

Perception of Expecting Mothers on Infant Young Child Feeding: A Cross-Sectional Survey at Tertiary Care Hospital

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Abstract

Objective: To determine the knowledge & perception of pregnant ladies regarding infant, young child feeding.

Methodology: This descriptive cross-sectional survey is done at Pakistan Railway Hospital, Rawalpindi. Data was collected from 500 pregnant ladies visiting gynae OPD for regular antenatal checkups on a structured questionnaire. Statistical analysis was done on SPSS v 26.0. Frequencies and percentages were described for categorical variables, such as educational level, area of residence, income, number of children, working status, and responses to questions regarding weaning. A mean and standard deviation was calculated for age. The chi-square test was applied. A p-value of less than 0.05 was considered to be significant.

Results: 59.2% of mothers breastfed their previous children. Regarding milk feeding in future, 61% preferred breastfeeding while 32% were in favour of mixed feeding. 68.3% of mothers were aware of the ideal age for weaning correctly. Most of the mothers preferred to use bananas & cereals as the initial complimentary food with the frequency of 2-3 times/day. 60.5% of mothers perceived that only 2-3 spoons were sufficient for the baby at each feed and 61.5% agreed with a liquid consistency. Mothers belonging to the rural area & high socioeconomic class had better knowledge regarding weaning.

Conclusion: Knowledge of mothers regarding weaning is poor regardless of their parity, education, and advice by doctors in antenatal clinics highlighting the need for implementation of education programs for mothers as well as doctors in antenatal clinics.

Keywords: Breastfeeding, Complementary feeding, Malnutrition, Nutritional status.

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Introduction

Infants are our most valuable assets, shaping our country's destiny and contributing to national progress. The optimal growth and development of our children are vital. It is well acknowledged that the period from 6 to 24 months of age is one of the most essential in the development of a child. The introduction of solid food to an infant's diet (complementary feeding) is a significant developmental, and health milestone.¹ Poor nutrition raises the risk of morbidity & mortality & is responsible for one-third of the estimated 9.5 million deaths among children under the age of five.² Exclusive breastfeeding during the first six months, followed by semi-solid meals

at six months and continuing nursing on demand until two years of age are among WHO's recommended infant and young child feeding (IYCF) approaches.³ This can lower infant mortality by 19% and prevent malnutrition. Stunting and wasting were responsible for 2.1 million child deaths under the age of five worldwide.⁴ Pakistan continues to have a high infant mortality rate (78/1,000), and progress toward meeting child survival targets is slow.⁵ According to the UNICEF Pakistan National Nutritional Survey 2018, 40.2% of children under five years of age are stunted, while 17.7% suffer from wasting.⁶ Among multiple risk factors for stunting and

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under-five malnutrition, poor feeding practices, delayed or early initiation of CF, maternal knowledge and understanding of CF and infants' diet are important ones.^{5,7}

Mothers hold overall responsibility for their children's health and the mothers' knowledge is considered to have a great impact on the child's feeding practices.^{8,9} The WHO has issued guidelines on weaning methods. However, they are not being followed in Pakistan due to a lack of knowledge among mothers. Educating mothers appears to be a significant solution for improving the nutritional status of infants.^{10,11} Exploring mothers' views is critical for developing a need assessment for mothers' weaning education.

The study's goal was to learn about maternal perceptions of complementary feeding in terms of quantity, quality, and timing of complementary feeding in young children and to identify the socio-demographic factors that affect the weaning practices. The current study would assist in developing a foundation for educating women about weaning diets, which would eventually help reduce infant mortality rates in the community.

Methodology

A cross-sectional descriptive survey was conducted at Pakistan Railway Hospital from March 2021 to June 2021. A structured questionnaire was used to collect data from 500 pregnant women who visited the gynaecology outpatient clinic for regular antenatal checkups. It consisted of different parts like socio-demographic variables, feeding history; weaning practices; sources of information about weaning; mother's behaviours, and knowledge of the age at which a child should be weaned, type, amount, frequency & importance of weaning diets. A non-probability convenience sampling method was used to collect the data. Mothers were educated about the study's purpose and willing participants were interviewed. All data were analyzed using SPSS v 26.0. Out of 500, 37 questionnaires were incomplete, so these were not included in the study. Frequencies and percentages were described for categorical variables, such as educational level, area of residence, income, number of children, working status, and responses to questions regarding weaning. A mean and standard deviation was calculated for age. The chi-square test was applied to assess the association of demographic variables with knowledge of weaning questions. In cases where at least one cell had an expected count of five or less,

Fisher's exact test was applied. A p-value of less than 0.05 was considered to be significant.

