Original Article

BREAST FEEDING AND WEANING PRACTICES IN RURAL AREAS: ITS RELATION TO MALNUTRITION IN CHILDREN LESS THAN ONE YEAR OF AGE

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Abstract:
Objective: The objective of this study is to see the current breast feeding and weaning practices in our rural areas and its impact on the growth of children less than one year of age.

Design: It is an observational descriptive study.

Place and duration of study: Madinah Teaching Hospital University Medical and Dental College Faisalabad from June to September 2015.

Patients and Methods: A total of 300 children belonging to rural areas were included in the study. The address was noted from the CNIC of father/mother/caregiver. Only children < 1 year of age belonging to rural areas were included in the study. Infants having chronic illnesses like congenital heart disease, Asthma, Tuberculosis, cystic fibrosis, immunodeficiency or congenital defects like cleft palate and lip were excluded from the study. The weight of each infant was recorded and Classified according to gomezs classification for malnutrition on a predesigned proforma. The data was assessed by using SPSS version 19.

Results: Out of 300 infants 121 were on exclusive breast feeding, 81 were on predominant breast feeding and 98 were not being given breast milk. Early ablactation was also observed, at the age of>8-12 months 36 children were not being given breast milk. Weaning foods were started in 152 infants only. The infants who were not being given breast milk were the worst affected group by malnutrition, 37 infants had 3rd degree malnutrition similarly the infants who were not given weaning foods were also affected adversely by malnutrition , 40 infants had 3rd degree malnutrition as compared to 17 who were being given weaning foods.

Conclusion: The breast feeding practices in our rural areas are not optimal, the timing and quality of weaning foods are also not appropriate. There is a significant association between breast feeding and weaning patterns with malnutrition in infants less than 12 months of age.

Key Words:
Intrauterine Growth Retardation, Doppler Echocardiography, perinatal outcome, Umbilical Artery

INTRODUCTION:

Health care professionals, across the world, are well aware of the beneficial effects of breast feeding. Breastfeeding is believed to have direct relation to child's overall health and inversely to childhood morbidity and mortality. Breast feeding is the key determining factor of the child's nutritional status which in turn effects growth and development. *(ElmZantay etal1992.)* Breast feeding and complementary feeding practices have long been demonstrated to have significant implications for maternal and child health. Healthy breastfeeding practices are essential for optimal development,

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improvement of immunity and reduction of morbidity and mortality of children.[1] Exclusive breastfeeding of infants for first 6months followed by addition of complimentary food to breastfeeding for up to 2years or beyond is recommended by WHO.[2] Although majority of Pakistani children are breastfed yet feeding practices are unsatisfactory causing unfavorable child health outcomes thus burdening the already meager health coverage**.**Hence WHO use Breast feeding and infant feeding as an important means to enhance the child health in Pakistan and other developing countries (4Earlier surveys in Pakistan showed that breastfeeding is still highly prevalent but the mother stops breast feeding early or begin to supplement breast milk when the child is still young. *(Ashraf et al 1993.)* Despite its obvious advantages the practice of breastfeeding is declining in urban areas *(*boeman et al.1991.).A growing number of women are now either using milk formulas or stopping breastfeeding earlier. Various factors like westernization, urbanization, easy availability of commercial milk substitutes and economic empowerment contributed to this trend.Malnutrition is a pathological condition resulting from deficiency of one or more nutrients and has a wide range of clinical manifestations.In 2001, malnutrition was found to be the cause of 54%infant deaths in developing countries. In developing countries WHO stress the need of improvement in nutrition of children to reduce under 5 year mortality.(2) Asia has the largest percentage of malnourished children with 70% of under nourished children are living in this part of the world. One out of two South Asian preschoolers is under weight and has stunted growth [3]

In Pakistan, 33.03% (CI= 27.96-38.54) of children under the age of 5 are underweight, 53.38% of the children are stunted and wasting has been reported in 11.52% of the children,[4] which clearly shows that the nutritional status in this country is poor.

