MOTIVATIONS AND PERCEIVED BARRIERS TO INITIATE OR SUSTAIN BREASTFEEDING AMONG SPANISH WOMEN

N. Marta Díaz-Gómez (1), María Ruzafa-Martínez (2), Susana Ares (3), Isabel Espiga (4) and Concepción De Alba (5)

(2) Universidad de Murcia. Facultad de Enfermería. Campus Universitario de Espinardo. Murcia. Spain
(3) Hospital Universitario La Paz. Servicio de Neonatología. Madrid. Spain
(5) Hospital Universitario 12 de Octubre. Servicio de Neonatología. Madrid. Spain

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ABSTRACT

Background: Breastfeeding for its multiple benefits is the best cost-effective health intervention and should be a public health priority. The aim of this study was to determine motivations and barriers perceived by mothers to initiate or to maintain breastfeeding.

Methods: A cross-sectional, observational study was carried in 2013 out among 569 mothers resident in Spain, with children under the age of 2, who completed a structured questionnaire. A two-stage sampling, stratified by Autonomous Communities and non-probabilistic within each community was used.

Results: 88% of the mothers were breastfeeding their children or had breastfed. At the time of the survey 66.6% had stopped breastfeeding, and the average age for weaning was 6.4 (SD 3.8) months. The main reason for stopping breastfeeding was maternal perceptions of insufficient milk supply (29%). The second reason was going back to work (18%). 67% of the mothers said that they made the decision to breastfeed on their own. The main disadvantages reported were: the difficulty to reconcile breastfeeding and work (43%), breastfeeding in public places (39%), more frequent night-time awakenings (62%) and the reduced weight gain of the baby (29%). Going back to work was the main reason for choosing formula feeding (34%) and also for initiating partial breastfeeding (39%).

Conclusions: The main disadvantages reported were: the difficulty to reconcile breastfeeding and work, breastfeeding in public places, more frequent night-time awakenings and the reduced weight gain of the baby. Going back to work was the main reason for choosing formula feeding and also for initiating partial breastfeeding.

Key words: Breastfeeding, Weaning, Mothers, Infants.

RESUMEN

MOTIVACIONES Y BARRERAS PERCIBIDAS POR LAS MUJERES ESPAÑOLES EN RELACIÓN A LA LACTANCIA MATERNA

Fundamentos: La lactancia materna (LM) por sus múltiples beneficios es la mejor intervención coste-efectiva en salud y debería constituir un objetivo prioritario de salud pública. El objetivo de este estudio fue conocer las motivaciones y barreras percibidas por las madres para iniciar o mantener la LM.

Métodos: Estudio observacional transversal con 569 madres residentes en España en 2013, con hijos menores de 2 años que cumplieron un cuestionario estructurado. Muestreo bietápico, estratificado por comunidades autónomas y no probabilístico en cada comunidad.

Resultados: Durante el periodo de estudio (desde el 01/01/1998 hasta el 31/12/2003) 88% de las madres danan LM a lo habían hecho.

La edad media del desetate fue 6.4 (DE 3.8) meses. El principal motivo para suspender la lactancia fue la sensación de baja producción de leche (29%) seguido de la incorporación al trabajo (18%). El 67% de las madres indicaron que la decisión de amamantar la habían tomado ellas mismas. La dificultad para combinar la LM con la actividad laboral (43%), dar el pecho en lugares públicos (39%), los despertares nocturnos (62%) y el menor aumento de peso del lactante (29%) fueron los inconvenientes más referidos. La incorporación laboral fue el principal motivo para elegir la lactancia artificial (34%) y para iniciar la lactancia parcial (39%).

Conclusiones: La dificultad para combinar la LM con la actividad laboral, dar el pecho en lugares públicos, los despertares nocturnos y el menor aumento de peso del lactante, fueron los inconvenientes más referidos. La incorporación laboral fue el principal motivo para elegir la lactancia artificial y para iniciar la lactancia parcial.

Palabras clave: Lactancia materna, Destete, Madres, Lactantes.

INTRODUCTION

Breastfeeding (BF) is beneficial for both mother and child regardless whether they live in developing or industrialized countries\(^{(1,2,3)}\). Based on years of scientific evidence, the Spanish Paediatric Association, the American Academy of Paediatrics, WHO/UNICEF and many other health organizations reiterate the recommendation to breastfeed exclusively during the first six months and to continue doing so with supplementary feeding till one year; always in concordance with the mother and the child wishes\(^{(2,4,5)}\).

BF is the best cost effective intervention regarding an individual’s health and therefore should be considered a priority of public health systems and not merely a parenting style or trend\(^{(6,7,8)}\).

Over the last decades, much effort has gone into developing strategies to increase BF rates and quite often the results have not been as expected\(^{(9)}\).

Although most women acknowledge the benefits of BF, there are numerous impediments that prevent mothers from breastfeeding the recommended period of time\(^{(11)}\). The long and short term benefits of breastfeeding for both mother and child are renowned worldwide\(^{(1,12)}\). It is also accepted that this form of feeding is heavily influenced by social and family circumstances\(^{(13)}\). Several authors have pointed out that success at the beginning of BF and its continuance is a multi-factor process, where not only the variables of health come into account, but also social and employment factors (the amount of social support, working conditions) and certain maternal characteristics\(^{(14,15,16)}\). These motivations include the intention to breastfeed, self-confidence regarding breastfeeding, the degree of adaptation to the mother’s lifestyle and satisfaction during breastfeeding\(^{(17,18)}\). However, there are a few studies that describe how the mother perceives BF: what are the motivations and experiences behind breastfeeding, the obstacles, the social and working barriers that mothers encounter and hinder continuance. Consequently, we have elaborated this study focused on understanding the motivations and barriers that Spanish mothers encounter during and at the beginning of BF.

