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Dietary habits and nutrient intake of school going adolescent girls

Rakhee Katiyar and Gurmeet Kaur

A study on the dietary habits and nutrient intake of 400 school going adolescent girls was conducted at Kanpur Nagar selected purposively of Kanpur district during 2017-2018. All the girls within the age group of 13-19 years studying in 8th to 12th standards were selected from 10 schools of Kanpur. The dietary habits and food frequencies of girls was assessed by using questionnaire method. Information about food consumption pattern was gathered through 24-hours diet recall method and their nutrient intake was calculated by using the values given in the nutritive value of Indian foods (Gopalan *et al*., 1989). The nutrient intake was compared with the RDA suggested by ICMR (2010). The results of the study revealed that about 31.5 per cent of adolescent girls skipped their breakfast, 22.0 per cent their lunch and 11 per cent their dinner. Water intake pattern indicated that about 28.7 per cent of girls had only 2-4 glasses in a day. More than half (58.7%) were found to have water with their meals followed by 18.7 per cent preferred tea or coffee or juice with their meals. While having food, 48.3 per cent girls were busy in watching television. About 74.5 per cent girls were non-vegetarian and 40.5 per cent were found to have fast foods two to three times in a week. The per cent adequacy of energy, protein, calcium, iron, vitamin A, folic acid and zinc varied from 24-79 whereas the per cent adequacy of fats, 145 was found to be higher in the girls than the RDA. The results of the study showed that there is immense need to improve the dietary habits of school going adolescent girls to make their life nutritionally sound.

Key Words : Adolescent, Dietary habits, Food frequencies, Nutritive value, Recommended dietary allowances

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INTRODUCTION

Adolescents are the young people aged between 10 to 19 years. It is a transitional stage of physical, physiological and psychological development from puberty to legal adulthood. Worldwide more than 1.2 billion are adolescents. This indicates that roughly one in every six persons is an adolescent (UNICEF, 2012). Nearly 21 per cent of Indian population is adolescents (about 243 million) (Anonymous, 2014).

Adolescent is characterised by rapid physical, biological and sexual maturation. During this period, adolescents gain upto 50 per cent of their adult weight, 20 per cent or more than that of their adult height and 50 per cent of their adult skeletal mass. During adolescent growth spurt, some dietary requirements are higher in adolescents than in other age groups (WHO, 2005). Several studies have demonstrated the effect of nutrition on growth and development of adolescents (Mitra *et al*., 2004).

Substantial rates of growth and development,

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combined with developmentally appropriate psycho-social changes, such as an increasing need for independence and a desire to make lifestyle choices that conform to peer ideals and differ from those of the family, place adolescents at risk for poor nutritional status. Because biological and psychosocial growth and development are dynamic throughout adolescence, it is important that teenagers be screened for adequacy of dietary intake and nutritional status each year.

The prevalence of malnutrition, particularly among adolescents is an alarming global problem affecting about one third of the world population and the immediate future having no solution. In the long duration, this may affect both physical growth and mental development (Bagchi, 1986). Many developing countries face an increasing burden of under nutrition (Mukhopadhyay *et al*., 2005; Dey *et al*., 2011 and Kumar, 2012). Under nutrition continues to be a cause of ill health and premature mortality among children and adolescents in developing countries like India. It is a major public health problem among adolescent girls leading to impaired growth (Kalhan *et al*., 2010). Nutritional deficiencies have far reaching consequences, especially in adolescent girls. If their nutritional needs are not met, they are likely to give birth to undernourished children, thus transmitting under nutrition to future generations (Mulugeta *et al*., 2009).

Adolescents are usually open to new ideas, they show curiosity and interest. Many habits acquired during adolescence will last a lifetime. Furthermore, with increasing age, adolescents' personal choices and preferences gain priority over eating habits acquired in the family, and they have progressively more control over what they eat, when and where (Thomas, 1991; Shepherd and Dennison, 1996 and Spear, 1996). One expression of adolescents' search to establish themselves as autonomous members of society is through a change in eating habits. Furthermore, adolescents may not only adopt healthy eating patterns and lifestyles for themselves, but also influence their peers, family and other community members.

