Breast milk is the natural first food for babies as it provides all the energy and nutrients that an infant needs. Breastfeeding is the normal way of providing young infants with the nutrients they need for healthy growth and development. Exclusive breastfeeding reduces infant mortality due to common childhood illnesses such as diarrhoea and pneumonia, and helps quicker recovery during illness. It has also been found to protect against delays in young children’s language and motor skill development (Dee et al, 2007). Breastfeeding contributes to the health and well-being of mothers; it helps to space children and reduces the risk of ovarian and breast cancers.

According to the Global strategy for Infant and Young Child Feeding, adopted by the World Health Assembly in 2001, child malnutrition has been responsible, directly or indirectly, for 60 percent of all deaths among children under-five years annually. Over two-thirds of these deaths are associated with inappropriate feeding practices and occur during the first year of life. Improper feeding practices lead to rampant under-nutrition below 2 years, which can be checked to a significant extent by the three crucial practices; i.e. starting breastfeeding within one hour of birth, practicing exclusive breastfeeding for the first six months, appropriate and adequate complementary feeding after six months along with continued breastfeeding for two years or beyond.

Less than half (44%) of newborns in the developing world are put to the breast within one hour of birth. In India, the practice of breastfeeding is almost universal, but initiation of breastfeeding is generally quite late and colostrums is discarded. Early initiation of breastfeeding is 25 percent as per NFHS-3 survey. Nearly two-thirds women (63%) discard colostrums before they began breastfeeding.

The UNICEF’s 2006 “Progress for Children- A Report Card on Nutrition” emphasises that improving nutrition is crucial towards meeting the millennium development goals. Breastfeeding plays an important role in achieving Millennium Development Goals (MDGs) which include 8 goals, 21 targets and 60 indicators for measuring progress between 1990 and 2015.

According to UNICEF, in 2009, there were an estimated 1.2 billion adolescents in the world, forming around 18 percent of the global population. India is home of around 243 million adolescents followed by China, with around 200 million adolescents. In India total adolescent population is about 20 percent of the total population. Adolescent girls in India amount to 113 million which is around 20 percent of the world’s adolescent girls, or 46 percent of the adolescents of India.

Review of Literature

Many studies carried out to assess the knowledge regarding breastfeeding among adolescents in India and abroad indicate that overall secondary school adolescent students have less than ideal knowledge of breastfeeding. Most of the adolescents believed wrongly about diet during lactation.

Woman is at the centre of all human life, she plays crucial role in child rearing, and in the promotion of health nutrition and socio-economic development of
family & community. But for providing knowledge to the girls it is necessary to know the extent of awareness about child care practices among adolescent girls.

Personal, cultural, social, and environmental factors are common influencing factors in the decision to breastfeed. Mother’s knowledge and attitudes, followed by husband’s support, are identified as important in influencing infant feeding choice.

Increased knowledge and discussion to foster positive attitudes could also increase breastfeeding duration among parents in the future. The findings suggest that adolescents’ knowledge of and intention toward breastfeeding may be positively influenced during their teen years.

Methodology

Population: In present study comprised of 400 adolescent girls studying in 11th and 12th classes in selected Govt Sr Secondary Schools in rural areas of Rohtak District.

Sampling technique: The investigator selected the schools on the basis of convenience in travelling and prior permission from the concerned school Principal. Schools situated in the rural areas near the place of residence of the researcher were selected for the survey. Purposive sampling technique was used to select the students. Only Govt. Senior Secondary Schools in rural areas of the Rohtak district were included. Participation of the schools was dependent in the approval from the school Principal. Once the approval was obtained, students who met the inclusion criteria were asked to complete the questionnaire.

Data collection tool: With limited resources and time constraints, the use of a questionnaire was considered to be most cost-effective way of gathering data from a large number of students whilst minimising disruption to the school system.

The tool was developed after the review of literature on relevant topics, discussion with experts and on the experience of the investigator. There were Closed-ended questions in the questionnaire. Breastfeeding Knowledge Questionnaire consisted of 40 items covering items on knowledge about breastfeeding and feeding practices (17 items), colostrums (3 items), advantages of breastfeeding (5 items), breastfeeding and weaning (6 items), breastfeeding & dietary practices (2 items) and breastfeeding and diseases (7 items).

Content validity: The validity of the data collection tool was verified by a panel of members of research committee, College of Nursing Pt BD Sharma PGIMS Rohtak.

Pilot survey: To help the researcher to become familiar with the use of tool and to find to the difficulties to conduct the main study, pilot study was conducted on convenient sample of 40 adolescent students from Govt Girls’ Senior Secondary School of a village in Rohtak district from 5-16 December 2012. The questionnaire was then finalised after correcting the deficiencies to make it more comprehensible, feasible and acceptable.

