BACKGROUND

Early breastfeeding is defined as initiation of breastfeeding within one hour of birth; exclusive breastfeeding is feeding the infant, till age 6 months, only breast milk without the addition of any other food, milk, fluid or water.\(^1\) Evidence suggests that early breastfeeding, if implemented widely, can reduce the neonatal mortality rate by 20 percent; moreover, early breastfeeding, coupled with good breastfeeding skills, could positively influence the practice of exclusive breastfeeding.\(^2\)

NFHS-3 data indicate that in 2005-06 around 7 percent of women aged 15-34 years in rural Uttar Pradesh (UP) had initiated breastfeeding within one hour of birth, indicating no change since NFHS-2 in 1998-99.\(^a\) DLHS-3 (2007-08) data for UP show that although there has been an improvement in the practice of early breastfeeding, it was only around 15 percent; the data also reveal that just 8 percent of children aged 6-23 months in rural UP were exclusively breastfed till the age of 6 months.

OBJECTIVES

In October 2009, the Population Council conducted a formative study in rural UP with the following objectives:

(a) to determine the current status of early and exclusive breastfeeding.

\(^a\)Data from NFHS-1, NFHS-2, NFHS-3 and DLHS-3 presented in this article are based on an analysis, conducted by the Population Council, of currently married women aged 15-34 in rural UP who had given birth in the three years preceding the survey.

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(b) to understand the barriers and facilitating factors in adopting the desired breastfeeding practices,

(c) to identify programmatic and behavior change communication (BCC) initiatives that could accelerate the adoption of early and exclusive breastfeeding practices.

The project was funded by the Bill and Melinda Gates Foundation.

**Methodology**

The formative study was conducted in two phases. First, a survey was conducted covering 4,754 households, 4,472 currently married women aged 15-34 years who had delivered a child in the last three years, 2,274 husbands, 2,372 mothers-in-law, 289 ASHAs, 284 AWWs, 161 ANMs, 316 local private practitioners, 289 panchayat members (including Village Health and Sanitation Committee members) and staff at 144 government health facilities (PHCs and CHCs) from 225 villages in 12 districts spread over the Western, Central and Eastern regions of UP. In the second phase, 308 in-depth interviews were conducted with family-level stakeholders (women, husbands and mothers-in-law), health care providers (ASHAs, AWWs, private practitioners and dais) and panchayat members to complement the information gathered in the quantitative survey. The qualitative study was conducted in 24 villages: eight villages each from three districts, one district from each of the three regions. Details of the study design and data collection methods have been discussed in the introduction to this journal.

**Key Findings**

**Status**

The Population Council study reveals that 19 percent of women initiated breastfeeding within one hour of birth of their child. The practice of early breastfeeding has been slowly increasing from 1992-93 to 2009 (Figure 1).

**Figure 1**
Trend in early breastfeeding in rural UP

<table>
<thead>
<tr>
<th>Year</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1992-93</td>
<td>4.9</td>
</tr>
<tr>
<td>1998-99</td>
<td>7</td>
</tr>
<tr>
<td>2005-06</td>
<td>6.9</td>
</tr>
<tr>
<td>2007-08</td>
<td>15.2</td>
</tr>
<tr>
<td>2009</td>
<td>18.6</td>
</tr>
</tbody>
</table>

About 24 percent of women who delivered in a health facility initiated breastfeeding within one hour as compared to 16 percent who delivered at home (z test, p<0.001). However, early breastfeeding even among women who deliver at a health facility is far less than desired. More women who delivered in a public health facility (29 percent) than those who delivered in a private facility (16 percent) initiated early breastfeeding (Figure 2). Counseling efforts by health care providers at the facility could significantly increase adoption early breastfeeding by women.