MATERIAL AND METHODS

Transversal observational study, carried out in 2013. The population of the study included mothers with residency in Spain and with at least one child. The inclusion criteria comprised mothers with children under the age of two at the time the study started who lived in one of the Spanish territorial communities. Women who did not speak Spanish were not included and neither those subjects living in Ceuta or Melilla.

Due to the lack of previous case studies, a sample size was calculated for an infinite population and less favorable situation variance where p=q=50%, supposing a confidence level of 95% and sample error of ±4,47%. The sample size calculated was 569 subjects.

For a higher representativeness the sample used a two-stage sample. In the first phase it was stratified by Autonomous Communities and in the second phase a non-probabilistic sample was carried out “on purpose”. All women who fulfilled the inclusion criteria were invited to participate until the sample size was reached calculating at least 30 cases per community.

Sociodemographic variables were included in the study (mother’s age and child’s age, marital status, situation at home and education level and finally, the autonomous community were the subject resided). Other variable included were: variables related to breastfeeding and the reasons for continuing or ending breastfeeding. The result variables included aspects related to breastfeeding (motives for breastfeeding, people who were decisive, benefits and inconveniences for both mother and child, appraisal of opinions on BF, age and reason for stopping breastfeeding. Some other reasons for starting mixed feeding or bottle feeding, introduction of complementary feeding and breastfeeding...
after going back to work were also included. Breastfeeding was considered including exclusive breastfeeding (when the infant received mother’s milk and no other solid or liquid intake except for vitamins and minerals) and predominant BF (when apart from mother’s milk, vitamins and minerals received water or infusions). Mixed breastfeeding takes place when the infant receives mother’s milk and formula milk at the same time.

The data collection was carried out using a questionnaire designed by the Spanish group of Global Breastfeeding Initiative (Excellence in Pediatrics Institute) and edited by Nielsen Spain, using Gandia Integra software (the survey was financed by Philips Ibérica). The questionnaire included 40 closed questions with different answers and 6 open questions: maternal age, family head’s profession, number of children, weaning age in months (if breastfeeding had stopped) and planned date for weaning (if breastfeeding at the time of the survey). Finally, those mothers who affirmed going back to work had conditioned BF, were asked to explain briefly how this had affected them. Certain filter questions were also included; “do you have children” and “date of birth of last child” in order to distinguish valid subjects that complied with the listing criteria (Annex 1).

The participants were chosen using an anonymized data base from Nielsen Spain elaborated by combining census data, telephones and addresses available publicly. The invitations were sent out by mail and then by electronic mail providing information regarding the study and a link to the survey. Each invitation was accompanied by a link to cancel the subscription and another link concerning the privacy policy. Using the filter questions valid participants were selected and then required to complete an on line survey of approximately 10 to 12 minutes.

According to the ethic principals of the Helsinki Declaration, the mothers were invited to participate as volunteers following consent and then the aims of the survey were explained. The method used to collect the data ensured the anonymity of the participants.

Statistical Methods: A descriptive analysis was carried out concerning each of the study variables. These included: average and standard deviation (SD), indicating the corresponding confidence intervals at 95% (IC95%) and the frequencies. Furthermore, the answers were compared to the main variable results according to the mother’s demographic characteristics (Autonomous Community, age, social class, socio economic level, working status) by means of chi-square test and the T student test for independent samples. The statistical analysis was carried out with the SPSS v. 17.0. package (SPSS Inc. Chicago, Illinois). The p-value was considered significant when below 0,05.

RESULTS

A sample of 569 women was achieved. The average age of the mothers in the survey was 32.5 (DE 4.6; IC95% 32.3-33.1) years old and children 12.9 (DE 6.8; IC95% 12.3-13.5) months. The descriptive data may be seen in table 1.

Out of the 569 study participants, 68 (11.9%) bottle fed their child from birth; 334 (58.8%) had breastfed and 167 (29.3%) continued to breastfeed at the time of the survey.

There were no significant differences regarding maternity age, parity, social class or family income among the different residential areas. Neither were there any significant differences for these variables when comparing the type of feeding chosen; breastfeeding or formula-bottle feeding.

The main reason for choosing formula feeding given by mothers was because they had to return to work immediately (33.8%), followed by a lack of support or advice by health professionals (32.4%) and mother child separation due to medical reasons either in the case of the mother or the child. (14.8%) (table 2).
Table 1
Characteristics of the sample