Results

The mean age was 28.4 years. The education level of most of the mothers (47% n = 218) was matric or below. Only 4.1% (n= 19) mothers were postgraduate. 72.6% (n = 336) belonged to Rawalpindi and its vicinity. More than half of the mothers (53.9 % n = 248) belonged to lower middle class. 43.7% (n = 200) of mothers had 1-2 children while first-time mothers were only 9.1% (n= 42). 72.4% (n = 335) of mothers were housewives. Most of the mothers (59.2% n = 252) breastfed their children. Though breastfeeding was successful in 78.5% (n = 321) of mothers still 32.6% (n = 139) used bottle-feeding along with breastfeeding. Only 24% (n = 98) of mothers faced feeding problems, most having insufficient milk production and cracks in nipples, so they started artificial feeding. The rest of the mothers preferred mixed feeding for no reason. 77.5 % (n = 141) of mothers used formula milk as their first choice.

Regarding the mother's future plan of feeding, 61% (n = 282) preferred breastfeeding while 32% (n = 148) were in favour of mixed feeding. 68.3% of mothers were aware of ideal age for weaning correctly. Most of the mothers preferred bananas & cereals as initial complimentary foods, with a frequency of 2-3 times/day. 60.5% (n = 279) of mothers perceived that only 2-3 spoons were sufficient for the baby at each feed and 61.5% (n = 284) agreed for liquid consistency. 2/3rd of mothers were advised by doctors during their antenatal visits. Most of them got information about weaning from their mothers & mothers-in-law. Half of the mothers weaned their previous children between 4 and 6 months. The majority were aware that weaning is essential for growth of the infant. When questioned about the reason for delayed weaning, the majority supported that milk is a complete food, so early introduction of complementary feeds is not necessary, while mothers who supported weaning at an earlier age did so because they thought it is essential for the growth. (Table I)

The association of demographic variables was assessed with three different items: ideal age of weaning; first weaning food; and frequency of solids per day. These associations have been illustrated in tables II, III and IV.

Regarding table III, 'area of residence' and 'income' were significantly associated with ideal age of weaning responses. The mothers in rural areas (79.4% n = 85) gave the best correct response followed by urbanely

located mothers. Mothers from high-income streams (> 40,000) had a much better response than those from lower-income groups.

As evident in Table IV, there was a difference among different age groups and educational levels with regard

to first food for weaning. Although a statistically significant p-value was obtained for educational level, a trend could not be discerned. One of the most important reasons for it is small number of postgraduates (n = 19), which is causing sampling bias.

Discussion

Malnutrition under the age of five continues to be a serious global health issue.¹² To provide proper nutrition, a mother's knowledge about it plays a pivotal role.¹⁰ This study is done to assess the knowledge of expecting mothers about weaning. One important finding of the present study is that 59% of mothers breastfed their previous children. Though quite less than a study done in India¹³ still meets the World health target of 50%.⁶ 32 % gave both breast & top feeding, though 78% experienced successful breastfeeding. When these mothers were asked about their future feeding plan, the

Table I: Knowledge and Attitudes Regarding Weaning

| | | |
|------------------------------------|--------------------------------------|-------------|
| Importance of Weaning | Essential for Growth | 402 (88%) |
| | Supplementary Food to Satisfy Hunger | 55 (12%) |
| Reasons for Delayed Weaning | Social Pressure | 65 (20%) |
| | Financial Constraints | 70 (21.5%) |
| | Unnecessary for Baby | 20 (6.2%) |
| | Milk is Complete Food | 135 (41.5%) |
| Reasons for Early Weaning | Harmful if started at 4-6 Months | 35 (10.8%) |
| | Essential for Growth | 118 (46.1%) |
| | Late Weaning Results in Malnutrition | 56 (21.9%) |
| | Family Pressure | 26 (10.2%) |
| | Inadequate Milk | 56 (21.9%) |

Table II: Knowledge of Ideal Age of Weaning per Age, Education, Residence, Income and Weaning Advice

