

Research Article

Assessment of breast-feeding experiences following a significant primary postpartum hemorrhage among primigravida mothers in Bhopal

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ABSTRACT:

Background- Postpartum hemorrhage can trigger a series of events that prevent a mother from fully breastfeeding. To find out the factors brought about by postpartum hemorrhage which impact successful breastfeeding, 15 primigravida mothers were selected for the study.

Materials & Methods- The Mixed method research design was used in this study. The study population included primigravida mothers with a significant Postpartum hemorrhage (estimated blood loss of 1500 mL or more) in 24 hours. The study was done in a private hospital at Bhopal. The sampling technique used for this study was purposive sampling (non - probability).

Results- The findings showed a significant association between severity of blood loss and breastfeeding in the first postpartum week. After adjustment for method of birth and timing of the first opportunity to suckle, the association was statistically significant. The difficulties with breastfeeding may be due to delayed lactogenesis Stage II. In addition, early separation from their baby, their stressful birth experience, ongoing fatigue, and the physical sequelae of Postpartum hemorrhage were all cited by mother as factors influencing their inability to successfully breastfeed.

Conclusion- The observations reported here support that mothers are able to successfully breast-feed, but may find it difficult in complications related to PPH.

KEYWORDS: Breastfeeding, Postpartum hemorrhage, Primigravida Mothers.

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INTRODUCTION:

Postpartum hemorrhage (PPH) can trigger a series of events that prevent a mother from fully breastfeeding.^[1] Additionally, mother and baby may be separated causing a delay in breastfeeding initiation. Maternal fatigue may also necessitate formula supplementation.^[2]

The incidence of maternal morbidity was 42.9% during puerperium. The postpartum morbidities

included breast problems (18.4%), secondary PPH (15.2%), puerperal genital infections (10.2%) and insomnia (7.4%). Frequent postpartum morbidity suggests the need for home based postpartum care in India.^[3]

According to a qualitative study on the breastfeeding experience of mothers of pre-term infants in the first 12 months, after birth 270 mothers provided 496 written answers through questionnaires

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containing open-ended questions. Three organizing responses, namely, “navigating smoothly,” “navigating with a struggle” and “navigating in ambiguity” were revealed in the mother's narratives regarding their breastfeeding experiences. These organizing themes were further interpreted as one global theme that was deemed “A journey to finding one's unique way in breastfeeding.”

A study to assess the breast-feeding experience following a significant PPH among primigravida mothers in a selected hospital Bhopal was planned. The objectives of the Study were to find out the factors brought about by PPH which impact successful breastfeeding and to find the association between impact of breast feeding among primigravida mothers with their socio demographic variables.

MATERIALS & METHODS:

The study was carried out in a private hospital in Bhopal, India. Institutional ethical clearance was obtained. The study population included primigravida mothers with a significant PPH.

Mothers with a significant PPH defined as an estimated blood loss of 1500 mL or more in the 24 hours following childbirth, and/or a peripartum fall in haemoglobin (Hb) concentration to 7g/dL or less were included. Mothers aged less than 18 & multigravida mothers were excluded. Also mothers who were not willing to participate in the study, or if they experienced either a stillbirth or a neonatal death were not included. Purposive sampling (non - probability) technique were used to collect sample. 15 primigravida mothers formed the sample size. A carefully designed questionnaire was designed after consulting a team of 5 professionals.

The questionnaire consisted of 3 sections:-

Section A: Quantitative:

Socio demographic data. This section consisted of 5 items pertinent to the demographic data of the primigravida mothers such as age, parity, mode of delivery, number of days admitted in hospital and contact with baby.

Section B: comprised of 5 questions related to breast feeding and postpartum physical concerns.

Section C: Qualitative:

The questions in this section included responses in their own words related to questions on their experience during labour and birth or any other information or comments on hospital care.

Reliability of the questionnaire:

The split half method was used to test the reliability of

the questionnaire. The test was first divided in to two equivalent half and co-relation was found by using Cronbach's Alpha correlation of co-efficient formula. The reliability of the tool was 0.82. So, it was found to be reliable for data collection.

For Qualitative tools the reliability was done by triangulation method while the data collection was done by Expert, primi mothers, nursing students. The tool was found feasible and accepted after pilot study.

