

Dietary pattern of adolescence girls of urban, rural and slum areas in Kanpur district

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ABSTRACT

Adolescent may represent a window of opportunity to prepare nutritionally for a healthy adult life. Adolescence is an important stage of growth and development in the lifespan. Unique nutritional and health needs of the adolescents are also more important because of more requirements for growth spurt and increase in physical activity. It also supports other bodily functions such as growth, maintenance and repair. The objective of the study was to determine the nutritional status of adolescent girls and to study the relationship between the socio-economic statuses of the respondents with dietary habit of adolescent girls in urban, rural and slum areas in Kanpur district. A study was carried out amongst adolescent girls in the age group of 14-18 years. Urban, rural and slum areas of Kanpur district were selected for study purpose and study period was from January to June 2016. Total 150 adolescent girls were included. The 72.0 per cent, 88.0 per cent and 84.0 per cent girls in urban, rural and slum areas were belonged to 14-16 age groups. Majority of urban girls were educated. The very poor eating habits and life style conditions were found in slum areas. But, its conditions were better in rural than slum. Most of girls' vegetarian in rural area. Urban girls more nutritional awareness compared were rural and slum areas. The urban girls were more physically better than rural and slum areas. The socio-economic conditions of urban area correspondents were better than rural and slum areas. Nutritional status has profound effect on health and food consumption performance of adolescent girls. The health of the adolescent girls is closely related to nutritional status but there are certain other eco-social variables such as literacy, social status and environmental hygiene which have impact on health of the girls.

INTRODUCTION

Nutritional and health needs of the adolescents are also more important because of more requirements for growth spurt and increase in physical activity. The main nutritional problems affecting adolescent population are under-nutrition and iron deficiency anemia and in addition preventing this nutrition related chronic disease

in adolescents can provide added benefit of prevention of fetal malnutrition. The calorie and protein intake of the adolescent girls is much lower among adolescent girls from the lower socio-economic group. That protein requirement varies with degree of physical maturation. When protein intake is inadequate alternations in growth and development are seen. In the still-growing adolescents insufficient protein intake will result in

delayed or stunted increases in height and weight. Impaired immune response and susceptibility to infection may also be seen. Therefore, if energy intake is limited, dietary protein may be used to meet energy needs and be unavailable for synthesis of new tissues or tissue repair which may result in reduction of growth rate and muscle mass (WHO, 2006).

MATERIAL AND METHODS

The present study was carried out from January 2015 to June 2016 in Kanpur Nagar. The study subjects were Adolescence girls (13-14 years). For the purpose of study, three areas. Urban, rural and slum were selected from Kanpur Nagar. They were interviewed through questionnaire method and desired information was collected on pre-designed and pre-tested questionnaire. After collection, the whole data were compiled; analyzed and appropriate statistical tests were applied. The nutritional status was assessed by 24 hour recall method and comparing the nutritive value of food group by Recommended dietary allowances (RDA), such as percentage and deficient per cent formula used.

OBSERVATIONS AND ANALYSIS

Table 1 reveals the distribution of girls based on age and area of living. 72 per cent, 88 per cent and 84 per cent girls were belonged to 14-16 years age group, whereas, 28 per cent, 12 per cent and 16 per cent girls belonged to 17-18 years age group from urban, rural and slum areas.

Table 2 reveals the distribution of adolescence girls according to height with the age in adolescence girls, mean of height increased from (150.3) cm, (145.2) cm and (143.5) cm belonged to 13-14 years, Similarly mean of height increased from (153.2) cm, (152.2) cm and (152.4) cm belonged to 15-16 years age and mean of height (158.0) cm, (160.2) cm and (161.5) cm belonged

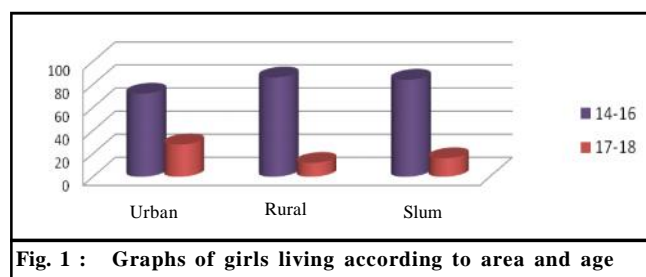


Fig. 1 : Graphs of girls living according to area and age

Area of living		Age groups	
		14-16 Age	17-18 Age
Urban	No.	36	14
	n=50	%	28
Rural	No.	43	7
	n=50	%	14
Slum	No.	42	8
	n=50	%	16

