Nutritional assessment children district sialkot health and social care essay

Objective: To assess the prevalence and degree of malnutrition and its association with various socio-economic groups of the society in district Sialkot. Study Design: A community based cross-sectional study from different areas of district Sialkot. Methodology: The weight for age a direct anthropometric measurement was used to assess the malnutrition. Results: The results reveal that 771 (53. 8%) children were suffering from malnutrition while 662 (46. 2%) were found normal. Among malnourished children 243 (31. 5%) were falling in first degree, 265 (34. 4%) in second degree, and 264 (34. 1%) in third degree malnutrition. 416 (29%) of mothers and 281 (19. 6%) of fathers were illiterate. 1222 (85. 2%) of the fathers income was less than Rs. 5100/month. Only 207 (14. 5%) mothers breast fed their children exclusively for early six months. Almost all the children suffer from diarrhoea and acute respiratory infection. Only 450 (31. 4%) of the parents had a small family size. Conclusion: Prevalence of the malnutrition is more in illiterate, having low socio-economic setup, large family size and practicing bottle-fed families. Keywords: Prevalence, Malnutrition, Malnourished, Family size, Anthropometric measurements, diarrhoea, lady health supervisor.

INTRODUCTION

Growth assessment is an essential component on paediatric health surveillance. Many bio-physiological psycho-social problems can adversely affect growth, and aberrant growth may be the first sign of an underline problem. The most powerful tool in growth assessment is growth chart, used in combination with accurate measurements of height, weight, and head circumference. Accurate measurement is a key component of assessing

growth18. The traditional approach to nutritional assessment measures only the physical manifestation of the problem (clinical, anthropometric, biochemical indicators) and perhaps some of the immediate causes related to the dietary intake. Despite the need for additional approaches a number of anthropometric indices have been used successfully for many years to estimate the prevalence of under nutrition among pre-school aged children. These include height for age, weight for age, and weight for height. The first is an indexed of cumulative effect of under nutrition during the life of child and the second reflects the combined effects of both recent and long term levels of nutrition and the last reflects the recent nutrition experiences. These indices are reasonably sensitive indicators of immediate and underline general causes of nutrition19. In 2000, 26. 7% of pre-school children in developing world were estimated to be underweight as reflected by a low weight for age and 32. 5% were and were estimated to be stunted, based on a low height for age. Compared with estimated in 1980, these estimates are approximately 11% and approximately 15% lower suggesting considerable improvements, at least in some regions, over these two decades. However, the population of the developing world increased during this time; thus, the total number of underweight children and children with stunted growth has not changed dramatically since 198019. Data form the U. S. A indicates prevalence of low height of age measures (<5th percentile) was 4-5% among children from 2 month to 11 years. The cumulative evidence suggests that under nutrition has pervasive effect on immediate health and survival as well as on subsequent performance. This include not only acute effects on morbidity and mortality but also long term effects on cognitive and social development, physical work capacity, productivity and economic growth. The

prevalence of under nutrition among hospitalised children in U. S. A is as high as that in developing countries. Moderately, underweight (60-69%) of reference weight for age have 3-4 fold grater risk. More than 50% of the child deaths maybe caused by directly or indirectly by under nutrition19. Breast feeding might protect children against asthma and related conditions6. The assessment of the nutritional status of the children by weight for age (anthropometric method) is a very sensitive and recognised method which is most effective and used all over the world10-11. The malnutrition is also associated with mothers' education, weaning of child, income of the family and family size20. Malnutrition has been defined as a pathological condition of varying degrees of severity and diverse clinical manifestations, resulting from the deficient assimilation of the components of the nutrient complex1. As recently as in 2000, 10. 5 million children die each year, out of these about 2. 5 million under 5 years age in India2Malnutrition is a factor in an estimated 54% of all children deaths globally3. Whereas the risk of mortality was inversely related to children's height for age and weight for height4-5. However, there is increased mortality in hospitalized children having treatable condition simultaneously suffering from malnutrition6. These findings were similar to those of Any et al, highlighting the fact that even children with mild to moderate malnutrition, rather than only those with more severe form, had an increased risk of dying7. Bhutta ZA from Pakistan has described that acute diarrhea is more severe and become persistence more in children having malnutrition as compared to their counterparts enjoying normal nutritional status. In Pakistan, an average a child of age <5 years suffers from 4-5 episodes of acute diarrhea annually. It is more prevalent in socio-economic deprived

