RESEARCH | PESQUISA

Prevalence of nipple traumas and related factors among post-partum women assisted in a teaching hospital

Prevalência de traumas mamilares e fatores relacionados em puérperas assistidas em um hospital de ensino

Prevalencia de traumas mamilares y factores relacionados en puerperas asistidas en un hospital de enseñanza

Adélia Maria Sartori da Cunha[1] (iD)
Vitória Eugênia Martins[1] (iD)
Michele Lemos de Lourdes[1] (iD)
Marina Carvalho Paschoini[1] (iD)
Bibiane Dias Miranda Parreira[1] (iD)
Mariana Torreglosa Ruiz[1] (iD)

1. Universidade Federal do Triângulo Mineiro (UFTM). Uberaba, MG, Brasil.

ABSTRACT

Objectives: To estimate the prevalence of nipple traumas and to correlate this occurrence with socio-demographic and obstetric factors in a sample of assisted post-partum patients in a teaching hospital. **Method:** Cross-sectional, quantitative study of 320 post-partum patients assisted in the maternity from October 2015 to October 2016. **Results:** The prevalence of nipple trauma in the sample was 35.3%, and only previous experience with breastfeeding has behaved as a protective factor for trauma. No statistical associations were found with other variables. **Conclusions and implications for practice:** The data presented allowed us to delineate a profile of the post-partum patients assisted in a teaching hospital, as well as the characterization of the occurrence of nipple traumas. From this profile, guidelines can be established on the subject, both in the institution where the study was carried out and in other institutions, since from the literature, the need for this orientation in different contexts and institutions is identified.

Keywords: Breast Feeding; Weaning; Prevalence.

RESUMO

Objetivos: Estimar a prevalência de traumas mamilares e correlacionar a sua ocorrência com fatores sociodemográficos e obstétricos em amostra de puérperas assistidas em um hospital de ensino. **Método:** Estudo quantitativo, transversal realizado com 320 puérperas assistidas no Alojamento Conjunto, no período de outubro de 2015 a março de 2016. **Resultados:** A prevalência de trauma mamilar na amostra foi de 35,3% e apenas a experiência prévia com aleitamento comportou-se como fator de proteção para o trauma. Não foram encontradas associações estatísticas com outras variáveis. **Conclusões e implicações para a prática:** Os dados apresentados possibilitaram delinear um perfil das puérperas assistidas em um hospital de ensino, assim como a caracterização da ocorrência dos traumas mamilares. A partir deste perfil poderão ser instituídas orientações sobre o tema tanto na instituição que foi realizado o estudo, quanto em outras instituições, já que a partir da literatura, identifica-se a necessidade desta orientação em diferentes contextos e instituições.

Palavras-chave: Aleitamento Materno; Desmame; Prevalência.

RESUMEN

Objetivos: Estimar la prevalencia de traumas mamilares y correlacionar su ocurrencia con factores sociodemográficos y obstétricos en muestra de puérperas asistidas en un hospital de enseñanza. **Método:** Estudio cuantitativo y transversal, realizado con 320 puérperas asistidas en un Alojamiento Conjunto, en el período de octubre de 2015 a marzo de 2016. **Resultados:** La prevalencia de trauma mamilar en la muestra fue de 35,3%, y solo la experiencia previa con la lactancia actuó como un factor de protección para el trauma. No se encontraron asociaciones estadísticas con otras variables. **Conclusiones e implicaciones para la práctica:** Los datos presentados permiten delinear un perfil de puerperas asistidas en un hospital de enseñanza, así como la caracterización de la ocurrencia de traumas mamilares. A partir de este perfil se podrán establecer orientaciones sobre el tema tanto en la institución en que se realizó el estudio, como en otras instituciones, ya que a partir de la literatura se pudo identificar la necesidad de esta orientación en diferentes contextos e instituciones.

Palabras clave: Lactancia Materna; Destete; Prevalencia.

