Important

Important

Very important

N/A

Thank you for participating in the above survey. If you wish to receive a copy of the document reporting the results of this research, please do not hesitate to contact me.

Nadine Zablith

Email: [n.zablith@lancaster.ac.uk](mailto:n.zablith@lancaster.ac.uk)

Phone: XXXXXX

### **Complaints**

If you wish to make a complaint or raise concerns about any aspect of this study and do not want to speak to the researcher, you can contact: XXXXXX

If you wish to speak to someone outside of the Doctorate Programme, you may also contact: XXXXXX

### **Resources in the event of discomfort**

Should you feel discomfort either as a result of taking part, or in the future, the following resources may be of assistance: XXXXXX



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