| Variable | Ideal Age of Weaning | | | Total | P Value |
|--|----------------------|------------|------------|------------|---------|
| | 3 Months | 4-6 Months | >6 Months | | |
| Educational Level | Illiterate | 1 (1.5%) | 44 (66.7%) | 21 (31.8%) | 0.772* |
| | Matric/ Below | 7 (3.2%) | 149(68.3%) | 62 (28.4%) | |
| | Graduate | 2 (1.3%) | 109(69.4%) | 46 (29.3%) | |
| | Postgraduate | 1 (5.3%) | 12 (63.2%) | 6 (31.6%) | |
| Area of Residence | Rural | 3 (2.8%) | 85 (79.4%) | 19 (17.8%) | 0.022* |
| | Urban | 7 (2.1%) | 217(64.8%) | 111(33.1%) | |
| | Slum | 1 (5.6%) | 12 (66.7%) | 5 (27.8%) | |
| Income | <20,000 | 6 (3.6%) | 106(63.5%) | 55 (32.9%) | 0.003* |
| | 20,000-40,000 | 3 (1.2%) | 167(67.6%) | 77 (31.2%) | |
| | 40,000-80,000 | 1 (4%) | 23 (92%) | 1 (4%) | |
| | >80,000 | 1 (5.3%) | 16 (84.2%) | 2 (10.5%) | |
| Weaning Advice (Antenatal Checkups) | Yes | 6 (1.7%) | 235(68.5%) | 102(29.7%) | 0.299* |
| | No | 5 (4.3%) | 79 (67.5%) | 33 (28.2%) | |

* Fisher's exact test applied

Table III Knowledge of First Food for Weaning per Age, Education, Residence, Income and Weaning

| Variable | First Food for Weaning | | | | | Total | P-Value |
|--|------------------------|------------|----------|---------------|------------|-----------|---------|
| | Banana | Biscuits | Cereals | Kheer/Custard | Khichri | | |
| Age Groups (Years) | 15-24 | 44 (41.9%) | 4 (3.8%) | 27(25.7%) | 27 (25.7%) | 3 (2.9%) | 0.010 |
| | 25-30 | 87 (41%) | 9 (4.2%) | 56(26.4%) | 54 (25.5%) | 6 (2.8%) | |
| | 31-45 | 41 (29.1%) | 3 (2.1%) | 47(33.3%) | 33 (23.4%) | 17(12.1%) | |
| Educational Level | Illiterate | 21 (31.8%) | 2 (3%) | 27(40.9%) | 12 (18.2%) | 4 (6.1%) | 0.046* |
| | Matric/Below | 74 (34.3%) | 10(4.6%) | 65(30.1%) | 52 (24.1%) | 15(6.9%) | |
| | Graduate | 71 (44.9%) | 3 (1.9%) | 31(19.6%) | 47 (29.7%) | 6 (3.8%) | |
| | Postgraduate | 6(31.6%) | 1 (5.3%) | 8(42.1%) | 3 (15.8%) | 1 (5.3%) | |
| Area of Residence | Rural | 38(35.8%) | 2 (1.9%) | 39(36.8%) | 21 (19.8%) | 6(5.7%) | 0.268* |
| | Urban | 128(38.2%) | 13(3.9%) | 90(26.9%) | 86 (25.7%) | 18(5.4%) | |
| | Slum | 5 (27.8%) | 1 (5.6%) | 3 (16.7%) | 7 (38.9%) | 2(11.1%) | |
| Income | <20,000 | 59 (35.3%) | 7 (4.2%) | 55(32.9%) | 35 (21%) | 11(6.6%) | 0.178 |
| | 20 -40,000 | 88 (35.8%) | 9 (3.7%) | 65(26.4%) | 73 (29.7%) | 11(4.5%) | |
| | 40-80,000 | 10 (40%) | 0 (0%) | 8 (32%) | 4 (16%) | 3 (12%) | |
| | >80,000 | 13 (68.4%) | 0 (0%) | 3 (15.8%) | 2 (10.5%) | 1 (5.3%) | |
| Weaning Advice (Antenatal Checkups) | Yes | 135(39.5%) | 12(3.5%) | 89 (26%) | 89 (26%) | 17 (5%) | 0.144 |
| | No | 37 (31.6%) | 3 (2.6%) | 43(36.8%) | 25 (21.4%) | 9 (7.7%) | |

Table IV: Knowledge of Frequency of Solids per Day as per Age, Education, Residence, Income and Weaning Advice