<table>
<thead>
<tr>
<th>Civil status</th>
<th>N (%)</th>
<th>Situation at home</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Married</td>
<td>341 (59,8)</td>
<td>I live with my partner and children</td>
<td>452 (79,4)</td>
</tr>
<tr>
<td>Domestic partner</td>
<td>109 (19,2)</td>
<td>I live with my partner, children and others</td>
<td>36 (6,3)</td>
</tr>
<tr>
<td>Single</td>
<td>46 (8,1)</td>
<td>I live alone with my children</td>
<td>10 (1,8)</td>
</tr>
<tr>
<td>Separated/Divorced</td>
<td>5 (0,9)</td>
<td>Other situations</td>
<td>3 (0,5)</td>
</tr>
<tr>
<td>Lost*</td>
<td>68 (12)</td>
<td>Lost*</td>
<td>68 (12)</td>
</tr>
<tr>
<td>Parity</td>
<td>N (%)</td>
<td>Employment status</td>
<td>N (%)</td>
</tr>
<tr>
<td>Primiparous</td>
<td>287 (50,4)</td>
<td>Full or part-time work</td>
<td>327 (57,5)</td>
</tr>
<tr>
<td>Multiparous</td>
<td>282 (49,6)</td>
<td>Don’t work (unemployed, on leave, leave of absence)</td>
<td>242 (42,5)</td>
</tr>
<tr>
<td>Children’s age</td>
<td>N (%)</td>
<td>Autonomos Community</td>
<td>N (%)</td>
</tr>
<tr>
<td>From 0 to 3 months</td>
<td>61 (10,7)</td>
<td>Andalucía</td>
<td>38 (6,6)</td>
</tr>
<tr>
<td>From 4 to 6 months</td>
<td>63 (11,1)</td>
<td>Aragón</td>
<td>33 (5,7)</td>
</tr>
<tr>
<td>From 7 to 12 months</td>
<td>139 (24,4)</td>
<td>Asturias</td>
<td>33 (5,8)</td>
</tr>
<tr>
<td>From 13 to 18 months</td>
<td>154 (27,1)</td>
<td>Baleares</td>
<td>36 (6,3)</td>
</tr>
<tr>
<td>From 19 to 24 months</td>
<td>152 (26,7)</td>
<td>Canarias</td>
<td>32 (5,6)</td>
</tr>
<tr>
<td>Socioeconomic status</td>
<td>N (%)</td>
<td>Cantabria</td>
<td>39 (6,9)</td>
</tr>
<tr>
<td>Upper</td>
<td>51 (9)</td>
<td>Castilla y León</td>
<td>31 (5,4)</td>
</tr>
<tr>
<td>Upper-middles</td>
<td>106 (18,6)</td>
<td>Castilla La Mancha</td>
<td>34 (6,0)</td>
</tr>
<tr>
<td>Middle</td>
<td>210 (36,9)</td>
<td>Cataluña</td>
<td>42 (7,4)</td>
</tr>
<tr>
<td>Low- middle</td>
<td>177 (31,1)</td>
<td>Comunidad Valenciana</td>
<td>44 (7,7)</td>
</tr>
<tr>
<td>Low</td>
<td>25 (4,4)</td>
<td>Extremadura</td>
<td>35 (6,1)</td>
</tr>
<tr>
<td>Household income</td>
<td>N (%)</td>
<td>Galicia</td>
<td>36 (6,3)</td>
</tr>
<tr>
<td>≤ 2.000 €</td>
<td>268 (47,1)</td>
<td>Madrid</td>
<td>36 (6,3)</td>
</tr>
<tr>
<td>&gt; 2.000 €</td>
<td>233 (40,9)</td>
<td>Navarra</td>
<td>33 (5,8)</td>
</tr>
<tr>
<td>Lost*</td>
<td>68 (12)</td>
<td>País Vasco</td>
<td>35 (6,15)</td>
</tr>
</tbody>
</table>

*Mothers of children who were formula feed only had to respond to the first part of the survey

Out of the total 501 mothers that had breastfeeding or continued to do so at the time of the survey, the main reason for choosing to do so was because this was considered the best feeding (table 2).

When asked about the most significant influence regarding the decision to breastfeed, 67.5% explained that it had been a personal decision followed by the family influence (26.5%), then the midwife (20.2%) and the pediatrician (15.2%) (table 3). 75% of the mothers (374) considered the main Benefit of BF was the fact that it was the most natural choice, 76.6% (384) considered that BF protected the child from infections and other illnesses. On the other hand, 43.1% (216) pointed out the difficulty to combine breastfeeding and work, 38.9% (195) breastfeed in public and 35.9% (180) the fact that their breasts became less firm, and as for the baby, frequent nocturnal awakening was considered the main inconvenience by 61.9%
Table 2
Reasons for choosing artificial feeding or breastfeeding

<table>
<thead>
<tr>
<th>Main reason for choosing artificial feeding</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Returning to work immediately</td>
<td>23(33,8)</td>
</tr>
<tr>
<td>Lack of recommendations or support from health professionals</td>
<td>22(32,3)</td>
</tr>
<tr>
<td>Forced separation from child, either because of her or the newborn's health problems.</td>
<td>10(14,7)</td>
</tr>
<tr>
<td>Preference for formula milk</td>
<td>7(10,3)</td>
</tr>
<tr>
<td>Consider it unnecessary</td>
<td>6(8,9)</td>
</tr>
<tr>
<td>Main reason for breastfeeding past or present</td>
<td></td>
</tr>
<tr>
<td>Because it is the best way to feed my baby</td>
<td>213(42,5)</td>
</tr>
<tr>
<td>It is Good for my baby’s health</td>
<td>152(30,3)</td>
</tr>
<tr>
<td>Recommended by midwife or nurse</td>
<td>38(7,6)</td>
</tr>
<tr>
<td>Because I didn’t think of any other alternative</td>
<td>31(6,2)</td>
</tr>
<tr>
<td>It is an intimate moment with the baby</td>
<td>25(5,0)</td>
</tr>
<tr>
<td>Gynaecologist recommendation who controlled my pregnancy</td>
<td>16(3,2)</td>
</tr>
<tr>
<td>It has many benefits for mothers</td>
<td>10(2,0)</td>
</tr>
<tr>
<td>All my Friends recommended it</td>
<td>5(1,0)</td>
</tr>
<tr>
<td>Due to support and personal experiences during delivery</td>
<td>4(0,8)</td>
</tr>
<tr>
<td>Others</td>
<td>7(1,4)</td>
</tr>
</tbody>
</table>