The assessment of dietary intake at the population level provides us with important information on the frequency and distribution of inadequate diets and/or nutritional status, as well as guiding the design of population based interventions targeting the improvement of dietary habits at the community level. Obtaining reliable data on food consumption (identifying the intake of energy and nutrients) is a key factor and necessary tool in health promotion and the prediction of disease risk, particularly for cardiovascular diseases (Michel, 2003; Baik *et al*., 2013 and Streppel *et al*., 2014).

Therefore, it is imperative that the dietary behaviour of school going girls is thoroughly assessed for improving their nutritional status by guiding simple changes in their diet. Thus, considering the importance of good nutrition for school going girls, the present study was planned to assess the dietary habits and nutrient intake of school going girls (13-19 years) in areas of Kanpur city.

METHODOLOGY

The present study was carried out among 400 school going adolescent girls aged 13-19 years of Kanpur Nagar which was selected purposively from Kanpur district during the period from 2017-2018.

At the first stage Kanpur Nagar was divided into five zones (North, South, East, West, and the central part of Kanpur) .At the second stage, two schools were selected purposively from each zone making a total of 10 schools. At the third stage 40 girls from each school were selected from classes 8^{th} to 12^{th} through systematic random sampling.

Development and pretesting of questionnaire-cum-interview schedule:

A set of questionnaire-cum-interview schedule was designed to collect the information related to general back ground information, dietary habits and nutrient intake of the subject. It was pretested on respondents and modified on the basis of suggestions obtained as well as difficulties faced during pretesting. Reconstructed schedule was used to collect actual data for present study.

General profile:

It consists of particulars related to the respondent's name, age, class, religion and food habits.

Demographic profile:

Data on socio-demographic variables (occupation, income and family type) were collected using a pre-designed questionnaire.

Food and nutrient assessment:

Precise information of food consumption pattern of the subjects was gathered through 24 hours recall method

using an interview schedule. A previously pretested validated questionnaire was used to collect the data. The questionnaire consisted of two sections:

– Dietary habits.

– Food frequency intake.

Intake of nutrient was computed using the values given in the nutritive value of Indian foods (Gopalan *et al*., 1989). The intake of nutrients was compared with recommended dietary allowances as suggested by Indian Council of Medical Research (2010).

Statistical analysis of data:

The collected data were processed and statistically analysed using SPSS software to draw meaningful interpretations. Statistical parameters used were mean, percentage, standard deviation and correlation co-efficient.

OBSERVATIONS AND ASSESSMENT

The socio economic background of 400 school going adolescent girls of Kanpur Nagar has been presented in Table 1. It reveals that 68.7 per cent of them were in the age group of 13 – 16 years and 31.3 per cent of them were in the age group of 16 – 19 year. The family size of the school going adolescent girls were divided into 3 categories in which 45.7 per cent of them lived in small sized families, 47.5 per cent lived in medium sized families and 6.8 per cent of adolescent girls lived in large sized families. While 11 per cent of school going adolescent belonged to the low income group, while 70 per cent belonged to the high income group.

When classified on the basis of religion, a major part of the respondents, *i.e.* 86.75 per cent of the adolescent girls belonged to the Hindu religion, 7.5 per cent were Muslims, 3.0 per cent to Christianity and 2.75 per cent to Sikhism. It was observed that 77.5 per cent of the girls were vegetarian and the remaining 22.5 per cent of them were non-vegetarian.

Culture and religion is one of a broad range of factors that has an effect on the eating habits of adolescent (Wang, 2004). Cultural food preferences vary most dramatically across India particularly vegetarianism because of the attitude towards animal products (Johnston *et al.*, 2014).

Diet, along with lifestyle factors, is an important determinant of the health status of an individual and of a community. Dietary assessment at the population level provides us with key information on the frequency and distribution of possible inadequate diets and/or nutritional status. Yannakoulia *et al.* (2004) observed that eating behaviours like skipping meals, snacking, eating away from home, consumption of fast food and following alternative dietary patterns (in terms of dieting) are the common eating behaviours of Greek adolescents. This type of eating habits may lead to nutritional deficiency during adolescence which may have long term consequences such as delayed sexual maturation and lower final adult height. Many studies revealed that younger girls are significantly less likely to engage in disordered eating behaviour than older one.

