Colostrum Feeding: Knowledge, Attitude and Practice in Pregnant Women in a Teaching Hospital in Nepal

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Colostrum Feeding: Knowledge, Attitude and Practice in Pregnant Women in a Teaching Hospital in Nepal

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Abstract

Background: The role of colostrum in promoting growth and development of the newborn as well as fighting with the infection is widely acknowledged. In Nepal, there are differences in cultures in the acceptability of colostrum and the prevalence of colostrum feeding. Although, breastfeeding is a common practice in Nepal, importance of colostrum feeding is still poorly understood.

Objectives of the study: To assess the awareness of the importance of colostrum feeding in pregnant women.

Methods: Data collection was done through semi structured questionnaire regarding colostrum feeding among pregnant women attending Gynaecology and Obstetrics Outpatient Department (OPD) and Antenatal Ward of Kathmandu Medical College Teaching Hospital (KMCTH). The study was conducted during the months of December 2011 and January 2012.

Results: The study shows that 74% of women had heard about colostrum, 69% knew that it is nutritious milk to be fed to the new born babies. Nine percent (9%) women were aware about its protective effect and 41 % had knowledge that it helps in proper growth of children and fight against infections. There were still many women (26%) who lacked knowledge about colostrum, majority being uneducated and who came from the rural areas. Those women who knew about it, received the information about colostrum via various media (30%), followed by family and friends (16%) and antenatal advice (12%) which contributes the reason of improved practice of colostrum feeding in urban areas.

Conclusion: Many women were aware about the importance of colostrum but the data still indicates that further efforts are necessary to improve the Knowledge, Attitude and Practice of colostrum feeding.

Introduction

Colostrum is the first milk produced by the mammary glands of mammals in late pregnancy just prior to giving birth and continuing through the early days of breastfeeding1. Colostrum is very rich in proteins, carbohydrates, vitamin A, and sodium chloride, but contains lower amounts of lipids and potassium than normal milk2,3,4. Newborns have premature digestive system which suits the low-volume concentrated form of nutrient supply system of colostrums. The laxative effect of colostrum encourages passage of baby's first stool, meconium. This helps to clear excess bilirubin which is produced in large quantities at birth and helps prevent jaundice. It contains various immunoglobulins like IgA (reactive to Escherichia coli virulence associated proteins)5, IgG and IgM6. Other immune components of colostrum are lactoferrin, lysozyme, lactoperoxidase, complement and proline-rich peptide (PRP). It also contains various cytokines and growth factors. PRP helps fight against various viral infections like herpes viruses and HIV, bacterial and viral infections which are difficult to treat, various cancer, asthma, allergies and autoimmune diseases. It helps to reduce one of the leading causes of death in our country like diarrhoea and ARI6.

Colostrum feeding Practices:

Though colostrum has been proved beneficial to the new born babies, studies have revealed that breastfeeding mothers and the other family members do not have adequate knowledge about it, thus, preventing the infants from acquiring this nutritional food. A study in India revealed that mothers were unaware about the time of initiation of breastfeeding and colostrum feeding7. Only 92% and 70% women undergoing normal delivery and caesarean section respectively gave correct response about time of initiation of breastfeeding. Though 92% of the mothers knew that breastfeeding should be initiated within one hour after delivery, only 36% of them had actually done so. It also showed that 52% of the mothers did not receive any advice on breastfeeding during antenatal period. A similar study conducted in the eastern part of Nepal on knowledge, attitude and practice of mothers regarding
breast feeding showed that though all mothers knew that they had to breastfeed their babies, they did not have knowledge about the appropriate timing for breastfeeding and colostrum feeding. None of the mothers got advice regarding breast feeding and colostrum feeding during ANC visits.

Colostrum feeding myths and barrier:
The importance of colostrum is known to the limited population. There are still many people who believe that colostrum is a harmful substance which should be discarded. It is thought to be an unwanted substance related with ill health. There are certain barriers perverting the feeding of colostrum to the new born babies. Maternal barriers – Many mothers lack knowledge about the importance of early initiation of breastfeeding and the benefits of colostrum feeding. Some mothers dislike the colour of colostrum. They even discard it themselves and also on the advice of in-laws. There is also misinterpretation that breast milk doesn’t come in the first few days after delivery and it is insufficient for the baby’s needs. Prolonged labour and surgical deliveries are also the hindrance to colostrum feeding. Neonatal barriers- Neonatal illness is one of the major barriers to colostrum feeding. Some babies are not able to suck breast milk due to illness, deformities or other reasons.

Other barriers: Bathing baby and mother after birth delays initiation of breastfeeding. Lack of family support, discouragement for early initiation of breastfeeding by traditional birth attendants, decision made by family members to give other fluids are some important barriers to colostrums feeding.