INTRODUCTION

Breast milk has all the nutritional support that the newborn (NB) needs for optimal physical and immunological, affective and psychological development. Breastfeeding is the most effective and cost-effective form of nutrition that can meet the newborn's main needs and ensure their survival.[1]

The World Health Organization (WHO), the Ministry of Health (MS) and the United Nations Children's Fund (UNICEF), recommend exclusive breastfeeding for six months and mixed (feeding introduction) up to two years or more of the child's age.[1]

Historical series on the prevalence of exclusive breastfeeding in Brazil indicates that in 1986, the index of exclusively breastfed infants at the age of six months was 4.7%, jumping to 37.1% in 2006. However, the last population study carried out in 2013 shows a tendency to stabilize this index, with a decreasing trend (36.6%).[2] According to the data, breastfeeding in Brazil is in an alert situation and highlights the high rate of early weaning in Brazilian children.

However, these data do not differ from the world reality, since 80% of the children receive breast milk, but only 37% are exclusively breastfed at six months of age, as recommended. [3]

Breastfeeding reduces the risk of infection and dental malocclusion, increases intelligence in the child, and substantially reduces infant mortality. For mothers, it reduces the risk of developing breast cancer. In the long term, it may have a possible effect on reducing overweight and diabetes.[3]

Thus, given the benefits of breastfeeding, it is up to health professionals to provide support for mothers to initiate and maintain as well as manage the main difficulties. This includes the fifth step to successful breastfeeding. [4]

Nipple trauma is defined as injury and/or alteration of the nipple tissue, which is usually the result of inadequate management and/or error in the breastfeeding technique (incorrect positioning and/or misfeeding of the infant).[5] Studies show that accompanying the pain and discomfort of the mother when breastfeeding, trauma is the main cause of early weaning.[6,7]

Nipple trauma occurs most often in the maternity ward or even in the first seven days postpartum, and, according to the literature, the prevalence varies from 11 to 96%, with a mean frequency of 43.6 to 46.9%.[8,9]

It is noted that 80 to 96% of women report breast pain or discomfort in the first weeks after delivery and 26% report extreme or unbearable pain, and trauma-related pain may be one of the precipitating weaning factors.[7,10]

In addition to the pain caused and the risk of weaning, nipple trauma is also associated with maternal depression and anxiety, and is a determinant factor for the occurrence of puerperal mastitis.[6] Follow-up study found that 79% of women reported breast pain before hospital discharge and 58% had nipple trauma in the first week; 8% maintained the trauma after eight weeks and 20% still had pain.[6]

The healing time of nipple trauma varies depending on its extent and severity and can last from 24 hours to 28 days, on average from one to two weeks.[7,8] Remembering that once installed, with each new sucking of the NB, the trauma is recurrent, which increases the time for healing.[11]

Statistical significance was observed when investigating the risk factors for trauma: primiparity; mothers of race/white or yellow color; absence of a fixed partner; presence of trauma in previous breastfeeding; anesthesia during labor; gestational age between 37 and 40 weeks; do not breastfeed in the first hour of life; presenting semi-protruding and/or malformed (inverted or pseudo-inverted) and/or depigmented nipples; breast engorgement and/or turgid breasts; breast pain; mastitis; use of pumps to extract milk; use of oils, creams and ointments applied on the nipple; use of intermediaries and pacifiers (pacifiers and bottle) and wet linings, in addition to the grip and erroneous positioning of the neonate.[8-10,12]

The literature points out that inadequate positioning of the infant during breastfeeding (twisted neck, a child far from the mother's breast and the inward-facing lip during sucking) may determine the occurrence of nipple trauma. The follow-up/supervision of breastfeeding is a protective factor, as well as having received guidelines on breastfeeding during prenatal care. Furthermore, breastfeeding in the newborn's first hour of life and a partner's presence are described as protective factors for trauma.[9]

The early identification of nipple traumas and their prompt treatment, the verification of possible risk factors associated with this occurrence, and the implementation of care and educational measures during the hospitalization of the mother and the newborn in the rooming-in (before discharge) are paramount for the prevention of nipple trauma and early weaning. Given the relevance and negative impacts of early weaning on the health of children and mothers, and the influence of nipple trauma in this occurrence, it is justified to carry out this study.

Therefore, the objective of the study was to estimate the prevalence of nipple traumas and to correlate its occurrence with socio-demographic and obstetric factors in a sample of assisted mothers in a teaching hospital.

METHOD

This is a non-experimental, cross-sectional study of a quantitative approach on the prevalence of nipple traumas and correlated factors in postpartum assisted in a teaching hospital.

