Assessment of Nutritional Status and Dietary Intake of Adolescents Studying in Schools of Kohalpur Municipality, Banke District

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Background

Nutritional status

Health status of individuals or population groups as influenced by their intake and utilization of nutrients.[1]

Adolescence

The period in human growth and development that occurs after childhood and before adulthood, from ages 10 to 19 years.[2]

The changes such as — *rapid growth, weight gain,* and *sexual maturation*, in addition to the demands of *physical activity* influence nutrient needs of adolescents.[3]

Adolescent dietary habits — influenced by *peers, mass media, social and cultural norms,* and *lack of nutrition knowledge,* but *influence of the family* tends to decline. This ultimately affects the nutritional status.[4,5]

The foundations of health in adulthood and old age are laid during childhood and adolescence[6] so, the health and nutritional status during adolescence becomes more important. Also Haider and Bhatia has identified that the adolescents of South east Asian region have nutritional problems.[7]

Objective

The study was done to assess the nutritional status and dietary intake of the school going adolescents.

As nutritional status and dietary intake of adolescents have prime importance in their present and future health. The study would be helpful to know about the nutrition condition of adolescents in Kohalpur would be helpful for generalization in national level.

Methodology

From randomly selected eight schools out of thirty five, 205 adolescents were chosen by probability proportional to size (PPS) method. Weight and height were measured by using digital weighing balance and stadiometer respectively. A well designed and pretested set of questionnaire was used to collect information. Dietary intake was assessed by 24 hour dietary recall and food frequency questionnaire.

Anthropometric data was analyzed using WHO Anthroplus version 1.0.4. to classify as stunting, thinness and obesity according to standard deviation units based on WHO criteria.. Using dietary recall data, gram equivalents of the foods consumed by participants were calculated.

The data was converted into nutrient intake by using *"Food composition table for Nepal 2012"*. Energy and nutrient intake of the adolescents were compared with requirements for adolescents as provided by Indian Council of Medical Research in 2010. Nutrient intake and dietary behaviour data were analyzed by using Microsoft excel 2010 and SPSS Version 20. Dietary diversity was calculated according to 7 food group classification made by Kennedy et al.[8]

Results

Prevalence of malnutrition according to gender

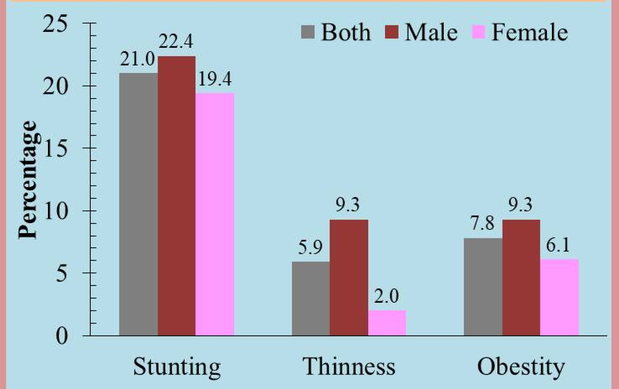

Table 1: Food frequency table

Food groups consumed		Frequency	Percent
Cereals and its products	Daily	205	100.0
Pulses and legumes	Daily	144	70.24
	Two to five times a week	58	28.29
	Once a week or less	3	1.47
Milk and milk products	Daily	98	47.80
	Two to five times a week	68	33.17
	Once a week or less	37	18.05
	Don't eat	2	0.98
Meat, eggs & fish	Daily	18	8.78
	Two to five times a week	138	67.31
	Once a week or less	40	19.52
	Don't eat	9	4.39
Green leafy vegetables	Daily	0	0.00
	Two to five times a week	172	83.90
	Once a week or less	32	15.61
	Don't eat	1	0.49
Other vegetables	Daily	78	38.05
	Two to five times a week	119	58.05
	Once a week or less	8	3.90
Fruits	Daily	6	2.93
	Two to five times a week	156	76.10
	Once a week or less	43	20.97

Table 1: Dietary habits and behaviours (n=205)

Behavioural factors		Frequency	Percent
Skipping of meal (n=205)	Yes	110	53.66
	No	95	46.34
Type of meal usually skipped (n=110)	Morning meal	53	48.18
	Mid-day meal	40	36.36
	Dinner	17	15.46
Frequency of meal skipped weekly (n=110)	1-2 times	75	68.18
	3-4 times	29	14.14
	5 or more	6	26.36
IDDS categories	Below 4	43	20.97
	Equal to or more than 4	162	79.03

Table 1: Energy and nutrient intake of boys

Age (Yrs)	Energy (kcal)	Protein (g)	Visible fat (g)	Calcium (mg)	Iron (mg)
11	2156±315	64.8±9.4	20.4±2.9	577±307	16.1±7.1
12	2233±442	62.2±18.2	23.5±13.7	626±569	13.5±7.4
13	2220±480	63.6±13.4	22.1±8.5	712±454	20.8±12.6
14	2275±588	66.1±20.2	19.8±9.7	727±451	18.1±11.7
15	2357±423	70.2±16.5	21.0±10.0	619±433	20.3±11.2
16	2393±599	70.3±21.4	25.4±13.4	572±387	22.4±18.7
17	2531±440	73.7±12.0	24.2±10.6	630±565	19.0±11.1
18	2542±540	75.8±23.1	33.3±14.6	471±512	15.8±8.1

Table 1: Energy and nutrient intake of girls

Age (Yrs)	Energy (kcal)	Protein (g)	Visible fat (g)	Calcium (mg)	Iron (mg)
10	1785±600	44.2±18.4	12.0±4.8	392±295	08.4±3.7
11	1717±320	47.2±11.1	10.2±4.3	442±2.9	13.9±9.2
12	1948±447	57.2±18.9	16.2±10.9	528±411	26.7±13.8
13	1532±412	43.1±13.6	15.2±8.9	456±509	14.7±7.7
14	1513±281	43.6±10.2	15±10.7	505±411	13.4±6.0
15	1612±387	42.1±12.8	17.2±10.4	291±4.10	16.2±8.6
16	1870±435	53.5±13.0	19.4±11.5	593.9±331.0	18.4±9.4
17	1908±287	55.6±13.6	19.4±7.8	599±407	20.9±10.1
18	1747±488	49.8±16.9	18.5±11.2	715±28	28.4±1.6

Conclusions

a. Shorter stature is common problem of adolescents of Kohalpur while over-nutrition is emerging problem. Both over-nutrition and undernutrition are more common among boys.
b. Insufficient energy and nutrient intake, undiversified food consumption, skipping of meals, irregular consumption of pulses and legumes; fruits and greens, animal products are the major diet related problems.

As it was found that malnutrition is common problem of adolescents in Kohalpur which might be related with their insufficient dietary intakes, and monotonous diet.

And it is well known fact that malnourishment and improper food and nutrient intake during adolescence leads to improper physical development, loss of human capital, negative health outcome in future and to child of such mother.

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