Knowledge and Practices of Mothers with Children Aged 6-24 Months on Weaning, Attending Services Hospital Lahore, Pakistan

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ABSTRACT

Objective: This study was conducted to assess the weaning knowledge, practices, and influencing factors. **Methods:** Questionnaires were filled from 315 mothers with children aged 06-24 months, who visited Pediatrics OPD Services Hospital, Lahore, Pakistan in 4 months. The weaning knowledge and practices of the respondents were evaluated by using a pre-tested questionnaire. Chi-square test was used to assess the associations between the variables. It was ranked as good, satisfactory, and poor based on the gross sum total. **Results:** The overall knowledge of weaning was good in 159 (50.5%) mothers and 133 (42.2%) had satisfactory knowledge. Whereas the practices of 152 (48.3%) mothers out of 315 were good but poor in 46 (14.6%) of the mothers. There is a statistically significant association between the knowledge and practices of weaning with the age of babies (p values= 0.000 and 0.000, respectively) and the total number of children of the respondents (p-values= 0.000 and 0.000, respectively). Residential status of respondents (p-value=0.028) and educational status of mothers (p-values= 0.01) also showed a significant association with the overall knowledge of mothers. Practices and knowledge of mothers (p-values=0.02 and p-value= 0.026 respectively) are statistically significant with the source of information and weaning practices. We also found an association with the type of family of the respondent (p-value=0.034). **Conclusion:** The findings of this study will be helpful in making strategies of awareness programs so that the effects of pre-or post-weaning can be minimized.

Key Words: Assessment; Complementary feeding; Weaning; Pediatrics; breast-feeding; Practices; Knowledge.

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INTRODUCTION

Suboptimal nutrition among children remains a problem among South Asian countries. The first 2 years of children are the most important as they switch from breast milk to complementary feeding (Manikam et al., 2018). Any thick porridge-like, liquid, or mashed food with nutritional energy, given to the child in addition to breast milk is called weaning. Such foods are particularly made ready for infants before they shift to adult diet therefore it is also known as transition foods which initiate the weaning process (Ambike et al., 2017). An appropriate diet plays an essential role in proper nourishment. Healthful complementary habits are essential for their optimal growth and development, which decreases child mortality and morbidity (AL-Sayegh et al., 2019). Drastic health implications can occur in children due to delayed weaning as mother's milk alone is insufficient for the nursing baby, after the age of six months. Weaning practices have long been shown to have a remarkable impact on mother and infant health. Malnutrition has been responsible for 60% of the over decuple million expiries per annum in under five years of age children. More than half of these mortalities happen during the first year of life and are frequently linked with faulty and inaccurate feeding practices of mothers (Javed et al., 2019). Appropriate breastfeeding and weaning can reduce under-five mortality by 19% (AL-Sayegh et al., 2019). Early initiation of transition to semi-solid/solid diet is correlated with high risk of food allergy, skin diseases like eczema and gastroenteritis. Weaning less than three months has been established to elevate the chances of respiratory illness and distress in children aged 14-26 weeks and long-lasting cough and sore throat at 27-39 weeks. Some studies suggest that there is increased obesity in childhood due to early introduction of solid foods. Feeding behavior, nutritional deficiencies and failure to grow has also been observed if the complementary feeding is continued beyond the recommended duration of weaning (Dad et al., 2017).

Globally, it is reported that the mother's knowledge has a strong association with the weaning of a child (Hasnain et al., 2013). The hindrance in the initiation of complementary foods is a great cause of child's undernourishment in Southern Asia. Semi-solids are inaccessible to the majority of

children till 9 months of age, and some children still are deprived of weaning food until their

2nd year of life (UNICEF) (Bewket et al., 2017). In Pakistan according to the national nutrition survey 30-50% of children do not receive any accustoming diet until the child reaches the age of 1 to 2 years. The start of weaning in rural areas of Pakistan was also late (Aggarwal et al., 2008).

As per WHO's "Global Target 2025" making people enlightened of exclusive breastfeeding and the start of weaning at the age of six months till 24 months of age, will reduce the stunting by 40% in children below the age of 5 years (Bhatti et al., 2018). Scanty knowledge about adequate foods and correct weaning practices is frequently an essential factor of malnourishment in children than the deficiency or absence of an appropriate amount of food (AL-Sayegh et al., 2019). There is very little documented information on complementary foods and practices of infants and young children in Pakistan (Gonah et al., 2016). The purpose of this research is to assess the knowledge and practices of mothers about weaning that will help to spread awareness about feeding practices and decrease the mortality rate of children due to malnutrition.