The study was carried out at the Hospital of Clinic of the Federal University of the Triângulo Mineiro (UFTM), in the Obstetrics and Gynecology Ward (EGO), in the rooming-in units, from October 1, 2015 to March 31, 2016.

To calculate the sample size, the PASS (*Power Analysis and Sample Size*) application was used 2002 version, taking into account the prevalence of 46.9% of nipple trauma, 5% accuracy

and 95% confidence interval, for a finite population of 1,342 postpartum patients (number of deliveries in 2012, according to institutional data), receiving a sample of 298 subjects. A total of 320 postpartum patients were included and, therefore, the sample calculation was respected.

The study comprised hemodynamically stable, conscious and oriented mothers hospitalized in the rooming-in maternity who had given birth to alive NB between 12 and 24 hours, regardless of maternal age or delivery type. Excluded: postpartum women with HIV, HTLV or neoplasms under treatment (formal contraindications to breastfeeding); g gestations that had resulted in miscarriage, dead fetus or stillbirth; NB admitted to other units of the institution (nursery or neonatal intensive care unit), and postpartum women transferred from other institutions after birth or who had already been discharged.

After being informed about the study and consenting to participate, all postpartum women signed the Term of Free and Informed Consent. It is noteworthy that the participants made an option for the moment they would answer the questionnaire and be examined by the researchers. Care has been taken to preserve their privacy during the examination, of which we can mention: discover only the breast examined; keep and make sure the door was closed; ask the accompanying person or family member to withdraw during the examination, if it was the patient's will, and the examination was done in pairs, in order to avoid possible constraints for both (postpartum patient and researchers).

Also, the care team was asked about the best time to conduct research and informed that the participant was under evaluation so that the collection did not harm already planned activities. It is noteworthy that no photographs were taken of the breasts examined in order not to expose the postpartum patient. In this manner, the study subjects' privacy rights and integrity have been maintained. Information on socio-demographic variables; current and past obstetric history and birth data were extracted from the medical records.

The study was submitted to the assessment and authorization of the Clinical Board of the institution, approved by the Ethics Committee on Research With Human Beings (CEP) of the Federal University of Triângulo Mineiro, opinion number 1,205,420 August 28, 2015. Thus, its development was guided and guided by the Directives and Norms Regulating Research involving human beings, contained in Resolution 466/12/CNS/MS.

The instrument was based on the study of Vinha (1999), which was used for data collection, containing socio-demographic and obstetric variables, tested by an experimental study, and for evaluation of breasts, nipples and trauma,[5] which conceived the definitions on the subject, already consecrated in the literature. The evaluation was done in pairs and both researchers were trained and calibrated by the principal investigator.

The double entry method was adopted for the evaluation of the information, with subsequent validation using the application *Microsoft Excel*®. For statistical analysis, the application *Statistical Package for the Social Sciences*, version 23.0, was used. Initially, a descriptive assessment of the socio-demographic, obstetric, birth data and breast and nipple evaluation variables was conducted. Only cases of nipple trauma classified as excoriation and fissure were analyzed, due to their severity (skin continuity solution), relevance and low incidence of other types of trauma in the sample. The correlation of these traumas with the variables of interest by the chi-square test was verified, and to verify the magnitude of the associations, odds ratios (OR) and their respective confidence intervals (95%) were used. In order to ratify the associations, binary logistic regression was performed.

The following variables were tested: primiparity; pregnant women and older women (> 35 years); white women; absence of a fixed partner; low education level; who had occupation; gestation of high risk; prenatal; guidelines received on breastfeeding during prenatal care; previous experience in breastfeeding; type of delivery; fetal macrosomia (weight of the NB greater than 4 kg) and type of nipple. The variables tested were based on the literature's risk factors. Statistically significant variables were considered statistically important with a value of p = 0.05.

RESULTS

The interviewees' mean age was 24.4 ± 7.0, varying from 13 to 43 years. Of these 13% were adolescents and 8% were 35 years of age or older. Most claimed to be married (65%) and not having a paid job (61%). In relation to self-reported color, 41% declared themselves to be brown, 33% white and 25% black, and, in terms of schooling, women with incomplete elementary education (35%) and incomplete high school education (25%) were more frequent in the sample.

