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Factors associated with the initiation of breastfeeding in a maternity hospital in Lima, Peru

Fatores associados ao início da prática do aleitamento em uma maternidade de Lima, Peru

ABSTRACT

Purpose: To verify the anatomophysiological, psychological, and sociocultural factors of the mother-newborn binomial, as well as their association with the initiation of breastfeeding. **Methods:** Cross-sectional study conducted in a maternity hospital in Lima, Peru. The sample consisted of 304 healthy neonates and their mothers. Breastfeeding performance was estimated by clinical assessment using the Clinical Evaluation of Breastfeeding Efficacy scale and maternal self-perception by the Breastfeeding Self-Efficacy Scale. Multivariate Prevalence Ratios (PR) were estimated by Poisson Regression with Robust Variance and 95% confidence intervals (CI). **Results:** The prevalence of clinical low breastfeeding performance was 27.6%. Primiparous women were associated with higher prevalence of low performance when they did not trust to succeed [PR:2.02(95%CI:1.18-3.44)] and lower prevalence in having a good latch [PR:0.52(95%CI:0.29-0.95)], as well as in coping successfully [PR:0.59(95%CI:0.37-0.91)]. Multiparous women showed higher prevalence when they were not confident in staying motivated [PR:3.47(95%CI:1.67-7.22)] and in calming the neonate [PR:4.07(95%CI:1.83-9.95)]. There was lower prevalence in keeping the neonate awake [PR:0.32(95%CI:0.14-0.75)] and when they did not feel confident in the presence of their family [PR:0.29(95%CI:0.13-0.64)]. **Conclusion:** It is important that health professionals be aware of emotional, social, and cultural issues to promote quality breastfeeding.

RESUMO

Objetivo: Verificar os fatores anatomofisiológicos, psicológicos, socioculturais do binômio mãe neonato e sua associação com o início da prática do aleitamento materno. **Método:** Estudo transversal realizado em uma Maternidade de Lima Peru. A amostra foi de 304 neonatos sadios e suas respectivas mães. O desempenho na amamentação foi estimado por avaliação clínica utilizando-se a escala de Avaliação Clínica da Eficácia da Amamentação e a autopercepção materna pela Escala de Autoeficácia da Amamentação. Razões de Prevalência (RP) multivariadas foram estimadas pela Regressão de Poisson com Variância Robusta e intervalos de confiança (IC) de 95%. **Resultados:** A prevalência de baixo desempenho clínico na amamentação foi de 27,6%. Primíparas associaram-se a maior prevalência de baixo desempenho quando não confiavam em ter sucesso [RP:2,02(IC95%:1,18-3,44)] e menor prevalência em ter boa pega [RP:0,52(IC95%:0,29-0,95)], assim como em enfrentar com êxito [RP:0,59(IC95%:0,37-0,91)]. As multíparas, apresentaram maior prevalência quando não confiavam em manter-se motivadas [RP:3,47(IC95%:1,67-7,22)] e em acalmar o neonato [RP:4,07(IC95%:1,83-9,95)]. Houve menor prevalência em manter o neonato acordado [RP:0,32(IC95%:0,14-0,75)] e quando não se sentiam confiantes na presença de seus familiares [RP:0,29(IC95%:0,13-0,64)]. **Conclusão:** É importante que profissionais da saúde estejam atentos às questões emocionais, sociais e culturais para a promoção de um aleitamento materno com qualidade.

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INTRODUCTION

The World Health Organization (WHO) stresses the importance of breastfeeding and recommends that it be carried out exclusively until six months of age and complemented until two years of age[1]. The Peruvian Ministry of Health reinforces this exclusive practice, emphasizing that breast milk is the best food during the first months of life and strengthens the bond between mother and newborn[2].

