

Breastfeeding problems: an analysis of secondary data from Lactation Management Unit at the national referral hospital in Bhutan from 2014 to 2016

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ABSTRACT

Introduction: Breastfeeding is one of the most natural and best forms of preventive medicine for the newborns. Lack of optimal breastfeeding contributes to about over million preventable child deaths every year. Despite numerous benefits of breastfeeding and continuous efforts to improve breastfeeding practices, breastfeeding rates are far from optimal. Problems faced by lactating mothers while breastfeeding are main reason leading to non-exclusive breastfeeding or early termination of breastfeeding. This descriptive study is aimed at examining breastfeeding problems among women visiting Lactation Management Unit [LMU] at Bhutan's national referral hospital in Thimphu. **Methods:** Data of all 2751 women-infant pair visiting Lactation management unit of Jigme Dorji Wangchuck National Referral Hospital with breastfeeding problems were double entered into Epi Data (version 3.1). Using STATA, descriptive statistical analyses were carried to examine common breastfeeding problems among the lactating mothers. Exclusive breastfeeding rates were also examined among the group. **Results:** The commonest types of breastfeeding problem were nipple sore (60.8%), incorrect breastfeeding techniques (12.9%), and nipple problems (8.2%). Teenage, first timers, caesarean delivery, preterm infants, underweight infants, and mothers with full time paid job were more likely to suffer from breastfeeding problems. **Conclusions:** Breastfeeding interventions for timely correction of breastfeeding techniques early in postnatal units could warrant prevention of up to 73.7% breastfeeding problems and thus, promoting exclusive breastfeeding and preventing early termination of breastfeeding.

Keywords: Breastfeeding problems; Breastfeeding techniques; Exclusive breastfeeding; Nipple sore.

INTRODUCTION

Breastfeeding is one of the most economic, natural, and best form of preventive medicine for the newborn. According to the World Health Organization (WHO), lives of over 820000 children could be saved every year if all under-two years children are optimally breastfed¹. Similarly, the United Nations International Children's Emergency Fund (UNICEF) has estimated that almost 1.3 million children under the age of 5 could be saved annually through exclusive breastfeeding alone². Despite of the numerous benefits of breastfeeding and continuous effort to improve breastfeeding practices, breastfeeding rates are far from optimal. Studies have suggested so many maternal, infant, socio-demographic, and support system factors related to low exclusive breastfeeding rates³⁻⁵. The recent studies suggest that the problems faced by lactating mothers while breastfeeding might be main reason leading to non-exclusive breastfeeding or early termination of breastfeeding⁶⁻⁸. A study in India found out that 88.5% of

mothers faced problems related to breastfeeding, of which 70.8% had positioning and attachment problems while 10.5%-17.8% suffered from nipple sore⁶. In addition, approximately 60% mothers were found to be terminating breastfeeding earlier than they desired because of the problems they faced in the process of breastfeeding⁹.

Although Bhutan has come long way in terms of promoting, supporting and sustaining breastfeeding practices, exclusive breastfeeding rate for under 6 months children is still low with only 48.7% of women exclusively breastfeeding their child¹⁰. The same survey carried out in 2011 also reported that 11.5% of children aged 0-23months were receiving formula milk, suggesting early termination of breastfeeding. However, a little is known about there as on for low rates of exclusive breastfeeding and early termination of breastfeeding among Bhutanese children. A hospital based report (unpublished) from 2014 on problems of breastfeeding from the Lactation Management Unit (LMU) at JDWNRH showed 61% of the problems were sore nipple, 17% attachment problem, 8% engorged breast and blocked duct, and 11 % were other problems such as inverted nipple, and flat nipple. However, to our knowledge no scientific study on breastfeeding problems in Bhutan has been done and published.

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Therefore, this study was carried out with the aim of providing some insight into the types of breastfeeding problems among the mother-infant pairs who visited LMU at JDWNRH.