Data collection Procedure:

- Prior to the data collection, permission was obtained from the concerned hospitals authorities for conducting the study.
- Mothers were selected according to the selection criteria and they were assured of confidentiality.
- Written consent was obtained from the mothers.
- After complete medical records were obtained, three questionnaires were allotted; the first being complete questionnaire (includes Section A, B & C) within 24 hours after delivery and the second (Section C) and third (section C) at 5th Day after delivery and 10th postpartum day respectively.

Within 24 hours of delivery, the mothers were asked how they had hoped to feed their babies and their current feeding method. In addition, the mothers were asked about their babies' location in the 1st hour after delivery and subsequently, and how soon after birth they may have an opportunity to breastfeed their babies.

Section B-

At 5th day and 10th day postpartum, mothers were asked about their infant's current feeding method and to rate their baby's health (**anyone should be ticked**)

Fully breastfeeding

Complementary feeding

Bottle/formula feeding

This was followed by allotting (1= Poor, 2 = Fair, 3= Good, 4= Excellent) for their experience.

Also, the participants were asked to identify their postpartum physical concerns at 5th day and 10th day postpartum: (**anyone should be ticked**)

Not a problem

A minor problem

A major problem

Section C: In all three questionnaires, mothers were invited for open ended questions in response to the question:

- (a) Is there anything about your labour and birth that is bothering you now? At 5th day and 10th day of postpartum two additional questions were also included.
- (b) What other information, if any, have you found helpful?
- (c) Are there any other comments you would like to make about your care in hospital and since discharge?

DATA ANALYSIS:

Edinburgh Postnatal Depression Scale was used on 15 mothers, to give adequate precision ($\leq 5\%$) for the estimate of prevalence of the study outcome measure with the highest expected prevalence (score > 12 on the Edinburgh Postnatal Depression Scale).

Differences between unrelated proportions were tested by using Chi Squared test. McNemar's test was used to determine the significance of the difference between paired proportions.

The analysis was done by statistical level of significance at the 5% two-sided level.

For analysis of the qualitative data, mother's verbal comments were transcribed verbatim and analyzed for content and inductively coded to identify a thematic framework.

RESULTS:

Section A: In this section description of socio demographical variables was taken into consideration under the following headings.

- (a) Distribution of subject according to Parity, out of 15 women, 10 (66.6%) were primiparous, 5 (33.3%) women had a singleton birth.
- (b) The majority 10 (66.6%) were aged less than 35, with only 1(6.66%) aged between 35 to 40 years while 4 (26.6%) participants were older than 40 years.
- (c) Overall, 4 (26.6%) women had a caesarean section.
- (d) 10 (66%) participants stayed for atleast for 1 day or less than 24 hours while 5 (27%) stayed for 5 days.
- (e) Results for distribution of subjects according to early contact with baby revealed that out of 15 only in 3 (20%),the baby was given to the mother after first hour of birth for breast feed, 12 (80%) after 24 hours post birth the baby were given to mother for breast feed.

Section B:This section included quantitative questions.

As depicted in Table 1, 3(20%) mothers got chance to breast feed within 1/2hrs, whereas 5 (33.3%) said they had hoped to do so ($p < 0.001$). For 12 (80%) of the participants, the opportunity was delayed for more than 1 hour and this was for complicated pregnancies in 70% cases. Although not statistically significant, there was a trend towards increasing delays in the first opportunity to breastfeed as estimated blood loss increased ($p=0.13$). Mothers who were able to give their baby the opportunity to suckle within two hours of birth were more likely to fully breastfeed at baseline ($p < 0.01$).

Table 1:Description of mothers according to timing of first opportunity to suckle for babies of mothers who intended to breastfeed.

Sl.No.	Score	Breast feeding timing	
		Frequency	Percentage
1.	Within 1/2hr	3	20%
2.	Within 1-2hrs	7	46.7%
3.	After 2-4hrs	5	33.3%

Table 2: comparison of estimated blood loss & initiation of breast-feeding timing.

Blood loss	Timing					
	½ hr		1 – 2 hr		2-4 hr	
<2000 ml	2	6.7%	2	20%	-	-
2000 -2999ml	1	13.3%	4	26.6%	1	6.7%
More than 3000	-	-	1	6.7%	4	26.7%

Our results showed that among women intending to breastfeed, those with the higher estimated blood loss were less likely to fully breastfeed in the **first 5 postpartum days** than mother with lower estimated blood loss (Table 2& Figure1). In summary, just over 70% women with PPH of < 2000 mL were fully breastfeeding in the first 5 postpartum days, whereas less than 30% of those with blood loss ≥ 3000 mL were able to do so ($p=0.01$). In our analysis, there was a marginally significant association between prior exposure of interest (estimated blood loss) and the likelihood of partially breastfeeding or bottle/formula feeding. Table Method of birth and timing of the first opportunity to suckle were co-linear and each of these exposures was significantly associated with the likelihood of partially breastfeeding or bottle/formula feeding. Adjusted comparison of feeding method and timing is depicted (Table 3 Figure 2) for prior exposure of interest adjusted for each of these exposures separately.