**Figure 2**
Early breastfeeding by place of delivery

<table>
<thead>
<tr>
<th>Place of Delivery</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home</td>
<td>16</td>
</tr>
<tr>
<td>Public institution</td>
<td>24</td>
</tr>
<tr>
<td>Private institution</td>
<td>16</td>
</tr>
</tbody>
</table>

Survey findings show that the practice of pre-lacteal feeding is still high (68 percent) in rural UP; 77 percent of women who delivered at home and 50 percent of women who delivered in an institution gave their child pre-lacteal feeds. The practice of pre-lacteal feeding and early breastfeeding are competing behaviors; the analysis reveals that 77 percent of the 834 women who breastfed their child within one hour did not give any pre-lacteal feed (z test, p<0.01). One woman said:
“I breastfed my child after one hour of birth on the advice of the dai, but milk did not come; then the dai advised to feed a bit of ghee [clarified butter] with the finger as the child’s mouth was dry. The child was hungry and stopped crying when my mother-in-law fed goat’s milk with cotton. At night the milk started coming out of the breast on its own, then the child was fed breast milk.”

These findings indicate that if the practice of early breastfeeding is adopted, pre-lacteal feeding will decrease.

Two-thirds of women (68 percent; N=3,047) fed their newborn colostrum, indicating that colostrum feeding is almost a norm in the community. However, a larger percentage (79 percent) of women who delivered in an institution as compared to those who delivered at home (59 percent) fed colostrum (z test, p<0.01).

The practice of exclusive breastfeeding is also limited. Only about one-quarter of children (24 percent) aged 6-23 months were exclusively breastfed till 6 months of age. Most children (70 percent) were fed water before the age of 6 months and 53 percent by the third month. Most women (87 percent) did not know that 80 percent of breast milk is water. The qualitative study shows that many families started feeding their child water, particularly during summer, sometimes even within two weeks of birth. A woman said:

“I gave my child water from the fifth month. Women in the village told me to give water because the child’s mouth gets dry like an adult’s mouth gets dry. Nothing else is being given to the child now except breast milk.”

**Barriers**

*Perception that breast milk is not produced immediately*

Among women who had not breastfed their child even within two hours (N=2,932), most (63 percent) reported that they had delayed initiation because breast milk is not produced immediately after delivery (Table 1). It was perceived that it takes about 2-3 days for milk to be produced in the mother’s breast. This perception is reinforced by mothers-in-law and other elder women in the family. As one woman said:

> “My mother-in-law advised me to give the child honey because mother’s milk does not come immediately after delivery. I listen to my mother-in-law; she is ‘buzurg’ [old and wise] and she knows about these things better.”

**Delay due to post-delivery cleaning**

Both in institutions and at home, the time taken for post-delivery cleaning delays the initiation of breastfeeding (14 percent) (Table 1). Several factors contribute to this delay. Many elders believe that without bathing, the newborn is polluted and hence cannot be put to the breast. Moreover, the child is bathed only after the cord is cut and in home deliveries, cord-cutting is sometimes delayed because the person who cuts the cord is not readily available, particularly if the delivery is at night. Thus delay in cord cutting and bathing the newborn lead to late initiation of breastfeeding. A woman said:

> “Two hours after the delivery, the chamarin came to cut the cord and bathe the child... my mother-in-law advised to bathe the child because the child is dirty.”
Low or no perceived benefit of breastfeeding

Only 6 percent of women were aware that early breastfeeding has health benefits for both the mother and child. Further, women who did not feed colostrum had misconceptions that colostrum is impure (18 percent) and it harms the child (13 percent). Tradition was also reported as a reason not to feed colostrum (9 percent). A woman said:

“I did not give my first milk to the child because everyone in the village says that the yellow milk is bad. No one advised me to give the yellow milk.”

Perception that breast milk is inadequate for the child

One-third (33 percent) of women gave animal milk, mainly goat’s milk, to the child because it is believed to be “light” and gives strength. Such supplementary foods were given because women and elders in the family perceived that mother’s milk is not sufficient for the child after the age of 3-4 months. They reported that the child cried frequently, even soon after breastfeeding, because the child was still hungry. A woman said:

“I have been giving my child cow’s milk since the age of 2 months. I am also breastfeeding but the child remains hungry so cow’s milk is also being given. My mother-in-law told me to give cow’s milk because the child’s stomach is not full and the child is still hungry.”

