RESEARCH

ASSOCIATION BETWEEN PERSISTENT NIPPLE LESIONS AND BREASTFEEDING CONDITIONS

ASSOCIAÇÃO ENTRE PERSISTÊNCIA DE LESÃO DE MAMILOS E CONDIÇÕES DE ALEITAMENTO MATERNO ASOCIACIÓN ENTRE LA PERSISTENCIA DE LA LESIÓN DE LOS PEZONES Y LAS CONDICIONES DE LA LACTANCIA MATERNA

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ABSTRACT

The objective of this study was to verify associations between the persistence of nipple lesions in puerperae and breastfeeding conditions. The data were collected in the Rooming-in sector at the HU-USP and a post-partum nursing consultation. Sixty puerperae presenting nipple lesions during hospitalization were included in the study. A total of 73.3% had healed-scared nipples and 26.7% some type of lesion. The average healing time was 5.6 days. A significant association was observed between the persistence of nipple lesions, inadequate suction patterns, and nipple pain. It was concluded that the first post-partum week is critical, and assistance to puerperae is needed. The association between inadequate suction patterns and nipple lesion persistence underscores the importance of breastfeeding assistance.

Keywords: Breastfeeding; Newborn; Nipples; Injuries.

RESUMO

O objetivo foi verificar a associação entre persistência de lesão mamilar da puérpera e condições de aleitamento materno. Os dados foram coletados no alojamento conjunto e na consulta pós-alta do HU-USP. Fizeram parte da amostra 60 puérperas com lesão mamilar durante a internação. Observou-se que 73,3% apresentavam mamilos cicatrizados e 26,7% algum tipo de lesão. O tempo médio de cicatrização dos mamilos foi de 5,6 dias. Encontrou-se associação significativa entre persistência de lesão mamilar, padrão inadequado de sucção do neonato e dor mamilar. Concluiu-se que a primeira semana pós-parto é crítica, indicando necessidade de acompanhamento da puérpera. A associação entre padrão inadequado de sucção e persistência de lesão mamilar reforça a importância da assistência em aleitamento materno.

Palavras-chave: Aleitamento Materno; Recém-Nascido; Mamilos; Lesões.

RESUMEN

El objetivo de este estudio fue verificar la asociación entre la persistencia de la lesión de los pezones de la puérpera y las condiciones de la lactancia materna. Los datos fueron recogidos en el alojamiento conjunto y en la consulta post-alta del Hospital Universitario -USP. La muestra consistió en 60 puérperas con lesión de los pezones durante la internación. Se observó que el 73,3% presentaba pezones cicatrizados y el 26,7% algún tipo de lesión. El tiempo medio de cicatrización de los pezones fue de 5,6 días. Se encontró asociación significativa entre persistencia de la lesión de los pezones, patrón inadecuado de succión del neonato y dolor en los pezones. Se concluyó que la primera semana post parto es crítica, indicando necesidad de seguimiento de la puérpera. La asociación entre patrón inadecuado de succión y persistencia de lesión de pezones refuerza la importancia de la asistencia en la lactancia materna.

Palabras clave: Lactancia Materna; Recién Nacido; Pezones; Lesiones.

INTRODUCTION

Breast milk is recommended as the sole source of food for children, particularly in the first six months of life and considering the widely known nutritional, immunological, economic, and affective or psychological benefits of breast milk. Thus, breastfeeding is considered the best way to feed children because it is the basis for their biological and emotional development.¹

However, it is observed that this is still a non-consolidated practice in our society. Early weaning is seen as a problem that causes nefarious effects in the poorest populations because of the high cost of formula and its unavailability and inadequate preparation that result in increased infant morbidity and mortality. Nipple lesions are among the factors that can contribute to the decision of early weaning; these injuries cause pain and interferes with the feeling of pleasure and satisfaction in the mother.³⁻⁵

Among the various approaches for the prophylaxis of nipple lesions, there is a consensus on the importance of correct suction by the child, proper placement of the child in relation to the mother and breast, adequate latching to the nipple and areola, which must be soft and flexible, and appropriate removal of the child from the breast at the end of the feeding. 6-8

