

Relationship of weaning practices to malnutrition in children aged 6-24 month presenting at DHQ Teaching Hospital, Sahiwal, Pakistan

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Objective: To assess the association of weaning practices to the malnutrition in children aged 6-24 months, presenting in Pediatrics OPD of DHQ Teaching Hospital, Sahiwal.

Methodology: This cross sectional study included 120 children from Pediatrics OPD of DHQ Teaching Hospital, Sahiwal, selected by non-probability convenience sampling. A structured questionnaire was used to collect data, which was entered and processed by using SPSS version 24.

Results: Out of 120 children, 30.8% had mild malnutrition, 30.0% moderate and 39.2% severe malnutrition. 52% of these children were males and 51.7% had ages ranging between 6-12 months, while 48.3% of them had ages ranging between 12-24 months. 81.67% of the children

had started weaning, while 18.33% had not. 87.5% of the children were breastfed. 50% mothers were illiterate, 36.67% had school level education, while 13.33% of them had college level education. Majority of mothers (89.17%) had monthly family income less than PKR. 20,000/month.

Conclusion: Delayed weaning is an important factor in child malnutrition. Mothers should be educated and trained by Lady Health Workers and through mass media about appropriate weaning practices. (Rawal Med J 202;45:474-478).

Keywords: Anthropometry, Breast feeding, Children, Malnutrition, Mothers, Supplementary feeding, Weaning

INTRODUCTION

Malnutrition refers to a child who is too thin for his/her age.¹ Stunting is failure to grow both physically and cognitively, as a result of chronic or recurrent malnutrition.² Over-Nutrition, also termed as obesity refers to a child who is too heavy for his/her height.³ Malnutrition is one of the main risk factors of death and disability throughout the globe.^{4,5} According to WHO, malnutrition is present in 45% of all cases.^{6,7} Even after surviving the malnutrition, children are unable to live up to their full potential. According to the Food and Agriculture Organization, the number of people globally who were malnourished stood at 923 million in 2007, an increase of over 80 million since the 1990-92 base period.⁸ Almost half of the 10.7 million annual deaths of children under five in developing countries are linked to protein-energy

malnutrition.⁹

Weaning is defined as the transition from exclusive breast feeding to complementary foods in the diet of a child. Introduction of timely, adequate and balanced weaning food is perhaps one of the most important single and direct remedial measures to combat infant's malnutrition.¹⁰ As per WHO criteria for complementary feeding, the weaning should start at 6 months of age.⁴ Breast milk is considerably insufficient in nutrients like iron, zinc and vitamin A, required by a growing child.¹¹ Important factors influencing the weaning practices include lack of awareness among general population, mistaken views and beliefs, social and economic issues.¹²

According to National Nutrition Survey, in Pakistan, 68% of the children aged 7-9 months, are given milk exclusively and 30-50% of the children

aged 12-17 months were not given any semi-solid or solid food, delay even greater in the rural areas of Pakistan.¹³ Some studies have also linked the working mothers, literacy status of the mothers and inadequate support in home, leading to the negligence in the proper care of the child.¹⁴⁻¹⁷ Protein Energy Malnutrition (PEM) is also associated with delayed and inappropriate weaning practices.¹⁸⁻²⁰ The main purpose of this study was to assess the relation of wasting or under-nutrition or malnutrition to weaning practices, and factors influencing malnutrition and weaning in children.

METHODOLOGY

This study was conducted at the Pediatrics OPD of DHQ Teaching Hospital, Sahiwal from May 25, to August 25, 2017. Data were collected from the mothers of 120 malnourished children. Ethical approval for the study was taken from the Sahiwal Medical College Ethics Committee and Informed consent was obtained from mothers. Data were collected about weaning, breast feeding, literary status, family income and other factors influencing the weaning practices and appropriate child care.

Children aged 6-24 months with mild, moderate and severe malnutrition determined by weight for length and Mid Upper Arm Circumference (MUAC) measurements, were included in the study. Normal weight or obese children were excluded from the study. Weight for height/length percentile, Z score and BMI were calculated using the WHO anthropometric calculator.

Statistical Analysis: Data were analyzed using SPSS version 24. Frequency, percentages and means were calculated and summarized.

RESULTS

Out of 120 children, 37(30.8%) were mildly malnourished, 36(30.0%) had moderate malnutrition while 47 (39.2%) children were severely malnourished. 52% children were male. 51.7% of the children had ages ranging between 6-12 months, while 48.3% of the children had ages

ranging between 13-24 months. Majority of the children (81.67%) had already started weaning at the time of this study, while 18.33% had not started weaning. Most of the children (68.37%) started weaning between the ages of 6-12 months, 17.35% of the children had started weaning before the age of 6 months and 14.29% of the children had started weaning between the ages of 12-18 months. When inquired that why the weaning was not started, it was found that 4.2% of the mothers had lack of awareness, 12.5% of them had mistaken views or taboos, while 1.7% had economic issues. We found that 8.3% children were weaned exclusively on the commercially produced foods and 69.2% were weaned on both home-made and commercially prepared foods (Table 1).

