

Nutritional Disorders In Children Of Internally Displaced People

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Abstract

Objective: To assess the nutritional status of preschool children of internally displaced families, and to compare with the WHO growth standards.

Methodology: This descriptive (Observational) cross sectional study was carried out by the Department of Pediatric Hamdard College of Medicine Karachi Hamdard University supported two camps for Internally displaced people due to floods in interior of Sind. Seven hundred and fifty families were registered in the camps located at Manghopir Degree College for boys, with 1155 preschool children. Anthropometric data of all preschool children was collected on predesigned performa. weights, height were recorded to assess the nutritional status of these children, using WHO growth standard charts. The result were analyzed on SPSS 15. **Results:** 750 families were registered with 1155 preschool children, average family size was

6.6 (Parents and children) male to female ratio was 922/1000. The study group was evenly distributed with sample size varying from 213 to 274 in each age group. There were 18.4% children between 13 to 24 months. 19.52 % children between 25 to 36 months. 18.2 % between 37 to 48 months. 20.1 % children between 49 to 60 months The height and weight were plotted on WHO growth standard charts, the height and weight of children studied were lower than the 3rd centile of WHO growth standard charts. **Conclusion:** Malnutrition in children displaced from flood is alarming, all children studied were below 3rd centile of WHO growth standard charts, these children not only needs emergency nutritional rehabilitation, but also needs long term rehabilitation plans. **Key Words:** Pediatrics, Children in distress, Growth standards.

INTRODUCTION

Internal displacement causes huge burden to the nutritional status of children¹⁻⁴ According to UNICEF, three months after the devastating floods in Pakistan, 10 million children were still in need of help. Flood damage to crops and agriculture infrastructure left families with little access to food, 125,000 Pakistani children suffered from dangerous levels of malnutrition according to the UN Refugee Agency (UNHCR) in Pakistan; there were 462,912 internally displaced Persons (IDPs). Pakistani nation faced the huge burden of floods in July 2010, 20 % of the Pakistani population lost their belonging, property livestock and were living in tents or space provided by the local government in schools and colleges, adults faced hardships but still they survived, children especially those under age two, were the most vulnerable and the worst effected group. their nutritional requirements were not meet, food provided

by the donor agencies was mainly for adults in the form of atta, rice, ghee and sugar, younger children below 6 months were able to survive on mother's milk, There was no provision of cooked weaning food by the donor agencies, these children were in immediate danger of severe malnutrition It is crucial that nutrition concerns be tackled now to recover from the flood disaster.

METHODOLOGY

After the approval of the ethical committee this cross sectional observational study was carried out at the camp of internally displaced persons, Hamdard University on the instructions of Pakistan Medical and Dental Council and Government of Sind owned two camps of IDPs at Karachi these camps were assigned by the Government of Sind, located, about 20 kilometers from the university campus outside Karachi.

The population studied was homogeneous, all the families migrated from interior of Sind, and all the children were registered starting from the nearest room in the building to the end. weight in kilograms and height in centimeters was recorded, weight with light clothes was recorded to the nearest of 0.1 kg using D.T.02 Kinlee scale which was regularly calibrated. Recumbent and supine lengths were measured to the nearest 0.1 centimeter on a locally constructed two track length board. The date of birth was estimated to the nearest day by relating to the recent local event and by interviewing the caretaker. 750 families were registered in the camps with 1155 preschool children. Anthropometric data of all preschool children were collected and the result were analyzed on SPSS 15

RESULTS

Numbers of families registered were 750, average family size (parents and children) was 6.6 Male to Female ratio was 922/1000. Numbers of children registered and studied were 1155 from birth to five years of age 274 children (23.4 %) were below 12 months, 216 (18.4%) were between 13 months to 24 months. 229 (19.5 % %) were between 25 months to 36 months 213 (18.2 %) were between 37 months to 48 months. 223 (20 %) were between 49 months and 60 months.(Table 1) Mean weight at 3 months was 3.7 Kg for boys 3.6 Kg for girls 5.8 Kg, 5.0 Kg at 6 months for boys and girls respectively, 6.6 Kg, 6.1 Kg at 9 months, 7.3 kg, 7.1 Kg at 12 months, 7.7 Kg, 7.1 Kg at 18 months, 8.0, 8.2 Kg at 24 months, 9.6 Kg, 9.7 Kg at 30 months, 12.0, and 12 Kg at 48 months, 14.3, and 14.0 Kg at 60 months of age for boys and girls (Table 11) weight of these children was normal up to 3 months, after 3 months of age the weight was below the expected weight and this pattern persisted up to the age of five years, the maximum impact of malnutrition was seen at the age of 18 months to 48 months Height of children at 3 months was 51 centimeters and 52 centimeters for boys and girls respectively, 64 centimeters at 9 months, 64 centimeters & 61 centimeters, at 12 months of age. 6t 68 centimeters and 65 centimeters, at 24 months 70 centimeters and 68 centimeters, at 36 months 80 and 79 centimeters, at 48 months 90 centimeters in boys and girls respectively, 92 centimeters in boys and 97 centimeters for girls at 60 months (Table 11) Height of the children was normal at birth, but was below the WHO standards at later age.