Method of data collection: The data collection took place during 1 January - 28 February 2013. Through negotiation with the school Principal and the concerned class teacher, the interested girl students of class 11th and 12th were asked to gather at a common room in the school. The participating students were identified by their class roll numbers. The students took 30 minutes to complete questionnaires, which were checked for completeness.

The knowledge was assessed by giving a value of one to each respondent’s correct answer to a question and zero to each wrong answer, with possible 400 correct responses to a question. A ‘Don’t know the answer’ was also treated a wrong answer and was given a value of zero.

Ethical considerations: The study was conducted in accordance with the ethical principle of beneficence, respect for human dignity including self-determination, right to privacy and anonymity.

Results

Responses of the girls are given in the Tables 1-7. It was observed that out of 400 girl students who participated in the study, majority (60%) were of class 11th and remaining 40 percent were 12th class students. Age of the students ranged from 15 years to 18 years with a mean age of 16.54 years.

Students had highest knowledge score (53.42%) in respect of breastfeeding and diseases followed by breast feeding and feeding practices having percentage knowledge score of 53.11. This was followed by score in the aspect of advantages of breastfeeding (50.2%) and breastfeeding and weaning (45.66%). Knowledge score of colostrums was 30.73 percent. While knowledge score in aspect of breast feeding and dietary practices was lowest (26.75%). However, overall knowledge score of the students was 48.6 percent.

About 80 percent and more students gave correct responses to various questions focused on meaning of breastfeeding, best milk for new born, physiology of milk, breastfeeding and smoking and consulting a doctor before taking a medicine by the lactating mother. On the other hand questions that resulted correct responses by less than 20 percent students
were related to colostrum, feeding practices, diet during breastfeeding and effect of the breastfeeding on mother’s physical appearance.

The questions correctly answered by majority of respondent (95%) was related to breastfeeding and smoking by a lactating mother. Only 13.7 percent students gave correct answer to the questions related to duration of the first feed.

Majority of student (80 to 96%) reported correctly about the meaning of breastfeeding and that breast milk is the best food for new born baby. However only 49 to 66 percent students gave correct answer what should be given to the child soon after birth or within half an hour after birth and time of initiation of breast feed.

Student had poor knowledge regarding breast feeding practices. Only 15.7 percent students answered correctly about the breastfeeding posture.

Girl students’ knowledge regarding colostrums was found to be poor. Only 24.7 percent students knew about the advantages of colostrums but only 16.5 percent students responded correctly regarding prevention of diseases by colostrums. Advantages of breastfeeding for mother and the baby were correctly known to about 63-74 percent students. About 75 percent students knew that BF prevents child obesity. However 76 to 83 percent students incorrectly reported about the effects of breastfeeding on the physical appearance of the mother.

The knowledge of the student related to breastfeeding and weaning ranged from 27 to 71 percent. About 72.8 percent students had incorrect knowledge and responded that top milk given to the child should be diluted with water for easy digestion. The overall knowledge of the student regarding diet during lactation was inadequate. Girl students (32%) were of the opinion that mother should take well balanced diet and lots of fluids during breast feeding. Majority of girls (78.5%) had wrong belief that consumption of dry fruits will lead to increase in breast milk secretion.

Questions related to breastfeeding in special conditions were raised. About 48 percent and 50 percent students reported that breastfeeding to the child should be stopped if child is suffering from diarrhoea and fever. About 15%, 75%, 22% mentioned that breastfeeding to the child should be continued if mother is suffering from tuberculosis, malaria and cancer of breast. Majority of student (95%) correctly reported that lactating mother should consult a doctor before taking any medicine.

### Discussion

Although the student belonged to different rural areas of the district, majority of the students’ level of knowledge about breastfeeding was average, as reported in other studies also. However, the knowledge level in other studies was found to
be higher as compared to the present study. The reason of this may be that the students in those studies belonged to higher grades than the students in the present study. The students in the higher standards have higher general life experiences and larger exposure to breastfeeding.

Students’ knowledge regarding colostrum was poor and students have misconceptions about it. However, there are some contradictory studies also where participating subjects had knowledge that colostrums should be given to the child. This may be due to higher level of the participants in those studies than the present study.

Inadequate knowledge of the students regarding feeding practices in our study may be attributed to inadequate knowledge provided by mass media and also due to increase in the number of nuclear families. Most women are eventually able to breastfeed. However, it is not an instinctive act. Breastfeeding is an art that has to be learned. Few women breastfeed easily from the first day and never have a problem, but many meet challenges along the road. When that happens, most women need encouragement and skilled support to continue to breastfeed successfully. Health workers can play an important role in fostering the conditions in which breastfeeding can flourish.

Majority of the students had correct knowledge that breastfeeding mother should not smoke. Smoking is bad habit and it may make child more prone to respiratory infections and asthma. Yet, smoking should not prevent baby to be breastfed.