The benefits associated with the practice of breastfeeding are numerous, both for the newborn and the mother. Among the gains for the newborn are prevention of respiratory infections[3,4], diarrhea[5,6] and mortality[7,8], as well as decreased risk of allergies[9], hypertension, high cholesterol, diabetes[10] and obesity[8,11]. Children and adolescents who were breastfed also scored better on intelligence tests[8,12] and attended school more often[8]. For the mother, it is known that breastfeeding reduces the risk of breast[13] and ovarian[8] cancer and works as a contraceptive method[14]. In the emotional aspects, for the newborn, the practice generates a feeling of safety and protection; and for the mother, there is a feeling of self-confidence and accomplishment[15]. A study found that even in a rural Peruvian community, 94.1% of mothers recognized the benefits of breast milk, as well as the recommended time of exclusive breastfeeding. In addition, 97.1% recognized the benefit in the mother-neonate relationship[16].

Breastfeeding corresponds to a biological factor, but is inevitably subject to social, economic and cultural influences[17]. Roll and Cheater conducted a systematic review and separated the influential factors into social-ecological systems with several subthemes. The four systems found were: individual factors (biological, psychological); supportive microsystems (family, friends, religion); external support system (community, media, health care workers); and supportive macrosystem (society, culture, economy, politics, nationality). Among the subthemes, present in one or more of these systems, are the following: mother-neonate bond, self-esteem/self-confidence, body image, female role models, family and social relationships, knowledge/information, lifestyle, breastfeeding in public, formal information sources[18].

Although breastfeeding is recommended and its benefits are undeniable, social, economic, psychological, behavioral, and biological issues strongly interfere in breastfeeding and can result in early weaning[19]. Some studies[18,20,21] have described personal, social, cultural, and psychological aspects as determining factors in the decision to breastfeed and in the continuation of this practice for the recommended time. Just like the number of children, the environment in which a woman is inserted can strongly influence breastfeeding, requiring constant support and encouragement from health professionals, family, and community[22]. Moreover, cultural and family lifestyle issues are of paramount importance in the safety and performance at the time of breastfeeding[8].

In Ica, Peru, a study that analyzed the characteristics and beliefs associated with the abandonment of exclusive breastfeeding found that, in addition to economic issues related to returning to work and the need for family financial support, inadequate maternal beliefs about breastfeeding are associated with the abandonment of this practice. The main beliefs related to early weaning were: "breastfeeding is painful", "bottle feeding is the best way to control my baby's diet", "breastfeeding harms my body image", and "exclusive breastfeeding is not enough to make my baby fat"[23].

The benefits of breastfeeding are already evidenced in the literature, just like its possible influences, both anatomical and functional, as well as family, social, cultural, and educational support. However, few studies address these influences concomitantly in a hierarchical multivariate analysis, as well as investigate the differences between primiparous and mothers with more than one child among Peruvian Latin women. Knowing the main influences of breastfeeding can support the decision to breastfeed and the continuation of this practice. Understanding breastfeeding beyond the biological and functional context allows governmental spheres to support health programs and public policies in an assertive manner globally, as well as health professionals to provide adequate support for breastfeeding promotion. Thus, this study aimed to verify the anatomophysiological, psychological and sociocultural factors of the mother-newborn binomial and their association with the initiation of breastfeeding practice.

METHODS

This was a cross-sectional study carried out at the National Maternal and Perinatal Institute, a facility of great medical and surgical complexity for maternal and perinatal care in Lima, Peru. Sample size calculation was performed with a view to a larger project entitled "*El bebé frenillo lingual: un estudio de acompañamiento*", and resulted in a final minimum sample size of 275 participants. The intentional consecutive sample consisted of 304 newborns and their respective mothers, assessed during December 2017 and January 2018. Neonates under intensive care, with any craniofacial or neurological disorders were excluded, as well as mothers under 18 years of age. All were excluded by medical record confirmation.

