



Knowledge, Attitude and Practices Regarding Nutrition among Adolescent Girls in Dhaka City: A Cross-sectional Study



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Abstract

Nutrition knowledge and positive attitude are known to influence dietary practices. Poor dietary practices are major contributors to the development of chronic non-communicable diseases. The aim of this study to explore the basic nutritional knowledge, attitude, and practices (KAP) among adolescent girls in Dhaka City. It was a cross-sectional study using a quantitative approach. A total of 500 adolescent girls (aged 10-19 yrs) from four schools and colleges were included in this study. The early adolescent and late adolescent girls' age [yrs, (Mean \pm SD)] was 12 \pm 1 and 17 \pm 1 respectively. About 31% of early adolescent girls were underweight according to different BMI categories (adapted from WHO guidelines-2004). The early adolescent girls' 65% took breakfast before going to school but 43% skip to take lunch in school. And the late adolescent girl shows about 46% took breakfast before going to school but 30% skip to take lunch in school individually. The early adolescent girls' nutritional knowledge score shows about 61.5% moderate, 86.5% remain positive attitude and 21.2% had good practices. Whereas late-adolescent girls' nutritional knowledge score shows about 57.1% moderate, 90.1% remain positive attitude and 11.3% had good practices. Among the early adolescent girls shows the significant association of nutritional knowledge with attitude and practices ($p < 0.001$, $p = 0.005$). Nevertheless, the late adolescent girls show only a significant association of nutritional knowledge with attitude ($p = 0.002$). The results of the study revealed that adolescent girls having good knowledge, remain positive attitudes regarding nutrition, but practices were deficient in some aspects.

Keywords: Bangladesh; Nutritional Knowledge; Attitude; Self-Practices; Nutrition; Adolescent Girls

Abbreviation: KAP: Knowledge, Attitudes, and Practices; BMI: Body Mass Index; WHO: World Health Organization; BIRTAN: Bangladesh Institute of Research and Training on Applied Nutrition

Introduction

Nutrition is one of the most important factors influencing the quality of human life. Nutritional status is one of the significant health indicators to evaluate a country's health standard and morbidity pattern [1]. Improve nutritional knowledge is important for many aspects such as help intake balancing food such as food that contains carbohydrates, proteins, fat, vitamins, and minerals [2]. Dietary habits and nutritional knowledge are very important for humans to get a healthy lifestyle. Although problems related to poor nutrition affect the entire population, women and children are especially vulnerable because of their unique physiology and socioeconomic characteristics [3]. According to the World Health Organization (WHO) adolescence as the period in human growth and development that occurs after childhood and before adulthood, from ages 10 to 19 [4]. As a developmental phase in human life, adolescence is farther divided into early adolescence (10-14 years) and late adolescence (15-19 years). It is known

that the adolescence stage of lifespan is one of the key stages of physical growth and development. In general, specific and several unique changes occur in an individual during this time. Growth occurs in the skeleton, in the muscle, and in almost every system and organ of the body in adolescence except the brain and the head [5].

During adolescence, more than 20% of the total growth in stature and up to 45% of adult bone masses are achieved, and weight gained during the period contributes about 50% to adult weight [6]. Accelerated growth during adolescence places increased demand on energy, protein, and other nutrients. The tempo of growth during adolescence is slower in undernourished populations [7]. Protein deficiency has been shown to reduce growth during adolescence [8]. It is very well known that for the wellbeing of society, adolescents are the important stage of life and adolescents are the future generation of any country. In most

developing countries the adolescent's nutritional needs are very essential and critical but also neglecting adolescents than other groups of people like children and women. Fulfill of nutrition demands of adolescents could be an important step towards breaking the cycle of intergenerational malnutrition, chronic diseases, and poverty as well [1]. In Bangladesh, more than one-fifth (23 percent) of the total population, which is 36 million, were adolescents (BBS, 2017) [9]. And a large number of adolescent girls suffer from various degrees of nutritional disorders. The objectives of this study were to test the relationship between nutritional knowledge, attitude, and practices among adolescent girls in Dhaka city.

Materials and Methods

The cross-sectional study design was adopted, and a total of 500 adolescent girls (aged 10-19) from purposively selected four schools and colleges in Dhaka city, were included in this study. About 288 (two hundred eighty-eight) early (10-14 yr) adolescents and 212 (two hundred twelve) late (15-19 yr) adolescent girls were included in the study. Adolescent girls who having beyond age group of 10-19 years accordingly to WHO criteria or were unable to answer a shortlist of questions (sociodemographic information such as name, address, having any systemic illness like acute severe septic conditions, acute and chronic gastrointestinal, endocrine, cardiac, hepatic, renal, respiratory diseases, etc.) were excluded from the study. The questionnaire was divided into three sections: Socio-demographics, anthropometrics and nutritional knowledge, attitude, and practices. The socio-demographic section requires the subjects to answer questions about age, year of education, family background. The anthropometric techniques were used to collect height and weight of the subjects. Standing height was measured using appropriate scales (Detect-Medic, Detect scales INC, USA) to the nearest 0.5 cm. Bodyweight was measured without shoes and wearing light clothes on a portable weighing scale to the nearest 0.5 Kg. Body mass index (BMI) of the subjects was calculated using formula $[BMI = \text{Weight (kg)} / \text{Height (m}^2\text{)}]$, recommended by the WHO (2004) [10].