Table 1: Socio- demographic profile of adolescent girls (n=400)

Particulars	Percentage
Age in years	
13 - 16	68.7
16 - 19	31.3
Family size	
Small (1-4 members)	45.7
Medium (5-8 members)	47.5
Large (9 and above)	6.8
Income	
Upto Rs. 50,000/-	11
Rs. 50,000/- to 1,00,000/-	19
Rs. 1,00,000/- and above	70
Religion	
Hindu	86.75
Muslim	7.5
Christian	3
Sikh	2.75
Food habits	
Vegetarian	77.5
Non-vegetarian	22.5

The dietary habits of school going adolescent girls are presented in Table 2. It was found that 33.5 per cent have their meals regularly on time. On the other hand, 27.3 per cent were found to have their meals irregularly, 31.5 per cent of adolescent girls skipped their breakfast, 22.0 per cent their lunch followed by 11 per cent to skip their dinner and 35.5 per cent were found to have their meals regularly.

A study conducted by Ranjana *et al.* (2013) reported that breakfast was the most frequently (68%) missed meal, attributed mainly to lack of time (79.2%). No significant difference was observed between common socio-demographic variables and breakfast skipping.

Table 2: Dietary habits of school going adolescent girls

Sr. No.	Dietary habits	Frequency	Per cent
1.	**Three meals**		
	Regularly on time	134	33.5
	Irregularly	109	27.3
	Skipped	35	8.7
	Not fixed	122	30.5
2.	**Meal skipped generally**		
	Breakfast	126	31.5
	Lunch	88	22.0
	Dinner	44	11.0
	None	142	35.5
3.	**Type of snacks in between meals**		
	Fruits/Fruits juices	87	21.7
	Milk and milk products	59	14.7
	Fried snacks	127	31.8
	Others	127	31.8
4.	**Daily intake of water**		
	2-4 glasses	115	28.7
	5-7 glasses	158	39.5
	8-10 glasses	92	23.0
	More than 10 glasses	35	8.8
5.	**Beverage taking with meals**		
	Soft drink	22	5.6
	Tea/Coffee/Juice	75	18.7
	Water	235	58.7
	None	68	17.0
6.	**Go outside for eating purpose**		
	1-2 times in a week	140	35.0
	3-4 times in a week	65	16.3
	Everyday	14	3.5
	Not going	181	45.2
7.	**In lunch box**		
	Paratha and vegetable	277	69.3
	Noodles/Burger/Pasta	31	7.7
	Poha/Upma/Chilla	32	8.0
	None	60	15.0
8.	**Daily sugar intake**		
	1-2 teaspoon	204	51.0
	3-4 teaspoon	112	28.0
	5-6 teaspoon	30	7.5
	No sugar	54	13.5
9.	**Chewing speed of food**		
	Slow	96	24.0
	Moderate	156	39.0
	Fast	67	16.7
	Speed as condition	81	20.3

Table 2: Contd…….

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10.	**Activity while having food**		
	Reading	21	5.3
	Watching T.V.	193	48.3
	Listening music	47	11.7
	None	139	34.7
11.	**Fast in mont**h		
	1-2 times	87	21.7
	3-4 times	49	12.3
	More than 4 times	28	7.0
	Not keeping fast	236	59.0

Adolescents tend to consume healthy food items such as breakfast cereals, fruits and vegetables while fast food consumption was universally present but higher among low income groups. Snacking was highly prevalent (84%) and occurred more often in female teens, urban residents and middle and higher income groups. However, snacking pattern revealed a healthy trend with 76 per cent adolescents reporting drinking water and fruits appeared to be the most popular snack. High percentage of breakfast skipping is similar to the present findings.

Omidvar and Begum (2014) worked on the dietary pattern, food habits and preferences among adolescent and adult student girls from an urban area, south India. In their study they found that 50 per cent of the adolescent girls were underweight as they were discovered to be skipping their meals. Further, 68 per cent of the girls were found to be consuming fast foods daily which exposed them to digestive disorders of several kinds. Nutritional status of almost all the girls was detected to be disorderly as a result of their undisciplined lifestyle.

Similarly, Baliga *et al*. (2014) found that majority of the girls had a distorted dietary intake and close observations revealed that the intake was 50 per cent less than the recommended dietary allowances (RDA) which reflected quite negatively on their eating habits. This erratic consumption resulted in 3/4th of the girls being anaemic and malnourished. These findings have also similar type of observations matching to the present observations.