The WHO pointed out that one-third of worldwide malnutrition cases are caused by inappropriate feeding of children.[5] Inappropriate feeding practices include absence of exclusive breast feeding under 6 months of age, premature ablactation after 6 months and too late addition of complimentary foods.

The aim of this study was to observe current practices of breast feeding and weaning and its impact on growth of children less than 1 year of age in our rural areas.

Madina Teaching Hospital is affiliated with university medical and dental college Faisal Abad situated on Sargodha road mainly catering the rural population of Faisal Abad, Chiniot, Jhang, Toba Tek Singh and Hafiz Abad districts.

STUDY DESIGN:

Observational descriptive study

INCLUSION CRITERIA:

All chidren less than 1 year of age presenting to pediatrics opd in Madinah teaching hospital Faisal Abad belonging to rural areas.

EXCLUSION CRITERIA:

1. Children having chronic illnesses like congenital heart disease, cystic fibrosis, Asthma, tuberculosis, immune deficiencies.
2. Children having cleft lip and/or cleft palate
3. Children living in city areas (districts or tehsils)

SAMPLE SIZE:

A total of 300 children meeting the criteria were included in this study.

MATERIAL AND METHODS:

Data of all the children was recorded on a proforma specially designed for this study. Name, age, sex and wt. was recorded, Address was noted from National ID Card of father or mother.(NICN is required for every pt. to get opd slip in madina teaching hospital)duration of breast feeding , exclusive breast feeding(0-6mo), predominant breast feeding.(0-6 mo) continued breast feeding(12 to 15 months),time of start of weaning(4-6 months of age or late) type of weaning food was also recoded.

MEASUREMENTS:

Eight was measured by the help of a trained paramedical staff. According to modified

Gomez s classification the infants were categorized into severe, moderate, mild malnutrition or no malnutrition.

RESULTS:

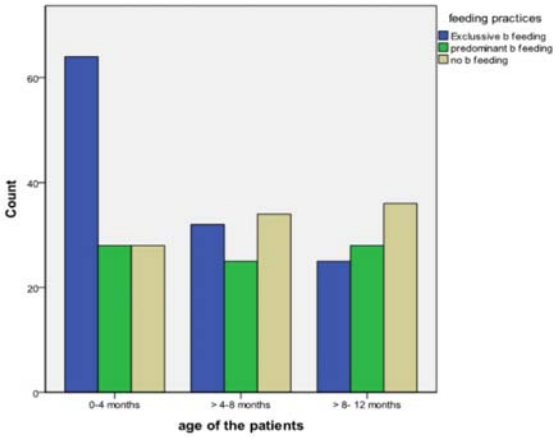
A total of 300 infants meeting the criteria were included in the study, out of them 167(55.7%) were male and 133(44.3%) were female. Male to female ratio was 1.25. The age group 0-4 months was largest which consisted of 120 children and >4 -8 months were 91 while 89 children were included in group >8-12 months. Exclusive breast feeding was seen in 121 infants, 81 were on predominant breast feeding while 98 were not being given breast feeding (Graph1). Weaning foods were started in 158 infants while weaning not started in 142 infants. At the age of >8-12 months, 36 infants were not being given breast milk (ablactation) and weaning was also not started in 27 infants belonging to age group >8-12 months (out of 89). The relationship between breast feeding and malnutrition was assessed. The infants who were not being given breast feeding was the worst affected group, 21 had 1st degree malnutrition, 25 had 2nd degree where as 37 had third degree malnutrition. The children who were on exclusive breast feeding was the least affected group having 6 infants of 1st degree malnutrition and 5 with 2nd degree and no infant with third degree malnutrition. The infants who were on predominant breastfeeding was also affected by malnutrition, 20 (1st degree), 13 (2nd degree) and 3 (3rd degree). This comparison was significant statistically. (p value = 0.005). (Table 1, Graph 1).