The appropriate suction mechanism performed by the child is through latching at the breast nipple and causing a peripheral sealing of the lips against the breast, lowering the jaw, causing a negative pressure zone inside the mouth, and sucking the breast milk to the nipple. Subsequently, the child's jaw is taken to the previous position, pinching the nipple while performing the act of milking, keeping the nipple compressed, and bringing the jaw to the original position. The milk collected in the oral cavity reaches the soft palate and triggers the swallowing reflex. This mechanism restarts at this point and can be easily verified by palpating the temporomandibular articulations (TMJ) region with the indicators in the breastfeeding child; the heads of the jaw travel a clear antero-posterior path.9 For a correct suction, the child near the nipple must open the mouth widely and push the tongue forward in preparation to snatch up the breast. The child should have the mouth wide open with the tongue under the areola and nipple during breastfeeding, pulling the breast milk through vigorous and deep suctions. Changes in this suction pattern could lead to the emergence of nipple lesions. 6-8

The consulted literature recommends the correction of causal factors as the best conduct for the remission of nipple lesions, i.e. proper grip, correct positioning, and correct suction.¹⁰⁻¹²

Nipple lesions are complications often found in puerperae assisted at the Rooming-in sector linked to the HU-USP. We searched for possible causes, conditions of the breasts and nipples, and neonate sucking patterns to guide women about the correction of the causal factor. However, it is common to observe the persistence or worsening of nipple lesions at the nurs-

ing consultation held at the hospital between 7 and 10 days postpartum. These observations lead to the question whether there are other factors pertaining to the conditions of breast-feeding that could be associated with the persistence of these lesions. Thus, this study was proposed to develop supporting and improved assistance to puerperae with nipple lesions, and their children, in accomplishing a breastfeeding experience without pain or sacrifice.

OBJECTIVE

To verify associations between the persistence of nipple lesions in puerperae and breastfeeding conditions.

METHOD

This was a cross-sectional study performed at the University Hospital of the University of São Paulo, at the Rooming-in sector and the outpatient pediatric clinic at the same institution during the postpartum nursing consultation for mothers and neonates, held seven to 10 days after delivery.

The women tended at this institution are teachers, students, employers, or dependents from the University servers, and women belonging to the Butantã community. The sample consisted initially of 84 puerperae and their newborns who fit the inclusion criteria established for the study as: being an inpatient with a neonate in the Rooming-in sector; presenting nipple lesions during hospitalization and absence of other kinds of injuries in the breast and nipples; having delivered a first child, without malformation and with 5th minute Apgar greater than or equal to eight; having been assisted in breastfeeding by the researcher during hospitalization and guided about breastfeeding techniques, and having used the treatment for nipple lesions routinely prescribed in the service. The sample number was reduced to 60 puerperae as a result of absenteeism at the postpartum consultation, neonate hospitalization, error in scheduling, and use of treatment for nipple lesions other than recommended. There was no refusal on study participation by the selected puerperae.

The data were collected from May to November of 2000 using a form to record identification data, obstetric history, neonate data, physical examination of breasts and nipples, and guidelines for the observation of breastfeeding adapted from Righard, Alade⁷, and WHO.¹³

During the internment at the Rooming-in sector, shortly after the detection of nipple lesions, the puerpera was invited to participate in the study and, in the case of consent the data were filled by the researcher, who proceeded to the observation of the breastfeeding (the first time after the detection of lesions). On that occasion, the puerpera was advised about

breastfeeding techniques and offered treatment instructions for nipple lesions routinely performed in the service. On hospital discharge, the postpartum nursing consultation for the neonate and puerpera was scheduled; this consultation was held by the researcher. At the consultation, an interview and physical examination of the puerpera and neonate, and another breast-feeding observation was performed. If the observation of technique changes occurred during the first five minutes of breastfeeding, the researcher would intervene, guide the puerpera into correcting the change, and continue with the observation until the end of the feeding.

The entire procedure was recorded by the researcher to compose the data collection for the study.

The data were organized and analyzed using the "SPSS for Windows" *Software*. The Fisher exact test was used in the statistical treatment of the data to verify the existence of possible associations between the qualitative variables. All tests were applied assuming a probability of occurrence of type 1 error of 5%.¹⁴

The project was approved by the Research Ethics Committee of the HU-USP; the directives and regulatory norms for research involving humans where followed as guided by the 196/96 resolution of the National Health Council.