The gestational age calculated by the time of amenorrhea ranged from 23 to 48 weeks, 62% were at the end of pregnancy, but 22.5% did not know how to report the last menstruation date (LMD). Gestational age according to ultrasound ranged from 16 to 42 weeks, and 90% of pregnancies were at term. Seven postpartum women (2.2%) were unaware of the LDM and did not perform US to date the gestation. The mean number of pregnancies found was 2.4±1.8, ranging from one to twelve, with a higher frequency of primiparas (45%).

The mean number of prenatal visits was 8.0 ± 7.6, ranging from zero to 15; 98% of the postpartum women had undergone prenatal care, 79.3% of whom had had six or more visits, as recommended by the Ministry of Health. Regarding guidelines received on breastfeeding and breast care during prenatal care, 51% reported having been informed; 47% had prior experience, 32% received information from family and 22% sought information on the Internet.

Regarding the gestation result, 62% had normal vaginal delivery and 38% cesarean section. Among the justifications for cesarean section, 22% were due to interactivity (more than two previous cesareans) and 21% due to maternal decompensation, in which the predominance (56%) of the causes was the increase in the blood pressure level.

Regarding the data of the NB, 51% were male and 49% female. The weight average was 3132.5 ± 500.8, ranging from 2031 to 4645 grams. The Apgar mean score in the first minute of life was 8.9 ± 5.1 alternating between four and ten; in the fifth minute the mean was 9.3 ± 5.1, with variations from seven to ten. It can be verified by this classification that in the first minute 92% had good conditions; 6% had mild adaptation difficulty and 3% had moderate difficulty. By the fifth minute of life, 99% had good conditions and only three NB had mild adaptive difficulties.

Table 1 provides information on breast assessment, which showed a predominance of protruding nipples, normotensive breasts and colostrum to expression.

The prevalence of nipple trauma in the sample can be verified from the analysis of Table 2. Considering the higher prevalence found in the right nipple, it can be inferred that 35.3% of the postpartum women presented some type of trauma. The most frequent traumas were: excoriation, hyperemia and fissure. When considering only severe trauma, where there is loss of skin continuity solution, as in cases of excoriation and fissure, the prevalence of trauma was 26.6%, totaling 85 traumas.

No connection of any socio-demographic or obstetric variable with the incidence of nipple trauma (fissures and abrasions - 26.6 %) was found in the data described in Table 3.

When evaluating the variables through the binary logistic regression model, it is confirmed that past experiences with breastfeeding showed statistical significance, acting as a protective factor for trauma event, as shown in Table 4.

DISCUSSION

Nipple trauma is one of the major breast problems that directly influences the breastfeeding[13] experience and is pointed out as one of the main risk factors for weaning. [14]

The females surveyed were considered in 'fertile age' in the age bracket. The mean age of postpartum women was similar to data from an incidence study where 2,331 medical records were analyzed, with a mean age of 24.7 years.[15] It is noteworthy that the literature indicates that adolescence is associated with a higher occurrence of breast problems,[13] among them the nipple trauma,[16] however, age did not present statistical significance for the occurrence of trauma in the sample.

More than half of the postpartum women did not exercise paid activities, similar to the percentage found in other studies, ranging from 56 to 75%.[9,17-18] The fact of working outside home is still a controversial issue in literature. Working outside home behaved as a protective factor for breast problems.[13] However, it

Table 1. Distribution of variables related to breast evaluation (nipple classification, breast consistency and presence of secretion to expression) bilaterally (right and left) of the evaluated 320 postpartum women, Uberaba, MG, Brazil, 2016.

Variable	Right Assessment (n)	%	Left Assessment (n)	%
Nipple Classification				
Protruding	243	75.9	242	75.6
Semi-protruding	55	17.2	56	17.5
Pseudo-inverted	12	3.8	11	3.4
Inverted	2	0.6	3	1.0
Hypertrophic	8	2.5	8	2.5
Breast Consistency				
Normotensive	266	83.1	267	83.4
In milk letdown	24	7.5	22	6.9
Turgid	30	9.4	31	9.7
Secretion to expression				
Absent	17	5.3	12	3.8
Colostrum	265	82.8	267	83.4
Transition milk	31	9.7	34	10.6
Mature milk	7	2.2	7	2.2

Source: Research data, 2016.