METHODS

Study design and setting

This cross-sectional study used data of all 2751 women-infant pairs visiting LMU of JDWNRH from September 2014 to September 2016 with breastfeeding issues. Jigme Dorji Wangchuck National Referral Hospital (JDWNRH), the apex hospital in the country attends to about 41% of country's birth and had established a LMU in 2013 to attend to all lactating mothers with difficulty in breastfeeding. A register is maintained at LMU of JDWNRH to keep the record of patients visiting the unit. The register has basic information on both mother and infant such as their age, infant weight, gestational age, current breastfeeding status, and mode of delivery the register has recorded over 21 different types of breastfeeding problems.

Ethical approval

Ethical approval for this study and waiver for informed consent was sought from the Research Ethics Board of Health, Ministry of Health, Bhutan (REBH/Approval/2016/066). Site approval was sought from the hospital administrations, JDWNR hospital. All data collected were kept confidential and under no circumstances identifying characteristics of the participants were included in the study report. All data were anonymised with no identifiers to the patients.

Data Management and Analyses

Data were double entered and validated by the principal investigator from LMU register to Epi Data (version 3.1) with the help of an assistant reading it out from the register. Prior to data entry, visual checking and allotting serial number to all the cases were done. Statistical software STATA version IC/ 14 (licensed to Khesar Gyalpo Univeristy of Medical Sciences of Bhutan) was used for the data analysis. Descriptive statistics command such as frequency, percentage, mean, median, confidence interval, and standard deviation were used to describe the study variables. The LMU register recorded about 21 different types of breastfeeding problems and these problems were grouped as nipple sore, incorrect breastfeeding techniques, nipple problems, breast problem, perceived milk insufficiency or oversupply, and others. Each of these common problems were examined with sample characteristics such as maternal age, education, occupation, mode of delivery, infant gestational age and birth weight, number of LMU visits, and breastfeeding status of the infant. In addition, exclusive and non-exclusive breastfeeding rates were examined among women with different types of breastfeeding problems.

RESULTS

Demographics

During September 2014 to September 2016, a total of 9834 deliveries had occurred in JDWNRH, of which 8208 were normal and 1626 were caesarean section deliveries. Out of the total deliveries that had occurred in JDWNRH during the study period, approximately 28% of women had problems related to breastfeeding and they had visited LMU.

This study included all 2751 women-infant pair who had visited LMU with one or other problems of breastfeeding from September 2014 to September 2016. The number of visit to LMU ranged from 1-8 visits, with 73% of them making only 1 visit and 8% with more than 3 visits. Age of the mothers ranged from 14 to 46 years old with mean (SD) age of 26.2(4.7). This sample consisted of 61.4% housewives and rest with full time paid jobs. Majority of women had normal delivery (86.8%) followed by 12.5% with caesarean delivery. Almost all the infants in the sample had normal birth weight (92.9%). Fifty three percent of the infants were born term, 44% at post term, and 2.65% preterm.

Common types of breastfeeding problems

Women visiting LMU reported as many as 21 different problems that they faced while breastfeeding. These problems were grouped as: (1) nipple sore, (2) incorrect breastfeeding techniques (attachment, positioning, latching); (3) nipple problems (flat nipple, short nipple, inverted nipple, retracted nipple); (4) breast problems (engorgement, blocked duct, mastitis, breast abscess); (5) perceived milk insufficiency or over supply; and (6) others (pain while feeding, infant not suckling, lump in the breast, swollen lymph node, nipple confusion, maternal vomiting after feeding, and itching breast).

Majority of the women presented with nipple sore (60.8%, 95% CI 58.9-62.6) followed by 13% percent (95% CI 11.8-14.3) with issues related to breastfeeding techniques (Table 1). Eight percent of the sample had nipple problem while breast problems and perceived insufficiency or over supply of breast milk were 7% each. Teenage mothers, housewives, first time mothers, and mothers who had normal vaginal delivery, post term baby and overweight baby were more likely to present with nipple sore than their counterparts (Table 2). Mothers who had caesarean delivery and underweight babies faced issues related to breastfeeding techniques and those with preterm babies perceived milk insufficiency or oversupply more than all other groups.