A key reason, however, why a child could remain hungry is not because breast milk is insufficient but because women do not spend adequate time on breastfeeding due to the pressure of housework or are not aware that the milk should be exhausted from one breast before feeding from the second breast.

Low risk perception of giving supplementary food and water

Women did not perceive that children aged less than 6 months are at risk of infection if they are given supplementary food and water. Most children (70 percent) were given water because women and family members perceived that the child would be thirsty and the throat would become dry, or could even die, if not given water. A mother-in-law said:

“After 15 days the child should be given water otherwise the throat becomes dry and the child feels thirsty.”

Women were not aware that 80 percent of breast milk is water and breast milk has all the essential nutrients required for the child’s growth.

Lack of knowledge among frontline health workers

Many frontline health workers supported the practice of exclusive breastfeeding. However, as they were not aware of the composition of breast milk and that breast milk contains 80 percent water, which is adequate for a child aged less than 6 months, they advised women to feed the child water. For example, an ASHA said:

“If it is summer one should start feeding the child water from the eighth day after birth. If it is winter, then water should not be given for 2-4 months. There is some water in breast milk but I do not know how much.”

Misperceptions among frontline health workers

ASHAs/AWWs/ANMs (18-37 percent) perceived that most women in the community practice early breastfeeding. As a result, efforts to promote and reinforce the desired practice were limited. Only 23 percent of women reported receiving advice from any frontline health worker on breastfeeding.
Lack of appropriate communication / counseling aids

Only 28 percent of ASHAs reported that they had received flip-charts and 6 percent of ASHAs reported that they had received leaflets on breastfeeding for distribution. Further probing, however, shows that many ASHAs considered the module they received during training to be a flip-chart for counseling. Efforts of health workers to counsel women and their families may remain less effective without the use of counseling aids.

Missed opportunities

Study findings show that among women who delivered at home, 68 percent had received services, such as injections, from village-level private practitioners during or soon after delivery. Moreover, many private practitioners (73 percent) reported they treat children aged 1-12 months. However, only 1 percent of women had received advice on breastfeeding from private practitioners. Clearly, there are missed opportunities for counseling on breastfeeding by private providers. While qualitative findings show that private practitioners perceive that promoting breastfeeding is the role of frontline health workers, most noted that if requested by the government, they would advise their clients with newborn children about breastfeeding practices.

Facilitating Factors

A logistic regression analysis was conducted to identify the determinants and facilitating factors for early and exclusive breastfeeding. Results of the analysis for early breastfeeding are given in Table 2. The key facilitating factors that were identified are discussed below.

Women's education and exposure to mass media

The study shows that the adoption of early breastfeeding was about one and a half times higher among women who had a secondary or higher education (OR=1.45, p<0.001) and those exposed to mass media (OR=1.24, p<0.05) than others.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Category</th>
<th>Odds Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caste</td>
<td>SC/SST*</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>OBC</td>
<td>0.95</td>
</tr>
<tr>
<td></td>
<td>General caste</td>
<td>0.99</td>
</tr>
<tr>
<td>Standard of Living Index</td>
<td>Low*</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>Medium</td>
<td>0.86</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>0.51**</td>
</tr>
<tr>
<td>Education of women</td>
<td>No education*</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>Primary</td>
<td>1.28*</td>
</tr>
<tr>
<td></td>
<td>Secondary or higher</td>
<td>1.45**</td>
</tr>
<tr>
<td>Number of ANC check-ups</td>
<td>No ANC*</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>&lt;3 check-ups</td>
<td>1.20*</td>
</tr>
<tr>
<td></td>
<td>≥3 check-ups</td>
<td>1.62**</td>
</tr>
<tr>
<td>Received advice on early breastfeeding</td>
<td>No*</td>
<td>--</td>
</tr>
<tr>
<td>Place of delivery</td>
<td>Home*</td>
<td>2.27**</td>
</tr>
<tr>
<td></td>
<td>Institution</td>
<td>1.67**</td>
</tr>
<tr>
<td>Exposure to mass media</td>
<td>No*</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>1.24*</td>
</tr>
<tr>
<td>Availability of any government health facility</td>
<td>Outside village*</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>Within village</td>
<td>1.28*</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>4,472</td>
</tr>
</tbody>
</table>

Note: Dependent variable: Started breastfeeding within one hour (Yes=1, No=0); * Reference category; * p <0.05; ** p <0.001.

