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Prevalence of severe acute malnutrition and associated sociodemographic factors among children aged 6 months-5 years in rural population of Northern India: A population-based survey

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Introduction: National Family Health Survey (NFHS)-3 documented that nearly 57 million children are undernourished in India, which is one-third of the world's share. We planned a study to identify the prevalence of Severe Acute Malnutrition (SAM) among children aged <5 years in a rural population of Northern India.

Materials and Methods: A cross-sectional study was conducted at 2 blocks of District Meerut during 2012-2014. A total of 70 villages were identified and all children in the age group 6-60 months were approached through house-to-house visits. Data on sociodemographic profile and anthropometry were collected utilizing standard methods and equipment. The Z-scores for weight-for-age, height-for-age, and weight-for-height (WHZ) were calculated using the World Health Organization (WHO) reference data as standard. SAM (severe wasting) was defined as per the WHO criteria (WHZ score <-3 standard deviation or severe visible wasting or bipedal edema).

Results: A total of 19,449 children were screened and 18,463 children (age, 32.6 ± 15.4 years, and 53.4% males) were enrolled, and 466 were excluded due to erroneous age estimation and physical deformities. The prevalence of SAM was 2.2%, 95% confidence interval (CI) 2.02-2.44%, (409/18,463). Multivariate logistic regression documented age (odds ratio [OR]: 0.97, 95% CI 0.96-0.98), nuclear family (OR: 1.25, 95% CI 1.01-1.54), lower occupation of head of family (OR: 1.29, 95% CI 1.05-1.59), and lower paternal education (OR: 1.49, 95% CI 1.16-1.91) as independent predictors of SAM.

Conclusion: The prevalence of SAM was lower (2.2%) in this Northern district of India as compared to national prevalence (7.9%). Younger age, nuclear family, lower parental education, and poor occupation of the head of the family predispose a child to SAM.

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