A study on knowledge level of rural women regarding weaning mix food for infant in Jamnagar district

Baraiya AK, Baraiya KP, Lakhani SH and Gorfad PS

Abstract
Study was conducted on young and middle age group farm women having joint family structure. Nearly half of the farm women having knowledge on colostrum, supplementary food, nutritional requirement of infant and breast feeding period up to 2 years. Majority of respondent having knowledge (88%) about mother milk is complete food for infant. Farm women also know time to start weaning food at 6 month of birth (66%). They also having respond for time to start solid food like roti, paratha or regular daily meal start after 10 months. Khichadi-dal rank first (32%) for food for infant (6 to 12 months) and rank second (21.33%) by fruit pulp/ juice. Very less mothers are ready for chose ready mix food for their infant. The knowledge for Ready mix food given to infant periodicity on age of 6 to 8 month (56.67%) and 9 to 11 month (49.33%) baby. Same way at the age of 12 to 24 month baby 74.67 per cent having 1 time food, however, 17.33 per cent were 2 time and 8 per cent were 3 time ready to provide mix food.

Keywords: weaning food, infant, nutrition, breast feeding

Introduction
In India, infants are breastfed during the first six months provided the mother can produce enough breast milk to satisfy the hunger needs of the baby. The growth rate of breastfed infants is quite satisfactory during this period. Many types of research have proved that breastfeeding alone is enough during the early stages of an infant for growth and health [1]. After six months of age, the nutrients and energy requirement of infants cannot be met only by the feeding breast milk. The mother’s milk does not meet the calorie and protein requirements of the increasing growth spurt, also the quantity of the milk produced by the lactating mother starts to diminish. Breast milk is a poor source of Vitamin C & D. The iron stored in the liver of the infant lasts only until the 5th or the 6th month. So it becomes imperative to start supplementary feeding to maintain the rate of growth of the infant, beyond six months [2, 4]. The weaning foods or supplementary foods help the infants to be well nourished, be healthy and also improve their immunity [1].

Weaning: Weaning is the process of introducing supplementary food to an infant who has been exclusively breastfed till that time and goes on till the infant is off the mother’s milk. Weaning is considered an important part of a child’s growth from a nutritional angle. After introducing supplementary foods for nourishing the infant, the number of latching sessions to the mother’s milk need to be gradually reduced [2, 4].

Weaning can be a dangerous time for babies. In many places babies of weaning age do not grow well. They often fall ill and get more infections, especially diarrhea, than at any other time. Babies who are malnourished may get worse during the weaning period, and babies may become malnourished for the first time during weaning. Poor feeding and illness stop many children of weaning age growing well. This shows up on the growth chart as poor weight gain, or in more serious cases, as weight loss [2]. Foods should be prepared and given in a safe manner, meaning that measures are taken to minimize the risk of contamination with pathogens. And they should be given in a way that is appropriate, meaning that foods are of appropriate texture for the age of the child and applying responsive feeding following the principles of psycho-social care [6].

Objectives
1. To study the personal and social variable of respondents
2. To study the knowledge of rural women regarding feeding practices in infant
3. To know the knowledge of rural women regarding weaning food.
4. To assess need of training need of women about weaning food for infant.

Methodology
The present study was conducted from Jamnagar and Devbhumi Dwarka Districts. Purposively all ten talukas were selected for the study purpose, three village were randomly selected from each taluka and five farm women from each village randomly selected for study purpose. Total 150 farm women were selected by proportionate random sample method. In light of the objectives, the interview schedule was prepared and respondents were interviewed at their home and field. The data collected by personal interview method were processed, tabulated, classified and analyzed in light of objectives.

Table: The present study was conducted from Jamnagar and Devbhumi Dwarka Districts

<table>
<thead>
<tr>
<th>District Name</th>
<th>Taluka Name</th>
<th>Village Name</th>
<th>No. of Respondent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jamnagar</td>
<td>Jodiya</td>
<td>Kunad, Keshiya, Hadiyana</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Dhrol</td>
<td>Nathuvadala, Mavapar, Majoth</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Lalpur</td>
<td>Arablus, Rampar, Babarzar</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Kalavad</td>
<td>Kalavad, MotiVavdi, Dhundhoraji</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Jamjodhpur</td>
<td>Mandasan, Kalyanpur, Sadodar</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Jamnagar</td>
<td>Khijdiya, Dodhiya, Khojaberaja</td>
<td>15</td>
</tr>
<tr>
<td>Devbhumi Dwarka</td>
<td>Khambhalia</td>
<td>Khambhalia, Shaktinagar, Dharampur</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Kalavpur</td>
<td>Ran, Nandana, Patelka</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Bhanvad</td>
<td>Rupamora, Vanavad, Jampar</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Dwarka</td>
<td>Dwarka, Makupur, Tupni</td>
<td>15</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>150</td>
</tr>
</tbody>
</table>

Results and Discussion
In the present study results emerged out from the analysis of the data of the present investigation. The data have been organized and by taking into account the objectives of the study. All the pertinent information has been categorized and reported under the following major sections.