Exclusive breastfeeding practices

Seventy two percent of infants were being exclusively breast fed around the time of their visit to LMU. The rates were 75.3% for 1 LMU visit and 59.2% for more than 3 LMU visits (Table 3). Among the five main groups of breastfeeding problem, mothers with nipple problems and perceived breast milk insufficiency showed higher rates of non-exclusive breastfeeding. In addition, mothers who had caesarean and instrumental delivery did more non-exclusive (55% & 67%) than exclusive breastfeeding (45% & 33%).

Table 1. Common types of breastfeeding problems among women visiting LMU

Common Breastfeeding Problems	Frequency	Percentage (95%CI)
Nipple sore	1672	60.78 (58.93 – 62.58)
Breastfeeding techniques	357	12.98 (11.77 - 14.28)
Nipple problems	226	8.22 (7.24 - 9.30)
Breast problems	194	7.05 (6.15 - 8.07)
Perceived milk insufficiency & over supply	202	7.34 (6.42 - 8.37)
Others	100	3.64 (2.99 - 4.40)
Total	2751	100

Table 2. Description of breastfeeding problems

Variables	N	Nipple sore (%)	BFT (%)	Nipple problems (%)	Breast problems (%)	PIOS (%)	Others (%)
Total	2751	60.78	12.97	8.22	7.05	7.34	3.64
Teenage (<20yrs)	151	60.93	9.93	15.23	5.30	4.64	3.97
Old age (> 35 yrs)	123	50.41	13.82	8.13	8.94	13.01	5.69
Full time paid job	1061	59.85	12.54	7.45	8.95	7.92	3.30
Housewives	1690	61.36	13.25	8.70	5.86	6.98	3.85
Primipara	1620	61.60	11.60	10.00	6.79	6.91	3.09
Multipara	1131	59.59	14.94	5.66	7.43	8.96	4.42
Normal vaginal delivery	2389	62.49	12.35	7.49	7.16	6.95	3.56
Caesarean delivery	344	49.13	18.02	12.50	6.40	9.88	4.07
Underweight infant	101	44.55	19.80	10.89	6.93	10.89	6.93
Normal weight infant	2555	61.25	12.76	8.14	7.01	7.24	3.60
Overweight infant	95	65.26	11.58	7.37	8.42	6.32	1.05
Preterm	73	41.10	15.07	15.07	4.11	17.81	6.85
Term	1458	58.02	13.31	8.50	7.48	8.23	4.46
Post term	1220	65.25	12.46	7.46	6.72	5.66	2.46

*BFT- breastfeeding techniques; PIOS- perceived milk insufficiency or oversupply.

Table 3. Description of exclusive and non-exclusive breastfeeding with other variables

Variables	Exclusive breastfeeding n (%)	Non-exclusive breastfeeding n (%)
Nipple sore	1271(76.02)	401(23.98)
Breastfeeding techniques	260(72.83)	97(27.17)
Nipple problems	129(57.08)	97(42.92)
Breast problems	140(72.16)	54(27.84)
Perceived milk insufficiency or oversupply	116(57.43)	86(42.57)
1 LMU visit	1523(75.27)	497(24.73)
2 LMU visits	355(69.20)	158(30.80)
3 or more LMU visits	135(59.21)	93(40.79)
Normal vaginal delivery	1841(77.06)	548(22.94)
Caesarean delivery	156(45.35)	188(54.65)
Instrumental delivery	6(33.33)	12(66.67)

DISCUSSION

More than one-fourth of the women who delivered at JDWNRH between September 2014 and September 2016 had problems related to breastfeeding and they had visited LMU. The commonest type of breastfeeding problem among women-infant pair visiting LMU, JDWNRH was nipple sore. The problems of breastfeeding can be related to one another in a very intricate way. Having one of those problems can lead to others in a form of progressive stages of a condition or present as a multiple problem at a time. However, the most common cause of nipple sore, which affects 61% of our lactating mothers, is incorrect breastfeeding techniques such as improper positioning and inappropriate latching^{11, 12}. The problem with breastfeeding techniques can be seen early in postnatal period and this problem if not corrected in time led to nipple sore. The nipple sore further can progress to other problems of breastfeeding, ultimately affecting exclusive breastfeeding practices. Therefore, interventions to improve exclusive breast feeding should be aimed at correcting breastfeeding techniques early in postnatal period in addition to the already existing antenatal breastfeeding education services. This timely intervention could prevent 73.7% of breastfeeding issues all together.

