

Stunting Among Children in District East Karachi, Pakistan

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ABSTRACT

Objective: To study stunting problem in children attending schools in District East of Karachi, to calculate prevalence of stunting on the basis of study and compare it with national data and to suggest intervention to prevent stunting in school children.

Study Design: cross sectional epidemiological study

Place and Duration of Study: This study was conducted on the school children of Karachi during February 2012 to February 2013.

Materials and Methods: 164 randomly selected children attending private and government schools in Karachi East.

Result: There were 164 total children out of them 81 (49.40%) were male and 83(50.60%) female. stunting was present in 101 (61.5%), normal height and weight was observed in 7 (4.26%). stunting and not stunting proportion of 164 children among them 101 were stunted and 64 were not stunted ($P < 0.05$).

Conclusion: The study showed the stunting in Karachi needs nutritional intervention and public health and community health education to halt stunting problem in school health children in Karachi east.

Key Words: Stunting, Children, East Karachi

INTRODUCTION

Stunting is defined as below minus two standard deviations (-2 SD) from median height for age of reference population¹. Stunting is a established child-health indicator of chronic malnutrition which gives a picture of the past nutritional history and the environmental and socioeconomic circumstances². All over the World 178 million under five year children are stunted with the majority in Sub-Saharan Africa and South-central Asia and Africa³.

Growth assessment in under five year children is a well- established indicator of health and nutritional status. One of the major cause of mortality in children under five years is malnutrition and accounts for fifty percent deaths in children less than five years of age.⁴ Malnutrition has a significant impact on health and survival of children under five years of age. It is the leading cause of global burden of disease. Majority of Pakistani people living below the poverty line and it is associated with poverty and main causative factors are low consumption of food and foods with low nutritional value.

Malnutrition not only affects the physical growth but also affect the cognitive development, physical work capacity and risk for several chronic diseases in children. There is a positive association among stunting, central obesity, and cardio-metabolic disorders⁵ stunting impairs host immunity, thereby increasing the incidence, severity, and duration of many infectious diseases⁶. In countries where malaria

infection is endemic, stunting increases the degree to which malaria is associated with severe anemia causing considerably higher likelihood of mortality due to malaria⁶. WHO survey report showed an average of 39% stunting in children less than five year in the developing world. In South-East Asia it was estimated at 43% whereas in Pakistan 50% of children less than five were stunted, 40% were under weight and 9% were wasted.⁷ Recent reports showed that the situation has not changed much in the region, stunting is 37%, underweight 38%, while wasting is progressively increased to 13%, indicating lack of proper nutritional and health interventions at national level.⁸

Stunting in children is usually taken as mild chronic malnutrition, however it can rapidly worsen due to inter current infections like Diarrhoea, measles and respiratory tract infections. Stunted children do not require hospital admissions, unless they have serious illnesses.

MATERIALS AND METHODS

Study Design: Cross sectional study

Duration: February 2012 to February 2013

Place of study: Shah Faisal Colony Karachi East.

Sample Size 164 randomly selected children attending private and government schools in Karachi East as part Community Medicine 4th year MBBS student field visit programme and coordinated by Rana Liaquat Ali Craftsman Colony (RLCC) by Memorandum of Understanding of Dow University of health Sciences.

Data Collection: standard growth chart (center of pediatrics CDC applicable for 2 to 20 years separate for male and female) was used with separate weight and height column was filled under guidance of a trained pediatrician by team of ten students during six visits, sex age and class data was entered on growth chart bimonthly basis

Data Analysis: SPSS version 16 was used to analysis the data

Inclusion criteria: Only children attending school regularly with satisfactory attendance record were included

Exclusion: Absent from classes or with low attendance were excluded

RESULTS

Table No.1: Gender of Children of Karachi East

Gender	No:	%
Male	81	49.40
Female	83	50.60
Total	164	100

Table 1 shows the gender of the children permanent living in district East. There were 164 total children out

of them 81 (49.40%) were male and 83(50.60%) female.