MATERIALS AND METHODS

A cross-sectional study was conducted in the Pediatrics outpatient department, in a tertiary level Services Hospital, Lahore, Pakistan. The size of the sample was calibrated by WHO size. Keeping confidence interval at 95% and anticipated population proportion 57%[10] with relative precision 10%, the minimum sample size was 315. The duration of the study was from 15th September - 31st October 2020 and from 15th March- 30th April 2021, in between the peaks of COVID-19. Mothers with at least one child aged 06 - 24 months visiting pediatrics, outpatient department, participated and took a pre-tested, semi-structured questionnaire, translated in the local language, after their verbal consent. The formal permission was taken from the IRB of Services Institute of Medical Sciences/ Services Hospital Lahore (Figure 1)

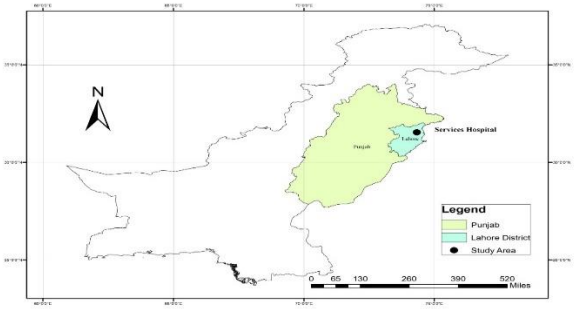

Figure 1: Study area map- Service Hospital Lahore

Statistical Analysis:

Data were analyzed via SPSS version 22. For quantitative variables mean, standard deviation, and frequency of different classes of each variable were computed. For qualitative variable frequency distribution tables and the percentage was generated. Likert scale was applied for which every right answer was granted with a mark. Chi-square ($\chi 2$) test was used to evaluate the statistic relation of socio-demographic variables and different factors on knowledge and practices with reference to weaning. The statistical significance was set for all statistical tests at $p<0.05$ at 95% CI.

RESULTS

The knowledge and practices of weaning were categorized into good, satisfactory, and poor. [11]

Good rank for tally above 70%, Satisfactory rank for a total between 50-70%, and poor rank for sum total below 50%. 147 (46.7%) of the mothers were of the age group 26 – 30 years with a mean age of 30 ± 4.77 years. Of the 315 children, 204 (64.8%) children were 12 – 24 months of age with a mean age of 14 ± 5.05 months.

Table 1: Socio-demographic profile and variables

Sociodemographic profile and variables	Frequency
Age of Mothers in Years	
16-20	5 (1.6%)
21-25	47 (14.9%)
26-30	147 (46.7%)
31-35	79 (25.1%)
36-40	28(8.9%)
>41	9 (2.9%)
Age of Babies in Months	
6-8	55 (17.5%)
9-11	56 (17.8%)
12-24	204 (64.8%)
Residential area	
Urban	259 (82.2%)
Rural	56 (17.8%)

Educational status of Mothers	
Illiterate	39 (12.4%)
Primary	25 (7.9%)
Middle	24 (7.6%)
Matric	50 (15.9%)
FA/FSc	46 (14.6%)
Bachelors and above	131 (41.6%)
Occupation of Mothers	
Housewife	231 (73.3%)
Working	84 (26.7%)
Source of information regarding weaning	
Mother	129 (41%)
Doctor/LHV/LHW	112 (35%)
Mother-in-law	30 (9.5%)
Others	44 (14%)
History of Drug Abuse (cigarette/hooka/etc.)	
Yes	9 (2.9%)
No	306 (97.1%)
Income per capita (Rupees)	
<1500	14 (64.1%)
1501-3000	50 (15.6%)
3001-4500	49 (15.9%)
>4500	202 (64.1%)
Type of family	
Nuclear	164 (52.1%)
Extended	151 (47.9%)

Table 2: Assessment of Knowledge and Practices of mothers in relation with ranks of complementary feeding.

