CLINICAL STUDY

Study of Prevalence of Severe Acute Malnutrition in Children Under 5 Years in Chatra Area of Serampore Municipality Under the State of West Bengal

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ABSTRACT

Malnutrition in India has been cited as "The silent emergency" because the proportion of under nutrition among children and women in India figures at the topmost position in the world as depicted by increased incidence of anemia and wasting in addition to several other indicators of malnutrition. The main purpose of this study was to make a survey of severe acute malnutrition (SAM) in children under five in the Chatra area under Serampore Municipality for the identification of the societal factors that may contribute to SAM in children, to provide clinical management and reduce mortality among the children with SAM and to render appropriate health education for the mothers and other caregivers regarding the proper way of feeding and caring practices towards the infants and young children.

Keywords: Severe acute malnutrition, caregivers, health education

Malnutrition in India has been cited as "The silent emergency" because the proportion of under nutrition among children and women in India figures at the topmost position in the world as depicted by increased incidence of anemia and wasting in addition to several other indicators of malnutrition (the Maternal and Child Health Sustainable Technical Assistance and Research [MCH-STAR]). It is evident from the study report of the National Nutrition Monitoring Bureau (NNMB) Rural Third Report survey that only 36% of infants in India were starting breastfeeding within 1 hour of birth. Moreover, the third National Family Health Survey (NFHS-3) report shows that 48% of under five children are stunted, 43% are underweight and 20% have wasting. It is also revealed from another survey report done by the HUNGaMA (Hunger and Malnutrition) in 2011 that 34% of children under five were stunted, 16.4% were underweight and 3.3% had wasting. According to UNICEF, a study report done by Black et al on 2013, globally the prevalence of underweight children below 5 years is 16%, whereas in South Asia and Western Africa the figures are 30% and 20%, respectively.

In Indian scenario, the picture is quite different. In Sikkim and Mizoram, the prevalence of underweight is 20%, whereas in Madhya Pradesh it reaches about 60%. In the state of Jharkhand and Bihar, the picture shows 50% and in Meghalaya, Chhattisgarh, Gujarat, Uttar Pradesh and in Odisha it is about 40%. The latest NNMB Rural Third Survey report done from 2011 to 2012 among the boys and girls under 5 years of age in 10 states of India, shows that the overall prevalence of underweight, stunting and wasting in boys are 42.1%, 44.3% and 22.5%, respectively, whereas in case of girls children these figures are 41.4%, 41.9% and 21.5%, respectively.

METHODOLOGY

Integrated Child Development Services (ICDS) centers in Chatra areas were selected. Proper permission was taken from the Child Development Project Officer (CDPO) and concerned councillor of the Ward. After explaining the total procedure for our study to the mothers, verbal consent was taken from them regarding

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the check-up of their children and their interviews. A good rapport was built up with the ICDS workers. Vision and Mission of the present study was written in bold letters at the ICDS center, so that it could be read from far distance. Growth monitoring chart, mid-upper arm circumference (MUAC) examination chart and pedal edema examination chart were displayed in the examination room. Height and weight were taken by using tape and weighing machine of 50 children under the age group of 5 years. Month-wise clinical attendance of children and mothers from May to September, 2015 was prepared. Steps were taken for establishment of regular communication between the mothers of severe acute malnutrition (SAM) children. Steps were also taken for the preparation of follow-up care for SAM children. Clinical care guidelines for treatment (Algorithms) and criteria for referrals were developed. Ambulatory care facilities like treatment of clinical complications i.e., dehydration, infection, hypoglycemia, hypothermia and micronutrient supplementation were set up.

Whenever identified the children with SAM were transferred to Best Health Facility and Feeding-based care under the Sub Divisional Hospital and monitored. Referral children were properly monitored whenever they were admitted as inpatient in the Sub Divisional Hospital for their better care and treatment of medical complications. Enrollment register of the mothers and children linked to study was prepared for future reference. Patient care register and follow-up register were maintained. Group counseling register for the provision of health education towards the mothers was also maintained.

RESULTS

It is evident from the study of 50 children including boys and girls under the age group below 5 years taken for the study when categorized as percentage of reference for weight-for-age for children (both boys and girls), 38 children (76%) belonged to the normal group, 11 children (22%) were grouped as mild malnutrition and 1 child (2%) fell under moderate malnutrition. It is good that no severe group of malnourished children was found in that center (Table 1 and Fig. 1). From the study, it was also revealed that out of 50 children when categorized as percentage of reference for height-for-age for children (both boys and girls), 44 (88%) categorized as normal children in respect of nutritional status, whereas 4 children (8%) belonged to mild malnutrition group, 1 children (2%) grouped as moderate malnutrition and 1 children (2%) as severe

Table 1. Percentage of Reference Weight-for-age for Girls and Boys (0-5 Years)

	Total no. of children taken for study works (50)
Normal (90-110%)	38
Grade I: Mild malnutrition (75-89%)	11
Grade II: Moderate malnutrition (60-74%)	1
Grade III: Severe malnutrition (<60%)	0

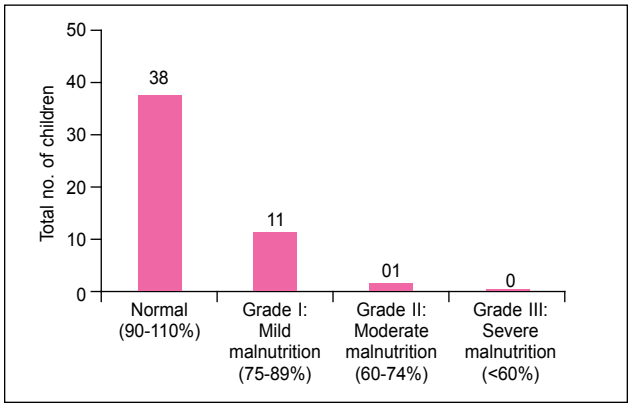


Figure 1. Percentage of reference weight-for-age for boys and girls (under 5).