Table 3
Influences for choosing breastfeeding

<table>
<thead>
<tr>
<th>Who or what has had a greater influence regarding your decision to breastfeed your baby? And in second place? And in third place?</th>
<th>1st option N (%)</th>
<th>2nd option N (%)</th>
<th>3rd option N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Myself, I have always had clear my decision</td>
<td>338(67,4)</td>
<td>48(9,6)</td>
<td>37(7,4)</td>
</tr>
<tr>
<td>My family (sisters, mother, etc)</td>
<td>33(6,6)</td>
<td>133(26,5)</td>
<td>91(18,1)</td>
</tr>
<tr>
<td>Midwife</td>
<td>46(9,2)</td>
<td>104(20,7)</td>
<td>101(20,1)</td>
</tr>
<tr>
<td>Paediatrician</td>
<td>39(7,8)</td>
<td>76(15,2)</td>
<td>65(13,0)</td>
</tr>
<tr>
<td>Gynaecologist</td>
<td>13(2,6)</td>
<td>24(4,8)</td>
<td>41(8,2)</td>
</tr>
<tr>
<td>General Practitioner</td>
<td>7(1,4)</td>
<td>15(3,0)</td>
<td>21(4,2)</td>
</tr>
<tr>
<td>Nurse</td>
<td>3(0,6)</td>
<td>5(1,0)</td>
<td>16(3,2)</td>
</tr>
<tr>
<td>Friends</td>
<td>4(0,8)</td>
<td>19(3,8)</td>
<td>29(5,8)</td>
</tr>
<tr>
<td>Information from the internet</td>
<td>8(1,6)</td>
<td>48(9,6)</td>
<td>38(7,6)</td>
</tr>
<tr>
<td>Specialized magazines for mothers, babies, etc</td>
<td>10(2,0)</td>
<td>29(5,8)</td>
<td>62(12,4)</td>
</tr>
</tbody>
</table>

(310), and weight increase was considered an inconvenient by 29.3% of the mothers (147) (table 4).

The respondents were also asked to value from 1 to 10 the degree of agreement (1=disagree completely, 10=totally agree) regarding a series of phrases and opinions about breastfeeding. Above 8 was a high score considered the best way to feed a baby (average 8.9 DE 1.8; IC95% 8.8-9.1), the healthiest and most natural way (average 8.9 DE 1.8; IC95% 8.8-9.1), was considered pleasant (average 8.1 DE 2.3;
Table 4
Main benefits and disadvantages of breastfeeding for the mother and the child, perceived by the respondents (mothers could choose a maximum of 3 options in each section).

<table>
<thead>
<tr>
<th>Benefits for the mother</th>
<th>N</th>
<th>Disadvantages for the mother</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Most natural option</td>
<td>376</td>
<td>Complicated to combine with work</td>
<td>216</td>
</tr>
<tr>
<td>Personal satisfaction</td>
<td>214</td>
<td>It is awkward to breastfeed in public places</td>
<td>195</td>
</tr>
<tr>
<td>It does not involve any cost, unlike the artificial formula</td>
<td>172</td>
<td>Breasts loose firmness</td>
<td>180</td>
</tr>
<tr>
<td>Makes me feel a good mother</td>
<td>123</td>
<td>Nipple cracking</td>
<td>169</td>
</tr>
<tr>
<td>Reduces the risk of some diseases in the mother</td>
<td>115</td>
<td>It is painful</td>
<td>124</td>
</tr>
<tr>
<td>Reduces the risk of breast cancer</td>
<td>110</td>
<td>No time for myself</td>
<td>123</td>
</tr>
<tr>
<td>It is enjoyable</td>
<td>100</td>
<td>I have to dedicate all my time to the baby</td>
<td>97</td>
</tr>
<tr>
<td>Benefits for the child</td>
<td></td>
<td>Disadvantages for the child</td>
<td></td>
</tr>
<tr>
<td>Protects baby from infections and other illnesses</td>
<td>384</td>
<td>Baby wakes up more often at night to feed</td>
<td>310</td>
</tr>
<tr>
<td>Helps mother/child bonding</td>
<td>331</td>
<td>Grows and gains less weight than with artificial feeding</td>
<td>147</td>
</tr>
<tr>
<td>Grows stronger and healthier than with artificial milk</td>
<td>249</td>
<td>Breastfeeding babies sleep worse</td>
<td>131</td>
</tr>
<tr>
<td>Prevent possible allergies</td>
<td>198</td>
<td>Baby can get any disease of the mother</td>
<td>128</td>
</tr>
<tr>
<td>Prevent constipation</td>
<td>106</td>
<td>Breastfed children cry more</td>
<td>94</td>
</tr>
<tr>
<td>Babies are happier</td>
<td>70</td>
<td>There are no disadvantages</td>
<td>92</td>
</tr>
</tbody>
</table>
As for the introduction of mixed feeding, 37.9% of the nursing babies were under 6 months and 53.1% were over six months. The main reason for beginning mixed feeding was that mothers started work again (39%), this was followed by the pediatricians recommendations (30%), the baby not gaining enough weight (16%) and because the mother wanted her partner/husband to take part in the feeding. (15%).

Regarding complementary feeding, all the respondents (569) were asked about the kind of food given to their babies under 2 years in the last 24 hours. Complementary feeding had been initiated in the case of 44.8% of children under 6 months of age that were breastfeeding and 81.1% of the children with LA. Between 6 and 12 months 93.3% of children who were being breastfed received complementary feeding and 100% of those children with LA. From one year onward 100% of the children in both groups received complementary feeding.

Out of the 501 mothers that had breastfed or continued to do so at the time of the survey, 57.9% (290) were working. After going back to work, only 13.7% extracted mother’s milk for the child to feed while she was at work.

50.5% of the mothers considered that going back to work had affected them a great deal or quite a lot. The explanations given regarding how going back to work had affected breastfeeding were: lack of time (64), timetable incompatibility (63), because they had to stop breastfeeding (37) changes regarding the amount of milk intake (32), because this had caused “a cut in milk supply” (29), because they needed to “start storing milk / extract milk during work” (27) due to stress (18).

The average weaning age of those mothers who had stopped breastfeeding at the time of the survey, (n=334) was 6.4 months (DE 3.8; IC95% 6.0-6.8; Average 6.0) months.

The main reason for stopping was the impression that they were not producing enough milk (29%), followed by going back to work (18%) (table 6).