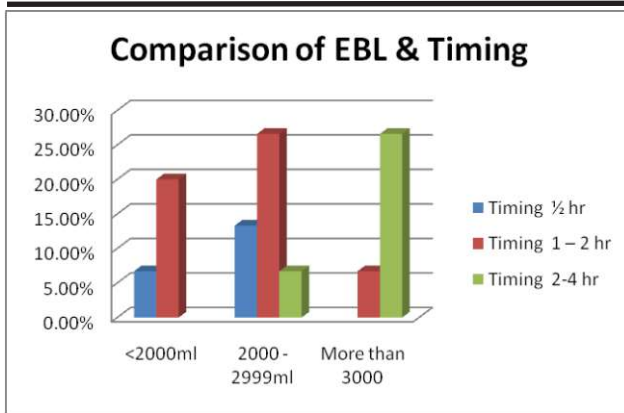


Figure 1: Graphical representation of Estimated blood loss (EBL) & initiation of breast-feeding timing.

Section C:

Table 3: Description of mothers according to their infant's current feeding method on 5th day and 10th day postpartum.

Sl.No	Score	Type of feeding	
		Frequency	Percentage
1.	Fully breastfeeding	2	13.4%
2.	Complementary feeding	8	53.3%
3.	Bottle/formula feeding	5	33.3%

Our results showed that the majority 8(53.3%) infant's current feeding method was complementary feeding on 5th day and 10th day postpartum [Table 3].

Table 4: Description of mothers according to their infant's current feeding method and feeding initiation timing on 5th and 10th postpartum day.

Feeding Method	Timing					
	½ hr		1-2 hr		2-4 hr	
Fully breastfeeding	1	6.7%	1	6.7%	-	-
Complementary feeding	2	13.3%	4	26.6%	2	13.3%
Bottle/formula feeding	-	-	1	6.7%	4	26.7%

Among women intending to breastfeed, those with the higher estimated blood loss were less likely to fully breastfeed in the *first postpartum* week than women with lower estimated blood loss (Table & 4 Figure 2). In summary, just over 70% women with PPH of < 2000 mL were fully breastfeeding in the first 5 days of postpartum period, whereas less than 30% of those with blood loss ≥ 3000 mL were able to do so ($p=0.01$). In our analysis, there was a marginally significant association between prior exposure of interest (estimated blood loss) and the likelihood of partially breastfeeding or bottle/formula feeding. Method of birth and timing of the first opportunity to suckle were

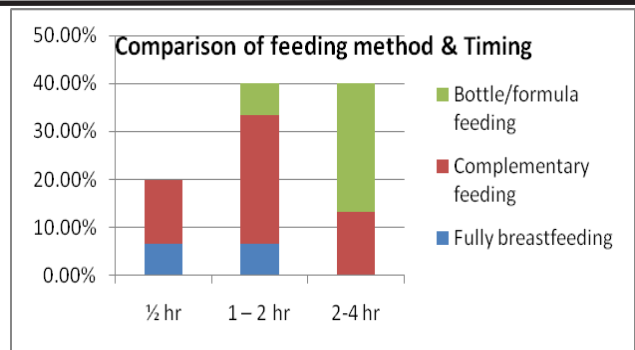


Figure 2: Graphical representations of Method of feeding and initiation of breast-feeding timing.

co-linear and each of these exposures was significantly associated with the likelihood of partially breastfeeding or bottle/formula feeding.

Overall, 13.4% of mothers with significant PPH were fully breastfeeding in the first postpartum day, 53% at two and 34% at 10th day postpartum. Stratifying the data by estimated blood loss, rates of full breastfeeding were lowest at all the time points for mothers with the highest estimated blood loss. There was some recovery in terms of reversion from partial to full breastfeeding by 10th day of postpartum among women in the intermediate category (more than 1500 mL), but not among those with greater estimated blood loss.