The survey tool used in this study was developed from a combination of previously administered questionnaires [11-15] to measure adolescent girl's nutritional Knowledge, Attitude and Practices (KAP). The level of nutritional knowledge was assessed using 20 statements, 15 statements for attitude, and 10 statements to assess nutritional practices. Based on the percentages of the responses were calculated. The questionnaire was pilot tested to ensure question items were understood by the subjects. The results of the pilot test suggested changes should be made in the questionnaire to force participants to make a decision based on their given knowledge. The revised questionnaire was reviewed by a panel of experts to ensure the questions were relevant to the research topic. For the nutritional knowledge section, the intent to test the level of knowledge attitude & practices (KAP) about nutrition for each subject. This questionnaire was translated to Bangla by two separate translators who were native speakers of

the target language (Bangla); two separate back-translations were done by translators who were native speakers of English. There were 20 questions scored (1 & 0) for yes and no answers. The total score ranged from 0 to 20.

The score was divided into three categories; poor knowledge with a score less than 50% $\{<10\}$, moderate knowledge from 50% to 75% $\{10 \text{ to } 15\}$ and good knowledge more than 75% $\{>15\}$. 15 questions for attitude answered with (1, 0) for agreeing and don't agree. The total score ranged from 0 to 15. The score was divided into three categories; negative with a score of less than 50% $\{<8\}$, indifference from 50% to 75% $\{8 \text{ to } 11\}$ and positive more than 75% $\{>11\}$. There were 10 questions scored (1, 0) for practices. The total score ranged from 0 to 10. The score was divided into three categories; poor practices with a score less than 50% $\{<5\}$, moderate from 50% to 75% $\{5 \text{ to } 8\}$ and good more than 75% $\{>10\}$ [13]. The desired sample size was determined using Fisher et al., 1998 formula [16]. $n = Z^2 pq/d^2$ Where; n = the desired sample size, z = the standard normal deviation at the required confidence level of 1.96, d = the level of statistical significance set, p = the proportion in the characteristics being measured and $q = 1-p$. Statistical tests were considered significant at p -values $\leq 5\%$ (≤ 0.05). Frequencies were calculated for descriptive analysis. Comparison between two groups was done using students unpaired t-test for normally distributed continuous variables. Chi-squared tests were performed on categorical data to find the relationships between variables. All statistical measures were performed using statistical package for social science (SPSS) for windows version 16.0 (SPSS Inc., Chicago, IL, USA).

Results

The sociodemographic characteristics of the study subjects show in Table 1. A total number of 288 (two hundred eighty-eight) early adolescents and 212 (two hundred twelve) late-adolescent girls were included in the study. Among them, age [yrs, (Mean \pm SD)] was 12 ± 1 and 17 ± 1 in two groups respectively. The majority were Muslim (85%) and the nuclear family (84%). Among the subject's income sources of a family were 45% service holders in early adolescent girls and 47% were business in late adolescent girls individually. On the basis of education, the study subjects 91% was below class 8 in early adolescent and 50% was study class 11-12 in late adolescent girls, the study subject's father education level 40% was post-graduate in early adolescent and 44% was higher secondary school in late adolescent girls respectively and about 50% subject's mother education level was higher secondary school. Figure 1 shows the distribution of the study subjects according to different BMI categories (adapted from WHO guideline - 2004). Among the subjects, underweight was 31% in early adolescent and 14.6% in late adolescent girls respectively. The level of increasing but acceptable was 41% in early adolescent and 51% in late-adolescent girls. According to the level of increased risk was 18.8% in early adolescent and 23% in late adolescent girls, and in high risk was about 9% in early adolescent and 12% in late adolescent girls respectively.