1. Background information of the respondents
The socio economic characteristics were studied by interview method and depicted in table 1.

Table 1: Personal characteristics of respondents rural Women (n=150)

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Personal Characteristics</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Age</td>
<td>a. 18 – 35 years</td>
<td>72</td>
<td>48</td>
</tr>
<tr>
<td></td>
<td>b. 36 – 50 years</td>
<td>69</td>
<td>46</td>
</tr>
<tr>
<td></td>
<td>c. 50 above</td>
<td>9</td>
<td>6</td>
</tr>
<tr>
<td>2 Marital Status</td>
<td>a. Married</td>
<td>150</td>
<td>100</td>
</tr>
<tr>
<td>3 Family structure</td>
<td>(i) Family Type</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>a. Nuclear</td>
<td>44</td>
<td>29.33</td>
</tr>
<tr>
<td></td>
<td>b. Joint</td>
<td>106</td>
<td>70.67</td>
</tr>
<tr>
<td>(ii) Family Size</td>
<td>a. Small (upto 4)</td>
<td>58</td>
<td>33.67</td>
</tr>
<tr>
<td></td>
<td>b. Medium (5-8)</td>
<td>72</td>
<td>48</td>
</tr>
<tr>
<td></td>
<td>c. Large (above 8)</td>
<td>20</td>
<td>13.33</td>
</tr>
<tr>
<td>4 Education</td>
<td>a. Illiterate</td>
<td>13</td>
<td>8.67</td>
</tr>
<tr>
<td></td>
<td>b. Primary (up to VII Std.)</td>
<td>30</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>c. Secondary School (VIII to X Std.)</td>
<td>46</td>
<td>30.67</td>
</tr>
<tr>
<td></td>
<td>d. Higher Secondary (XI &amp;XII Std.)</td>
<td>36</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td>e. Graduate</td>
<td>24</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>f. Post graduate</td>
<td>1</td>
<td>0.67</td>
</tr>
<tr>
<td>5 Annual income</td>
<td>a. Low annual income (up to Rs.50000/-)</td>
<td>33</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>b. Medium annual income (Rs. 50000 to Rs.100000/-)</td>
<td>98</td>
<td>65.33</td>
</tr>
<tr>
<td></td>
<td>c. High annual income (Above Rs. 100000/-)</td>
<td>19</td>
<td>12.67</td>
</tr>
</tbody>
</table>

Table 1 revealed that the respondent were young age group (18 to 35 years) 48 per cent, middle age group (36 to 50 years) were 46 per cent, however, old age group (above 50 years) were very low (6%). According to marital status all the respondents were 100 per cent married. Looking to the family structure, 70.67 per cent lived in joint family, followed by 29.33 per cent were lived in nuclear family. Similar way, size of the family also medium size (5 to 8 members) were 48 per cent, followed by small (less than 4 member) 33.67 per cent and large size family (more than 8 members) 13.33 per cent. According to annual income majority groups 65.33 per cent having medium annual income (Rs. 50000 to 100000), and it was followed by Low annual income (up to Rs.50000/-) 22 per cent and High annual income (Above Rs. 100000/-) 12.67 per cent.

2. Use of Mass media for increasing the knowledge
How frequently do you use the following mass media for Nutrition requirement and supplementary food for infant?

### Table 2: Use of Mass media usages (n=150)

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Mass Media Exposure</th>
<th>Regularly</th>
<th>Frequently</th>
<th>Not at all</th>
<th>Wt. Mean</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Radio</td>
<td>2</td>
<td>37</td>
<td>111</td>
<td>0.27</td>
<td>VII</td>
</tr>
<tr>
<td>2</td>
<td>Television</td>
<td>87</td>
<td>52</td>
<td>11</td>
<td>1.51</td>
<td>I</td>
</tr>
<tr>
<td>3</td>
<td>News paper</td>
<td>46</td>
<td>66</td>
<td>38</td>
<td>1.05</td>
<td>III</td>
</tr>
<tr>
<td>4</td>
<td>Printed literature</td>
<td>22</td>
<td>79</td>
<td>49</td>
<td>0.82</td>
<td>IV</td>
</tr>
<tr>
<td>5</td>
<td>Mobile</td>
<td>67</td>
<td>57</td>
<td>26</td>
<td>1.27</td>
<td>II</td>
</tr>
<tr>
<td>6</td>
<td>Visit to Anganvadi</td>
<td>6</td>
<td>89</td>
<td>55</td>
<td>0.67</td>
<td>V</td>
</tr>
<tr>
<td>7</td>
<td>Any other Programme organized in village</td>
<td>12</td>
<td>45</td>
<td>93</td>
<td>0.46</td>
<td>VI</td>
</tr>
</tbody>
</table>

It can be concluded from table 2, television was proved the most favorite of each and every women. It stands on first rank for media usage with 1.51 weightage mean. The another media usages chronologically, mobile stand second rank (1.27), newspaper stand third rank (1.05), printed literature stand fourth rank (0.82), visit to anganvadi stand fifth rank (0.67), other programme organized in village were stand sixth rank (0.46) and radio stand last rank (0.27) for mass media usage by farm women. These finding can be prove that very few respondents were usage of radio.