Table 5: Description of mothers according to their postpartum physical concerns on 5th day and 10th day postpartum.

Sl.No.	Score	physical concerns	
		Frequency	Percentage
1.	Not a problem	5	33.4%
2.	A minor problem	7	46.6%
3.	A major problem	3	20%

Our results showed that the majority 7(46.6%) mothers had minor problems on 5th day and 10th day postpartum.

Maternal perception of Baby health: At 10th day 10 (66.6%) mothers reported that breast pain and tenderness had been either a minor or major problems during feeding time. No association was found between estimated blood loss and risk problems.

Mastitis: At 10th day3 (20%) mothers reported that a breast infection or mastitis had been either a minor or major problem for them in the preceding days. No association was found between estimated blood loss and risk of problems with mastitis.

Analysis of mother's comments relating to breast feeding: 15 mothers included references to their breastfeeding experiences in their verbal comments in

the questionnaires.

Three major themes were identified: 1) Difficulty initiating or sustaining breastfeeding, 2) Need for education and support; and 3) Emotional sequelae.

1) Difficulty initiating or sustaining breastfeeding:

Mothers explained various factors that made initiating breast-feeding difficult. These included physical separation from the baby, fatigue, mobility and posture problems, and delayed milk production. One woman summed up her experience as:

"Breastfeeding was much harder than I thought and my delivery experience made it harder." (ID 4, primipara, 1500 mL blood loss, 5th day of postpartum).

One mother described her main concerns after the birth as:

Separation from baby one and a half hours after birth and for about three plus hours whilst in theatre. Delay with getting breastfeeding underway."(ID 7, primipara, 1500 mL blood loss, first day of postpartum).

One mother also wrote of insufficient and slow production of colostrum/milk as well as sheer inability to breastfeed"...due to no energy because of the PPH."

Reasons cited for ongoing breastfeeding difficulties or cessation included: complications such as mastitis and nipple pain, stress and inconvenience - particularly when the breast milk was expressed, and meeting the physical demands of breastfeeding while recovering from the PPH. Having mastitis or a breast abscess was reported variously as a reason for readmission to hospital, ongoing physical concerns and a cause of discomfort. In general, breast discomfort was a commonly cited problem along with "nipple damage and soreness" and "sore breasts".

One woman began supplementing with formula as she was suffering "deep pain in the breasts following a feed" and tender breasts. Other discomfort suffered included postural problems and "stiff/sore neck" due to tenseness during breastfeeding. With regard to the physical demands of both breastfeeding and recovering from the PPH, one participant wrote:

I feel that most of my problems health wise are due to breastfeeding and the effort that it takes both in time.....and in physical effort (strain on body). However I think the reality of my having "after birth bleeding" and losing so much blood was just that it took so much longer than normal (other mothers) to feel like I was normal."(ID 8, primipara, 1800 mL blood loss, 10th postpartum day).

2. Need for education and support: Mothers written

comments reinforced the importance of appropriate and timely support and advice for successful breastfeeding. The participants wrote mainly of their experiences with midwives; women who had a positive experience used words such as "help" and "information". One participant said that the midwife "ensured the baby was put to the breast as soon as possible". This was found to be "reassuring". Conversely, women who had negative experiences used words such as "unhelpful", citing reasons such as getting "mixed opinions" and "conflicting advice".

For example, one woman wrote in relation to attachment problems:

The midwives weren't very good with me trying to breastfeed. I had attachment problems and they made it worse. I had to consult a lactation specialist to help me." (ID 11, primipara, 2500 mL blood loss).

Not all advice given by healthcare providers was deemed helpful or was followed. One participant said she chose not to continue to take the analgesics she was prescribed. She said that as a result she *felt absolutely fantastic* and *"breastfeeding improved as the baby wasn't as drowsy."*

Issues of timely access to appropriate services were also raised. One participant wrote:

I would have found it helpful to have spent some time at the breastfeeding clinic or have been encouraged to do so."

Some things were mentioned which might have made a difference. For example, in one woman's words:

..now it's bothering me that the doctors in hospital would just not listen to me about getting a blood transfusion earlier (I had a PPH previously with my first child) and my recovery and difficulties with breast feeding would have been so much better!"