communities8. In Pakistan, malnutrition is stated to be present in 50-60% of children and in same percentage it is associated with mortality in young children9:

OBJECTIVES

To assess the prevalence and degree of malnutrition and its association with various socio-economic groups of the society in district Sialkot.

MATERIAL AND METHODS

It was a community based cross-sectional study from different areas of district Sialkot. Systematic random sampling was taken and a total number of 1433 children were surveyed of 0-60 month's age from January 2003 to June 2003. 500 children from city, 100 from slums and 900 from rural area were included in this study according to the rural urban distribution of population. We selected 9 lady health supervisors from rural area, 5 from city and 1 from rural urban slum, out of 30 lady health supervisors of Sialkot district. Each lady health supervisor was given 100 copies of combination type semi structured questionnaire containing, nutritional assessment of the children (anthropometric measurements, height, weight, head circumference) along with developmental milestones of the children, their feeding pattern,(breast feeding, bottle feeding, weaning), EPI vaccination record, status of parents (live or not, occupation, income, education, insanguanity,) and safe water and disposal system of family. All the lady health supervisors were provided with weighing scales for younger children and infants separately, measuring boards for length, measuring tapes for head circumference, and height charts to measure height. During training, each LHS (lady health supervisor) was required to complete 5 copies of

questionnaire under the supervision of author. However, out of 1500 copies 1433 were completely filled up accordingly and were included in the study while 77 were excluded due to incomplete information. WHOs classification of weight for age was used to assess the nutritional status. Note (Lady Health supervisors (LHS) are supposed to look after the duty of lady health workers (LHW). In routine LHW maintain a record of children in their catchments area, but in this study senior people like LHS were given the task.) Other factors contributing to malnutrition were beyond the scope of my study.

RESULTS

The results revealed that 771 (53. 3%) children were suffering from malnutrition while 662[46. 2%] were found normal. Among malnourished children, 243 (31. 5%) were falling in IST degree, 265 (34. 4%) were in IInd degree and 263 (34. 1%) in IIIrd degree malnutrition. As far as the education of the parents is concerned, 416 (29%) of mothers were illiterate while, 323 (22. 5%) were primary, 245 (17. 1%) were middle, 306 (21. 4%) were matriculate, 96 (6. 9%) were intermediate, 36 (2. 5%) were graduate, and 11 (0. 8%) were post graduate. Similarly, 281 (19. 6%) fathers were illiterate, 236 (16. 5%) were having primary education, 195 (13. 6%) were middle, 456 (13. 9%) were secondary, 174 (12. 1) were intermediate, 72 (5%) were graduate, and 19 (1. 3%) were post graduate. However, income of the fathers was Rs. 3000 or less in 381 (26. 6%) of parents, Rs. 3100 – 5000 in 528 (36. 8%) Rs. 5100 – 8000 in 313 (21. 8%) and above Rs. 8000 were in 211 (14. 8%) parents. The 207 (14. 5%) mothers breast fed their children exclusively for early six months while 354 (24. 7%) fed their children, both