This study was initiated to assess the knowledge, attitude and practice of colostrum feeding in pregnant women who have visited a teaching hospital. The study was also done with an aim to create awareness regarding importance of colostrums feeding among the pregnant women. The objective of the study was to find awareness of the importance of colostrum feeding in pregnant women.

Methods

It was a descriptive cross-sectional study. The study was conducted in the Gynaecology and Obstetric Outdoor Patient Department and General Ward of Kathmandu Medical College Teaching Hospital (KMCTH). One hundred pregnant women attending those departments were randomly selected. Verbal consent was obtained from all respondents. Personal profile such as age, education, occupation, illness during past and present pregnancy and questions regarding colostrum feeding were recorded in a pre-designed questionnaire from each respondent. Similarly, they were asked questions which assessed their knowledge, attitude and practice on colostrum feeding. Also, importance of colostrums was explained to create awareness for those women who were not aware about it. The data was entered and analysed in statistical package for social sciences (SPSS) version13. Ethical approval for the study was received from the Institutional Review Committee of the KMCTH.

Results

There were 100 pregnant women included in the study. Table 1 shows the basic socio demographic profile of those study participants. In this study, 74 % women knew about colostrum from various sources (Table 2). Most of the women knew about colostrum and its importance through media, followed by family and friends and antenatal advice via doctors and health workers. Women from urban areas had more knowledge about colostrum as compared to those from rural areas. Among these women 66% were educated (above grade 10) and 27% were employed. Sixty nine percent (69%) of the women were aware that colostrum is nutritious milk, 3% women believed it as ordinary milk, other 3% conceive it as thick milk secreted after delivery without any nutritional significance, whereas, 25 % have no idea about colostrum (Figure 1). Regarding the importance of colostrum to child’s health, 41 % women believed that it helps for proper growth of child and fights against infection, 27% perceived it adds to good health but did not know the exact role whereas 31 % women had no knowledge about colostrum and 1 woman thought it has bad effect to the child’s health (Figure 3). Out of the total respondents, 71 % knew that the appropriate time for feeding colostrum is immediately after birth and the rest 29% did not have any idea about it. Forty four percent (44%) of the respondents had previous children out of which 80% fed them with colostrum. On the assessment of benefits in children fed with colostrum compared to those who were not fed with colostrums or in general, their answers were tabulated in Table 3. Majority of the women (89%) said that they would feed colostrum to their future child while the remaining replied that would depend on the suggestion of doctors, nurses or relatives at that time. Eight percent (8%) of the women were aware about the diseases that can be transmitted through breastfeeding. Government programs to create awareness about importance of colostrum feeding...
were appreciated by some women (27%) while the rest (73%) suggested for further improvement. Everyone agreed that they would put some efforts to create awareness about colostrums feeding to the pregnant women in the family and community. At the end of the interview, when the pregnant women were asked about colostrum feeding, all the participant women responded that it was important to feed colostrum to the new born babies.

Discussions

The pregnant women varied in their approach and knowledge when they were assessed through questions regarding knowledge, attitude and practice on colostrum feeding.

Knowledge, attitude and practice: In our study, about 74% women have heard about colostrum among which 30 % received information through various media, followed by family and friends comprising 16%, antenatal visits (12%) and other sources (16%). We have higher percentage of women who have knowledge oncolostrum compared to few other studies done in this region. In a study done in India majority of the mothers (52%) did not receive any advice on breast feeding and colostrum feeding during antenatal period and only 17% received some advice from health care workers. In a similar study done in Nepal, none of the mothers got advice regarding breast feeding during ANC visits. As this study has been conducted in a hospital in the capital city of Nepal, many women could be exposed to the media and health care facilities which contributed to increased source of knowledge regarding colostrum.

Importance of colostrum: Around 69% of pregnant women in this study knew about the role and importance of colostrum for the new born babies. Regarding the role of colostrum to child’s health, 41 % women answered that it helps for proper growth of child and fights against infection, 27% felt it adds to good health but were not able to specify whereas 31 % didn’t know and 1 woman thought it has bad effect to the child’s health. Whereas, in the research conducted in BPKIHS, Dharan, Nepal only 25% of women had ideal idea on importance of colostrums, which is further less compared to the data of the study done in India where 56% gave correct response regarding colostrum. Better maternal education, higher socioeconomic status and having received antenatal care from tertiary care centres and private practitioners in Kathmandu might be the reasons for better data as compared to Dharan. But Nepal is still behind in education and health opportunities which might be the reason for difference in data as compared to the world. According to a study done in Egypt, 83.7% of the participants knew that colostrum increase the immunity of the baby and 30.2% of the mothers reported that it is a first protection against infection. According to one study in southern Zambia, among the urban mothers, colostrum was generally perceived as good, protective for the child and nutritious. A small number of the urban women said that colostrum was not good; arguing that it might be dirty or that it is just water. In the rural focus groups discussion, women emphasized about its protective effects. All the grandmothers spoke in favour of the colostrum and said it should be given. Some Muslim communities believed that colostrum has inadequate nutritional value and infants may be offered honey or water supplements. An Egyptian study revealed that 88.8% mothers considered colostrum as an integral pat of diet for new born babies, while 91.9% doctors and 89.9% paramedics were in favour of giving colostrum.