The references for the evaluation of nipple/breast used in this study were: the classification of Vinha *et al.*¹⁵ for type of nipple; the classification of breast engorgement proposed by Shimo *et al.*¹⁶ for the conditions of the breast; the classification based on Shimo *et al.*¹⁶ and Vineyard *et al.*¹⁷ for the type of lesion.

RESULTS

The postpartum nursing consultation was held, on average, at 8.6 days after delivery (standard deviation = 1.1 days). Forty-four (73.3%) puerperae presented completely healed nipples and 16 (26.7%) had some sort of lesion in one or both nipples. The average nipple healing time was 5.6 days (standard deviation = 0.8 days), indicating that the period that follows the first postpartum week is considered critical. Excoriation type lesions were observed in 14 (87.5%), and fissure lesions were observed in 2 (12.5%), out of the 16 puerperae with lesions; all undergoing healing.

The vast majority of the neonates, 52 (86.7%), was in exclusive breastfeeding, 5 (8.3%) in predominant breastfeeding (were also offered teas), and 3 (5.0%) in lactation (breast milk and formula). Twelve (23.1%) out of the puerperae who were exclusively breast-feeding exhibited nipple lesions and 40 (76.9%) had intact nipples. Four (50%) out of those who were offering teas or formula to their neonates presented lesions and four (50%) had intact nipples. This result was not statistically significant

(p = 0.192), i.e. the type of feeding did not influence the persistence of nipple lesions.

The breast milk drainage was adequate in all puerperae. The physical examination showed that most puerperae had sagging breasts, 46 (76.7%), 10 (16.7%) had turgid breasts, 3 (5.0%) had lobular engorgement, and 1 (1.6%) had lobar engorgement. All puerperae showing turgid or engorged breasts displayed a flexible nipple-areolar region. Among those with sagging breasts, 13 (28.3%) showed nipple lesions and 33 (71.7%) showed intact nipples. Among those with turgid or engorged breasts, 3 (21.4%) showed nipple lesions and 11 (78.6%) showed intact nipples. This result was not statistically significant (p = 0.740), i.e. the conditions of the breasts did not influence the persistence of nipple lesions.

In relation to the type of nipple, 43 (71.7%) had protruding nipples and 17 (28.3%) semi-protruding nipples. Among those with protruding nipples, 11 (25.6%) showed nipple lesions and 32 (74.4%) showed intact nipples. Among those with semi-protruding nipples, 5 (29.4%) showed nipple lesions and 12 (70.6%) showed intact nipples. This result was not statistically significant (p = 0.756), which means that the nipple type did not influence the persistence of nipple lesions.

The physical examination of nipples indicated that 36 (60.0%) puerperae presented the nipple-areolar region of dark brown or black color and 24 (40.0%) presented it in light-brown or light pink color. Among those with the nipple-areolar region well pigmented (dark brown or black), 6 (16.7%) showed nipple lesions and 30 (83.3%) showed intact nipples. Among those with light pigmented nipple-areolar region (light-brown or pink), 10 (41.7%) showed nipple lesions had 14 (58.3%) showed intact nipples. This result, however, was statistically significant (p = 0.041) and indicated that the color of the nipple-areolar region influenced the persistence of nipple lesions.

The intensity in nipple pain was assessed during breast-feeding using a numeric scale from zero to 10. For this purpose, we used the numerical scale of pain intensity containing 11 points in a horizontal line, numbered from zero to 10, where zero represented "no pain" and 10 represented "the worst pain you can imagine". Twenty-three (38.3%) puerperae reported pain during breastfeeding and 37 (61.7%) did not. Among those who reported nipple pain, 11 (47.8%) showed nipple lesions and 12 (52.2%) showed intact nipples. Among those who did not report nipple pain, 5 (13.5%) showed nipple lesions and 32 (86.5%) showed intact nipples. This result was statistically significant (p = 0.006), i.e. it was evidenced that the persistence of nipple lesions is associated with nipple pain.

Tables 1 and 2 describe the outcomes based on the technical items related to breastfeeding for mother and neonate during the assistance performed by the researcher and according to the established guidelines, respectively.