<table>
<thead>
<tr>
<th>Main reason for abandonment of breastfeeding</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I had less and less milk</td>
<td>97 (29)</td>
</tr>
<tr>
<td>I had to go back to work</td>
<td>59 (17,6)</td>
</tr>
<tr>
<td>Started to reject the breast</td>
<td>25 (7,5)</td>
</tr>
<tr>
<td>I had breastfeeding problems</td>
<td>24 (7,2)</td>
</tr>
<tr>
<td>It began to be painful</td>
<td>21 (6,3)</td>
</tr>
<tr>
<td>I didn´t think it was necessary to continue breastfeeding my child</td>
<td>21 (6,3)</td>
</tr>
<tr>
<td>My child was gaining little weight</td>
<td>17 (5,1)</td>
</tr>
<tr>
<td>It was difficult to find time during the day to breastfeed my child</td>
<td>15 (4,5)</td>
</tr>
<tr>
<td>I became ill</td>
<td>12 (3,6)</td>
</tr>
<tr>
<td>It was uncomfortable to breastfeed away from home</td>
<td>10 (3,0)</td>
</tr>
<tr>
<td>Child started to eat solids</td>
<td>8 (2,4)</td>
</tr>
<tr>
<td>I thought my milk didn´t fall well my child and I decided to change</td>
<td>5 (1,5)</td>
</tr>
<tr>
<td>It was difficult to get my figure and my weight back while breastfeeding</td>
<td>3 (0,9)</td>
</tr>
<tr>
<td>I got pregnant again</td>
<td>2 (0,6)</td>
</tr>
<tr>
<td>I wanted to get pregnant again</td>
<td>1 (0,3)</td>
</tr>
<tr>
<td>I couldn´t drink beer or other alcoholic drinks</td>
<td>1 (0,3)</td>
</tr>
<tr>
<td>Other motives</td>
<td>13 (3,9)</td>
</tr>
</tbody>
</table>
Weaning was earlier when the motive was the impression that not enough milk was being produced (average 5.7 DE 3.5 months), compared to those who had stopped due to work (average 7.0 DE 3.9 months, p=0.03) and the case of mothers whose family income was below 2000 euros/month (average 5.9 DE 3.8 months), compared to those with a higher income (average 7.0 DE 3.8 months, p=0.01).

There were no significant differences regarding BF duration among the different geographic zones, as there were no differences between working mothers and mothers who did not work.

**DISCUSSION**

Up until now there were very few studies like ours that analyze the motivations, constraints perceived by Spanish mothers regarding beginning and continuing with breastfeeding. This is the principal contribution of our study as well as the fact that we included mothers residing in all the autonomous communities of Spain with children under the age of two. The majority chose to breastfeed on their own initiative. The difficulty to combine breastfeeding and work as well as breastfeeding in public were the main inconveniences that mothers pointed out. Weaning was motivated in almost 50% of the cases due to the sensation that not enough milk was being produced and going back to work.

A third of the mothers that decided not to breastfeed was due to a lack of recommendations and support from health care professionals. In this sense, it would be necessary to improve the formation and motivation of these professionals in order to increase breastfeeding rates\(^6,19\).

In our study, almost half of the children started complementary feeding before 6 months of age, this is a tendency that has increased all over the world even if its known that early complementary feeding increases weaning and decreases milk production\(^20\) and infant obesity\(^21,22\). On the other hand, it has been proved that breastfeeding is a way of reducing obesity\(^23\). Recently the WHO has launched a worldwide campaign aimed implementing a maternal-infant nutrition plan that includes six nutrition goals; this includes increasing exclusive breastfeeding rates up to six months in the case of at least 50% of children\(^24\).

The average weaning age was 6.4 months old in the case of mothers who participated in the survey. In the EI micro-data analysis from the youngsters questionnaire carried out by the National Health Survey 2011-12\(^25\), from a total of 1466 children under the age of 5 years and who had been breastfed, the average weaning age was 6.8 (DE 5.6) months. This data is similar to the data collected in our survey but higher than in the study carried out by Sacristan et al.\(^26\). In this survey, carried out in the Community of Castilla and León, the average duration of BF was 4.6 months, which may be explained because the data was collected in 2007 and the prevalence of BF has risen over the last few years\(^25,27,28\), as well as the fact that the average age of the children in that study was lower; infants between 6 y 12 months.

In accordance with the research carried out by other authors\(^29,30\), our study shows that weaning takes place earlier on when families have a lower income. The main reason for weaning was the perception of low milk production, which was higher than weaning due to returning to work. In a recent study by Oríbe et al.\(^31\), out of 460 nursing women living in Guipúzcoa, the average period of exclusive BF was lower in the case of hypogalactia compared to weaning as a consequence of returning to work (9.7 weeks in the first case and 18.3 weeks in the second). The same study also noted that the maternal leave and the intentions regarding BF methods had a significant influence on the duration of exclusive breastfeeding. It is worth noticing that in our study a high percentage of mothers made the decision to breastfeed completely on their own. Several authors have pointed out that...
self-sufficiency; the self-confidence a mother has regarding feeding her child, increases the starting rated and duration rates of BFP\textsuperscript{(32-34)} . This is probably because mothers are inclined to have a more positive attitude towards difficulties and react efficiently when these arise\textsuperscript{(35,36)} .

The family circle took second place regarding the decision to breastfeed. This has been agreed upon by several other authors: “Breastfeeding is not an issue exclusive to mothers but a family matter”\textsuperscript{13}.

In agreement with previous studies\textsuperscript{(26,37)} , most mothers consider breastfeeding the best option for their child; the healthiest, most natural and pleasing way, which may be a consequence of the emotional benefits and the positive effect of breastfeeding campaigns. In our study, not a single mother pointed out the disadvantages or inconveniences of artificial feeding that may have influenced their decision. This is probably due to the fact that BF campaigns focus on the benefits compared to those children who are fed on formula or artificial feeding but do not present these results as inconveniences of artificial feeding. Several authors have noted that\textsuperscript{(38,39)} , this may convey the message that: “if breastfeeding is better”, then formula feeding is implicitly “good or normal”\textsuperscript{40}.

