ABSTRACT

Under nutrition among pre school children is an on going public health problem in Sri Lanka. Prevalence of acute under nutrition has remained relatively unchanged over the past few decades. Though household food security (HFS) and dietary diversity (DD) are acknowledged as contributory factors for child nutrition, in Sri Lanka there is limited information on these variables as determinants of acute under nutrition. With the recent food price escalation, the influence of household food security and dietary diversity on child nutrition could be considered to be increasing, as both these factors are related to 'access' to food.

At present, Sri Lanka does not have a validated instrument which can be used to assess household food security/insecurity (HFS/HFI). Therefore, identification of a valid instrument to assess HFS at the community level was considered as an important contribution that this study could make and is also a pre requisite for this study.

The study instrument, Household Food Insecurity Access Scale (HFIAS), was identified to be considered for validation, following a perusal of literature, expert opinion and with recommendations from other studies conducted in Sri Lanka (Ministry of Health and UNICEF, 1998). This instrument was adapted to the local setting during which its face validity, content validity and conceptual validity were appraised. The adapted tool was named as HFIAS-SL.

The HFIAS-SL was validated in an urban population in the Medical Officer of Health area-Pita Kotte. A purposive sample of 150 households was selected to represent different socio-economic levels. Wealth index (WI) and household per capita income (HPCI) were assessed to indicate the socio-economic strata of households. The instrument fulfilled the validation criteria suggested by Frongillo (1999) and was considered as culturally acceptable, with a response rate of 100%.

A community based study was conducted in Kolonnawa MOH area in a sample of 920 households selected using a multi-stage cluster sample technique. Households with a child belonging to the age group 12 to 59 months were included in the study. HFS was assessed using HFIAS-SL and other relevant information were obtained using an

interviewer administered questionnaire. Dietary diversity of children was assessed by using the food groups and indicators described by WHO (2008). Nutritional status of children was determined by using the WHO (1996) growth standards. Proportion of 'food secure' households in the study area was 34 %, while 30% were 'mildly' food insecure, 22% were 'moderately' food insecure and 14% were 'severely' food insecure. Proportion of children who have had the level of dietary diversity above the 'minimum dietary diversity' was considered as the proportion of children with satisfactory level of dietary diversity and the prevalence of such children was 85.7%.

Determinants of acute under nutrition were identified using a logistic regression analysis. HFI was found to have a significant influence on occurrence of acute under nutrition with an Odds ratio of 1.7 ($p<0.05$, 95% CI=1.007-3.10) However, DD was not shown to have a significant relationship with the acute under nutrition. Other factors shown to have an association were: being a low birth weight baby ($p<0.001$, OR=2.2; 95% CI=1.3-3.7), households belonging to the lowest wealth quartile ($p<0.05$, OR=2.3; 95% CI=1.01-5.37), having less than 4 household members ($p<0.05$, OR=2.5; 95% CI=1.13-5.74) presence of 'within household smoking' ($p<0.05$, OR=2.0; 95% CI=1.01-4.0) and mother being not employed ($p<0.05$, OR=3.1; CI=1.16-8.4).

The study also carried out a univariate analysis to identify the factors associated with HFS as such information is useful in planning and monitoring, related interventions. Several factors were significantly associated with HFS and they included: households with less number of members, less number of children in a household, educational level of mothers and fathers above the GCE (O/L), non smoking status of fathers and non smoking environment within households higher employment status of fathers, and having a satisfactory level of dietary diversity.

The study showed HFIAS SL to be a valid tool to assess HFS/HFI in the Sri Lankan setting. Household food security need to be considered as a key point in interventions aimed at reducing acute under nutrition of children specially, when there is an upward trend in food prices. Though dietary diversity did not show a significant relationship with acute under-nutrition, it is suggested that development of a more valid measure to assess the dietary diversity be considered as a future activity.