Our findings on problems of breastfeeding were slightly different from what studies from Denmark and India have reported. An assessment of breastfeeding problems in postnatal mothers reported 88.5% with incorrect breastfeeding technique, 30.3% with nipple and breast problems, and 10.5% with sore nipple among Indian lactating mothers⁶. Incorrect breastfeeding techniques were also seen among 50% of Danish mother-infant pairs, assessed early in postnatal period¹⁰. This difference could have resulted due to difference in timing of assessment of the problem. Other studies have assessed the problem early in postnatal period where initial breastfeeding issues such as incorrect breastfeeding techniques are commonly seen. On the other hand, our data consisted of variety of mother-infant pairs, ranging from few days to months old and thus, nipple sore, which occurs mainly from incorrect technique, was our commonest type of problem. These differences in finding also suggest the loophole in our maternity facilities to correct breastfeeding techniques at the right time; hence, majority of our women presented with sore nipples in later stage. Younger aged mothers presenting with more nipple sore, nipple problems, and perceived milk insufficiency or oversupply than their older counterparts point out the need for special attention in this group in breastfeeding interventions. Incorrect breastfeeding technique was a bigger problem among mothers who had caesarean and instrumental delivery than those who had normal delivery, in line with the findings from India which pointed out caesarean delivery as independent predictor of breastfeeding problem⁶.

Although, overall exclusive breastfeeding rate (72.8%) is quite high in this sample, a notable decreasing pattern of exclusive breastfeeding was seen with the increase in number

of LMU visits. This finding can be interpreted as women with breastfeeding problems are at higher risk for non-exclusive breastfeeding or early termination of breastfeeding. Our findings are in line with findings from international studies on problems of breastfeeding being one of the major contributors of non-exclusive breastfeeding or early termination of breastfeeding^{6, 9, 11}. In fact, a study reported that breastfeeding problems gravely affected the standard breastfeeding practices as women with incorrect breastfeeding techniques are 4.42 times more likely to stop breastfeeding their infants⁹. Further, it was reported that overall 60% of women with breastfeeding problem stopped breastfeeding their infants earlier than they desired. Therefore, studying the problems of breastfeeding in depth and intervening at the right time could not only ensure exclusive breastfeeding and prevent early termination of breastfeeding but also save our mothers from chain of complications related to breastfeeding problems. The problem can start with a very simple and easily manageable issue as incorrect breastfeeding technique and end up with mastitis or breast abscess if not managed on time.

Study limitation

Since this study used secondary data from a register maintained at LMU, therefore the data were limited to only whatever was available in the register. Secondly, the findings can't be generalized to whole country as the data from only the national referral hospital was included in the study.

CONCLUSIONS

Nipple sore, which is the commonest type of breastfeeding problem among our sample suggest the dire need for timely correction of breast feeding techniques, the main cause of nipple sore and a breastfeeding problem by itself. Interventions to correct breastfeeding techniques doesn't cost much but little extra effort from maternity care providers in educating and aiding mothers with correct breastfeeding techniques early in postnatal period can make huge difference in improving breastfeeding practices. In addition, the existing antenatal breastfeeding education and services can be enhanced through timely correction of nipple problems and by enhancing women's knowledge and skill to breastfeed.

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AUTHORS CONTRIBUTION

Following authors have made substantial contributions to the manuscript as under:

KZ: concept, analysis of data, study design, manuscript drafting and critical reviews

DW: concept, analysis of data, study design, manuscript drafting and revisions

TT: concept, analysis of data, study design, manuscript drafting and revisions

MSG: concept, analysis of data, study design, manuscript drafting and revisions

Authors agree to be accountable for all respects of the work in ensuring that questions related to the accuracy and integrity of any part of the work are appropriately investigated and resolved.

CONFLICT OF INTEREST

None

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