ABSTRACT

Undernutrition among female adolescents is associated with adverse consequences that can span generations giving rise to intergenerational undernutrition. Research data on prevalence of undernutrition among adolescents, especially those who are residing in estate sector of the country are lacking. Thus, the present study was designed with the objective of estimating the prevalence of undernutrition and factors associated with it among the female adolescents in 13 to 16 year age group in plantation sector in Haliela Medical Officer of Health area.

In order to achieve this objective a community based descriptive cross sectional study was carried out in all 12 estates in Haliela MOH area. The study utilized cluster sampling technique considering a division in estates as a cluster. A sample of 524 females aged 13 to 16 years residing in estate sector for a period of at least six months was selected based on probability proportionate to size of the population living in each estate.

Estimating prevalence of undernutrition was based on Body Mass Index (BMI) for age and the required anthropometric indicators were measured in the study using standard techniques. The undernutrition was assessed using age and sex specific BMI charts developed by National Centre for Health Statistics. The cut off values recommended by World Health Organization for adolescents were used for categorization of nutritional status. Pre tested interviewer administered structured questionnaire was used to collect data on potential factors associated with nutritional status. Dietary Diversity Questionnaire developed by Food and Agriculture Organization (FAO) /Nutrition and Consumer Protection Division, version of May, 2007 was used to asses the dietary diversity and calculation of dietary diversity scores were based on FAO recommendations. Statistical analysis was performed by using statistical package for social sciences (SPSS) version 12.0.

The study revealed that the prevalence of undernutrition (percentage below the 5th percentile of BMI-for-age) among females aged 13 to 16 years in plantation sector was 39.1%. Prevalence of undernutrition decreased with increasing age.

Undernutrition was more prevalent among female adolescents in low socio economic strata ($p < 0.001$).

A significantly higher proportion (p=0.022) of participants who consumed water from unimproved sources showed undernutrition compared to the others. However, usage of unimproved latrine facilities was not related with undernutrition among the adolescents (p=0.792).

Exploring dietary factors associated with undernutrition it was found that consuming less than three main meals on an average day (p=0.001), low dietary diversity (p=0.01), and badly affected access to foods (p<0.01) to be the individual dietary factors that are responsible. Low frequency of food purchase at household level also was associated with undernutrition of the adolescent (p<0.001).

Though study populations reported purposive restriction of food due to religious reasons (p=0.124), to reduce or maintain weight (p=0.28.) or during menstrual cycles (p=0.826) these practices were not significantly associated with undernutrition.

The study highlighted that undernutrition among female adolescents in estates is a public health problem and that it is necessary to plan and implement a nutritional intervention programme to improve the nutritional status of this population. The study also recommended the specific issues to be addressed in planning this interventional programme based on the factors highlighted by the study.

Key Words: Adolescents, Estates, Undernutrition