Different types of snacks are taken by adolescent girls between their meals. 31.8 per cent were found to have fried snacks like samosa and patties whereas, 21.7 per cent preferred fruits or fruit juices followed by 14.7 per cent were found to have milk or milk products like buttermilk, lassi and raw paneer cubes. Apart from these, 31.8 per cent were found to have other types of snacks in between their meals like Bhelpuri, Dhokla and Noodles (Table 2).

Quantity of water intake by the adolescent girls also varies. It was noticed that 39.5 per cent of girls were found to have 5-7 glasses of water daily, followed by 28.7 per cent with the intake of 2-4 glasses of water daily and 23.0 per cent with 8-10 glasses of water intake daily. Only 8.8 per cent of adolescent girls were found to have more than 10 glasses of water in a day. More than half (58.7%) were found to have water with their meals followed by 18.7 per cent preferred tea or coffee or juice. Only 17 per cent of respondents did not take any type of beverage in between their meals. Eating outside food is a frequent habit among adolescent girls. 35 per cent of adolescent girls were found to go out 1-2 times for eating purpose followed by 16.3 per cent to eat outside for 3-4 times in a week. Only 3.5 per cent of girls regularly ate outside food. Variety of food preparations were taken by adolescent girls to their school which showed that 69.3 per cent of adolescent girls preferred to have Paratha and vegetable in their lunch box. On the other hand, 15 per cent did not bring anything from their home to eat in the school interval. Bargiota *et al*. (2013) observed that about half of the adolescents purchased a snack daily from the school canteen and half of them had an afternoon snack out with peers.

Data of Table 2 also indicate that 51.0 per cent of adolescent girls were found to have 1-2 table spoon of sugar daily followed by 28.0 per cent to have 3-4 table spoon of sugar every day. The chewing speed of adolescent girls varied which indicated that 39 per cent were found to chew their food in moderate speed, 24 per cent in slow speed and 16.7 per cent in fast speed. There are different activities in which adolescent girls are

generally involved while having food. About 48.3 per cent were found to be busy in watching T.V. while having their food followed by 11.7 per cent in listening music and 5.3 per cent in reading. Frequency of keeping fast by the adolescent girls in a month showed that 59.0 per cent of adolescent girls were not keeping any fast and only 21.7 per cent were in the habit of keeping fast 1-2 times in a month (Table 2).

To assess the dietary intake of adolescents, a total of 1026 students (aged 14–16 years); of English-speaking schools in Kolkata, India were selected by Rathi *et al.* (2017) for the survey of their study. The study showed that, overall, the adolescents reported poor dietary intakes as observed in the present study.

The data of Table 3 show the frequency of various food items eaten by the adolescent girls in whom 30.3 per cent of adolescent girls were found to have milk once in a day while 24.0 per cent seldom have milk, 43 per cent of adolescent girls seldom have cheese and curd and 37 per cent of them have it 2-3 times in week. Similarly, 51.0 per cent of adolescent girls were found to have ice-cream seldom, 30.3 per cent to have it 2-3 times in a week. In case meat, fish, poultry intake, 74.5 per cent never included in their diet and only 13.3 per cent seldom ate these types of food items. Similarly, 57.5 per cent never had eggs and 27.0 per cent seldom have it. In case of butter and nuts, 44.8 per cent were found to have it seldom and 28.3 per cent to have it 2-3 times in a week.

Table 3: Food frequencies

Sr. No.	Food frequency	More than once a day	Once a day	2-3 times	Seldom	Never	Mean score
1.	Milk	16.0	30.3	11.3	24.0	18.5	3.01
2.	Cheese, curd	3.0	9.5	37.0	43.0	7.5	2.58
3.	Ice cream	3.3	6.3	30.3	51.0	9.3	2.43
4.	Meat, fish, poultry	0.3	1.5	10.5	13.3	74.5	1.40
5.	Eggs	1.3	1.5	12.8	27.0	57.5	1.62
6.	Butter, nuts	6.8	8.8	28.3	44.8	11.5	2.55
7.	Dry beans, peas, tofu, soy	5.0	10.5	23.0	46.5	15.0	2.44
8.	Sprouts	4.8	13.5	16.0	39.5	26.3	2.31
9.	Pulses	18.5	34.0	28.8	12.0	6.8	3.46
10.	Citrus fruits, juice	8.3	15.8	30.8	38.5	6.8	2.80
11.	Dark green leafy	7.3	16.0	38.8	29.8	8.3	2.84
12.	Fruits, vegetables, potatoes	17.3	40.0	31.5	10.8	0.5	3.63
13.	Green and fresh salad	11.8	23.8	21.0	33.0	10.5	2.93
14.	Bread, cereals, rice, pasta	15.8	26.3	38.8	18.3	1.0	3.38
15.	Sweets	6.0	12.8	27.0	41.8	12.5	2.58
16.	Snacks	11.0	14.5	38.8	30.0	5.8	2.95
17.	Chutney	4.0	12.8	30.0	40.8	12.5	2.55
18.	Pickles	9.5	15.0	24.0	35.5	16.0	2.67
19.	Soft drink and squashes	6.5	10.3	30.0	43.0	10.3	2.60
20.	Coffee, tea	29.0	33.3	10.8	11.5	15.5	3.49
21.	Vitamin, herbs	7.5	10.5	12.8	16.5	52.8	2.04
22.	Fast foods	7.5	11.8	40.5	33.8	6.5	2.80

