|| Print ISSN: 2589-7837 || Online ISSN: 2581-3935 ||
International Journal of Medical Science and Diagnosis Research (IJMSDR)
Available Online at www.ijmsdr.com
PubMed (National Library of Medicine ID: 101738825)
Volume 3, Issue 9; September: 2019; Page No. 19-22
Original Research Article
crossref DOI: https://dx.doi.org/10.32553/IJMSDR/v3i9.5

MALNUTRITION: NON-ORGANIC RISK FACTORS

[1]Javaria Younus, [2]Sadaf Liaqat,[3] Chuadry Mubarak Ali
[1]Senior Registrar, The Children's Hospital and The Institute of Child Health, Lahore.
[2]Assistant Professor of Paediatrics, Rai Medical College, Sargodha.
[3]Professor of Paediatrics, The Children's Hospital and The Institute of Child Health, Multan.
Conflicts of Interest: Nil
Corresponding author: Javaria Younus

Abstract:
Objective: Aim of study is to find out non- organic risk factors for malnutrition in children of age between 6 months -5 years
Study design: Cross sectional survey
Place and duration: Department of pediatric medicine, Sheikh Zayed hospital Rahim Yaar Khan from April 2014 to November 2014.
Material and Methods: 164 children of age between 6 months to 5 years were selected in study after meeting inclusion criteria and their risk factors were assessed.
Results:164 children aged between 6month-5 years having malnutrition were studied .There were 90 males and 74 females children.50.6% mothers were illiterate, 57.3%, fathers were unemployed, 62.2% mothers were working women,56.1% cases had monthly income below average and large family size observed in 68.3% cases. Exclusive breast feeding were given to 20.7%, 50.6% participants were unvaccinated, 62.2% cases had reported single room houses. Twin deliveries were found in 12.8%, Delayed weaning were seen in 45.7% and inadequate cleanliness of hands evaluated in 61% cases, Poor sanitation were observed in 79.3% ,4.9% cases had experienced 1st degree malnutrition,32.9% and 62.2% had reported 2nd and 3rd degree malnutrition respectively. **Conclusion**: Maternal illiteracy, father unemployment, working mothers, large family size, small houses, lack of breastfeeding, delayed weaning, non vaccination status, twin/multiple delivery, and poor sanitation were major non organic risk factors for malnutrition.
Keywords: Malnutrition, Non-organic risk factors, Children

Introduction

The dramatic growth of children in early life imposes unique nutritional needs. Failure to fulfill these requirements leads to malnutrition which is highly prevalent in developing country as Pakistan. According to UNICEF report, 38% children less than 5 years suffer from malnutrition in developing countries [1]. Malnutrition is responsible for 50% deaths among children less than 5 years[2].In our country malnutrition is a major problem , 37% children have stunting(low height for age) and 13% have muscle wasting(low weight for height). Monthly income and number of living rooms in house have inverse relation with malnutrition.27% families earn less than 5000Rs and 62.6% families have one room house [3]. Only about 74 % mothers know about hand cleanliness [3]. 37% children are exclusively breastfed and good sanitation facilities are found in 58% [4].

Many factors are responsible for malnutrition, which are preventable by education, counseling and motivation of parents without causing financial burden. This study focuses on non- organic risk factors for malnutrition in children age group between 6 months to 5 years of age. This will provide help in making plans to modify and alleviate risk factors and ultimately prevention of malnutrition and its consequences in children.

METHODOLOGY

164 Children of age group between 6 months to 5 years were recruited. Participants visited in-patient and outpatient pediatric department in Sheikh Zayed Hospital Rahim Yar Khan, were included. Non – probability purposive sampling technique was used. All willing patients who were malnourished in any stage of malnutrition 1st, 2nd, 3rd. Unwilling patients and malnourished children having congenital anomalies as congenital heart diseases, cleft palate, hydrocephalus etc. and chronic diseases as cerebral palsy, tuberculosis were excluded. Study was carried

out over a period of eight months from Feb 2017 to Nov 2017.Informed consent was taken form participants and study was approved by ethical committee. Data was collected regarding employment of parents, mother's educational level, monthly income, family size, number of living rooms, sanitation facilities, hands cleanliness, twin/multiple deliveries, breast feeding, age of weaning and vaccination status on pre-designed Performa. All data was analyzed on SPSS version 23.

Malnutrition: Children having weight less than or equal to 80% for their age, categorized according to modified Gomez classification as:

First degree malnutrition; weight for age 71-80%

Second degree malnutrition; weight for age 60-70%

Third degree malnutrition; weight for age less than 60%

Unemployed father: Father having no permanent job for earning the living.

Mother's educational status: Either illiterate or educated below matric.

Below average monthly income is <7000 Rs, large family size has >5 family members, number of children under 5 years of age contributes when >2 children, good sanitation facilities were taken as proper piped drainage system and vaccination status was considered complete when child was completely immunized according to EPI.