### Table 3: Distribution of the respondents regarding their knowledge about weaning food for infant (n=150)

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Infant food practices</th>
<th>No.</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Know about colostrum</td>
<td>74</td>
<td>49.33</td>
</tr>
<tr>
<td>2</td>
<td>Know about supplementary food</td>
<td>70</td>
<td>46.67</td>
</tr>
<tr>
<td>3</td>
<td>Know about required nutrient of infant</td>
<td>79</td>
<td>52.67</td>
</tr>
<tr>
<td>4</td>
<td>Know about Mother milk is complete food for infant</td>
<td>132</td>
<td>88.00</td>
</tr>
<tr>
<td>5</td>
<td>Best period for breast feeding</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>A) Birth to 1 year</td>
<td>10</td>
<td>6.67</td>
</tr>
<tr>
<td></td>
<td>B) Birth to 1.5 Year</td>
<td>49</td>
<td>32.67</td>
</tr>
<tr>
<td></td>
<td>C) Birth to 2 Year</td>
<td>72</td>
<td>48.00</td>
</tr>
<tr>
<td></td>
<td>D) Birth to 2.5 Year</td>
<td>19</td>
<td>12.67</td>
</tr>
<tr>
<td>6</td>
<td>Time to start weaning food (Liquid food) with breast feeding</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>A) After 5 month</td>
<td>25</td>
<td>16.67</td>
</tr>
<tr>
<td></td>
<td>B) After 6 month</td>
<td>99</td>
<td>66.00</td>
</tr>
<tr>
<td></td>
<td>C) After 7 month</td>
<td>26</td>
<td>17.33</td>
</tr>
<tr>
<td>7</td>
<td>Time to start Semi Solid food like Kheer, Rab, Fruit pulp etc..</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>A) After 6 month</td>
<td>37</td>
<td>24.67</td>
</tr>
<tr>
<td></td>
<td>B) After 7 month</td>
<td>61</td>
<td>40.67</td>
</tr>
<tr>
<td></td>
<td>C) After 8 month</td>
<td>52</td>
<td>34.67</td>
</tr>
<tr>
<td>8</td>
<td>Time to start Solid food like roti, Paratha, or regular daily meal</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>A) After 8 month</td>
<td>26</td>
<td>17.33</td>
</tr>
<tr>
<td></td>
<td>B) After 9 month</td>
<td>60</td>
<td>40.00</td>
</tr>
<tr>
<td></td>
<td>C) After 10 month</td>
<td>64</td>
<td>42.67</td>
</tr>
<tr>
<td>9</td>
<td>Preference of food for 6 to 12 months infant</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>A) Boiled rice/Pulses</td>
<td>32</td>
<td>21.33</td>
</tr>
<tr>
<td></td>
<td>B) Rab</td>
<td>17</td>
<td>11.33</td>
</tr>
<tr>
<td></td>
<td>C) Kheer</td>
<td>15</td>
<td>10.00</td>
</tr>
<tr>
<td></td>
<td>D) Khichdi-Dahi</td>
<td>48</td>
<td>32.00</td>
</tr>
<tr>
<td></td>
<td>E) Fruit pulp/Juice</td>
<td>42</td>
<td>28.00</td>
</tr>
<tr>
<td></td>
<td>F) Boiled vegetables</td>
<td>24</td>
<td>16.00</td>
</tr>
<tr>
<td>10</td>
<td>Are you prefer ready to mix food for your infant</td>
<td>36</td>
<td>24.00</td>
</tr>
<tr>
<td>11</td>
<td>Which ready to mix baby food given your infant</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>A) Cerelac</td>
<td>26</td>
<td>17.33</td>
</tr>
<tr>
<td></td>
<td>B) Babyvita</td>
<td>4</td>
<td>2.67</td>
</tr>
<tr>
<td></td>
<td>C) Farex</td>
<td>7</td>
<td>4.67</td>
</tr>
<tr>
<td></td>
<td>D) Amway</td>
<td>1</td>
<td>0.67</td>
</tr>
<tr>
<td></td>
<td>E) Others</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>12</td>
<td>Weaning mix food given to infant periodicity</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>A) Cerelac</td>
<td>26</td>
<td>17.33</td>
</tr>
<tr>
<td></td>
<td>B) Babyvita</td>
<td>4</td>
<td>2.67</td>
</tr>
<tr>
<td></td>
<td>C) Farex</td>
<td>7</td>
<td>4.67</td>
</tr>
<tr>
<td></td>
<td>D) Amway</td>
<td>1</td>
<td>0.67</td>
</tr>
<tr>
<td></td>
<td>E) Others</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