The relationship of weaning and malnutrition was also assessed. The children who were on weaning foods had less number of infants having malnutrition, 104 (66%) had no malnutrition, 21 (13%), 16 (10%), 16 (10%), infants have 1st 2nd and 3rd degree malnutrition respectively. as compared to those who were not given weaning foods 26 (18%), 27 (19%), 23 (17%), infants have 1st, 2nd, 3rd degree malnutrition respectively (tab.2). Again this comparison was significant statistically, (p value = < 0.05) (Table 2 Graph 2).

Table 1 Weaning and Manutrition

Malnutrition	No malnutrition	1st Degree Malnutrition	2nd Degree Malnutrition	3rd Degree Malnutrition	Total
Exclussive b feeding	110	6	5	0	121
predominant b feeding	45	20	13	3	81
no b feeding	15	21	25	37	98
Total	170	47	43	40	300

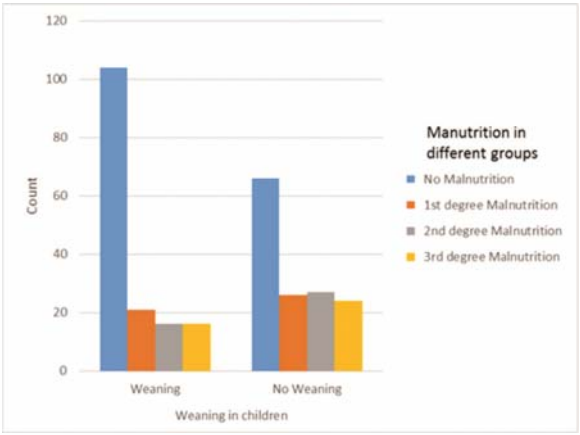
P-value: 0.005



(Graph 1)

Table: 2

Malnutrition	Weaning	No weaning	Total
No malnutrition	104	66	**170**
1st Degree Malnutrition	21	26	**47**
2nd Degree Malnutrition	16	27	**43**
3rd Degree Malnutrition	16	24	**40**
Total	**157**	**143**	**300**



(Graph 2)

DISCUSSION:

Malnutrition is a major health issue in third world countries, especially in children less than 5 years ofage. There are various risk factors for malnutrition including poverty, illiteracy, lack of family planning, cultural and racial customs, lack of breast feeding, delayed or improper weaning, non-availability of health facilities.

Breast milk is best food for children during first 6 months[6] Exclusive breast feeding during the first 6months after birth in our study was quite low and only 121(40.3%) infants were on exclusive breast feeding**.** This situation may be due to different cultural and Educational influences. A study in Turkey showed a common belief that colostrum, the "yellow dirty milk", caused discomfort and jaundice in newborns, therefore removal of colostrum was considered as a tradition [7]. Such misconception about colostrum is also common in our areas.

A reason for low exclusive breast feeding was noted in our study that the mothers introduced water too early, like mothers in other countries[8-9] Water is not necessary for early infants as pure breast milk, consisting of 90% water, can maintain water homeostasis even in hot summer seasons[10]. Actually too much water would reduce the volume of child's milk intake. In our country after cesarean section breast feeding is delayed and bottle feeding is started. Some mothers find it more convenient and continue top feeding. Similar causes are also found in another study that mothers found that bottle-feeding, which was manageable by other caregivers gave them more free time and mobility.[11]

An investigation conducted byDewey showed that the growth rate among exclusively breastfed infants during the first 6 months in a lowincome,[12] developing country was similar to that in developed countries. There is a danger of pollution of complimentary foods in developing areas because of poor sanitary conditions. For that reason, WHO suggest encouragement of breast feeding up to 2yrs of age.