Table 2. Percentage of Reference for Height-for-age for Girls and Boys (0-5 Years)

	Total no. of children taken for study works (50)
Normal (>95%)	44
Grade I: Mild malnutrition (90-95%)	4
Grade II: Moderate malnutrition (85-90%)	1
Grade III: Severe malnutrition (<85%)	1

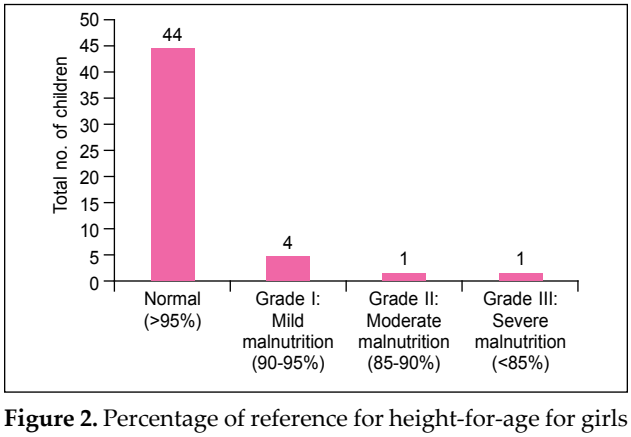


Figure 2. Percentage of reference for height-for-age for girls and boys (under 5).

Table 3. Percentage of Reference for Weight-for-height for Girls and Boys (0-5 Years)

	Total no. of children taken for study works (50)
Normal (>90%)	38
Grade I: Mild malnutrition (80-90%)	9
Grade II: Moderate malnutrition (70-80%)	3
Grade III: Severe malnutrition (<70%)	0

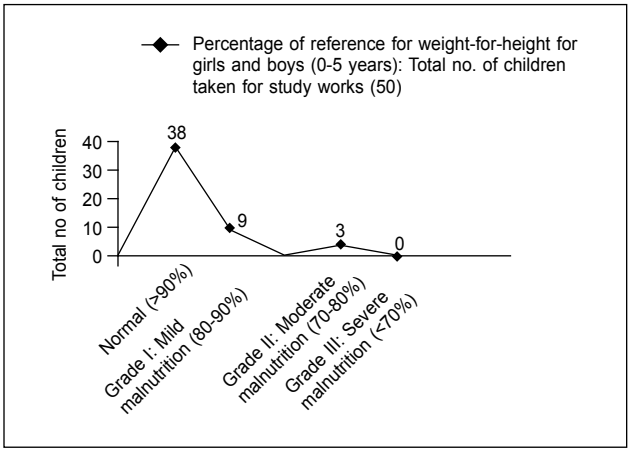


Figure 3. Percentage of reference for weight-for-height for girls and boys (0-5).

malnutrition (Table 2 and Fig. 2). Moreover, the study revealed that out of 50 children when categorized as percentage of reference for weight-for-height for children (both boys and girls), 38 (76%) were categorized as normal children in respect of nutritional status, whereas 9 children (18%) belonged to mild malnutrition group, 3 children (6%) grouped as moderate malnutrition and no child was marked as severe malnutrition group (Table 3 and Fig. 3).

DISCUSSION

Through this study, it has become possible for providing knowledge and motivation to ICDS health workers has boosted their confidence in tackling SAM children. Sensitization of staff of ICDS center has encouraged them to think of SAM children in their regular routine working procedures. Advocacy programs have enriched the knowledge and awareness among the Healthcare Providers of the said center.

Moderate-to-severe malnourished children are referred to better healthcare facility center of the district where they are given proper nutritional and clinical management under the supervision of the doctors and dieticians and mothers are given proper health education regarding the practice of appropriate nutrition of their malnourished children. Number of malnutrition children (12) and their family members were given proper nutritional and clinical management advice and counseling. Prompt diagnosis and effective management of infections, diarrhea and others of the malnutrition children (12) have enabled them to have improved quality-of-life.

CONCLUSION

In India, the prevalence of SAM in children depicts a high figure of approximately 8.1 million as per survey report of NFHS-3, despite overall economic growth in India. Children with SAM are more prone to higher risk of dying than well-nourished children. So for, the prevention of death due to malnutrition in children, proper nutritional and clinical management is required. For this purpose, under National Rural Health Mission, Nutrition Rehabilitation Centres have been formed at different health facility centers of the districts to provide facility-based management to SAM children. The facilities are proper monitoring of the child care for 24 hours, early treatment of medical complications, therapeutic feeding, proper counseling of the mothers on right methods of feeding, care and hygiene, education program for the mothers and practical demonstration and practices on the preparation of energy enriched child foods which are locally available, acceptable to the children and affordable food items to the mothers.

SAM children with complications like severe infections or diarrhea require hospital admissions for inpatient care and its incidence reaches less than 15% of children under 5 years. Eighty-five percent of such children can be managed in a home-based care. In this regard, a consensus statement by Indian Academy of Pediatrics (IAP) in the year 2013 regarding the integrated management of SAM states that management of SAM should not be a standalone program, but it should integrate with community management therapeutic programs and linkages with child treatment centers, district hospitals and tertiary level centers offering inpatient management of SAM and include judicious use of ready to use therapeutic foods.

SUGGESTED READING

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