These rural women especially belonging to agricultural families are mostly engaged in agriculture activities with household responsibilities like cooking, cleaning, care of family members especially children and adults. Knowledge is most important component of behavior and it plays major role in the convert and overt behavior of human being. Once knowledge is acquired, it produces change in one’s opinion/thinking which would lead to further changes in attitude of the individual. Knowledge as a function or stages in the innovation-decision process was recognized. This exemplifies the importance of knowledge in innovation-decision process.
In the area of Jamnagar district, nearly half of the farm women know about colostrum (49.33%). As it contains anti bodies to protect the new born against disease and they all planned to breast feed their babies. Regarding supplementary food 46.67 per cent farm women were know. More than half of the respondents were know about required nutrient of infant 52.67 per cent. The highest knowledge about mother milk is complete food for infant were known by 88 per cent of mother women.

Knowledge about breast feeding period have different information. 48 per cent of them have known about best period for breast feeding is birth to 2 years [1, 5]. And it was followed by birth to 1.5 year (32.67%), birth to 2.5 year (12.67%) and birth to 1 year (6.67%). Thus, these farm women having lacking in the proper knowledge about best period for feeding [5].

It also important to change infant from breast feeding to weaning food for proper growth of infant. In the initiation the present study respondents were know time to start weaning food (liquid food) with breast feeding majority of farm women have response to after 6 moth of birth (66.00%) [5-7]. In the same, 17.33 per cent respondents were respond at 7 months and 16.67 per cent respondents were respond for 5 months after birth. On another hand, 40.67 per cent farm women were noted time to start semi solid food like kheer, rab, fruit pulp etc after 7 month. Which, followed by 34.67 per cent were after 8 month and 24.67 per cent were after 6 month. The time to start solid food like roti, paratha or regular daily meal should start after 10 month (42.67%), and it was followed by 9 month (40.00%) and 8 month (17.33) after birth.

Preference of food for 6 to 12 months infantwere respond first rank to khichadi-dahi (32.00%), fruit pulp/ juice stand on next processed multi grain weaning mix. Following by boiled rice/pulses (21.33%), boiled vegetables (16%), rab (11.33%) and kheer (10%). According to prefer ready mix food for infant were only 24 per cent having positive response. There were also clear that ready mix food for infant were very less mother are ready. Among them cerelac stand first (17.33%), farex (4.67), babyvita (2.67%) and amway (0.67%) chronologically reduced.

The knowledge for weaning mix food given to infant periodicity on age of 6 to 8 month baby were maximum 56.67 per cent for 2 time, followed by 35.33 per cent for 3 time and only 8 per cent for 4 time [1]. On the age of 9 to 11 month baby, about half of the respondent (49.33 per cent were give 2 time, which was followed by 45.33 per cent were give 3 time and 5.33 per cent were give 4 time. Same way at the age of 12 to 24 month baby 74.67 per cent having 1 time food, however, 17.33 per cent were 2 time and 8 per cent were 3 time ready to provide weaning mix food.

Among the farm women only 12.67 per cent were ready to mix powder made to home by own. It also found that only 16 per cent were know about ready to mix powder made at home.

**Conclusion**

This can be concluded from the study that rural women had good knowledge regarding importance of breast feeding practices. They were aware about supplementary feeding, time to start liquid and solid food for infant. It also clear that ready mix food available in market, its usages and periodicity for food given during day at different age level. Very few farm women were know about preparation of ready mix powder mate at home.

**References**


<table>
<thead>
<tr>
<th></th>
<th>3 time</th>
<th>4 time</th>
</tr>
</thead>
<tbody>
<tr>
<td>(i) 9 to 11 Month baby</td>
<td>53</td>
<td>35.33</td>
</tr>
<tr>
<td>2 time</td>
<td>12</td>
<td>8</td>
</tr>
<tr>
<td>3 time</td>
<td>74</td>
<td>49.33</td>
</tr>
<tr>
<td>4 time</td>
<td>68</td>
<td>45.33</td>
</tr>
</tbody>
</table>

| (ii) 12 to 24 month baby | 8        | 5.33    |
| 1 time | 112      | 74.67   |
| 2 time | 26       | 17.33   |
| 3 time | 12       | 8       |

| 13 Ready to mix powder made at home | 19       | 12.67   |
| 14 Know about Ready to mix powder made at home | 24       | 16      |