Table 2. Distribution of nipple traumas from nipples bilaterally (right and left) assessed of the evaluated 320 postpartum women, Uberaba, MG, Brazil.

Type of trauma	Right Nipple (n)	%	Left Nipple (n)	%
Absent	207	64.7	221	69.1
Hyperemia	22	6.9	20	6.3
Vesicle	2	0.6	4	1.3
Excoriation	72	22.5	60	18.7
Fissure	13	4.1	11	3.4
Bruise	4	1.3	4	1.3

Source: Research data, 2016.

Table 3. Association of nipple traumas (fissures and abrasions) with socio-demographic and obstetric variables, Uberaba, MG, Brazil, 2016.

Variable	Trauma	%	Whole	%	RC	p
Primiparas	37	11.6	95	29.6	1.14 (0.69-1.88)	0.700
Multi gestation	48	15.0	140	43.8		
Adolescents	15	4.7	26	8.1	1.72 (0.86-3.44)	0.131
Not adolescents	70	21.9	209	65.3		
Age over 35 years	6	1.9	19	5.9	0.86 (0.33-2.24)	1.000
Age less than 35 years	79	24.7	216	67.5		
White color	30	9.4	77	24.1	1.12 (0.66-1.89)	0.689
Not white	55	17.2	158	49.3		
Married	58	18.1	151	47.2	1.19 (0.70-2.03)	0.595
Single	27	8.4	84	26.3		
Schooling equal to or less than complete elementary school	46	14.4	113	35.3	1.28 (0.77-2.10)	0.377
Upper high school schooling	39	12.2	122	38.1		
Exercise paid occupation	52	16.3	142	44.4	1.03 (0.62-1.72)	1.000
No paid occupation	33	10.3	93	29.0		
High risk pregnancy	32	10.0	84	26.3	1.09 (0.65-1.81)	0.793
Normal risk pregnancy	53	16.5	151	47.2		
Performed adequate prenatal care	71	22.5	183	57.5	1.49 (0.76-2.91)	0.268
Did not perform prenatal or inadequately performed	13	4.2	50	15.8		
Received guidance on breastfeeding in prenatal care	53	16.6	145	45.5	0.76 (0.46-1.25)	0.832
Received no guidance*	32	10.0	89	27.9		
Previous breastfeeding experience	28	8.7	108	33.9	0.48 (0.17-1.42)	0.090
Not breastfed before*	57	17.9	126	39.5		
Normal birth	58	18.3	139	43.8	1.49 (0.76-2.91)	0.193
Cesarean section	27	8.5	93	29.4		
RN weight greater than 4 kg	1	0.3	11	3.4	0.24 (0.03-1.91)	0.194
Weight less than 4 kg	84	26.3	224	70.0		
Protruding nipple	67	21.0	175	54.9	1.25 (0.69-2.28)	0.554
Malformed nipple	18	5.6	59	18.5		

Source: Research data, 2016. * A postpartum woman did not answer these questions.

Table 4. Model of binary logistic regression among the outcome of nipple trauma associated with socio-demographic and obstetric variables, Uberaba, MG, Brazil, 2016.

Variable	RC (IC 95%)	p
Primiparas	0.00 (0.00 – 9.99)	0.999
Adolescents	2.67 (0.66 – 9.99)	0.102
Older pregnant women (> 35 years)	0.06 (0.38 – 3.48)	0.810
White Race	0.14 (0.34 – 2.09)	0.709
Married	3.07 (0.91 – 5.50)	0.080
Upper high school schooling	1.70 (0.76 – 3.97)	0.192
Exercise paid occupation	0.20 (0.50 – 3.03)	0.652
High Risk Pregnancy	1.08 (0.68 – 3.57)	0.299
Adequate prenatal care	1.21 (0.66 – 4.35)	0.271
Previous breastfeeding experience	**5.06 (0.46 – 0.81)**	**0.024**
Received guidance on breastfeeding	0.91 (0.30 – 1.51)	0.340
Cesarean delivery	0.39 (0.35 – 1.72)	0.530
RN > 4 kg	0.13 (0.07 – 6.16)	0.720
Malformed nipple	0.37 (0.46 – 4.38)	0.544

Source: Research data, 2016.

was associated with the early introduction of other liquids,[17] and early weaning.[14] Exercise or not paid activities did not present statistical association with the occurrence of nipple trauma in the study sample.