Concerning the inconveniences of breastfeeding, frequent nocturnal waking was placed in first position. Parents expectations do not always coincide with reality and the child’s sleep patterns goes through variable changes particularly during the first year\textsuperscript{41} . Although breastfed babies do wake up more frequently the waking hours or periods are longer when compared to babies who are fed on formula milk\textsuperscript{42} . Nevertheless, many families believe that the baby wakes up because he or she has not had enough milk. This situation often results in weaning if the parents are not informed correctly.

The principal inconvenience of breastfeed- ing for mothers was trying to combine work and breastfeeding as well as breastfeeding in public. Very few studies include this last variable when analyzing the influential factors of BF despite the fact that breastfeeding in public is a common issue and often causes public debate in the mass media and social networks. Breastfeeding in public is quite often a drawback, especially in societies unlike ours and where feeding in public is rejected\textsuperscript{43} . All children have the right to breastfeed whenever required and it is a social responsibility to ensure that mothers can do so freely. It is necessary to understand that breastfeeding is part of human nature, part of our culture and the image of a mother breastfeeding should be commonplace and certainly not considered scandalous\textsuperscript{44} .

Coinciding with other authors\textsuperscript{(26,31)} , in our study we discovered that returning to work was one of the main challenges regarding the continuance of breastfeeding for the recommended period.

The results of this study support the need to achieve prolonged, fully paid maternity leave, facilitate breastfeeding in public and the promotion of breastfeeding after returning to work. These measures may be achieved by introducing breastfeeding rooms, specific programs to promote breastfeeding at the work place as well as other options regarding breastfeeding and work; flexible work hours, part-time work or working from home\textsuperscript{45} . The strategies aimed at boosting breastfeeding at work have definite benefits for mothers, children, society in general and the companies they work for. The consequences include increased satisfaction, dedication, as well as reduced absenteeism, as mothers and babies become ill much less and are more efficient while at work\textsuperscript{(46,47,48)} .

Breastfeeding is an issue of public health that requires a social and cultural change of perspective. Personal opinion and prejudice are more evident in breastfeeding and child-birth than in any other than aspect of medicine\textsuperscript{49} . It is necessary to work in multi-disciplinary teams including social science
researchers that may help us understand the role of infant feeding, the family and the social circumstances that are involved. Taking this into account, efficient strategies should be developed in order to increase breastfeeding rates in our communities and help create a “breastfeeding culture”.

The results of the study are interesting due to the lack of research studies with similar characteristics in this country. However, the recruitment method used and the sampling strategy limits to a certain extent the representativeness of the sample and therefore the generalization of the results. Another limitation might be risk of memory distortion when asking mothers question about breastfeeding in retrospect, although we believe that the intensity of this type of experience and the proximity (average age of children 12.9 months) minimizes this possible memory distortion.

To conclude we must point out that in order to improve breastfeeding rates, it is vital to inform mothers about objective and reliable criteria to evaluate their milk production and in this way ensure they don’t lose their confidence. At the same time it is necessary to develop adequate policies to protect breastfeeding at the work place and in public.

ACKNOWLEDGMENTS

We would like to express our gratitude to Dr. Leonardo Landa and Mrs. Mª Isabel Castelló, for their advice during the elaboration of the questionnaire, and Mrs. Mónica Suarez for the access to the micro-data of the National Health Survey.

BIBLIOGRAPHY


41. Ball HL. Supporting parents who are worried about their newborn’s sleep. Clinicians can help to reframe expectations of “normal” and support parents to develop coping strategies. BMJ 2013;346:f2344.


ANNEX
ONLINE QUESTIONNAIRE

We are doing this survey in order to know your opinion and experience on some aspect related to maternity. The interview will last about 10 minutes, thanking you in advance for your participation and guaranteeing that your answers will be anonymous.

Date of completing survey ______________

Province of residence (a list opened to select)

F1. Specify gender
[Instructions for the programmer: If code 2 in F1, finish. Interview not valid]
   Female (1)
   Male (2)

F2. Specify nationality
   Spanish
   Other nationality (a list is opened to select)

F3. Please, write your age. ______________

F4. Please, tick your educational level
   No study
   Primary school
   Secondary school
   University
   Postgraduate, Master, Doctorate

NOW WE WILL ASK YOU A FEW QUESTIONS ABOUT THE "HEAD OF FAMILY", THAT IS THE PERSON WHO HAS THE HIGHEST HOUSEHOLD INCOMES.

JF1. Could you please tick the educational level of that person (finished studies)?
   No study
   Primary school
   Secondary school
   University
   Postgraduate, Master, Doctorate

JF2. What is the employment status of that person?
[Instructions for the programmer: If code 1 in JF2, pass on to JF3. If code 2,3 or 4 in JF2, pass on to JF4]
   Works at the moment (1)
   Retired / pensioner / disabled (2)
   Unemployed, has worked previously (3)
   Other, please specify (4) ___________________________________________________________________

JF3. What is the current profession of that person? _______________________________________

JF4. What was the previous profession of that person? _______________________________________

F5. Do you have children?
[Instructions for the programmer: If code 2 in F5, finish. Interview not valid]
   Yes (1)
   No (2)

F6. How many children do you have? [_____] n° of children

F7. Date of birth of your child? (If you have more than one child, indicate the date of birth of the youngest)
[Instructions for the programmer: There are only valid if child’s age is 2.0 years or younger. If older than 2.0 year, finish the interview]
Please, indicate the year of birth of your child (a list is opened to select)
Please, indicate the month of birth of your child (a list is opened to select)

F8. Choose the option that is closest to your current situation. Tick only one answer.
I have not yet returned to work, I’m still on maternity leave, leave of absence (1)
I am already back at work (2)
I have no intention of working for some time (3)
I am not working at the moment (4)

THE FOLLOWING QUESTIONS ARE RELATED TO BREASTFEEDING. PLEASE, ANSWER THESE QUESTIONS REGARDING YOUR CHILD UNDER 2 YEARS OF AGE, OR THE YOUNGEST, IF YOU HAVE MORE THAN ONE CHILD.