3. Emotional sequelae

A number of mothers regret to express the emotional consequences of their inability to realise their goal of breastfeeding their babies. Some express the feeling of stress associated with breastfeeding. The stressors included expressing and supplementary feeding, as well as breastfeeding twins. One mother spoke of *"confusion and frustration"* associated with conflicting advice from postnatal midwives and another had "concerns about whether I can produce enough milk." Some mothers found breastfeeding difficult, especially when they had to express breast milk, which was referred to as *"inconvenient"* by one woman who persevered for 10th day, and *"tiring"* by another. Disappointment and regret was mentioned by mothers who had been unable to feed. The intensity of

this feeling varied; one mother expresses that:

I do sometimes wish I could have continued breastfeeding, but it just didn't work out. (ID 1 primipara, 2000 mL blood loss, 10th day postpartum).

Another was devastated and attributed her negative experience to the PPH:

My dream of breastfeeding has been shattered due to no energy because of the PPH so I have started feeling quite down. (ID 3, multipara, 1800 mL blood loss, 7day of postpartum).

Mothers discuss many factors that made initiating breastfeeding difficult. These included physical separation from the baby, fatigue, mobility and posture problems, and delayed milk production.

DISCUSSION:

The study was carried out in a private hospital in Bhopal. The study is one of its kind that describes issues in breast-feeding due to PPH. Our study showed breast-feeding outcomes in a group of mothers experiencing PPH. Despite experiencing a significant, and in some cases life threatening blood loss condition, mothers in this study achieved remarkably good rates of both initiation and duration of full breastfeeding.

The findings showed that there was a significant association between severity of blood loss and breast-feeding in the first postpartum week (p -value 0.001) 1. After adjustment for method of delivery and timing of the first opportunity to suckle, the association was statistically significant.

Consistent with the quantitative results, qualitative data indicate that difficulties with breast-feeding may be due to delayed lactogenesis Stage II in this population, with mothers reporting delays in onset of milk secretion. In addition, early separation from their baby, their stressful birth experience, ongoing fatigue and the physical sequelae of PPH were all cited by mothers as factors influencing their inability to successfully breastfeed. The qualitative data are also consistent with the concept that inability to successfully breastfeed is not benign and has emotional sequelae including disappointment, loss, regret and sense of failure. Mother's accounts of their breastfeeding experiences also highlight the crucial role of health care providers in supporting women to breastfeed, in particular, providing them with adequate information, reassurance and practical advice.

Our results were consistent with various studies. Finding is supported by, a descriptive study based on quantitative and qualitative data collected via questionnaires completed in the first week postpartum and at two and four months postpartum, by 206 women participating in a multicentre study of women's

experiences of a significant primary PPH (blood loss of 1500 mL or more in the 24 hours following childbirth, and/or a peripartum fall in haemoglobin (Hb) concentration to 7g/dL or less, or of ≥ 4 g/dL). In the first postpartum week, 63% were fully breastfeeding their babies and by four months postpartum 45% continued. Further, maternal ratings of infant health at both two and four months were high, with over 95% rating their infant's health as excellent or good at both time points.^[2,3,4]

The findings of the present study have implications in the field of **Nursing Education**. This study implies that antenatal mothers have to be trained well on how to take care of new born and make them aware about breast-feeding and postnatal care. Nurses need to be made aware that family participation is an important aspect of care. Continuing nursing education should be conducted for need awareness.

Independent **nursing practice** is one of the evolving trends in which definite specified roles of nurse clinician, nurse practitioner etc are emerging. Our study can contribute to the development of a new specialization itself in nursing. Nurses as primary care givers have the supreme responsibility in prevention of PPH.

Nursing administrators may involve in policy making and budgeting for health programmes and also formulate policies that will include all nursing staff to be actively involved in health education programmes in their respective hospital and community.

Professional organizations in nursing are convinced of the importance of **nursing research** as a major contribution to meeting the health and welfare needs of the people. The present study is only an initial investigation in the area of teaching regarding management of PPH and importance breast feeding.

CONCLUSION:

The purpose of this study was to investigate the effect of PPH on successful breast-feeding. The observations reported here support that mothers are able to successfully breast-feed, but may find it difficult in complications related to PPH. Mother with greater blood losses are more likely to be adversely affected and this may be related, in part, to delays in initial contact with their baby as a consequence of the PPH.

Maternal health services should identify the risk and address modifiable factors that hinder the ability of women with PPH to successfully initiate and sustain full breast-feeding and recognize and treat delayed or failed lactogenesis Stage II where necessary.

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Conflicts of interest

There are no conflicts of interest.

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