Most of the postpartum women claimed to be married. A systematic review of traumas showed that the fact that the mother does not live with her partner or does not have a fixed partner can make the woman more vulnerable and insecure, predisposing to difficulties in the practice of breastfeeding, which may negatively influence the occurrence of nipple traumas.[9] The variable related to marital stability was not associated with nipple trauma in the study sample.

The present study shows a higher prevalence of brown women. A systematic review indicates that women of race/white or yellow color are more likely to develop nipple trauma, since black women tend to be less susceptible due to the amount of melanin and greater resistance of the skin.[9] Integrative review points out that women with poorly pigmented areolas had a higher incidence of nipple trauma.[15] However, in the researched sample, skin color did not show statistical association with trauma.

Regarding maternal schooling, the study showed low schooling. The low educational level increased the risk of breast problems,[13] but further studies are needed to confirm this statement. No connection between the incidence of nipple trauma and maternal schooling was discovered in this research.

In the study sample, primiparas were found more frequently, similarly to other studies.[13,16] Primiparity, i.e. having the first child is independent and immutable risk factor and is associated with higher incidence of breast problems,[13] mainly nipple trauma,[9,15,17] and can negatively and directly influence in cases of weaning. There was, however, no demonstrated connection in the study sample between primiparity and occurrence of nipple trauma.

As in the study, gestation classified as high risk was not a risk factor for the occurrence of nipple trauma.[19] However, the larger the number of prenatal consultations higher incidence of trauma.[19] This association contrasts data from the present study, in which there was no statistical difference associated with the number of consultations. It is also worth noting that in another study, the frequency of prenatal care was a protective factor, since the women already had information about the fetus and the positioning of the infant.[9]

Data on receiving professional breastfeeding advice during the gestational period are contentious. The fact that he received guidelines behaved as a protective factor[9] in one study and not received as a risk factor for trauma,[19] in another study. Similarly to the data presented, a study found no association between trauma and guidance.[13] It is also pointed out that the fact that information was received during the prenatal period does not imply that the woman was sufficiently informed.[14]

In relation to the previous experience, results indicated that it behaved as a protective factor for the trauma. Similar data are pointed out in the literature indicating that lack of experience or trauma in previous experience behaves as a risk factor[9,14,16,19] but the previous successful experience is a protection factor for the maintenance of exclusive breastfeeding for an extended period.[20]

When associated with the type of delivery with nipple trauma, an integrative review indicates a statistically significant difference associated with cesarean section.[15] Data that do not corroborate with the present study, where this association was not verified.

The baby's weight in the same way was not associated with the occurrence of nipple trauma, however, no studies were found that evaluated the influence of this variable in the occurrence, for data comparison.

Most of the evaluated nipples were classified as protruded, similar to results found in a university hospital, where 1672 postpartum women were evaluated and 67% had protruding nipples[16]

The prevalence of nipple trauma found in the sample was 35.3%, with more frequent trauma occurring in the right nipple and protruding nipples. However, if we only observe the prevalence of severe trauma, where there is loss of skin continuity solution, as in cases of excoriation and fissure, it decreases to 26.6%. These data are in agreement with the prevalence found from the review of the literature that presented variation from 26.7 to 52.8%.[17] However, it varies from the results of a comparable research showing a incidence of 55.5% of trauma and more frequently categorized as inverted, flat, pseudo inverted and semi-protruded in the left nipple and nipples.[16]

As to the type of trauma, the following were more frequent: excoriation, hyperemia and fissure. Although it presents higher percentages, the most frequent types of traumas were similar to that found in a University Hospital study: abrasions (62.2%), hyperemia (19.1%), fissure (12.2%), gallbladder (4.2%) and erosion (0.6%).[16] However, the prevalence of fissures in both studies was lower than that found in a study conducted in hospitals in the north of Minas Gerais, where a rate of 19.9% was found.[13]