Age	Area of living	n	Age to height		Age to weight		Age to BMI	
			ICMR stand.	Mean	ICMR stand.	Mean	ICMR stand.	Mean
14 years	Urban	n=6		150.3		49.5		21.5
	Rural	n=18	153.8	145.2	43.4	44.2	18.3	20.7
	Slum	n=10		143.5		44.5		19.0
15 to 16 years	Urban	n=30		153.2		51.7		22.8
	Rural	n=25	158.8	152.2	49.4	47.6	19.6	21.5
	Slum	n=32		152.4		47.0		20.8
17 to 18 years	Urban	n=14		158.0		55		23.4
	Rural	n=7	160.2	160.2	52.8	53.8	20.6	22.8
	Slum	n=8		161.5		48.8		22.4

Table 3: Intake of nutrient as compared with RDA

Age	Frequency	Nutrients	RDA	Urban area		Rural area		Slum area	
				Mean	Deficient %	Mean	Deficient %	Mean	Deficient %
14 to 18 years	50	Energy (kcal)	2440	2667.7	-9.3	1732.9	28.9	1287	-51.7
		Protein (g)	55.5	65.8	-18.6	33.6	39.4	17.3	68.6
		Fat(g)	35	69.9	-99.8	24.5	29.9	16.4	52.9
		Vitamin B1(mg)	1.0	2.2	-126	0.7	22	0.6	35

to 17-18 years age. Weight with the age in adolescence girls, mean of weight increased from (49.5) kg, (44.2) kg and (44.5) kg belonged to 13-14 years, Similarly mean of weight increased from (51.7) kg, (47.6) kg and (47.0) kg belonged to 15-16 years age and mean of weight (55) kg, (53.8) kg and (48.8) kg belonged to 17-18 years age. Whereas to BMI with the age in adolescence girls, mean of BMI increased from (21.5), (20.7) and (19.0) belonged to 13-14 years, Similarly mean of BMI increased from (22.8), (21.5) and (20.8) belonged to 15-16 years age, and mean of BMI (23.4), (22.8) and (22.4) belonged to 17-18 years age in urban, rural and slum studies.

Table 3 reveals the distribution of adolescence girls according to nutrient intake belonged to 14 to 18 years. Urban area girls energy deficient 9.3 kcal, similarly rural area girls' energy deficient 28.9 and slum areas girls energy deficient 51.7 kcal compared with RDA. Urban area girls protein deficient 18.6 g similarly rural area girls protein deficient 39.4 and slum areas girls protein deficient 68.6 g compared with RDA. Urban area girls fat deficient 99.8 g similarly rural area girls fat deficient 29.9 and slum areas girls fat deficient 52.9g compared with RDA. Urban area girls fat deficient 126mg similarly rural area girls fat deficient 22 mg and slum areas girls fat deficient 35 mg compared with RDA. Similar work related to the present investigation was also carried out by Ashok Kumar (2012); Baliga *et al.* (2014); Choudhary and Mishra (2010); Das and Biswas (2005); Dey *et al.* (2011); Kollur *et al.* (2014); Kumar (2012); Patanwar and Sharma (2013); Popkin *et al.* (2002); Saibaba *et al.* (2002); Shravan Kumar *et al.* (2014) and Singh *et al.* (2012).

Conclusion:

The World Health Organization (WHO) pointed out the following when there is a shortage of food; most families know that they must make special efforts to ensure that babies are well nourished. It is less well understood that adolescent girls and boys have a need for extra nutrition as they grow rapidly and develop and

that an inadequate diet can delay or impair healthy development. Stunting can occur in childhood or during adolescence. A healthy diet involves consuming appropriate amounts of all essential nutrients and an adequate amount of water. Nutrients can be obtained from many different foods, so there are numerous diets that may be considered healthy. The data of food frequency studies indicate increase in consuming fatty, sweet and salty foods, mainly as snacks. Some studies also show the higher tendency of girls toward consuming fats at post-puberty stage, which can be a response to the changes of steroids level of the gonads. Since lifestyle of adolescents, especially their food pattern, encounters dramatic changes, mainly due to their higher freedom in decision making, including in selecting and purchasing foods, assessment of food consumption pattern of this highly vulnerable age group is too important in enhancing health status of next generations. So, recognizing food consumption pattern and method of adolescents is one of the most important research priorities in designing appropriate programmes and applying effective approaches toward improving the health status of future adults.

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