breast feed and bottle feed simultaneously, 300 (20. 9%) mothers breast fed their children up till the age of 1 year and 281 (19. 6%) breast fed till the age of 2 years, while, 291 (20. 3%) were absolutely non-breast feeding mothers. The 262 (18. 3%) children up till the age of 12 months and 127 98. 9%) up till the age of 2 years were fed bottle feed along with breast feeding and weaning. One episode of diarrhea was noted in 377 (26. 3%) children, 2 episodes in 400 (27. 9%), 3 episodes in 372 (26%) and 4 in 86 (6%) and more in 198 (13. 8%) children during their previous age. One episode of acute respiratory infection was noted in 453 (31. 6%), 2 episodes in 427 (29. 8), 3 episodes in 266 (18. 6%), 4 episodes in 89 (6. 2%) and more in 198 (13. 8%) children. The family size of the under survey population was as under, small family size (1-2 children) in 450 (31. 4%) of parents, medium size family (3-4 children) in 560 (39. 1%) and 423 (29. 5%) parents had family size of 5 or more children i. e. large family.

Data Presentation and Analysis

The all findings according to Proforma are plotted on growth chart and analyzed according to WHO classifications of weight for age. Results are shown in various tables and figures.

Table No. 1

Gender wise distribution of children

S. No.

Gender

No. of Children

Percentage

i
Male74352%

ii
Female69048%

Total

1433

100%

This table shows gender wise distribution out of 1433 children, 743 are male

and 690 are female showed in (Fig. I)Table No. 2

Area wise distribution of Children

S. No.

Area

No. of Children

Percentage

i

Rural84759%

ii

Urban58641%Total1433100%This table shows that out of 1433 children, 847

belong to Rural Area while 586 are from Urban Area(Which is shown in fig.

II)Fig. 2

Table No. 3

Age wise distribution of Children

S. No.

Age

No. of Children

Percentage

i

0 Month – 06 Months22415. 7%

ii

07 Months – 12 Months13109. 1%

iii

13 Months – 24 Months33023. 0%

iv

25 Months – 36 Months25417. 7%

v

37 Months – 48 Months24917. 4%

vi

49 Months – 60 Months24517. 1%

Total

1433

100%

Table No. 4

Age wise Nutritional Status of Children

No	Age of Children	Total Children	Normal Children	Percentage	Malnourished Children	Percentage
i	0-6 Months	224	110	49.10%	114	50.90%
ii	7-12 Months	131	48	36.60%	83	63.40%
iii	13-24 Months	330	149	45.20%	181	54.80%
iv	25-36 Months	254	84	33.10%	170	66.90%
v	37-48 Months	249	123	49.40%	126	50.60%
vi	49-60 Months	245	148	60.40%	97	39.60%

Total

1433

662

46. 20%

771

53. 80%

Table No. 5Distribution of Total Malnourished ChildrenAccording to Degree of

Malnutrition in different age groupsNo. Age of Children

Degree of Malnutrition

1st Degree2nd Degree3rd Degreei0-6 Months213756ii7-12

Months48269iii13-24 Months825346iv25-36 Months489131v37-48

Months402957vi49-60 Months42964

Total

243

265

263

Percentage

31. 50%

34. 40%

34. 10%

Table No. 6Education wise distribution of MothersNo. Level of EducationNo.

of MothersPercentagei

No Education

41629. 0%iiPrimary32322. 5%iiiMiddle24517. 1%ivMatriculation30621.

4%vIntermediate966. 7%viGraduate362. 5%viiPost Graduate110. 8%

Total

1433

100%

Table No. 7

Education wise distribution of Fathers

No. Level of EducationNo. of FathersPercentagei

No Education

28119. 6%iiPrimary23616. 5%iiiMiddle19513. 6%ivMatriculation45631.

9%vIntermediate17412. 1%viGraduate725. 0%viiPost Graduate191. 3%

Total

1433

100%

Table No. 8

Father's Income Wise Distribution

No.

Income

(In Pak Rupees)No. of FathersPercentagei

3000

38126. 6%ii3100-500052836. 8%iii5100-800031321. 8%ivAbove 800021114.