A research that performed a review of 1608 medical records discovered that the postpartum women maintained exclusive breastfeeding even with nipple trauma, and this was not the reason for weaning. The authors attributed this result to the singularity of the study population that relies on assistance by a specialized technical team in the maternity ward and have an institutional return of at most 20 days after discharge.[20]

Similarly, it is believed that the low rate of nipple trauma and absence of statistical association with socio-demographic and obstetric variables, which contrasts data from the literature, can be justified by the work carried out by the care team through the guidelines on breastfeeding and breast care, periodic breast assessments and breastfeeding supervision performed daily at the unit, which makes the sample unique when compared to other studies.

The fact that there are no factors associated with the occurrence, further suggests that any woman is subject to trauma and that all must be evaluated and assisted in their individuality and specificities. It should be highlighted that team nurses play a major role in promoting, supporting and encouraging breastfeeding, avoiding trauma through quality care.

The authors understand that a limitation of the study refers to external validity, since the data cannot be generalized to other realities. It should be noted that from the results founds, further studies on the subject can be carried out, whether they are proven by hypothesis testing or using different designs.

CONCLUSIONS AND IMPLICATIONS FOR PRACTICE

The incidence of nipple trauma in the sample was 35.3%, and only previous breastfeeding experiences have acted as a trauma protective factor. No statistical associations were found with other variables.

It should be emphasized that data obtained in this research corroborate with interventions performed by the care team, through daily and systematic breast and breastfeeding orientations and evaluations. However, to verify this justification, it is essential to conduct new studies.

The information presented in this research enabled the delineation of a postpartum women profile aided in a teaching hospital and the characterization of the incidence of nipple trauma. From the results, orientations can be established on the subject both in the institution that was carried out the study and in other institutions, since in comparison with other studies, the need of this orientation in different contexts and institutions is identified.

FUNDING

REFERENCES

1. World Health Organization (WHO). Guideline: protecting, promoting and supporting breastfeeding in facilities providing maternity and newborn services. Geneva: World Health Organization; 2017.

2. Boccolini CS, Boccolini PM, Monteiro FR, Venâncio SI, Giugliani ERJ. Tendência de indicadores do aleitamento materno no Brasil em três décadas. Rev Saúde Pública [Internet]. 2017; [cited 2019 apr 01]. 51:108. Available from: http://dx.doi.org/10.11606/S1518-87872017051000029

3. Victora CG, Bahl R, Barros AJ, França GJ, Horton S, Kraservec J, et al. Breastfeeding in the 21st century: epidemiology, mechanisms, and lifelong effects. Lancet [Internet]. 2016 jan; [cited 2019 feb 04]; 387(10017):475-90. Available from: http://dx.doi.org/10.1016/S0140-6736(15)01024-7

4. World Health Organization (WHO). Ten steps to sucessful breastfeeding (revised 2018). [Internet]. 2018; [cited 2019 feb 04]. Available from: http://www.who.int/nutrition/bfhi/ten-steps/en/

5. Vinha VHP. O livro da amamentação. São Paulo: CLR Balieiro; 1999.

6. Buck ML, Amir LH, Cullinare M, Donath SM. Castle Study Team. Nipple pain, damage and vasospasm in the first 8 weeks postpartum. Breastfeed Med [Internet]. 2014 feb; [cited 2019 feb 04]; 5(2):56-62. Available from: http://dx.doi.org/10.1089/bfm.2013.0106

7. Puapornpong P, Paritakul P, Suksamarnwong M, Srisuwan S, Ketsuwan S. Nipple pain incidence, the predisposing factors, the recovery period after care management, and the exclusive breasfeeding outcome. Breastfeed Med [Internet]. 2017 apr; [cited 2019 feb 04]; 12:169-73. Available from: http://dx.doi.org/10.1089/bfm.2016.0194

8. Urasaki MBM, Teixeira CI, Cervellini MP. Trauma mamilar: cuidados adotados por mulheres no pós-parto. Estima [Internet]. 2017; [cited 2019 feb 04]; 15(1):26-34. Available from: http://dx.doi.org/10.5327/Z1806-3144201700010005