F9. In the last 24 hours, have you given your child under 2 year of age, any of the following foods that appear on the screen? (you can tick several answers)
Breastmilk
Infant formula
Cereals
Vegetable purée
Fruit porridge
Juices
Infusions
Meat
Fish
Yogurt

F10. Regarding your child under 2 year of age, what phrase describes your behavior regarding breastfeeding? Tick only one answer.
[Instructions for the programmer: If code 1 in F10, go to P3. If code 2 in F10, go to P1. If code 3 in F10, continue]
At this moment I am breastfeeding my child (1)
Right now I am not breastfeeding, but I have breastfed my child (2)
I have not breastfed my child (3)

F11. Why MAIN REASON has not breastfed your child? Tick only one answer.
Lack of recommendation or support from health professionals
Immediate labor incorporation
I do not agree with breastfeeding
I prefer formula milk
I read some negative information regarding breastfeeding on the internet
I do not consider it necessary
I wanted to have more free time
I was separated from my child because he was hospitalized at birth.
I was separated from my child because I had complications during or after delivery.
I have had breast problems in previous lactations.
Some women in my family have had difficulties with breastfeeding
Some friend has had difficulties with breastfeeding
I think it can be painful
I did not wish to have limitations in my eating and drinking habits
I wanted to regain my figure, body weight, etc. as soon as possible
Other motives (please detail) ____________________________________________

F12. Why OTHER REASONS have you not breastfed your child? You may tick more than one answer.
Lack of recommendation or support from health professionals
Immediate labor incorporation
I do not agree with breastfeeding
I prefer formula milk
I read some negative information regarding breastfeeding on the internet
I do not consider it necessary
I wanted to have more free time
MOTIVATIONS AND PERCEIVED BARRIERS TO INITIATE OR SUSTAIN BREASTFEEDING AMONG SPANISH WOMEN

I was separated from my child because he was hospitalized at birth.
I was separated from my child because I had complications during or after delivery.
I have had breast problems in previous lactations.
Some women in my family have had difficulties with breastfeeding.
Some friend has had difficulties with breastfeeding.
I think it can be painful.
I did not wish to have limitations in my eating and drinking habits.
I wanted to regain my figure, body weight, etc. as soon as possible.
Other motives (please detail) ________________________________

[Instructions for the programmer: With this question F12, the interview with women who have never breastfed ends: code 3 in F10].

P1. How months old was your child when you stopped breastfeeding completely? [_____] months.

P2a. What was the MAIN REASON for stopping breastfeeding? Tick only one answer.
- I had to go back to work.
- I thought it was not necessary to continue breastfeeding my child.
- My child was gaining little weight.
- I thought that my milk didn’t suit my child and I decided to change.
- My husband-partner didn’t support my decision to prolong breastfeeding.
- It was having a negative effect on my relationship with my husband-partner.
- It was difficult to find time to breastfeed during the day.
- It was awkward to breastfeed away from home.
- I couldn’t drink beer or other alcoholic beverages.
- It was difficult to get my weight and figure back while breastfeeding.
- I had less and less milk.
- It began to feel painful.
- I wanted to fall pregnant again.
- I had breast problems.
- My child began to reject breastfeeding.
- I became ill.
- My child began to eat solids.
- Other motives (please detail) ________________________________

P2b. Why OTHER REASONS did you stop breastfeeding your child? You may tick several answers.
- I had to go back to work.
- I thought it was not necessary to continue breastfeeding my child.
- My child was gaining little weight.
- I thought that my milk didn’t suit my child and I decided to change.
- My husband-partner didn’t support my decision to prolong breastfeeding.
- It was having a negative effect on my relationship with my husband-partner.
- It was difficult to find time to breastfeed during the day.
- It was awkward to breastfeed away from home.
- I couldn’t drink beer or other alcoholic beverages.
- It was difficult to get my weight and figure back while breastfeeding.
- I had less and less milk.
- It began to feel painful.
- I wanted to fall pregnant again.
- I had breast problems.
- My child began to reject breastfeeding.
- I became ill.
- My child began to eat solids.
- Other motives (please detail) ________________________________

[Instructions for the programmer: The following questions (P3 to P5a) are only for mothers who continue to breastfeed (code 1 in F10), the rest go to P5b]

P3. At present, you:
P4. What were the reasons to decide feed your child with breast milk and formula milk?

1. I had to go back to work
2. My child was gaining little weight
3. Lack of time to breastfeed my child at all times
4. It was awkward to breastfeed away from home
5. My pediatrician recommended me to introduce formula milk
6. I thought that being older, my child should also take artificial milk
7. I had read that it was good to alternate the two types of milk
8. I wished that my partner- husband could also participate in the feeding of my child
9. Other motives (explain in detail)

P4b. Please write your child age in months when you plan to stop breastfeeding it: [___] months.

P5a. Which of these options do you consider the best, once you go back to work? Tick only one answer.

1. I will substitute breastmilk for “artificial” milk.
2. I will continue breastfeeding, storing my milk extracted to bottle feed my child.
3. I will continue breastfeeding, but I will alternate it with bottle feeding.
4. I will continue breastfeeding and also give other foods such as cereals or fruit (complementary feeding).

P5b. Which of these options best fits what you decided to do about breastfeeding when you returned to work? Tick only one answer.

1. I substituted breastmilk for “artificial” milk.
2. I continued breastfeeding, storing my milk extracted, to use it at the times I was at work.
3. I continued breastfeeding and alternated it with bottle feeding.
4. I continued breastfeeding and also gave other foods such as cereals or fruit (complementary feeding).