A pilot study was conducted for training and standardization of data collection with 30 newborns that were not counted in the final sample by the same and only interviewer of the study, a specialist in the area, who performed the data collection. To identify personal characteristics, a directed questionnaire was used: newborn age (in hours), gender (female; male) and newborn weight (in grams); mother's age (in years) and maternal education (incomplete elementary school, complete elementary school, incomplete high school, complete high school, incomplete technical or college education, college or post-graduate), receipt of government assistance (SIS - *Seguro*

Integral de Salud/Integral Health Insurance) (yes; no), and completion of prenatal care with the minimum number of consultations recommended by the Ministry of Health (yes; no). To clinically evaluate breastfeeding, we used the Clinical Evaluation of Breastfeeding Efficacy (LATCH) scale, which analyzes the quality of latching (L), hearing the newborn swallow while breastfeeding (A), nipple type (T), comfort level of the mother regarding breast and nipple (C), and help to position the newborn (H), (Minimum score = 0 – low efficacy and maximum = 10 – high efficacy)[24,25], in addition to the Breastfeeding Self-Efficacy Scale (BSES) (minimum score = 0 – low efficiency; and maximum = 5 – high efficiency for each item assessed)[26], which has intrapersonal and technical domains, used as a tool to investigate the mother's self-perception and expectations about breastfeeding. Both scales were duly translated and validated in the Spanish version, as were the scales, and were applied through standardized interviews, by a single interviewer trained and qualified to apply them. The priority for conducting the evaluations was, at the time of hospital discharge, 24 hours for mothers of normal births and 48 hours for mothers of cesarean births.

For categorization purposes, the maximum LATCH score was considered good performance, and scores less than or equal to 9, the outcome of this study, as low performance[27]. As to BSES, scores less than or equal to 4 were considered as a negative self-perception of confidence, while only the maximum score was considered as positive[28]. Both scales were categorized according to the median distribution of the sample. In addition, primiparous and multiparous women were analyzed separately.

From the Breastfeeding Self-Efficacy Scale, some items were selected and categorized into 4 different models. The models were created by dividing the intrapersonal and technical domains, as well as from the theoretical framework contained in this study[8,20,23]. *Model 1* - related to anatomical-physiological issues: maintaining milk production; observing how much milk the baby is taking; recognizing when the baby has stopped suckling; positioning the baby correctly; helping the baby to have a good latch to the breast; recognizing when the baby has a good latch to the breast during breastfeeding; breastfeeding at one breast before changing to the other; separating the baby from the breast without pain. *Model 2* - addressing infant issues: being successful at every feed; identifying if the infant is getting enough milk; maintaining exclusive breastfeeding; satisfying the infant's demands. *Model 3* - concerning psychological issues of the mother: feeling satisfied; concentrating on breastfeeding; successfully coping with breastfeeding; avoiding the use of a bottle; maintaining the desire to breastfeed; staying motivated at the moment of breastfeeding; feeling satisfied with the experience; wanting to breastfeed successfully; keeping the baby awake during breastfeeding; being able to calm the baby to breastfeed; feeding the baby when he/she wants to; keeping the baby comfortably in her arms; coping with the time dedicated to breastfeeding; being able to calm the baby to breastfeed; feeding the baby when he/she wants to; keeping the baby comfortably in her arms; coping with the time dedicated to breastfeeding. *Model 4* – referring to sociocultural issues: support from friends, feeling comfortable to breastfeed in public places, feeling comfortable to breastfeed in the presence of family members, family support-aid to maintain breastfeeding.