In our study malnutrition was more prevalent and severe in infants who were not on weaning foods**.** UNICEF recommends the addition of nutritious complimentary food to mother's milk in the food of children living in rural areas from the 6th month. Several studies reported the beneficial effects of appropriate complimentary feeding in child's nutritious status. These studies showed that timely introduction of complementary foods at appropriate age might be the most cost-effective means of improving nutritional status in earlychildhood.[13,14]. However in our study malnutrition increased markedly in 2nd half of first year.This shows insufficient protein and calorie intake of children with the initiation of complimentary foods. This insufficiency may be caused by the deficient quality of complimentary foods, especially in rural areas, where these foods are usually based on starchy gruels. As wheat is the chief food in our rural parts, children growing in these areas also eat grain as the main food. Although grains provide most of required energy for growth and development of children yet these components are not useful for tissue rebuilding and anabolism causing low heights in children. Hence, in rural areas, key intervention for improvement of child's development is addition of protein complimentary foods)

The small sample size of the study is a limitation. Also the factors like financial conditions, family size, working mother/care giver was also not considered. The feeding practices of children are based on caregivers' verbal reports.

CONCLUSION:

The breast feeding practices in our rural areas are not optimal, every newborn should be given exclussive breast milk for 6 months of age and then weaning should be started at appropriate age with proper food in order to prevent malnutrition.

REFERRECES:

1. World Health Organization. Infant and young child feeding, model chapter for textbooks for medical students and allied health professionals.France:WHO;2009.[Pub Med]

2. United Nations. We Can End Poverty 2015: Millennium Development Goals, United Nations, 2011. (Online) 2011 (Cited 2011 Nov 1). Available from URL: http://www.un.org/en/mdg/summit2010/.
3. Khor GL. Update on the prevalence of malnutrition among children in Asia. Nepal Med Coll J 2003; 5: 113-22.
4. Finlay JE, Ozaltin E, Canning D. The association of maternal age with infant mortality, child anthropometric failure, diarrhoea and anaemia for ?rst births: evidence from 55 low- and middle-income countries. BMJ Open 2011; 1: e000226.
5. WHO. Infant and Young Child Nutrition, Quardrnnial SecretariatReport. 9th World Health Assembly, Geneva:WHO; 2006.
6. WHO. Infant and Young Child Feeding. Geneva: WHO;2009.
7. Saka G, Ertem M, Musayeva A, Ceylan A, Kocturk T. Breastfeeding patterns, beliefs and attitudes among Kurdish mothers in Diyarbakir, Turkey. ActaPaediatrica. 2005;94:1303-9.20.
8. Kulsoom U, Saeed A. Breastfeeding practices and weaning among mothers of infants 0–12 mo. J Pak Med Assoc. 1997;47:54-60.
9 Lipsky S, Stephan PA, Koepsell TD, Gloyd SS, Lopez JL, Bain CE. Breastfeeding and weaning practices in rural Mexico. Nutr Health. 1994;9:255-63.
10. Sachdev HP, Krishna J, Puri RK, Satyanarayana L, Kumar S. Water supplementation in exclusively breastfed infants during summer in the tropics. Lancet. 1991;337:929-33.
11. Morrison L, Reza A, Cardines K, Foutch-Chew K, Severance Determinants of infant-feeding choice among young women in Hilo, Hawaii. Health Care Women Int.2008;29:807–825.
12. Dewey KG, Peerson JM, Heinig MJ, Nommsen LA, Lonnerdal B, Lopez de Romana G, de Kanashiro HC, Black RE, Brown KH. Growth patterns of breast-fed infants in affluent (United States) and poor (Peru) communities: implications for timing of complementary feeding. Am J ClinNutr.1992;56:1012-8.
13. National Health and Medical Research Council (2003). Infant Feeding Guidelines or Health Workers. [Cited 2011/03/07] Available from: http://www.nhmrc.gov.au/publications/synopses/n20syn.htm
14. Brown KH. WHO/UNICEF Review on complementary feeding and suggestions for future research: WHO/ UNICEF guidelines on complementary feeding. Pediatrics. 2000;106:1290.

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