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Assessment of food from different food groups and nutrients intakes of a sample of adolescent school girls

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Adolescence is the transition period between childhood and adulthood during which rapid physical, mental, emotional and social developments take place. Adolescent girls are especially considered to be a nutritionally vulnerable segment since they need more Fe, Ca, folate etc, to achieve peak bone mass and to compensate for menstrual iron loss. Most of the adolescent girls in Sri Lanka have micronutrient deficiencies as a result of their monotonous diet. Thus, the objectives of this study were to assess the food intakes from different food groups and macro and micro nutrients intakes of adolescent school girls.

Adolescent school girls (n=143), aged 14-16 years were randomly recruited from three schools out of 16 schools which have classes from grade 9 to 13 in Pannala sub-zonal educational division. A self administered life style questionnaire was used to obtain socio-demographic characteristics of the subjects. Their food intakes from different food groups and nutrient intakes were determined by using a Food Frequency Questionnaire and 3 Day Diet Diary. The nutrient intakes were analyzed by using Food Base 2000 which was modified with Sri Lankan food composition data, and food composition tables.

Almost all adolescent girls (100%) consumed cereal based diets. Daily consumption of fish and meat (4.5%) and animal products such as egg, milk were very low (13.5%) and only 9.9% of girls consumed sweets and short-eats daily. Nearly half of the adolescents (47%) had consumed 4-5 types of vegetables per day and 33% of the adolescents had consumed less than 3 types of green leafy vegetables per week. The daily consumption pattern of fruits among the study subjects was very poor and only 3.3% school girls had consumed 1-2 types of fruits on a daily basis. The mean energy, carbohydrate, protein, and fat intakes were 2007.5 (± 941.4) kcal/d, 343.5 (±141) g/d, 52.5 (±26.7) g/d and 53.1 (±30.1) g/d respectively. The mean Ca, zinc, and iron intakes of the sample were 488.2 (±331) mg/d, 7.7 (±4.2) mg/day, and 15.6 (±9.6) mg/day respectively. In the case of vitamins, they were 405.3 (±384.1) µg/day for Vitamin A and 98.8 (±80) µg/day for folate.

All of the adolescent girls consumed cereals for the three major meals while half of subjects (46%) consumed 4-5 types of vegetables daily, and 97% of girls did not achieve RDA of Ca. Low intake of Ca may be due to poor consumption of milk and dairy products. When comparing the Sri Lankan recommended servings for different food groups, daily fruits, milk, fish, meat and egg consumption were not up to the recommended levels. According to the results, only 36% had daily achieved RDA for energy, 33% for protein and 35% for fat. Special attention should be directed towards the nutrition of adolescents through schools.

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