A descriptive analysis was performed by means of absolute and relative frequency measures and calculation of the distribution of variables by means of averages and standard deviations. Spearman's correlation was performed to test the correlation of variables and verify the absence of measurement bias. Since all variables showed very weak (0 to 0.3), weak (0.3 to 0.5), and moderate (0.5 to 0.7) correlation value, they were added to the theoretical model of this study. The Chi-square test was used to evaluate differences in the variables studied with a significance level of $p \leq 0.05$. Data analysis was performed using a hierarchical approach. The hierarchical approach consisted of using uni and multivariate Poisson Regression models with Robust Variance to estimate the relationships between the variables studied and the outcome, which was stratified into primiparous and mothers who already had other children. Adjusted Prevalence Ratios (PR) were then calculated within each block. Variables were retained at subsequent levels if $p \leq 0.10$ after adjustment for confounding factors in their own block and those retained from previous ones. Finally, only those variables with $p \leq 0.10$ in the previous models were included in the final, fully adjusted model. In this model, the association between the studied variables and the outcome was estimated using the PR and respective 95% confidence intervals (CI). Statistical significance was set at $p \leq 0.05$. The statistical significance of the PR was evaluated by the Wald test and respective p-value. The 95% confidence intervals of the PRs were also used. All statistical analyses were performed using SPSS version 21.0 (SPSS Inc., Chicago, IL).

This research was approved by the Research Ethics Committee of the National Maternal and Perinatal Institute under report No. 16873. All mothers participating in the research signed the Informed Consent Form.

RESULTS

A total of 304 neonates and their mothers were evaluated. Of these neonates, 167 (54.9%) were male. The prevalence of low breastfeeding performance was 27.6%. The mean age of the neonates was 22 (SD 7) hours and the mean birth weight was 3.35 (SD 0.65) kilograms. As for the mothers, 97% had assistance from the government of Peru (SIS) and 288 (94.7%) had prenatal care. The mean age was 28 (SD 6) years. Maternal education was predominantly of mothers who completed high school (154 - 50.7%), followed by mothers who did not complete high school (50 - 16.4%) and 22 (7.2%) who did not complete elementary school. A total of 117 (38.6%) mothers were not primiparous.

Table 1. Description of selected variables of the BSES scale stratified by clinical breastfeeding performance and the amount of children in not trusting any action. Peru, 2018. Peru, 2018