Table 1. Type of milk given to children.

Type of Milk	Frequency	Percentage
Breast Milk	38	31.6%
Cow Milk	35	29.2%
Formula Milk	3	2.5%
Breast Milk & Cow Milk	30	25%
Breast Milk & Formula Milk	5	4.2%
Cow Milk & Formula Milk	8	6.7%
Breast Milk, Cow Milk & Formula Milk	1	0.8%

Fig. Breast feeding duration.



Table 2. Socio-demographic characteristics associated with malnutrition.

Characteristics		Malnutrition in child			Total
		Mild	Moderate	Severe	
Mother's current age	≤19 years	0	1	5	6(5%)
	20-34 years	36	35	38	109(90.83%)
	≥35 years	1	0	4	5(4.17%)
Mother's age during pregnancy	≤19 years	0	3	6	9(7.5%)
	≥20 years	37	33	41	111(92.5%)
Mother's marital status	Married	37	36	46	119(99.17%)
	Separated/widowed	0	0	1	1(0.83%)
Mother's educational status	None	14	18	28	60(50%)
	School level	15	15	14	44(36.67%)
	College level	8	3	5	16(13.33%)
Monthly family income	<20,000 PKR	31	34	42	107(89.17%)
	≥20,000 PKR	6	2	5	13(10.83%)
Number of children under 5 years of age	1	12	9	15	36(30%)
	2	20	17	20	57(47.5%)
	3	4	6	9	19(15.83%)
	4	0	4	3	7(5.83%)
	5	1	0	0	1(0.83%)

We found that 87.5% children were breast fed. Out of those who were breast fed, 7.5% were fed for less than 6 months, 49.17% were fed for 6-12 months (Fig.). Majority of the mothers (89.17%) were housewives and 10.83% of them were working mothers. Out of these working mothers, 10% mothers left the child with care givers, while merely 0.8% of the interviewed mothers took their child with them to workplace. Most of the malnourished children (61.17%) belonged to the rural areas of Sahiwal district. Mothers' age, marital status, educational status, family income and number of children under the age of 5 years is shown in Table 2.

DISCUSSION

According to a study from Pakistan, 68% children aged 7-9 months were exclusively fed breast milk.⁵ 68.37% of the malnourished children started weaning between the ages of 6-12 months and 14.29% of the children started weaning even more late, between the ages of 12 and 18 months. The WHO recommended age for introduction of complementary foods is 4 to 6 months.

The quality of food is another important determinant

of proper weaning practice. Homemade foods are better in quality than commercially prepared foods. A large percentage (69.17%) of the malnourished children in our study were those who weaned on both homemade and commercial foods, while a small percentage (4.17%) of the malnourished children were those who weaned on homemade foods. This is in contrary to a study on weaning knowledge and practices,¹⁸ in which 44% children weaned on homemade foods, 30% weaned on both homemade and commercially produced foods, while only 16% weaned solely on commercial foods.

Another important factor affecting the child's health, leading to malnutrition, is breast feeding for inadequate time. We found that 56.67% of the wasted children were fed breast milk for less than 12 months and 24.17% of the malnourished children were fed breast milk for less than 18 months. WHO and UNICEF recommend that a child should be breast fed for up to 2 years.⁵

Majority of the malnourished children (31.7%) were being given breast milk only. A large percentage (50%) of the mothers was illiterate and 36.67% of

them had school level education. This lack of education in mothers is an important factor affecting the proper care of children, leading to malnutrition among them. In a similar study from Pakistan, 60% of the mothers had education below matriculation and 34% of them did matriculation.¹⁵ In another study, 71.5% mothers had qualification below matriculation.¹⁸

A majority (89.17%) of the mothers in this study had monthly family income less than PKR 20,000/-. Among the mothers, 77.5% had no more than 2 children, while 22.5% had more than 2 children. According to another similar study, 70% of the mothers had no more than 2 children and 30% had 3 to 6 children.¹⁹ Most of the mothers (89.17%) of malnourished children were housewives. Children whose mothers worked outside their houses had a 3.3 times better chance of weaning earlier.²⁰

The limitations of this study were small sample size as compared to the population affected by the problem. As it was a cross sectional study, it cannot establish a cause and effect relationship between various factors and malnutrition.

CONCLUSION

This study concludes that inappropriate weaning practices are quite prevalent leading to malnutrition among children. Importance of breastfeeding for the first 6 months of the baby should also be explained to the mothers. Lack of education among mothers and low economic status are the major factors that influence the proper weaning practices.

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