Rank	Frequency (%) of Knowledge	Frequency (%) of Practices
Good	159 (50.5%)	152 (48.3%)
Satisfactory	133 (42.2%)	117 (37.1%)
Poor	23 (7.3%)	46 (14.6%)
Total	315 (100%)	315 (100%)

Table 3: Association of variables with Knowledge and Practices regarding weaning

Variables	Knowledge		Practices	
	p-values	x^2 -values	p-values	x^2 -values
Age of babies in months	0.000	41.014	0.000	22.442
Residential Status of the respondent	0.028	7.128	0.120	4.244
Total number of children of the respondents	0.000	31.687	0.000	32.671
Type of Family of the respondent	0.809	0.424	0.034	6.740
Source of information regarding weaning	0.026	14.328	0.02	20.603
Educational status of the respondent	0.01	23.340	0.89	16.371
Occupational status of the respondent	0.085	4.932	0.965	0.71
History of drug abuse	0.693	0.735	1.38	3.955
Age of the respondents in Years	0.084	16.601	0.809	6.079
income per capita (Rupees)	0.286	7.397	0.561	4.867

DISCUSSION

Weaning is the process of initiating a child into an adult diet slowly and progressively along with the mother's breastfeeding. The introduction of complementary feeding at the right time is a vital point in IYCF (infant and young child feeding) practices and erroneous practices are the mainspring of malnutrition. According to WHO above 30% of children under the age of 5 years are victims of developmental growth, out of which 80% have reduced height growth rate, and 20% are under-weight.[11] To address the gap between knowledge and practice WHO and UNICEF (United Nations Children's Fund) highlighted exclusive breastfeeding (EBF) for six months (180 days) which is supplemented by a weaning diet at six months of age with continued breastfeeding till 2 years.[13] The findings of the current study indicated that the knowledge about weaning was good among 159 (50.5%) mothers. This is more than the reported percentage in 24%[12] but less as compared to the following studies 69%[10], 92.6%[1], 59%[12], 23.9%[13], 35%[5], 50% moderate knowledge[14]and 72.4%. This fluctuation is because of the fact that most of the mothers were unaware of the appropriate initiation time and correct weaning foods.

Out of 315 mothers, the overall knowledge of 159 (50.5%) mothers were good (> 70%) ,133 (42.2%) was satisfactory (50 – 70%) and 23 (7.3%) had poor (<50%) knowledge.[14] In contrast, a study documented that 59% of mothers had good knowledge about complementary feeding and 37% had poor. Whereas 4% of the respondents had medium knowledge.[15] A research paper reported that most of the respondents had insufficient knowledge about weaning. A mere fraction of 16 (8%) mothers had apt awareness of weaning age, frequency, and viscidity of transitional food for a child.[16] The reason for the difference of practices in our study and others is due to lack of guidance as well as lower socioeconomic status of the mothers which affected authentic weaning practices. In total, the practices of 152 (48.3%) mothers out of 315 were good (> 70%), satisfactory (50-70%) in 117 (37%), and poor (< 50%) among 46 (14.6%) of mothers whereas the only 7% of the respondents had good weaning practices in a study reported[11]. In another study, only 3.5% had started weaning at an acceptable time, in the correct quantity, and with appropriate viscidity. Furthermore, research is done in India, estimating consistency and meals per day of complementary diet reported that 30% of the mothers were feeding inaccurate consistency and only 6.6% gave right amounts of meals per day.[17] Also a study in Nigeria, 66%[14] of the weaning practices were poor. The high educational status of the respondents in our study may be a reason to have a comparatively better practice than other studies.

In the current study, there was a significant statistical association between knowledge and the educational status of mothers (p-value= 0.01). Moreover, studies conducted also show significant statistical association between maternal education and weaning

knowledge. In contrast, statistics of a few studies p-value=0.25[10] and p-value=0.55[11] do not support this association. Our study

showed no significant association between the occupation of the mothers and weaning knowledge and practices, similar to a study p-value=0.63.[11] But on the other hand, statistics of some other study such as p-value<0.01[5], showed a significant association between the occupation of the mother and weaning knowledge and practices. Such variations in the values have occurred due to the various occupational and educational status of the mothers in the study sample which directly affects the complementary feeding.[18]