Variables	n (%)			
	Good performance		Low performance	
	1st Child	2 or + children	1st Child	2 or + children
Maintaining milk production	28 (40.6%)	56 (37.1%)	25 (52.1%)	19 (52.8%)
Observing how much milk the baby is sucking from the breast	45 (65.2%)	95 (62.9%)	39 (81.2%)	25 (69.4%)
Recognizing when the baby has stopped suckling	43 (62.3%)	74 (49.0%)	37 (77.1%)	23 (63.9%)
Positioning the baby correctly	45 (65.2%)	73 (48.3%)	38 (79.2%)	24 (66.7%)
Helping the baby get a good latch on to the breast	46 (66.7%)	76 (50.3%)	33 (68.8%)	24 (66.7%)
Recognizing when the baby has a good latch during the entire breastfeeding period	42 (60.9%)	78 (52.0%)	37 (78.7%)	24 (66.7%)
Breastfeeding at one breast before switching to the other	45 (65.2%)	85 (56.3%)	36 (75.0%)	23 (63.9%)
Separating the baby from the breast without pain	48 (69.6%)	100 (66.7%)	40 (83.3%)	29 (80.6%)
Being successful at every feeding	32 (46.4%)	58 (38.4%)	24 (50.0%)	18 (50.0%)
Identifying if the baby is getting enough milk	49 (71.0%)	92 (60.9%)	41 (85.4%)	26 (72.2%)
Maintaining exclusive breastfeeding	34 (49.3%)	58 (38.4%)	28 (58.3%)	19 (52.8%)
Satisfying the baby's demands	33 (47.8%)	58 (38.4%)	32 (66.7%)	18 (50.0%)
Feeling satisfied	42 (60.9%)	75 (49.7%)	37 (78.7%)	24 (66.7%)
Concentrating on breastfeeding	38 (55.1%)	73 (48.3%)	34 (70.8%)	23 (63.9%)
Coping successfully with breastfeeding	32 (46.4%)	58 (38.4%)	24 (50.0%)	18 (50.0%)
Avoiding bottle feeding	35 (50.7%)	72 (47.7%)	32 (66.7%)	23 (63.9%)
Maintaining the desire to breastfeed	29 (42.0%)	58 (38.4%)	30 (63.8%)	21 (58.3%)
Keeping motivated at the moment of breastfeeding	29 (42.0%)	53 (35.3%)	27 (56.2%)	20 (55.6%)
Feeling satisfied with the experience	26 (37.7%)	61 (40.4%)	27 (56.2%)	20 (55.6%)
Desire to breastfeed successfully	24 (34.8%)	54 (36.0%)	28 (58.3%)	17 (47.2%)
Keeping the baby awake while breastfeeding	52 (75.4%)	103 (68.2%)	38 (79.2%)	24 (66.7%)
Being able to calm the baby for breastfeeding	40 (58.8%)	76 (50.3%)	35 (72.9%)	26 (72.2%)
Feeding the baby when he/she wants to	37 (53.6%)	64 (42.4%)	30 (62.5%)	21 (58.3%)
Keeping the baby comfortably in her arms	38 (55.1%)	69 (45.7%)	29 (60.4%)	20 (55.6%)
Coping with breastfeeding time	50 (72.5%)	87 (57.6%)	39 (81.2%)	25 (69.4%)
In the support of friends	51 (73.9%)	117 (77.5%)	38 (79.2%)	28 (77.8%)
Feeling comfortable breastfeeding in public places	45 (67.2%)	88 (58.3%)	34 (72.3%)	20 (55.6%)
Feeling comfortable breastfeeding in the presence of family members	37 (53.6%)	77 (51.3%)	26 (54.2%)	13 (36.1%)
In the support of family/Aid to maintain breastfeeding	45 (65.2%)	108 (71.5%)	34 (70.8%)	23 (63.9%)