Time of initiation of breastfeeding: Seventy one percent of the women in this study knew that the appropriate time for feeding colostrum is immediately after birth (1/2-1hour). Data from 2006 Nepal Demographic and Health Survey (NDHS) showed that nearly 1 in 3 children were breast-fed within ½-1 hr. But this is still less in comparison to the world where the knowledge on mothers was adequate in areas of time of initiation of breastfeeding; 92 % among women with normal delivery and 70% among Caesarean section as shown by the research of India in 2009. However, other data on time of initiation of breast feeding are diverse. In the study done in Dharan, Nepal only 10% women knew that they have to initiate breast feeding within ½ hour of birth though 41.5% mothers initiated breast feeding within ½ hour of birth. This could be due to the reason that none of the mothers got advice regarding colostrum feeding during ANC visits. In a study conducted in rural Bangladesh, 59% of mothers initiated breast feeding within 4 hour and 88% within 12 hours of parturition. According to a study in Egypt, 67.4% initiated breastfeeding within the first 30 minutes after delivery. In a study from Kuwait on mothers who attempted to breastfeed in hospital, 24.3% first put their baby to the breast within 6 hours of delivery, 20.4% between 6 and 24 hours, with the majority of women (55.3%) delaying their first attempt to breastfeed until 24 hours or more after delivery. An Egyptian study revealed that most women (71.6%)
gave the first breastfeed more than 36 hours after delivery\textsuperscript{18}. Similarly, only 10\% of Turkish mothers breastfed their infants within the first hour of birth, with most women (90\%) initiating breastfeeding two days after birth\textsuperscript{19}. We assume that health education about the timing of breast feeding and colostrum feeding during ANC visits of the pregnant women is very important, and 12 \% respondents in our study received such antenatal advice.

**Practice:**
Forty four percentages of the respondents had previous children out of which 80\% fed their previous children with colostrum and 90\% of those children have not suffered from any serious illness. According to a study of Bhaktapur, Nepal 91\% was given colostrum\textsuperscript{20}. In the study from Dharan, though only 25\% mothers had knowledge on benefits of first milk, in practice nearly 95\% fed colostrums to their babies\textsuperscript{8}. Colostrum feeding rate in Nepal was 69\% according to data given by NDHS 2006\textsuperscript{16}. The Kuwait study shows that less than 1 in 5 infants (18.2\%) received colostrum as their first feed\textsuperscript{17}. According to the study from southern Zambia\textsuperscript{12}, none of the urban mothers reported having expressed and discarded the colostrum. In the rural focus groups, a few of the mothers reported having expressed the colostrum and discarded it; however, most of the rural mothers claimed that they gave the colostrum. Regarding views on comparison of children fed with colostrum with those not fed, 56\% felt that colostrum fed children are healthier while 8\% said that it doesn’t make any difference. Some of the women (8\%) were aware about the diseases that can be transmitted through breastfeeding. Majority of the women (89\%) said that they would feed their upcoming child with colostrum while the remaining replied it would depend on the situation at that time and would do what the doctors, nurses or relatives suggest. Efforts made by the Government of Nepal to create awareness about importance of colostrum feeding were appreciated by some 27 \% women while the rest 73\% suggested for further improvements. Every respondent of the study assured that they would put some efforts to create awareness about colostrum feeding to the expecting mothers in the family and community as they have realized colostrum is essential to feed. Knowledge on colostrum feeding correlated with higher age of marriage, higher age of pregnancy, better maternal education, higher socioeconomic status and antenatal care from tertiary care centres and private practitioners. Working women had better knowledge on colostrum feeding and maternal education remained important with regard to awareness about the importance of colostrum feeding. There is still a need for programmes which support and encourage colostrum feeding particularly at a primary care level, focusing more on younger, less well-educated women and those from lower socioeconomic class because several barriers to colostrums feeding still exist. Many mothers lack knowledge about the importance of early initiation of breastfeeding and are not aware about the advantages of colostrum feeding. Some feel that colostrum looks bad. They even discard it on the advice of mothers-in-law. There is also misinterpretation that breast milk doesn’t come in the first few days. Some mothers feel that it is insufficient for the baby’s needs and water is necessary. Prolonged labour and unconscious state are also the hindrance to colostrum feeding. Neonatal illness is also one of the main barriers to colostrum feeding. Some babies are not able to suck breast milk due to illness, deformities or other reasons. Bathing baby and mother after birth also delays initiation of breastfeeding. Lack of family support, discouragement for early initiation of breastfeeding by traditional birth attendants, decision by family members to give other fluids are some important barriers to colostrums feeding\textsuperscript{8,10}. The study shows that many Nepalese women were aware about colostrum feeding practice which is appreciable. This study has been conducted in a tertiary level teaching hospital located in Kathmandu and the sample size is also limited as it was a part of the research training of the undergraduate medical students. We could get different results if we had conducted the same study in the rural hospitals as there are still many women who lack idea regarding colostrum, majority being uneducated and unaware about colostrum feeding practice. Many women receive the information about colostrum via various Medias and during their ANC visits in various hospitals through doctors and health workers which might be the reason of improved practice of colostrum feeding in urban areas. Similarly in rural areas Female Community Health Volunteers could contribute for the improvement in knowledge, attitude and practice towards colostrum feeding. Government is trying to create awareness about the importance of colostrum through various Medias but still has not reached in rural parts of Nepal.