Contact with health providers and access to services

Women who were advised on early breastfeeding were two times more likely (OR=2.27, p<0.001) to adopt early breastfeeding than those who did not receive any advice. Further, women who had received at least three ANC check-ups (OR=1.62, p<0.001) or who had delivered in an institution (OR=1.67, p<0.001) were about one and a half times more likely than others to adopt early breastfeeding. As compared to others, early breastfeeding was higher among women living in villages with a government health facility, including an anganwadi center (OR=1.28, p<0.05), which is a proxy variable for interaction with frontline health workers.
Similarly, as compared to others, exclusive breastfeeding was significantly higher among women who received advice on exclusive breastfeeding either during ANC or PNC (OR=1.56, p<0.01), three and a half times higher if they were advised twice about breastfeeding (OR= 3.48, p<0.01) and if a government health facility, including an anganwadi centre, was located within the village (OR= 1.4, p<0.05).

**ASHAs are a credible source of information**

Many women (37 percent) reported that the ASHA is their preferred source of information on breastfeeding although only 3 percent reported that the ASHA had advised them on breastfeeding. The qualitative study reveals that in villages where ASHAs have been proactive, they have been able to motivate women to adopt early breastfeeding. As a woman reported:

“The ASHA and my elder sister-in-law told me the way to breastfeed. I fed colostrum because the ASHA and my sister-in-law advised me to do so.”

**Family members’ are key facilitators**

Findings show that family members’ support is important for promoting the adoption of desired practices and sustaining behavior change. For example, 73 percent of husbands and 64 percent of mothers-in-law supported colostrum feeding, and 68 percent of women had adopted the practice. Qualitative findings also show that mothers-in-law and husbands supported women to adopt early breastfeeding, feed colostrum and not give pre-lacteal feeds, when they were advised by the ASHA to adopt these practices.

**Implications For The BCC Strategy**

**Audience segmentation**

In addition to women who are the main target audience for breastfeeding, BCC efforts would also need to focus on mothers-in-law and husbands as they are key influencers in promoting the adoption of breastfeeding practices. Other population segments that need focused attention are families living in smaller villages (<1,000 population), without a health facility or ASHA, as they are more disadvantaged and lack access to information as compared to families from larger villages.

**Build awareness among women and family members**

Messages need to focus on establishing appropriate breastfeeding techniques, and the benefits of adopting early and exclusive breastfeeding and the risks of not doing so. Early initiation of breastfeeding further influences the practice of exclusive breastfeeding. Special efforts are needed to create awareness of the composition of breast milk, and that a child does not require water till the age of 6 months, even in summer, because 80 percent of breast milk is water.

**Use an appropriate media mix along with IPC**

Findings show that IPC by frontline health workers is an effective channel for educating families and promoting breastfeeding practices. The study also shows that the mass media plays an important role in promoting these practices, indicating that with IPC in the lead, mass media could play a supportive role. IPC, however, needs to be strengthened even at the facility level. An appropriate mix of media channels, particularly community radio, would be effective in promoting the desired behaviors. All possible opportunities and forums in the health system should be used to counsel women and their families on breastfeeding, such as contact during ANC check-ups, pregnant and lactating mothers’ meetings, immunization sessions, Village Health and Nutrition Days and saas-bahu sammelans (mothers-in-law–daughters-in-
Local private practitioners could also be involved in promoting early and exclusive breastfeeding.

**Reorientation of frontline health workers**

Study findings show that frontline health workers would require reorientation as they are poorly informed about the composition of breast milk and breastfeeding techniques. It was also observed that health workers do not have any counseling aids. Providing them with counseling aids and building counseling skills on early and exclusive breastfeeding would be critical for the success of the BCC strategy. Media could also be used to build the credibility of frontline health workers as a knowledgeable and reliable source of information on breastfeeding and child health within the community.

**References**