8%

Total

1433100%

Table No. 9

Duration of Breast Feeding in the Children

Duration

No. of Children

Percentage

Upto 6 Months56139. 2%Upto12 Months30020. 9%Upto 24 Moths28119. 6%

Total Breast Feeding

1142

79. 7%

Absolutely no breast Feeding

29120. 3%

Total

1433

100%

Table No. 10

Duration of Bottle Feeding in the Children

Duration

No. of Children

Percentage

Upto 6 Months35424. 7%Upto12 Months26218. 3%Upto 24 Moths1278. 9%

Above 24 Months

825. 7%No Bottle Feeding60842. 4%

Total

1433

100%

Table No. 11

Episodes of Diarrhea in Children

No. of EpisodesNo. of ChildrenPercentage137726. 3%240027. 9%337226. 0%4866. 0%More19813. 8%

Table No. 12

Episodes of Acute Respiratory Tract Infection (ARI) in Children

No. of EpisodesNo. of ChildrenPercentage145331. 6%242729. 8%326618. 6%4896. 2%More19813. 8%

Table No. 13

Family Size of children

Family Size of the Children

No. of Children

Percentage

Small Family(1-2 Children)45031. 4%Medium Family(3-4 Children)56039.

1%Large Family(5 or more Children)42329. 5%

DISCUSSION

Gender disparities in health and education provision are higher in South Asia, for example a girl in India is 30-50% more vulnerable to die under five year of age than her counterpart boy. There was no gender difference in seeking medical advise but girls were about 2. 5 times more malnourished than boys13-14. Our findings of 52% male children and 48% female children coincide with this study. Malnutrition as an outcome of different factors is present in all developing countries. We made an effort to asses the effects of these factors in this study. In our study, 662 (46. 2%) of children were normal while 771 (53. 8%) children were malnourished. These findings are similar with over all national prevalence of malnutrition in Pakistan and India15-16. Education of mothers has significant effect on nutritional status of their children. In Pakistan, illiterate mothers having 52. 4% malnourished children while educated mothers have better understanding of the benefits of a small family, exclusive breast feeding and an early weaning process, have 23-24% malnourished children20. In our study, 29% of mothers and 19% of fathers were illiterate while 61% of the mothers and 62% of the

fathers were under matriculation and only 10% of mothers and 18. 4% of fathers were highly educated. Breast feeding till the age of two years and exclusive till the age of six months is of prime importance. In our study, under the age of six moths only, 14. 5% of children were exclusively breast fed while 20. 3% of the children were not absolutely breast fed. 354 (24. 7%) children were exclusively bottle fed. In 1142 (79. 7%) children fed on mother feed along with weaning and 825 (57. 6%) children were bottle fed along with other remedies. Children receiving no breast feeding had a high frequency of malnutrition which is almost 39%20. Similarly, mother who started delayed weaning after 1 year, had got 53. 4% malnourished children20. The family size shows that mothers having 1 child have 29. 8% chance of malnutrition, while families having 4 or more children had 52. 9% malnourished children. Low socio-economic families where income is Rs. 2000 or less, had 52. 2% malnourished children, while the families with income of Rs. 5000 and more, had 24. 7% malnourished children20. In our study, 243 (31. 5%), 265 (34. 4%), and 263 (34. 1%) children were suffering from Ist, IInd, and IIIrd degree malnutrition respectively. Similar findings were reported in literature6, 12, 17. As far as, income of the fathers is concerned in our study, 53. 4% fathers having their income less than Rs. 5000 per month which effects directly on the nutrition of the children. Almost all the children have been suffered from acute diarrhea and acute respiratory tract infection during their previous life, which were at least one and even 4 and more episodes. The 983 (68. 6%) families had more than 2 children i. e. large family size, which has a negative impact on the nutrition of the children. The family size is a reflection of child spacing and family planning, which shows that with increasing family size, the nutrition status of the

children goes down, which is in concordance with earlier studies22.

Economic development also bring down the malnutrition and vice versa21.

CONCLUSION

The frequency of malnutrition is quite high in district Sialkot i. e. 51. 8% children are malnourished under the age of 5 years. Illiteracy, large family size, late weaning, lack of mother feeding, and poverty are the main factors which are responsible for malnutrition of children.