P6. To what extent do you think that going back to work has affected breastfeeding? Tick only one answer.

1. A great deal (4)
2. Quite a lot (3)
3. Almost nothing (2)
4. Not at all (1)

P7. Please explain briefly how going back to work affected breastfeeding.

P8a. Why MAIN REASON decided to breastfeed your baby? Tick only one answer

1. Recommendation of the gynecologist that controlled my pregnancy
2. Recommendation of the midwife who took care of my pregnancy
3. Due to the support that I received and the experience during delivery
4. Information and suggestions from the health professional (midwife, nurse)
5. Because I think it is the best way to feed my baby
6. Because I didn’t think about any other alternative
7. All my friends recommend it to me
8. It is an intimate moment with my baby
9. It is good for my baby’s health
10. It offers many benefits to the mother
11. Other motives (Please detail)

P8b. Are there OTHER REASONS? You may tick several answers

1. Recommendation of the gynecologist that controlled my pregnancy
Recommendation of the midwife who took care of my pregnancy
Due to the support that I received and the experience during delivery
Information and suggestions from the health professional (midwife, nurse)
Because I think it is the best way to feed my baby
Because I didn’t think about any other alternative
All my friends recommend it to me
It is an intimate moment with my baby
It is good for my baby’s health
It offers many benefits to the mother
Other motives (Please detail) ____________________________________________

NOW WE ARE GOING TO TALK ABOUT THE BENEFITS AND INCONVIENCES THAT YOU MIGHT ENCOUNTER OR PERCEIVE DURING BREASTFEEDING:

P9. Which are the 3 main benefits of breastfeeding for you as a mother? You can only mark 3 benefits
Reduces the risk of breast cancer
It is pleasant
It helps to get back the figure previous to pregnancy
It helps to lose weight
It is a personal satisfaction
Reduces the risk of some diseases in the mother
It does not involve a cost like formula milk
It makes me feel good as a mother
It is the most natural
Other benefits (please detail) ____________________________________________

P10. On the contrary, what do you consider to be the 3 main disadvantages of breastfeeding for you as a mother? You can only mark 3 options
It is easier to put on weight
The breasts lose firmness
It is painful
It is complicated breastfeed and work at the same time
It is awkward to breastfeed in a public space
Delays the recovery of the “figure”
It cause nipple cracks
I have no time for myself
I have to dedicate all my time to the baby
It interferes with my sexual relations
Other disadvantages (please detail) ____________________________________________

P11. What do you consider the main benefits of breastfeeding for your child? Choose only 3 options
Protects the baby from infections and other diseases
Babies are happier
Helps avoid constipation of the baby
Breastfed babies have a more pleasant character
Helps create a bond between mother and child
Babies grow stronger and healthier than with formula milk
Helps avoid allergies
Other benefits (please detail) ____________________________________________

P12. And what do you consider the main disadvantages of breastfeeding for your child? Choose only 3 options
The mother can spread any disease to the baby
Grows less or gain less weight than a baby fed with formula milk
The baby wakes up more often during the night to eat
Breastfed babies sleep worse
Breastfed babies cry more
Breastfeeding increases the risk of allergies
Other disadvantages (please detail) ____________________________________________
P13. Who or what has had the most influence regarding your decision to breastfeed your baby? And in second place? And in third place? (Set a scale of 1 to 3, with 1 being the biggest influence and 3 the least)

<table>
<thead>
<tr>
<th>Paediatrician</th>
<th>1º</th>
<th>2º</th>
<th>3º</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gynaecologist</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Midwife</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General practitioner</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nurse</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My friends</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My family (sisters, mother, etc.)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The information that I found on the Internet</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specialized magazines for mothers, babies, etc.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I myself, I have always had clear my decision</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

P14. Of all the health professionals that have been with you through pregnancy, delivery and after the birth of your child, who has most influenced your decision to breastfeed your baby? And in second place? And in third place? (Set a scale of 1 to 3, with 1 being the biggest influence and 3 the least)

<table>
<thead>
<tr>
<th>Gynaecologist</th>
<th>1º</th>
<th>2º</th>
<th>3º</th>
</tr>
</thead>
<tbody>
<tr>
<td>General practitioner</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Midwife</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nurse</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paediatrician</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

P15. Now a series of phrases will appear on the screen. Please mark, on each one of them, your degree of agreement or disagreement. Mark only one answer for each sentence.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Totally agree</th>
<th>9</th>
<th>8</th>
<th>7</th>
<th>6</th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>Totally disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I find it pleasant to breastfeed my baby</td>
<td></td>
<td>10</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Breastfeeding seems to me the best way to feed my baby</td>
<td></td>
<td>10</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>My partner gives me support in all aspects of breastfeeding</td>
<td></td>
<td>10</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>I don't like breastfeed but I know it is the best for my baby</td>
<td></td>
<td>10</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Breastfeeding my baby makes my partner less involved</td>
<td></td>
<td>10</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Breastfeeding is the most healthy and natural when you have a child</td>
<td></td>
<td>10</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>I would like to continue breastfeeding as long as possible</td>
<td></td>
<td>10</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>

TO CONCLUDE THE INTERVIEW, YOU WILL SEE THREE GENERAL QUESTIONS ON THE SCREEN.

P16. Please mark your marital status

Single  
Widow  
Married  
Domestic partner

P17. Mark your home situation.
You live with your partner and children
You live alone with your children
You live with your partner, children and other family members
Others (please explain)

P18. Lastly, please mark the option nearest to the household incomes. We refer to the monthly net income, considering all household members.
Less than 1000 €
Between 1.000€ - 2.000 €
Between 2.001€ - 2.500 €
Between 2.501€ - 3.000 €
Between 3.001€ - 3.500 €
More than 3.501 €

Thank you very much for your collaboration