Table 1 - Distribution of the breastfeeding technical items related to the mother, observed during feeding at the postpartum consultation. São Paulo, 2000

Items observed in the mother	Adequate		Inadequate		Total	
						%
Position of the shoulders	39	65,0	21	35,0	60	100,0
Position of the back	50	83,3	10	16,7	60	100,0
Way to support the breast	49	81,7	11	18,3	60	100,0
Use of a bras	50	83,3	10	16,7	60	100,0
Removal of the neonate from the breast	60	100,0	-	-	60	100,0

Table 2 - Distribution of items related to the neonate's sucking pattern observed during breastfeeding at the postpartum consultation. São Paulo, 2000

Items observed	Yes		No		Total	
in the neonate						%
Mouth wide open	43	71,7	17	28,3	60	100,0
Tongue under the nipple and areola	60	100,0	-	-	60	100,0
Seizes the nipple-areolar region with ease	55	91,7	5	8,3	60	100,0
Lower lip turned out	27	45,0	33	55,0	60	100,0
Chin touches the maternal breast	56	93,3	4	6,7	60	100,0
Areola is more visualized at the superior part	35	58,3	25	41,7	60	100,0
Round cheeks	55	91,7	5	8,3	60	100,0
Strong suction	60	100,0	-	-	60	100,0
Slow and deep sucking	57	95,0	3	5,0	60	100,0
Antero-posterior movement of TMAs*	57	95,0	3	5,0	60	100,0
Aligned body	50	83,3	10	16,7	60	100,0
Head supported on the neck	58	96,7	2	3,3	60	100,0
Active	59	98,3	1	1,7	60	100,0

^{*} Temporomandibular articulations.

The observation of maternal posture showed that most puerperae adopted a proper posture, which allowed for comfort while breastfeeding, keeping their back supported in the chair, and with relaxed shoulders. Eleven (18.3%) held the breast between the index and middle fingers, in a scissor-shaped position, which is not indicated because this removes part of the nipple-areolar region from the neonate's mouth leading him to seize only to the nipple. The majority of puerperae used their bras correctly, either lowering it or using those with a central opening, and in both ways allowing the proper support for the breast and consequent correct positioning of the nipple to-

wards the neonate's mouth. At the end of breastfeeding, 60 (100.0%) puerperae waited for the neonate to spontaneously release the nipple or remove it with the aid of the little finger, as deemed appropriate.

Regardless of the observation of more maternal areola above the neonate's mouth in just 35 (58.3%) of all studied neonates, it is necessary to note that this item (more areola visualized above the lip edge of the neonate) was not an efficient parameter to determine adequate grip to the breast because, in some cases, the puerpera had a small areolar circle and thus, the entire region was covered with the neonate's lips. Forty-three (71.7%) neonates showed wide open mouths during breastfeeding, and only 27 (45%) showed the lower lip turned out, indicating an insufficiently opened mouth to seizure the entire areolar region, or most of it.

Based on these results, it was estimated that $26 \ (43.3\%)$ neonates presented adequate grip to the breast, and no interference from the researcher was needed; $34 \ (56.7\%)$ neonates showed some alteration in the positioning and/or sucking dynamics and intervention and orientation by the researcher were needed to correct the grip. Among the puerperae whose neonates showed adequate grip to the breast, $2 \ (7.7\%)$ showed nipple lesions and $24 \ (92.3\%)$ showed intact nipples. Among the puerperae whose neonates showed inadequate grip to the breast, $14 \ (41.2\%)$ showed nipple lesions and $20 \ (58.8\%)$ showed intact nipples. This result was statistically significant (p = 0.007), i.e. it was evidenced that the occurrence of nipple lesions is associated with an inadequate neonate grip to the breast.

The feeding frequency in a period of 24 hours was investigated. The results were ranked in feeding frequency of with ranges greater than two hours – 49 (81.7%) of responses, and ranges lesser than or equal to two hours – 11 (18.3%) of responses. Among the puerperae who reported feeding ranges of more than two hours, 34 (69.4%) showed nipple lesions and 15 (30.6%) showed intact nipples. Among those reporting feeding intervals equal to or less than two hours, 1 (9.1%) showed nipple lesions and 10 (90.9%) showed intact nipples. This result was not statistically significant (p = 0.259), i.e. the frequency of feedings did not influence the persistence of nipple lesions.