9. Dias JS, Vieira TO, Vieira GO. Fatores associados ao trauma mamilar no período lactacional: uma revisão sistemática. Rev Bras Saúde Matern Infant [Internet]. 2017 mar; [cited 2019 feb 04]; 17(1):43-58. Available from: http://dx.doi.org/10.1590/1806-93042017000100003

10. Cervellini MP, Gamba MA, Coca KP, Abrão ACFV. Injuries resulted from breastfeeding: a new approach to a known problem. Rev Esc Enferm USP [Internet]. 2014 apr; [cited 2019 feb 04]; 48(2):346-356. Available from: http://dx.doi.org/10.1590/S0080-623420140000200021

11. Elad D, Kozlowskky P, Blum O, Laise AF, Po MJ, Botzer E, et al. Biomechanics of milk extraction during breastfeeding. PNAS [Internet]. 2014 apr; [cited 2019 feb 04]; 111(14):5230-5. Available from: http://dx.doi.org/10.1073/pnas.1319798111

12. Thompson R, Kruske S, Barday I, Linden K, Gao Y, Kildea S. Potencial predictors of nipple trauma from an in-home breastfeeding programme: a cross-sectional study. Women Birth [Internet]. 2016 aug; [cited 2019 feb 04]; 29(4):336-44. Available from: http://dx.doi.org/10.1016/j.wombi.2016.01.002

13. Barbosa GEF, Silva VB, Pereira JM, Soares MS, Medeiros FRA, Pereira LB, et al. Dificuldades iniciais coma técnica da amamentação e fatores associados a problemas com a mama em puérperas. Rev Paul Pediatr [Internet]. 2017 jul; [cited 2019 feb 04]; 35(3):265-272. Available from: http://dx.doi.org/984-0462/;2017;35;3;00004

14. Oliveira CS, Iocca FA, Carrijo MLR, Garcia RATM. Amamentação e as intercorrências que contribuem para o desmame precoce. Rev Gaúcha Enferm [Internet]. 2015; [cited 2019 feb 04]; 36(spe):16-23. Available from: http://dx.doi.org/10.1590/1983-1447.2015.esp.56766

15. Amaro FG, Simão MJ, Bernardes NO. Incidência de trauma mamilar no puerpério imediato. Saúde em Redes [Internet]. 2016; [cited 2019 feb 04]; 2(2):179-188. Available from: http://dx.doi.org/10.18310/2446-4813.2016v2n2p179-188

16. Cirico MOV, Shimoda GT, Oliveira RNG. Qualidade assistencial em aleitamento materno: implantação do indicador de trauma mamilar. Rev Gaúcha Enferm [Internet]. 2016 feb; [cited 2019 feb 04]; 37(4):605-46. Available from: http://dx.doi.org/10.1590/1983-1447.2016.04.60546

17. Campos AMS, Chaoul CO, Carmona EV, Higa R, Vale IN. Exclusive breastfeeding practices reported by mothers and the introduction of additional liquids. Rev Latino-Am Enferm [Internet]. 2015 apr; [cited 2019 feb 04]; 23(2):283-290. Available from: http://dx.doi.org/10.1590/0104-1169.0141.2553

18. Prado CVC, Fabbro MRC, Ferreira GI. Early weaning from breastfeeding from mothers' perspective: a dialogical approach. Texto Contexto Enferm [Internet]. 2016 jun; [cited 2019 feb 04]; 25(2):e1580015. Available from: http://dx.doi.org/10.1590/0104-07072016001580015

19. Barbosa DM, Caliman MZ, Alvarenga SC, Lima EFA, Leite FMC, Caniçali Primo C. Avaliação dos fatores associados ao trauma mamilar. Rev Fund Care Online [Internet]. 2018 oct/dez; [cited 2019 feb 04]; 10(4):1063-69. Available from: http://dx.doi.org/10.9789/2175-5361.2018.v10i4.1063-1069

20. Carreiro JA, Francisco AA, Abrão ACFV, Marcacine KO, Abuchaim ESV, Coca KP. Dificuldades relacionadas ao aleitamento materno: análise de um serviço especializado em amamentação. Acta Paul Enferm [Internet]. 2018 jul; [cited 2019 feb 04]; 31(4):430-8. Available from: http://dx.doi.org/10.1590/1982-0194201800060