Table 2 shows age of children living in Karachi East . Distribution of age shows that 19 (11.58%) were in the age group of less 4 years , 49 (29.87%) were in age group of 4 to 5 year, 28 (17%) were in age group of 5 to 6 year, 20 (12.19%) were in age group of 6 to 7 year, 18 (10.97%) were in age group of 7 to 8 year, 9 (5.48%) were in age group of 8 to 9 year, 11 (6.70%) were in age group of 9 to 10 year, 6 (3.65%) were in age group of 10 to 11 year, 2 (1.21%) were in age group of 11 to 12 year, 2 (1.21%) were in age group of 12 to 13 year,

The table 3 shows the status of stunting ,under weight and normal height and weight according to table the stunting was present 101 (61.5%), underweight with no stunting was present 56 (34.1%) normal height and weight was observed in 7 (4.26%)

Table 4 is the important table showing stunting and not stunting proportion of 164 children among them 101 were stunted and 64 were not stunted the chi square test was applied the difference was $P < 0.05$, which was statically significant

Table No.2: Age of children Karachi East

Sex	<4 years	4-5 Years	5-6 years	6-7 Years	7-8 Years	8-9 Years	9-10 Years	10-11 years	11-12 years	12-13 years
Male	8	25	7	15	9	6	7	2	1	1
Female	11	24	21	5	9	3	4	4	1	1
Total	19 (11.50%)	49. (29.87%)	28 (17.00%)	20 (12.19%)	18 (10.97%)	9 (5.48%)	11 (6.70%)	6 (3.65%)	2 (1.21%)	2 (1.21%)

Table No.3: Showing stunting, under weight and normal height and weight among the children of Karachi East

Sex	Stunted and underweight	Not stunted but underweight	Not stunted and not underweight /Normal	Total
Male	50	28	3	81
Female	51	28	4	83
Total	101 (61.5%)	56 (34.1%)	7(4.26%)	164 (100%)

Table No.4: Status of stunting and not stunting among the children of Karachi East

Sex	Stunted	Not stunted	Total
Male	50	31	81
Female	51	32	83
Total	101 (61.5%)	63 (38.4%)	164(100%)

Test: Chi square:

P value 0.00727(table value 3.841) df 1

Statically significant $P < 0.05$

DISCUSSION

In our study the stunting rate was 61.5%. It was higher than the national prevalence rate which was 45% and it was also higher than the urban areas of Pakistan which was 36% and even from the national rural stunting rate of 45.9%. this shows that the Karachi East children are living in a circumstances bed then the national, urban and rural areas of non-Karachi. The reason might be long strike closure of milk, meat, fruit and daily food items was affected the community but the children at sever level. The many times road are also blocked due to dharna (sitting strikes on road for many days) and strikes of long duration. Hence with in the city supply of nutrition's food and fresh vegetable has hampered and thus study is one of the indicator of urgency for the nutritional intervention for the children of Karachi, already UNICEF has already warren that global malnutrition rate in Sindh is 22% which should not exceed than 15%.

Global Acute Malnutrition rate – which indicates the number of moderately and severely malnourished children – among children between 6 and 59 months

old was more than 21 per cent in southern Sindh. For children in northern Sindh, the rate was about 23 per cent. These rates are well above the World Health Organization's 15 per cent emergency threshold which triggers a humanitarian response. Sindh Department of Health identified critical levels of malnutrition among flood-affected children in Sindh Province.

The malnutrition affecting cognitive development, educational attainment and later economic productivity. It is vital that children have access to high standards of healthcare and that they can grow and develop into healthy adults. UNICEF Representative in Pakistan Dan Rohrmann, who visited the health clinic at Suleman Kehari village, was impressed with the work that is being done to improve child malnutrition rates. successive economic, climatic, political and other security shocks, severely compromising the ability of caregivers to feed and protect their children, and fulfill their basic needs.¹⁹

Thirty per cent of children are chronically malnourished and lack safe water and household sanitation, especially in rural areas.²⁰ our study was statistically significant when stunting was compared among males and females children ($P < 0.05$)

CONCLUSION

The study showed the stunting in Karachi needs nutritional intervention and public health and community health education to halt stunting problem in school health children in Karachi east.

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