Kotecha *et al*. (2013), in their study found that around 80 per cent consumed regular meals like dal, rice, chapatti and green leafy vegetables. Around 50 per cent consumed chocolates and 1/3rd consumed fast foods almost 2 to 3 times a week. Almost 60 per cent confessed to having breakfast on a regular basis and the remaining missed their breakfast.

It was further observed that 46.5 per cent adolescent girls were found to have dry beans, peas, tofu, soy, seldom while 23.0 per cent to had it 2-3 times in a week,39.5 per cent seldom have sprouts while 26.3 per cent never had sprouts, 34.0 per cent were found to have pulses once daily and 28.8 per cent had 2-3 times in a week.

Results of Table 3 also reflect that 38.5 per cent of adolescent girls seldom have citrus fruits or juice while 30.8 per cent were found to have it 2-3 times in a week. In case of leafy vegetables 38.8 per cent utilized them 2-3 times in a week where as 29.8 per cent seldom used it. In case of other fruits and vegetables, 40.0 per cent of adolescent girls were found to have it once in a day while 31.5 per cent have it 2-3 times in a week, 33 per cent of them had green and fresh salad seldom and 23.8 per cent once in day followed by 21 per cent were having in 2-3 times in a week.

In case of bread, rice, pasta, 38.8 per cent consumed 2-3 times in a week and 26.3 per cent once in a day. In case of sweets intake, 41.8 per cent adolescent girls were found to have it seldom, where as 27.0 per cent 2-3 times in a week. Similarly 38.8 per cent took snacks 2-3 times in a day while 30 per cent had it seldom. 40.8 per cent of adolescent girls were found to have chutney seldom where as 30 per cent had it 2-3 times in a week.In case of pickles intake, 35.5 per cent seldom had it, while 24 per cent were found to have it 2-3 times in a week.

Only 43 per cent of adolescent girls used soft drinks and squashes seldom while, 30 per cent to have it 2-3 times in a week, 33.3 per cent of them found to have tea, coffee once a day and 29.0 per cent more than once in a day. Utilizing vitamin and herbs 52.8 per cent never found to have it and only 16.5 per cent had it seldom. In case of fast food intake, 40.5 per cent adolescent girls were found to have it twice or thrice in a week (Table 3).

Uddin *et al*. (2015), on the basis of their cross-sectional study about the dietary habits and life style of

Table 4 : Nutrient intake among school going adolescent girls (age group 13-16)

Nutrient	RDA (per day)	Observed value (n=125)	Percent adequacy
Energy	2330	1716.0±401.7	74
Protein	51.9	46.9±12.9	90
Fats	40	52.5±18.9	131
Calcium	300	568±311.6	71
Iron	27	14.2±7.1	53
Vitamin A	4800	1501.4±1042	31
Vitamin C	40	68.3±112.7	171
Folic Acid	150	48.2±19.9	32
Zinc	11	5.4±1.8	49

Table 5: Nutrient intake among school going adolescent girls (age group 16-19)

Nutrient	RDA (per day)	Observed value (n=125)	Per cent adequacy
Energy	2440	1634.2± 403.4	67
Protein	55.9	44.2± 11.8	79
Fats	35	50.9± 20.1	145
Calcium	800	441.3± 250.1	55
Iron	26	14.0± 6.5	54
Vitamin A	4800 µg/day	1563.1± 1098	33
Vitamin C	40 mg/day	42.7± 35.8	94
Folic Acid	200mg/day	48.5± 27.2	24
Zinc	12 mg/day	5.2± 1.7	43