Table 1 of the paper presents the description of the selected variables of the BSES scale stratified by clinical breastfeeding performance, as well as primiparous or non-primiparous mothers. All statements of the scale were more prevalent in mothers with low LATCH performance in both groups of mothers, except for the variable not relying on family support to maintain breastfeeding in mothers with the second child or more 13 (36.1%).

Table 2 contains the adjusted prevalence ratios in the models studied for primiparous women only. In the final model, adjusted with the variables from model 4 plus the variables with p≤0.10 from the preceding blocks, those who did not trust to succeed in all breastfeeding remained associated with the highest prevalence of low performance [RP:2.02 (95%CI:1.18-3.44)], and mothers who did not trust that the neonate would have good latch to the breast had the lower prevalence [RP:0.52 (95%CI:0.29-0.95)],

Table 2. Adjusted Prevalence Ratios of the different constructed models in relation to clinical breastfeeding performance for primiparous women who do not trust performing any action. Peru. 2018

Variables	Model 1	Model 2	Model 3	Model 4	Final Model
Maintaining milk production	0.99(0.56-1.74)	-	-	-	-
Observing how much milk the baby is sucking from the breast	1.44(0.74-2.79)	-	-	-	-
Recognizing when the baby has stopped suckling	1.09(0.57-2.09)	-	-	-	-
Positioning the baby correctly	1.12(0.54-2.33)	-	-	-	-
Helping the baby get a good latch on to the breast	0.57(0.31-1.06)*	-	-	-	0.52(0.29-0.95)**
Recognizing when the baby has a good latch during the entire breastfeeding period	1.88(0.88-4.01)*	-	-	-	1.91(0.94-3.90)
Breastfeeding at one breast before switching to the other	0.85(0.45-1.61)	-	-	-	-
Separating the baby from the breast without pain	1.43(0.70-2.90)	-	-	-	-
Being successful at every feeding	-	1.57(0.92-2.69)*	-	-	2.02(1.18-3.44)***
Identifying if the baby is getting enough milk	-	1.33(0.64-2.75)	-	-	-
Maintaining exclusive breastfeeding	-	0.92(0.57-1.50)	-	-	-
Satisfying the baby's demands	-	1.27(0.74-2.18)	-	-	-
Feeling satisfied	-	-	1.63(0.78-3.40)	-	-
Concentrating on breastfeeding	-	-	1.16(0.57-2.38)	-	-
Coping successfully with breastfeeding	-	-	0.60(0.36-1.00)*	-	0.58(0.37-0.91)**
Avoiding bottle feeding	-	-	1.28(0.58-2.82)	-	-
Maintaining the desire to breastfeed	-	-	1.64(0.92-2.92)*	-	1.61(0.92-2.83)
Keeping motivated at the moment of breastfeeding	-	-	0.88(0.43-1.80)	-	-
Feeling satisfied with the experience	-	-	0.14(0.47-2.78)	-	-
Desire to breastfeed successfully	-	-	1.50(0.78-2.89)	-	-
Keeping the baby awake while breastfeeding	-	-	0.87(0.42-1.82)	-	-
Being able to calm the baby for breastfeeding	-	-	1.04(0.49-2.18)	-	-
Feeding the baby when he/she wants to	-	-	0.71(0.35-1.44)		-
Keeping the baby comfortably in her arms	-	-	0.96(0.50-1.84)	-	-
Coping with breastfeeding time	-	-	-	1.20(0.62-2.31)	-
In the support of friends	-	-	-	1.04(0.55-1.97)	-
Feeling comfortable breastfeeding in public places	-	-	-	1.07(0.53-2.17)	-
Feeling comfortable breastfeeding in the presence of family members	-	-	-	0.89(0.52-1.52)	-
In the support of family/Aid to maintain breastfeeding	-	-	-	1.13(0.66-1.94)	-

Model 1: Relating to anatomo-physiological issues; **Model 2:** Relating to issues about the neonate; **Model 3:** Relating to psychological issues of the mother; **Model 4:** Relating to social and cultural issues; **Final Model:** Relating to Assistant so that the baby has a good breastfeeding latch; Recognizing when the baby maintains a good breastfeeding latch throughout the breastfeeding; Having successful breastfeeding at all feedings; Successfully coping with breastfeeding; Maintaining the desire to breastfeed *p≤0.10; **p≤0.05; ***p≤0.01

as well as those who did not trust to cope with breastfeeding successfully [RP:0.58 (95%CI: 0.37-0.91)].

Table 3 presents the adjusted prevalence ratios in the models studied only for multiparous women. In the final model, adjusted with the variables from model 4 plus the variables with p≤0.10 from the preceding blocks, they remained associated with the highest prevalence of poor clinical performance when they did not trust

staying motivated in breastfeeding [PR: 3.47 (95%CI: 1.67 to 7.22)] and when they did not trust calming the neonate during breastfeeding [PR: 4.07 (95%CI: 1.83 to 9.95)]. There was lower prevalence when they did not trust keeping the neonate awake during breastfeeding [PR: 0.32 (95%CI: 0.14 to 0.75)] and when they did not feel confident in the presence of their family members [PR: 0.29 (95%CI: 0.13 to 0.64).

Table 3. Adjusted Prevalence Ratios of the different constructed models in relation to clinical breastfeeding performance for multiparous women who are not confident in performing some action. Peru. 2018