The breastfeeding act was observed by the researcher from start to finish, and the average duration was of 13.2 minutes (standard deviation = 8.1 minutes). The majority of puerperae – 55 (91.7%) breastfed between 5 and 25 minutes, and 5 (8.3%) between 25 and 45 minutes. Among those who breastfed between 5 and 25 minutes, 15 (27.3%) showed nipple lesions and 40 (72.7%) showed intact nipples. Among those who breastfed between 25 and 45 minutes, 1 (20.0%) showed nipple lesions and 4 (80.0%) showed intact nipples. This result was not statistically significant (p = 1.000) because the duration of breastfeeding did not influence the persistence of nipple lesions.

The neonates' weight gain was calculated based on the initial weight recorded on the day of hospital discharge. The average weight gain was of 36.8 grams/day (standard deviation = 21.7 grams/day), ranging from 27 to 75 grams/day. Most neonates showed adequate weight gain of at least 20 grams/day (51-85.0%); 9 (15.0%) showed weight gain below this value. Among those puerperae whose newborns did not gain enough weight, i.e. below 20 grams/day, 4 (44.4%) showed nipple lesions and 5 (55.6%) showed intact nipples. Among those puerperae whose newborns showed weight gain equal to or greater than 20 gram/day, 12 (23.5%) showed nipple lesions and 39 (76.5%) showed intact nipples. This result was not statistically significant (p = 0.230), i.e. the neonate's weight gain after hospital discharge was not influenced by the persistence of nipple lesions.

Regarding the use of a pacifier, 14 (23.3%) puerperae reported having offered a pacifier to their neonate and 46 (76.7%) did not. Of those who offered a pacifier, 4 (28.6%) showed nipple lesions and 10 (71.4%) showed intact nipples. Among those who did not offer a pacifier to their neonate, 12 (26.1%) showed nipple lesions and 34 (73.9%) showed intact nipples. This result was not statistically significant (p = 1.000), i.e. the use of a pacifier did not influence the persistence of nipple lesions.

DISCUSSION

Nipple lesions induced by breastfeeding have unique characteristics because they are potentially recurring and cause intermittent disturbances in the dermal tissue with a subsequent reduction in the rate of epithelialization or delayed healing when compared to other types of lesions.⁶ The presence of nipple lesions associated with pain felt by the puerperae while breastfeeding, representing an unpleasant sensation, indicate the need of assistance by a specialist to encourage continued breastfeeding and help mothers to overcome this problem in view of the ample benefits of breastfeeding. The results indicate that the first postpartum week is critical in the development of this problem because it is during this period that maternal and neonate adaptations occur including the act of breastfeeding. It is possible to promote better conditions for nipple healing, preservation, and minimization of discomfort by improving adequacy in neonate suction.

The presence of nipple lesions was not verbalized by the puerperae as the reason for introducing formula. The alleged reasons were: insufficient milk, an excessively crying newborn, and tiredness. However, indirectly, it may have been a causal factor for milk supplementation because according to Pelá,⁵ if the mother reacts negatively to the pain, inhibition in the milk ejection reflex may occur; or nipple lesion and pain can lead the mother to inappropriately position the child at the breast favoring incorrect seizure of the nipple and causing inefficient

sucking and unsatisfactory breast emptying, which results in insufficient milk extraction by the neonate.

The lesions represented by excoriation were the most frequently found in this study (14-87.5%); these are more superficial lesions while fissures are deeper and extensive, reaching more advanced degrees of aggression to the papillary tissue. The excoriation type lesions indicate the need of assistance to the puerperae to avoid aggravation of superficial lesions compromising the maintenance of lactation. It was observed that nipple lesions are often generically called fissures, however, according to the classification adopted in this study, 16.17 the incidence of fissures was low (12.5%).

Puerperae with an anatomical conformation of nipples as non-protruding face more difficulties in having the neonate seizing the nipple-areolar region properly, especially when the region is not soft and flexible. Vinha *et al.*¹⁵ showed that this difficulty becomes more pronounced in cases of anomalous nipples, namely umbilicated and semi-umbilicated, which are not often found. The types of nipples observed in this study were protruding or semi-protruding, and neither was associated with the presence of lesions.