**Conclusion**

Ccolostrum is thick nutritious milk secreted initially by the mother which is rich in protein, minerals, vitamins and immunoglobulin which is essential for proper growth and development of children. Many pregnant
women were aware about it but the results still indicates that further awareness programs are necessary to improve the Knowledge, Attitude and Practice of colostrum feeding in Nepal. This study has helped to know the concept of colostrum among general population as well as to create awareness regarding its importance. The findings indicate poor interaction of health personnel with the pregnant women for promoting and supporting colostrum is still unsatisfactory as only few percentages of women received antenatal advice regarding colostrums feeding. Huge gaps continue to exist in colostrums feeding behaviours, mostly due to lack of awareness. It is necessary to create awareness about the importance of colostrum feeding and advice mothers to practice it in every delivery. Counselling methods should be used to reinforce specific, priority messages by health facility staff and community-based workers at all contact points with pregnant women.

References

17. Dashti M, Scott JA, Edwards CA, Sughayer MA.


Illustrations

Illustration 1

Table 1: Basic socio demographic profile of the respondents

<table>
<thead>
<tr>
<th>S.N.</th>
<th>Background</th>
<th>Percentage</th>
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<td>Age (years)</td>
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<td></td>
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<td>12</td>
</tr>
<tr>
<td></td>
<td>21-30</td>
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<tr>
<td></td>
<td>&gt;30</td>
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<tr>
<td></td>
<td>Above grade 10</td>
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</tr>
<tr>
<td>3</td>
<td>Occupation</td>
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</tr>
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</tr>
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<td>4</td>
<td>Place of residence</td>
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</tr>
<tr>
<td></td>
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</tr>
<tr>
<td></td>
<td>Rural</td>
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</tr>
<tr>
<td>5</td>
<td>Number of children</td>
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<tr>
<td></td>
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<tr>
<td></td>
<td>&gt; 1 child</td>
<td>43</td>
</tr>
<tr>
<td>6</td>
<td>Period of Gestation during study</td>
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<td></td>
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</tr>
<tr>
<td></td>
<td>2nd trimester</td>
<td>13</td>
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<tr>
<td></td>
<td>3rd trimester</td>
<td>81</td>
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Illustration 2

Table 2: Sources of information about colostrum

<table>
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<th>Percent(%)</th>
</tr>
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<tbody>
<tr>
<td>Media</td>
<td>30</td>
</tr>
<tr>
<td>Family, friends</td>
<td>16</td>
</tr>
<tr>
<td>Doctors( Antenatal advice)</td>
<td>12</td>
</tr>
<tr>
<td>Others</td>
<td>16</td>
</tr>
<tr>
<td>Don’t know</td>
<td>26</td>
</tr>
</tbody>
</table>
Illustration 3

Figure 1: What is colostrum
Illustration 4

Figure 2: Concept of colostrum
Illustration 5

Figure 3: Role of colostrum in health
Illustration 6

Table 3: Women’s perception on effect of colostrum on children

<table>
<thead>
<tr>
<th>Perception</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hasn’t noticed from that angle</td>
<td>7%</td>
</tr>
<tr>
<td>Doesn’t make difference</td>
<td>8%</td>
</tr>
<tr>
<td>Positive impact: Healthier</td>
<td>56%</td>
</tr>
<tr>
<td>Don’t know</td>
<td>29%</td>
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</table>
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