Variables	Model 1	Model 2	Model 3	Model 4	Final Model
Maintaining milk production	1.30(0.60-2.82)	-	-	-	-
Observing how much milk the baby is sucking from the breast	0.64(0.28-1.44)	-	-	-	-
Recognizing when the baby has stopped feeding	1.23(0.51-2.97)	-	-	-	-
Positioning the baby correctly	1.73(0.53-5.63)	-	-	-	-
Helping the baby get a good latch on to the breast	1.26(0.57-2.78)	-	-	-	-
Recognizing when the baby has a good latch during the entire breastfeeding period	1.02(0.38-2.74)	-	-	-	-
Breastfeeding at one breast before switching to the other	0.60(0.24-1.45)	-	-	-	-
Separating the baby from the breast without pain	1.54(0.53-4.14)	-	-	-	-
Being successful at every feeding	-	1.00(0.44-2.26)	-	-	-
Identifying if the baby is getting enough milk	-	1.28(0.56-2.95)	-	-	-
Maintaining exclusive breastfeeding	-	1.39(0.62-3.11)	-	-	-
Satisfying the baby's demands	-	1.10(0.55-2.19)	-	-	-
Feeling satisfied	-	-	1.30(0.65-2.61)	-	
Concentrating on breastfeeding	-	-	1.21(0.51-2.86)	-	-
Coping successfully with breastfeeding	-	-	0.87(0.40-1.91)	-	
Avoiding bottle feeding	-	-	1.11(0.55-2.25)	-	-
Maintaining the desire to breastfeed	-	-	2.74(0.93-8.05)*	-	3.47(1.67-7.22)**
Keeping motivated at the moment of breastfeeding	-	-	1.33(0.37-4.74)	-	-
Feeling satisfied with the experience	-	-	1.08(0.34-3.41)	-	-
Desire to breastfeed successfully	-	-	0.54(0.25-1.17)	-	-
Keeping the baby awake while breastfeeding	-	-	0.17(0.05-0.55)**	-	0.32(0.14-0.75)**
Being able to calm the baby for breastfeeding	-	-	3.22(1.17-8.87)***	-	4.07(1.83-9.95)***
Feeding the baby when he/she wants to	-	-	1.55(0.67-3.58)	-	-
Keeping the baby comfortably in her arms	-	-	0.78(0.26-2.31)	-	-
Coping with breastfeeding time	-	-	-	2.13(1.03-4.39)**	1.28(0.62-2.63)
In the support of friends	-	-	-	1.17(0.51-2.67)	
Feeling comfortable breastfeeding in public places	-	-	-	1.90(0.94-3.83)*	0.95(0.47-1.96)
Feeling comfortable breastfeeding in the presence of family members	-	-	-	0.30(0.14-0.64)***	0.29(0.13-0.64)***
In the support of family/Aid to maintain breastfeeding	-	-	-	0.67(0.33-1.38)	

Model 1: Relating to anatomo-physiological issues; **Model 2:** Relating to issues about the neonate; **Model 3:** Relating to psychological issues of the mother; **Model 4:** Relating to social and cultural issues; **Final Model:** Relating to Maintaining the desire to breastfeed; Keeping the baby awake while breastfeeding; Being able to calm the baby to breastfeed; Coping with the time devoted to breastfeeding; Feeling comfortable to breastfeed in public places; Feeling comfortable to breastfeed in the presence of family members *p≤0.10; **p≤0.05; ***p≤0.01

DISCUSSION

According to the data analyzed, the factors influencing breastfeeding performance are distinct between mothers who are breastfeeding for the first time and those who have already had other children. For the primiparous mothers, the anatomophysiological factor was paramount for breastfeeding confidence, followed by psychological variables. For these mothers who had no previous experiences, it may be useful for the health care team to address doubts and uncertainties about breastfeeding techniques with practical demonstrations and support in the first postpartum days, so that lack of knowledge and uncertainties do not hinder the success of breastfeeding.

For multiparous women, the psychological variables were the most important and were influential in breastfeeding. Thus, it is understood that it is necessary that health professionals keep a closer eye on the psychosocial and emotional issues of nursing mothers. It is suggested that follow ups are carried out when necessary, as well as triages to detect a possible need for psychological intervention and social support to the family, since demands in this area have been shown to influence the clinical efficacy of breastfeeding. Furthermore, for these mothers, not feeling comfortable breastfeeding in the presence of family members, a sociocultural variable, was also considered a protective factor for breastfeeding performance.