A statistically weighty association of age of the babies with knowledge and practices of transitional feeding (p values= 0.000, and 0.000 respectively). Similarly, studies showed Adjusted Odd Ratio=7.04[13], p-value=0.000[20], suggested a strong statistical association between these two variables. Residential status of respondents shows a statistically significant association (p-value=0.028) with the overall knowledge of mothers about weaning but there is no significant association of weaning practices it. A research study[11] also showed no association of residential status with knowledge and practices (p-values= 0.253 and 0.868, respectively). The change in the associations of our study and other research can be due to the fact that samples collected from different communities have different backgrounds and housing. The age of respondent in our study along with other studies having values p-value=0.312[1], p>0.005[5] (p-value= 0.2837 and 0.8531, respectively)[11], do not show any association to knowledge and practices on chi-square but an arithmetically significant relation was observed in studies with p-value=0.011[19], p-value=0.000[17], p-value=0.026[24] and p-value=0.017.[20] More age of the respondent appear to have an impact on weaning as multipara with higher age have better experience of transitional diet as compared to a younger nulliparous.

Practices and knowledge of mothers regarding complementary feeding (p-value= 0.02 and 0.026) are statistically significant with the source of information. Some studies show that p-value= 0.001[19] and p-value=0.011[18] also indicate a statistical association of weaning knowledge and practices with the source of information or advice on complementary feeding. The income per capita, in our research, did not show any association with weaning and the knowledge and practices of mothers. Our results are comparable to other similar studies conducted revealed p-values= 0.923 and 0.70, respectively.[11] A statistically significant association was found in a bunch of studies as follows linking the statistically socioeconomic status of the respondent (income per capita) with the knowledge and practices of weaning.[20] Indeed, the economic backgrounds of the mothers included in the study play a significant role as some infant diet have to be purchased. Children belonging to lower socioeconomic classes face higher degrees of malnutrition than children of the upper class.

Our study shows a significant association between knowledge and practices of weaning and a total number of children (p-values= 0.000 and 0.000 respectively). Likewise, research papers of the results p-value<0.001[5], and p-value= 0.013[20] upholds this statistically significant association.

Whereas this study p-value>0.05[18] does not express any association. More number of children suggests more experience of mothers and betterment of her practices towards the upcoming children. The type of family of the respondent is significantly associated with the weaning practices (p-value=0.034). Further, studies directed in Lahore (p-value=0.001)[11] holds the statistical significance of the type of family of the respondents with the weaning practices, contrary to the researches. Regional cultures play an important role in determining the type of family and thus the mother in the nuclear family can give more care to her child as compared to the mothers in extended families. Research conducted in different geographical areas may vary in their results as per their customs and rituals. Total members of the family indicate no statistically significant association between knowledge and practices of weaning (p-values=0.482 and 0.118, respectively). Moreover, a study in which p>0.005[13] also shows a negative association between these variables. The researchers support one another as the total members of a family do not participate in a child's weaning, it is the mother or a single member of the family who is assigned for the child's care and diet.

CONCLUSION

The complementary feeding period represents a massive opportunity for averting all forms of malnutrition (imbalance, under-nutrition, over-nutrition, and specific deficiency) in children. We observed many cases due to under-or over-weaning. The grades of knowledge and practices are a little bit governed by cultural, social, and economic standards. However insufficient knowledge, erroneous weaning practices, and inadequate feeding during the right time is vital and play a major role in increasing malnutrition. The purpose of this study is to create awareness regarding appropriate complementary diet given to a child in his transitional period from exclusive breastfeeding to weaning.

Ethics approval and consent to participate

Ethical approval of this study was taken from the Service hospital. Ref No. IRB/2020/744/SIMS.

Availability of data and materials

The numerical data used to support the findings of this study are available from the corresponding author upon request.

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Competing Interest:

The authors declare that they have no competing interests.

Author Contribution

All authors contributed equally

LIMITATIONS

- Selection bias might exist as it was a hospital-based study.
- Data was collected on a recall basis hence the component of recall bias is present.
- The time scale over which the study was undertaken was short and interrupted.
- The sample was collected between the 2 peaks of COVID-19.
- Lack of time of mothers in the OPD was a massive limitation to our study.

RECOMMENDATIONS:

- We need to implement and emphasize the importance of accurate weaning practices along with the correct amount and consistency of complementary feed in the general public community.
- The governmental organizations and health education programs should step forth to arouse the significance of initiation of adequate weaning in time to secure the healthy growth of the child.
- More community-based studies should be conducted to get a better insight into the significance of weaning.

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