1.33 % children had signs of vitamin deficiency 2.7 % children had angular stomatitis, 0.1 % has spongy gums, and 1.9 % children had clinical signs of Rickets. (Table IV) The height and weight were plotted on WHO growth standard charts, the height and weight of children studied were lower than the 3rd centile of WHO growth standard charts (Table V and VI)

DISCUSSION

Floods in Pakistan have displaced more people than the 2004 tsunami, the Haiti earthquake, and earthquake in Pakistan combined. In some areas almost half of the population is still displaced. Pakistani children suffered from dangerous levels of malnutrition according to the UN Refugee Agency (UNHCR) in Pakistan; there were 462,912 internally displaced people, floods in Sindh added misery to people especially to the preschool children. Nutritional Status is a very sensitive indicator of changes in health conditions. It is also a reliable predictor of child mortality.⁵ Monitoring children nutrition status is valuable to anticipate and coordinate the response related to flood and other natural disasters⁶⁻¹⁰ 23 % children in Sindh were malnourished prior to floods. This study has shown that the preschool children living in the camps because of displacement were the most vulnerable group, with severe nutritional problems and were below the 3^h centile of WHO growth standards charts. Children in the younger age group had better nutritional status, this was the effect of breast feeding, older children between the age of 24 to 48 months were the worst suffers due to improper and delayed weaning, specially deficiency in calories proteins and micro nutrients The food provided by the voluntary agencies contains cooked food and was not suitable for a younger children. These preschool children need weaning food on long term bases, at door step when they return home. 41. 55 % of children in this study suffered from anemia is not consistent with the others studies¹¹⁻¹³ 0.86 % children suffered from clinical signs of Vitamin A deficiency is not consistent with other studies¹⁴⁻¹⁶ Clinical angular stomatitis, was present in 4.32% cases in this study,, this finding again is not compatible with study by Blank HM et al¹⁷ This study showed 9.09% Children with Vitamin C deficiency, is also not consistent with other studies.¹⁸ 22/1000 children had clinical signs of rickets, is again not consistent with other studies.¹⁹⁻²⁰⁻

Study limitation: The study was carried out in a field setting, after the migration of the families to the camps, no previous weight or height records were available for comparison with the past nutrition data, The effects of malnutrition on the mental development were not studied, the caretaker was not aware of the exact date of birth, the age was calculated by local event, the diagnosis of nutrition disorders were evidence based with the support of lab data.

CONCLUSION

Malnutrition in children displaced from flood is alarming. All children studied were below 3rd centile of WHO growth standard charts, unless emergency measure are taken, these children will continue to suffer in adult life causing great loss to the workforce on the national level.

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Table-1
Number of children according to Age

Age	Number of cases	%
Below 12 months	274	23.40%
13-24	216	18.40
25-36	229	19.52%
37-48	213	18.20
49-60	223	20.1%

Table-2
Weight of children according to age

AGE	GENDER		
	Months	(M)	(F)
3		3.7	3.6
6		5.8	5.0
9		6.6	6.1
12		7.3	7.1
18		7.7	7.9
24		8.0	8.2
30		9.6	9.7
36		9.9	9.7
42		11.0	10.3
48		12.1	12
54		12.7	12
60	14.3		14

Table-3
Height in relation to age

AGE	GENDER		
	Months	M	F
3 months		51	52
6 months		61	58
9 months		64	61
12 months		68	65
15 months		70	68
36 months		80	79
42 months		86	83
48 months		90	90
54 months		92	90
60 months		92	97

Table-4
Iron & vitamin deficiencies

Pale conjunctiva (anemia)	480 /1155	41.55 %
Dry conjunctiva Bitot spots	10 /1155	0.86 %
Angular stomatitis	50 / 1155	4.32 %
Spongy / bleeding gums	105 / 1155	9.09 %
Rickets	22 / 1155	1.90 %

Table-5
Height of children in relation to W.H.O. growth standard charts

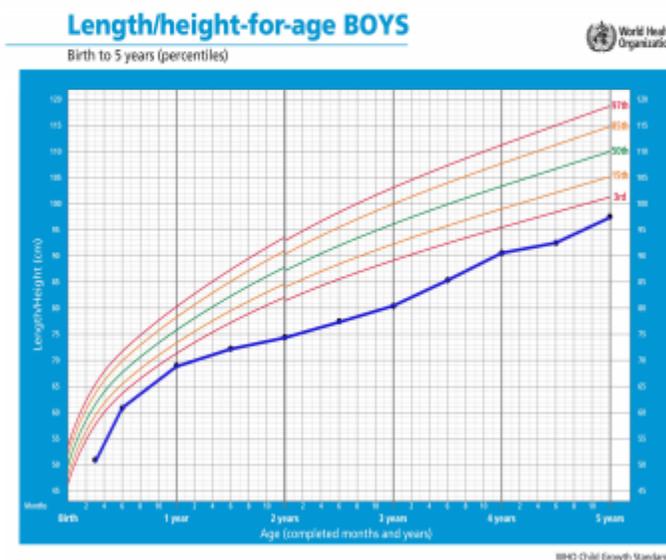
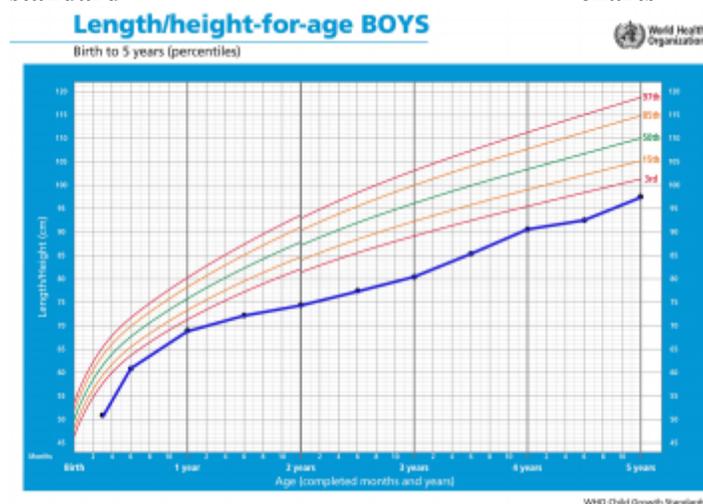


TABLE-6
Height of children in relation to WHO Growth charts



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