| Variable | Frequency of Solid Foods per Day | | | | Total | P-Value | |
|---|----------------------------------|----------|------------|------------|-------------|---------|--------|
| | Once | Twice | Thrice | Four times | | | |
| Age Groups (Years) | 15-24 | 4 (3.8%) | 28(26.7%) | 43 (41%) | 30 (26.8%) | 105 | 0.294* |
| | 25-30 | 11(5.2%) | 66 (31%) | 75(35.2) | 61 (28.6%) | | |
| | 31-45 | 5 (3.5%) | 58 (41.1%) | 48 (34%) | 30 (21.3%) | | |
| Educational Level | Illiterate | 1 (1.5%) | 29(43.9%) | 26(39.4%) | 10 (15.2%) | 66 | 0.056* |
| | Matric/Below | 10(4.6%) | 76(34.9%) | 75(34.4%) | 57 (26.1%) | | |
| | Graduate | 8 (5.1%) | 39(24.7%) | 60 (38%) | 51 (32.3%) | | |
| | Postgraduate | 1 (5.6%) | 8 (44.4%) | 7 (38.9%) | 2 (11.1%) | | |
| Area of Residence | Rural | 6 (5.6%) | 36(33.6%) | 43(40.2%) | 22 (20.6%) | 107 | 0.372* |
| | Urban | 14(4.2%) | 109(32.5%) | 115(34.%) | 97 (29%) | | |
| | Slum | 0 (0%) | 7 (38.9%) | 9 (50%) | 2 (11.1%) | | |
| Income | <20,000 | 8 (4.8%) | 60(35.9%) | 52(31.1%) | 48 (38.1%) | 167 | 0.470* |
| | 20-40,000 | 11(4.5%) | 82(33.2%) | 91(36.8%) | 63 (25.5%) | | |
| | 40-80,000 | 0 (0%) | 7 (28%) | 13 (52%) | 5 (20%) | | |
| | >80,000 | 1 (5.3%) | 3 (15.8%) | 10(52.6%) | 5 (26.3%) | | |
| Weaning advice(Antenatal Checkups) | Yes | 13(3.8%) | 98 (28.6%) | 132(38.%) | 100 (29.2%) | 343 | 0.002 |
| | No | 7 (5.9%) | 54 (45.8%) | 36(30.5%) | 21 (17.8%) | | |

* Fisher's exact test applied

same percentages were obtained regarding breast & mixed feedings. As far as artificial milk is concerned, formula milk was the topmost choice of mothers. Despite having successful breastfeeding, most mothers opt for bottle feeding, which is a recent trend in most countries nowadays.^{14, 15} The most likely reason for this could be the extensive marketing of breastfeeding substitutes.^{16,17}

Regarding knowledge about correct weaning practices, the majority (68%) of the mothers knew the correct age of weaning but had poor knowledge about the frequency, quantity, and consistency of the food. Findings in this study were higher as compared to local studies (53.4% & 63%, 55%)^{9,18,19} but significantly less than international studies (72% & 95.6%).^{8,20} According to WHO, Infants aged 6-8 months should be fed at least twice a day, and those aged 9-23 months should be fed three times a day. In the present study, 32% & 36% of mothers favoured 2 & 3 times respectively. The knowledge about frequency of weaning diets was poor as noted in previous studies.^{9,10,21} Knowledge about the consistency of food was similar to previous local studies favouring liquid diet.^{10, 20} This is in contrast to a recent study done by Bimpong et al where 84% of mothers knew the correct consistency of meals.⁸

Most of the mothers received advice from their mothers or mother-in-law as is observed in previous studies.^{21,18} Only 1% of mothers replied that the media was the source of information for them, as compared to a local study where TV was the source of information for 16.5% of mothers¹⁸, highlighting the need for the initiation of informative talks on feeding practices on media by

doctors. The reasons for early weaning were similar to those in the previous study¹⁰ i.e. inadequate milk supply and fear of malnutrition, as well as their perception that it is essential for growth²¹, while the most common reason for delayed weaning was their perception that milk is complete food followed by financial constraints.

The association of correct age of weaning with various demographic variables showed surprising results as rural mothers gave correct responses compared to urbanised mothers, which was opposite to usual expectation. One factor responsible for that could be the lack of health education in our primary & secondary school curricula. The mothers from higher socioeconomic status were more aware of the correct age for weaning. As far as first weaning food is concerned, bananas were more popular with the younger cohort, while older mothers preferred cereals and khichri & this lack of inclusion of a variety of food groups has also been noticed in other studies.^{10,13,21}

Another important finding is that the present study didn't find any significant impact of advice given during antenatal checkups regarding weaning on the knowledge of the mothers. The reason for this could be a deficiency either in the knowledge of the advising doctors or counselling provided by them highlighting the need for further research on this aspect. Regarding the educational status of mothers, no significant relationship has been found in this study compared to previous studies.^{10, 12} One reason for this could be the small sample of educated mothers in the present study.

The limitation of this study is that the authors didn't try to assess the knowledge of mothers regarding hygienic practices and methods of feeding, preferences of mothers among homemade or readymade food, and reasons for not breastfeeding exclusively or stopping it.

Conclusion

Overall perception and knowledge of mothers regarding infant and young feeding is poor regardless of education, parity, and socioeconomic status. Mothers must be educated about the importance of weaning, the correct age, types, amount, frequency, and consistency of weaning diets, as well as breastfeeding during antenatal visits. This study also highlights the need for training of advising doctors in antenatal clinics at the national level.

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