RESULTS

A total of 164 malnourished children of aged between 6 months -5 years were taken during period of 8 months. Regarding age distribution, 31(18.9%) were between 6 months to<1 year, 74(45.1%) 1 to<3 years and 59 children (36%) were 3 to<5 years. Mean age was 2.08+1.26yrs (table 1). 90(54.9%) were males and females were 74(45. 1%).Mother's educational status was found as; 83(50.6%) mothers were illiterate, only 5(3%) mothers were above matriculate (table 2)

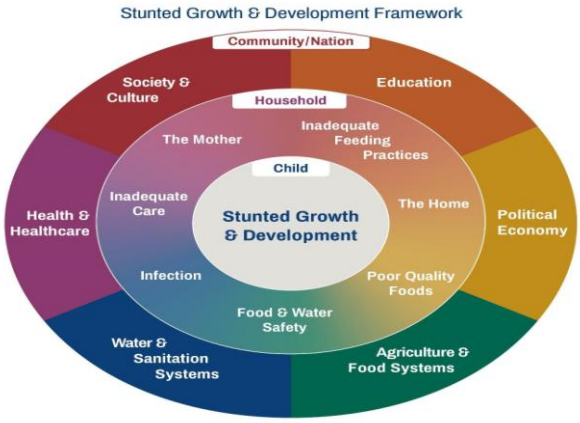

Figure 1: risk factors of non-organic malnutrition

94(57.3%) fathers were unemployed and employed mothers were 102(62.2%).92 (56.1%) families had monthly income <7000Rs while only 9 (5.5%) families had income of >15000Rs per month (table 3). Family size was found as; in 112 cases (68.3%) family size was >5 family members and >2 children were found in 78 cases (47.6%) (Table 4). Good sanitation facilities was enjoyed by 34 (20.7%) cases and adequate cleanliness of hands was followed in 64(39%).Exclusive breastfeeding given in 34(20.7%) and 24 children (14.6%) were completely vaccinated (table 5). Twin/multiple deliveries recorded in 21(12.8%) and delayed weaning was done in 75(45. 7%).There were102 houses (62.2%) consisted of 1 room (table 6). Distribution of 1st, 2nd, 3rd degree malnutrition was 8(4.9%), 54(32.9%), 102(62.2%) respectively.

TABLE 1: (AGE DISTRIBUTION)

AGE(YEAR)	NUMBER	PERCENTAGE
<1	31	18.9
1 to <3	74	45.1
3 to 5	59	36
TOTAL	**164**	**100**
MEAN±SD	**2.08±1.26**	

TABLE 2: (MOTHER'S EDUCATION)

EDUCATION	NUMBER	PERCENTAGE
Illiterate	83	50.6
Primary	38	23.2
Middle	20	12.2
Matric	18	11.0
Above matric	05	03
TOTAL	**164**	**100**

TABLE 3: (MONTHLY INCOME)

Income(Rs)	Number	Percentage
< 7000(below average)	92	56.1
7000-15000(Average)	63	38.4
>15000(above average)	09	05.5
Total	**164**	**100**
Mean±SD	**8740±1057**	

TABLE 4: (FAMILY SIZE, NO OF CHILDREN)

Family size	Number	Percentage
<5 family members	52	31.7
>5 family members	112	68.3
Total	**164**	**100**
Mean±SD	**7.33±2.52**	
Children under 5yrs	**Number**	**Percentage**
<2	86	52.4
>2	78	47.6
Total	**164**	**100**
Mean±SD	**3.45±0.82**	

TABLE 5: (BREAST FEEDING, VACCINATION)

Breast feeding	Number	Percentage
Exclusive breast feeding	34	20.7
Mixed feeding	56	34.2
Top feeding	74	45.1
Total	**164**	**100**

TABLE 6: (Vaccination status)

Vaccination status	Number	Percentage
Completely vaccinated	24	14.6
Partially vaccinated	57	34.8
Not vaccinated	83	50.6
Total	**164**	**100**

TABLE 7: (NO. OF LIVING ROOMS)

Living rooms	Number	Percentage
One room	102	62.2
>1 room	62	37.8
Total	**164**	**100**
Mean±SD	**2.71±0.69**	