Breast engorgement can lead to distention and edema in the areolar region because of milk stasis in the ampolar region, which makes the nipple "erased" and not flexible impairing proper grip to the nipple-areolar region by the child. This causes the force exerted by the jaw in sucking to be exerted on the nipple predisposing it to lesions. However, the nipple-areolar region was flexible and did not compromise its seizure by the neonate in puerperae with breast engorgement. Among all studied puerperae, 14 (23.3%) showed turgid or engorged breasts, indicating the need for reinforcement of guidelines for emptying the breast after feedings. 18

The fact that 10 (41.7%) puerperae with less pigmented nipple-areolar region showed nipple lesions as a statistically significant result ratifies the findings of other authors¹⁹ who found a high incidence of mammary papilla lesions in women with nipple-areolar region of brown color. The color in the nippleareolar region is determined by the functional capacity of melanocytes present in the individual, indicating that melanin may have an important role in skin resistance against the onset of nipple lesions; therefore, sun bathing is recommended as preventive and curative for these injuries. Sun expose of nipples for about 20 minutes daily, between 7 and 10 am, is recommended until complete healing resulting from the sun's bactericidal properties and increased skin resistance is achieved.¹⁰ The scientific basis for this approach was not found in most of the surveyed studies. The exposure to the sun would be indicated only as preventive and not as a curative conduct because recent studies recommend wet treatment for nipple lesions avoiding dehydration of the deeper layers of the epidermis. However, according to Giuliani,²⁰ such studies are limited and do not prove their effectiveness.

Despite the non-significant results between the use of a pacifier and persistence of nipple lesions, 14 (23.33%) neonates used a pacifier, which is conduct that is not recommended because, according to Righard⁶, it favors a superficial suction in the breast nipple. The author correlated suction patterns and use of pacifiers to breastfeeding problems and observed that inadequate suction was much more common among mothers with breastfeeding difficulties and the most common problems were tearful and restless newborns, and sore nipples. Neonates who used pacifiers showed more superficial suction on the nipple than those who did not use a pacifier; the use of pacifiers triggers confusion about different nipples leading to change in suction patterns by not displaying proper mouth opening to seize the whole nipple-areolar region. It is noteworthy that this advice is provided in assistance to breastfeeding.

The results showed that neonates breastfed at maximum intervals of four hours, and 28.3% at intervals of two hours or less reflecting the tendency of feeding on demand, without the establishment of rigid schedules. According to Vinha,¹⁸ it is important to let the child be breastfed for as long as they want, provided it is done efficiently, without a preset time limit and varying depending on the moment and hunger levels. However, very short feeding intervals can cause extreme tiredness in the mother due to the child's persistent request to breastfeed.

Silva²¹ believes that, in situations where the child does not behave as the mother expects, she will interpret such manifestations, at every three hours, as indicators of hunger and dissatisfaction. Thus, breastfeeding can be classified as insufficient by the mother, which leads to anxiety that can hinder her lactational performance. We reinforce the need for professional guidance and practical help in the care of a child by a family, which would allow a period of rest for the mother.

Although small, the study sample was considered statistically satisfactory for the proposed analysis. We believe that the results contribute to the enrichment of health professionals committed to assistance in the area of women's health and their children, especially in breastfeeding care.

CONCLUSIONS

In this study, it was concluded that the frequency of inadequate suction patterns by neonates was expressive regardless of the assisted and oriented breastfeeding as to the proper position the neonate in the breast during hospital stay. The observed statistically significant association between inadequate suction patterns and persistent nipple lesions underscores the importance of assistance in the support and guidance about breastfeeding techniques. This assistance is needed by puerperae at both the

Rooming-in sector at the HU USP and during the first postpartum week for the maintenance of breastfeeding.

Approaches for sensitizing and training nursing staffs were established after the findings reported in the study conducted by Shimoda, Silva, and Santos.²² These approaches are based on recycling breastfeeding information focusing on the need for evaluation and observation of the breastfeeding activity. Concomitantly, the implementation of the process of nursing diagnosis in the HU-USP, initiated in 2002, contributed to the standardization of guidelines and conduct prescribed by nurses on care for puerperae and neonates, individualizing the assistance provided in breastfeeding.²³ In addition, the recycling sessions held were reinforced with measures adopted in the process of HU-USP accreditation to obtain the title of Child's Friend Hospital, which was effected in 2006.

The belief that breastfeeding is a feature of magna importance for the health of children requires the same belief from professionals that this practice is only worth if exercised resulting from pleasure, minimal discomfort, unnecessary sacrifices, and is supported by women. The knowledge of the causal factors for difficulties and complications faced by breastfeeding women can increase the likelihood of successful breastfeeding.

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