384 adolescents of Raichur town, revealed that 176 (45.8%) reported consumption of junk food more than once in a week while 338 (88%) reported to use fruits and vegetables occasionally in their diet. Only 147 (38.3%) students walked at least for 30 minutes and did exercise daily. They concluded that unhealthy dietary habits are still very much prevalent among adolescents. Obesity is also showing increasing trend among those having such poor dietary habits and life style. The study of Washi and Ageib (2010) showed that most of the adolescents, prefer outside food. Results of their study indicated that more than 80 per cent of the participants depend upon fast food rather than home-made food and 73 per cent of them eat at fast food restaurants.

Results reported in Tables 4 and 5 show the mean nutrient intake of school going adolescent girls. In the age group of 13 – 16 years, energy intake was 1716.0 ± 401.7 k. cal/day; protein, 46.9±12.9 g/day; fats, 52.5±18.9 g/day; calcium, 568.0±311.6 mg/day; iron, 14.2±7.1 mg/day; vitamin A, 1501.4±1042 µg/day; vitamin C 68.3±112.7 mg/day; folic acid, 48.2±19.9 mg/day and zinc, 5.4±1.8 mg/day.

In the age group of 16 – 19 years, energy intake were found to be 1634.2±403.4 k.cal/day; protein, 44.2± 11.8 g/day; fats, 50.9±20.1 g/day; calcium, 441.3±250.1 mg/day; iron, 14.0±6.5 mg/day; vitamin A, 1563.1±1098 µg/day; vitamin C 42.7±35.8 mg/day; folic acid, 48.5±27.2 mg/day and zinc, 5.2±1.7 mg/day.

In both the age groups, mean intake of energy, protein, calcium, iron, vitamin A, folic acid and zinc were found to be lower than the RDA. On the contrary mean intake of fats was found to be higher than the RDA in both the age groups which will definitely contribute to the risk factors related to the increased bodyweight. Atkin (2013) also reported that the median Indian household consumes far fewer calories than the recommended caloric intake.

Yadav *et al*. (2015) studied food habits of 400 college going adolescents (17-19 years) residing in urban area of Belagavi. They observe that the mean calorie consumption among boys was 1472 ±417 Kcal and in girls was 1360 ± 380 Kcal. 45.5 per cent of boys and 51.5 per cent of girls were underweight. Carmona *et al*. (2013) conducted a survey on 208 girls in the age group of 13-15 years of Government school in Namakkal district of Tamil Nadu and reported that intake of nutrient such as energy (1905 k/cal), protein (49.9g), fat (19.3g), calcium (400.7mg), iron (17.8 mg) and vit. C (29.1mg) was far below the RDA. Their values are somewhat similar to the current study.

Baliga *et al*. (2014) have also reported that overall, the mean calorie intake was observed to be 1272.20 ± 133.28 kcal/day, protein deficit was 40.99 ± 3.32 g/day, and iron deficit was 14.42 ± 2.58 mg/day.

The per cent adequacy of nutrient intake ranged from 61.25-199.0 per cent. Per cent energy derived from carbohydrate, protein and fat by the subjects was noted to be 58.53±11.42 and 12.72±2.68 and 29.80±9.67 per cent of total energy, respectively (Devi and Goyal, 2018). As observed in the present study, the results of study conducted by Gupta *et al*. (2018) revealed that majority, 65.2 per cent of the adolescent girls were at 15 years of age which is similar to the mean age of the present study (68.7%). The daily mean intake of macronutrients namely protein, fat and energy intake was 53.33 g, 47.89 g and 1693.33 kcal, respectively. Similarly the daily mean intake of micronutrients like calcium, iron, zinc, was 642.86 mg, 9.74 mg and 1.97 mg, respectively and this investigation is in line to the present observation.

Conclusion:

The current study provides an update and more inclusive data on dietary habits, nutrient intake and lifestyle behaviours among school going adolescent girls in Kanpur Nagar of Kanpur district in Uttar Pradesh. The nutrient intake of adolescent girls is not upto the RDA resulting to their condition of underweight. Risk of overweight is also prevalent among adolescent girls because of excess intake of fats in their diet. Therefore, results of the study forces to follow some immediate measures or to be used in designing various policies to improve the nutritional status of adolescent girls.

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