DISCUSSION

Malnutrition is an important health issue.1 in 3 children is stunted due to malnutrition in developing countries [5]. In developing countries, out of 12 million children under five who die each year, malnutrition is responsible of 55% deaths directly or indirectly [6].Earning for living has great impact on lives of people. In this study most of fathers of malnourished children were unemployed (57.3 %). When mothers work outside homes for earning, younger children suffer as they are deprived of adequate care. In my study 62.2% mothers of malnourished children were employed, but Kulwa et al showed 44% working mothers [7]. The higher the level of education of a woman, the more she knows about health facilities usage, family planning methods and health of her children. Current study shows 50.6% illiterate mothers. Study conducted in Dow University, Karachi showed uneducated mothers was 50.4% [8]. Our study results showed that malnutrition is significantly higher among low income group (56.1%) that are comparable with previous studies [9, 10]. Increasing family size leads to poor child care, poor hygiene, increased infection rate, thus increasing malnutrition in children. Same is the case with increased number of children under 5 years. Our study showed large family size in 68.3% cases and 47.6% had >2 children under 5 years. These findings are consistent with results by Odunayo and Amsalu [11, 12].Good sanitation facilities were available to 20.7% whereas79.3% had poor sanitation, this is comparable to previous studies [13].Our study shows a high percentage of twin/multiple births (12.8%) among malnourished children, that is very high as compared to 5.4% reported in a study in Karachi [8].Lack of personal hygiene increases risk of diarrhea and malnutrition. In our results, cleanliness of hands was practiced by 39% only ,which is comparable to study by Kikafunda[14].Breast milk is ideal food for growth and development of infants and also has biological and emotional influence on health of mother and baby. This study showed 20.7%children were breastfed that is also comparable to previous study[15].Delayed weaning was found in 45.7% cases, that is high as compared to previous study[8].In our study ,50.6% children were not vaccinated. This result has harmony with study done by Rice et al [16].

CONCLUSION

In this study, several non-organic factors are shown to be a risk factor for malnutrition in children age group between 6 months-5 years.

Low family income, unemployed father, employed mother, maternal illiteracy, more than 2 children under 5 years of age, lack of breast feeding, delayed weaning, lack of vaccination, twin/multiple delivery, poor sanitation and inadequate cleanliness were major non organic risk factors for malnutrition.

These persistently higher malnutrition risk factors should concern national planners as these represent a hidden brake on Pakistan development. Composite interventions are required at level of malnourished children, their families, the community and nation. Alleviating malnutrition would yield benefits by decreasing mortality and morbidity, health care costs and by increasing productivity.

REFERENCES

1. UNICEF.Nutrition,improving the nutritional status of children in Pakistan[online][cited 2011 May7]; Available from:http://www.unicef.org/Pakistan/nutrition.htm.
2. UNICEF.Pakistan.Child health and sanitation week report.April 2008[online][cited 2010 June 25]; Available from:URL:http://www.unicef.org/Pakistan/CHSWK_Report_ April_2008.pdf.
3. Mujib SA,Kazim T,Khan S,Shad MA.Relationship of non organic factors with malnutrition among children under three years of age. J Coll Physicians Surg Pak 2006;16:355-8
4. UNICEF.Pakistan.Statistics[Online][cited 2011 August 27];Available

from:URL:http://www.unicef.org/infobycountry/Pakistan_Pakistan_statistics.html.

5. Black RE,Allen LH,Bhutta ZA,Caulfield LE,Deonis M,Ezzati M,et al.Maternal and child undernutrition: global and regional exposures and health consequences. Lancet 2008;371:243-60.
6. UNICEF.The state of the world'children,Oxford UniversityPress,New York,1998.
7. Kulwa KB,Kinabo JL,Modest B.Constraints on good child care practices and nutritional status in urban Dar-es-Salaam,Tanzania.Food Nutr Bull 2006;27:236-44.
8. Siddique B,Jamal A,Aslam R.Assessment of risk factors and case fatality rate of malnourished admitted children .Med Channel 2006;12:47-51.
9. Masood-us-Syed SS,Muhammad S,Butt ZK,Nutritional assessment of children under age of sixty months in district Sialkot,Pakistan.J Pak Med Students 2011;1:7-12.
10. Agha DA,Mabool S,Anwar S.Is poverty or lack of nutrition awareness the main cause of malnutritioin in children?Pak Paed J2005;29:63-7
11. Odunayo SI,Oyewole AO. Risk factors for malnutrition among rural Nigerian children. Asia Pac Clin Nutr 2006;15:491-5
12. Amsalu S,Tigabu Z.Risk factors for severe acute malnutrition in children under the age of 5:A case – control study.Ethopian J Developmental Health 2008;22:21-25
13. Bawdekar M,Ladusingh L.Contextual correlates of child malnutrition in rural Maharashtra.J Biosoc Sci 2008;40:771-86
14. Kikafunda JK,Walker AF,Collett D,Tumwine JK,Risk factors for early childhood malnutrition in Burmese children.Int J Epidemiol 1992;21:1021-9.
15. Hameed A,Paracha PI.Nutritional status and feeding practices of children from birth to 15 months in rural area of North West Frontier Province Pakistan.J Postgrad Med Inst 1999;13:35-45.
16. Rice AL,Sacco L,Hyder A,Black,RE>Malnutrition as an underlying cause of childhood deaths associated with infectious diseases in developing countries.Bull World Health Organ 2000;78:1207-21