Majority of students incorrectly reported about the effects of BF on the physical appearance of the mother and this finding should be viewed with great concern as this may have detrimental effect on the duration of BF. Adolescent students have special attention towards their physical appearance and they have fewer concerns for breastfeeding. Similar observations have been made in other studies also.

Students’ knowledge regarding top milk was poor as most students advocated for dilution of top milk. This may be due to the traditional beliefs which consider that the undiluted milk is heavy and hence difficult to digest by a young child. The dilution of the top milk has been reported by other workers also.

Majority of girls had wrong belief that consumption of dry fruits will lead to increase in breast milk secretion. In India certain foods like ghee, Milk and dry fruits are considered important for a lactating mother and it is believed that their consumption is beneficial for lactating mother. Similar observations have been made in other studies also.

The knowledge of students about breastfeeding in special situation is poor. The discontinuation of breastfeeding during illness may have determined effect on the child particularly in poor socio-economic environment of our country. This is due to the prevailing traditional beliefs that a sick mother will produce unhealthy breast milk. The discontinuation of breastfeeding during illness has been documented by other worker also. There are some contradictory findings also where breastfeeding continuation during illness was favoured.

**Conclusions**

Secondary school students have less than the ideal knowledge of breastfeeding which is consistent with the previous studies. Hence, more information pertaining to the health benefits of breastfeeding is needed among the students. The community health
nurses are well placed in providing breastfeeding education in the school setting. The schools are the optimum locations for health promotion for the adolescents.

Acknowledgements

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16. Sharma P, Dutta AK, Narayanan I, Mullick DN. Attitude of medical and nursing personnel to breastfeeding practices. Indian Pediatrics 1987; 24: 911-16

Table 5: Breastfeeding and dietary practices

<table>
<thead>
<tr>
<th>Q. No.</th>
<th>Questions</th>
<th>Responses</th>
<th>Correct</th>
<th>Incorrect</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>1</td>
<td>Mother should take adequate quantity of following during breastfeeding</td>
<td>128</td>
<td>32.0</td>
<td>2/2</td>
</tr>
<tr>
<td>2</td>
<td>Almonds and other dry fruits increase the breast milk secretion</td>
<td>86</td>
<td>21.5</td>
<td>314</td>
</tr>
</tbody>
</table>

Table 6: Breastfeeding and diseases

<table>
<thead>
<tr>
<th>Q. No.</th>
<th>Questions</th>
<th>Responses</th>
<th>Correct</th>
<th>Incorrect</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>1</td>
<td>Unhygienic bottle feeds are a major cause of diarrhoea</td>
<td>283</td>
<td>70.7</td>
<td>117</td>
</tr>
<tr>
<td>2</td>
<td>Breastfeeding should continue even if child is having fever</td>
<td>207</td>
<td>51.7</td>
<td>103</td>
</tr>
<tr>
<td>3</td>
<td>Breastfeeding should continue if she is suffering from Tuberculosis</td>
<td>60</td>
<td>15.0</td>
<td>340</td>
</tr>
<tr>
<td>4</td>
<td>Mother should continue breastfeeding if she is suffering from Cancer of breast</td>
<td>284</td>
<td>71.0</td>
<td>116</td>
</tr>
<tr>
<td>5</td>
<td>Mother should continue breastfeeding if she is suffering from Malaria</td>
<td>87</td>
<td>21.7</td>
<td>313</td>
</tr>
<tr>
<td>6</td>
<td>Lactating mother should consult a doctor before taking medicine as their secretion in milk may harm to child</td>
<td>380</td>
<td>95.0</td>
<td>20</td>
</tr>
</tbody>
</table>

Table 7: Aspect wise knowledge scores among adolescent girls regarding breastfeeding

<table>
<thead>
<tr>
<th>Sr No.</th>
<th>Aspects</th>
<th>No of items</th>
<th>Score (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Breastfeeding and feeding practices</td>
<td>17</td>
<td>53.11</td>
</tr>
<tr>
<td>2</td>
<td>Colostrum</td>
<td>3</td>
<td>30.73</td>
</tr>
<tr>
<td>3</td>
<td>Advantages of breastfeeding</td>
<td>5</td>
<td>50.2</td>
</tr>
<tr>
<td>4</td>
<td>Breastfeeding and weaning</td>
<td>6</td>
<td>45.66</td>
</tr>
<tr>
<td>b</td>
<td>Breastfeeding and dietary practices</td>
<td>2</td>
<td>26.9</td>
</tr>
<tr>
<td>6</td>
<td>Breastfeeding and diseases</td>
<td>7</td>
<td>53.42</td>
</tr>
<tr>
<td>Total</td>
<td>Overall knowledge</td>
<td>40</td>
<td>48.6</td>
</tr>
</tbody>
</table>