Although the benefits of breastfeeding are known worldwide, its practice is encouraged and influenced in different ways depending on social and cultural issues. Thus, the influencing factors on the decision to breastfeed and the continuation of this practice may vary depending on the community in which the studies are conducted. The clinical efficacy of breastfeeding can be associated with several factors, as evidenced in this study. Some other authors[20,21,27-30] have also verified the existence of multiple aspects that interfere with this practice in different communities around the world.

The act of breastfeeding in public has been pointed out in other studies as a limiting factor for breastfeeding[18,20,21]. In this sense, society and health professionals should strive to naturalize breastfeeding in public settings. The social issues involved in breastfeeding are often neglected; however, they are closely related to the sociocultural environment in which the nursing mothers are inserted. In this study, high percentages of mothers reported not feeling confident to breastfeed in the presence of family members.

Cohen et al.[29] conducted a systematic review to verify the elements involved with breastfeeding in developed countries. The study identified six main factors that are related to the decision to initiate and continue breastfeeding: smoking, type of delivery, number of children, separation of mother and newborn, maternal education, and information about breastfeeding. The results show that the main variable was about receiving information about breastfeeding. This opportunity facilitates women to overcome the initial difficulties of the process and to create strategies to cope with the practice in the long term. Thus, education and support given to breastfeeding mothers and families are essential to improve the frequency and timing of breastfeeding. The guidance given to mothers is fundamental for them to be able to breastfeed, and it is also a support for them to be reassured in this process.

Another study[29] also found a relevant relationship between psychological factors and breastfeeding. This study applied the Breastfeeding Self-Efficacy Scale (BSES) in postpartum Vietnamese women and found a positive correlation of breastfeeding self-efficacy with social support and a negative correlation of the score with postpartum depression. Mothers who had already had experience with breastfeeding had higher scores, indicating that the experience and information of these women positively influenced breastfeeding self-efficacy. These results are consistent with this study, since mothers who already had one or more children did not show a significant association of anatomical and physiological factors with breastfeeding difficulty, while primiparous mothers did. Kingston et al.[27] suggest that family support and strategies to improve efficacy also result in better scores, reiterating the importance of the psychological factor involved in the breastfeeding process.

It is known that the health of populations is a product of ecological circumstances, resulting from the interaction of human societies with the environment in general, its different ecosystems, and other supporting processes. Importantly, populations are heterogeneous and vary in social, economic, cultural, technological characteristics in population levels, and in the distributions of health and disease. Therefore, it is important that theoretical models are incorporated so that erroneous conclusions are not added in clinical practice or at the public health level. Furthermore, in studies where the determinants of disease are sought, as well as their associated factors, it is suggested that the complex hierarchical interrelationships between these determinants can be better managed through the use of conceptual frameworks, taking into consideration the theoretical framework and the likely hierarchy existing between factors that are more proximal and distal to the analyzed outcome.

This study has some limitations, among them, not being able to obtain a simple random sample, as well as the evaluation of breastfeeding having been performed between the first 24-48hs of life of the neonate, still considered a period of adaptation of the mother-newborn dyad. However, this study had a representative sample from the largest maternity hospital in Peru. There are few studies exploring anatomical and psychosocial factors in Latin America that also discuss sociocultural issues.

CONCLUSION

Anatomophysiological, neonate-related and psychological factors showed association with breastfeeding performance in primiparous women. Multiparous women showed that psychological and social factors were associated with breastfeeding performance. While primiparous mothers need more guidance on breastfeeding techniques and practices, mothers who have already had this experience need more care focused on the psychosocial aspects involved in the breastfeeding process. Therefore, preventive measures and campaigns favorable to breastfeeding are essential, but it is of utmost importance that they also take into consideration psychological, social support, and cultural issues. In addition, health professionals should pay more attention to the maternal support network and its emotional issues.

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Author contributions