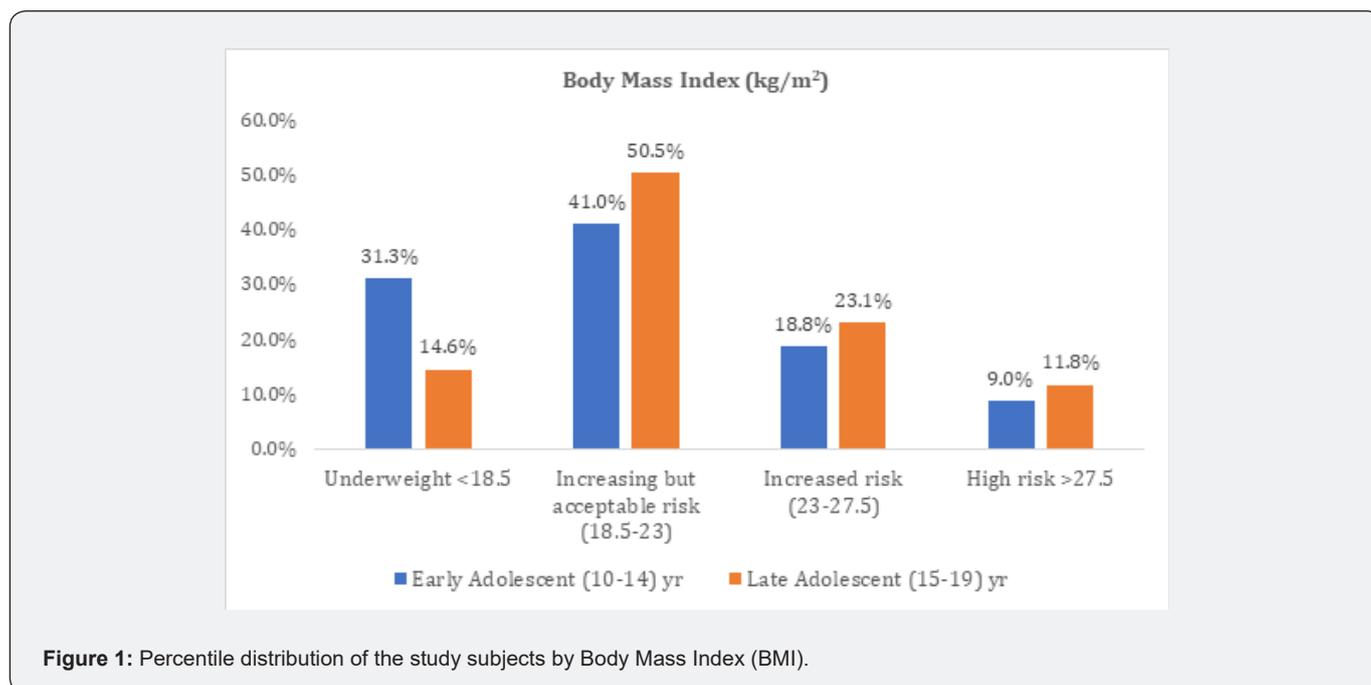


Figure 1: Percentile distribution of the study subjects by Body Mass Index (BMI).

Table 1: Socio-economics characteristics of the study subjects.

Characteristics	Early Adolescent (10-14) yr (n=288)	Late Adolescent (15-19) yr (n=212)
Age (yrs)	12±1	17±1
Educational level		
< Class 8	261 (90.6)	1 (0.5)
Class 8-10	26 (9.1)	42 (19.8)
Class 11-12	1 (0.3)	106 (50)
> Class 12	-	63 (29.7)
Father's Educational level		
Primary	17 (5.9)	43 (20.3)
Higher Secondary School	78 (27.1)	94 (44.3)
Graduate	79 (27.4)	34 (16.0)
Post-Graduate	114 (39.6)	41 (19.3)
Mother's Educational level		
Primary	28 (9.7)	58 (27.4)
Higher Secondary School	126 (43.8)	106 (50)
Graduate	64 (22.2)	25 (11.8)
Post-Graduate	70 (24.3)	23 (10.8)
Earners of the Family		
Father	225 (78.1)	167 (78.8)
Mother	7 (2.4)	8 (3.8)
Both Father & Mother	53 (18.4)	20 (9.4)
Others	3 (1.0)	17 (8.0)
Monthly Family Income (TK)		
<10,000	4 (1.4)	8 (3.8)

10,000-20,000	18 (6.2)	53 (25)
20,000-30,000	80 (27.8)	74 (34.9)
>30,000	186 (64.6)	77 (36.3)
Income Source of Family		
Business	124 (43.1)	100 (47.2)
Service Holder	129 (44.8)	84 (39.6)
Teacher	18 (6.2)	12 (5.7)
Other	17 (5.9)	16 (7.5)
Type of Family		
Nuclear Family	242 (84)	178 (84)
Extended Family	46 (16)	34 (16)
Marital Status		
Married	6 (2.1)	13(6.1)
Single	280 (97.2)	199 (93.9)
Divorce	2 (0.7)	-
Religion		
Muslim	251 (87.2)	174 (82.1)
Hindu	34 (11.8)	13 (6.1)
Christian	2 (0.7)	4 (1.9)
Boddadh	1 (0.3)	21 (9.9)

Values are expressed as mean ± SD and number (%)

The majority of the study subjects showed that nutritional knowledge was decent. They were well known about the function of protein, fat, carbohydrate, and vitamin-minerals. They also about 93.5% known on a balanced diet. Around 99% was known the wash hands with soap and water before and after eating can prevent infectious diseases (Table 2). Most of the study subjects had a positive attitude about nutrition (Table 3). Table 4 shows the early adolescent girl 65% took breakfast before going to school but 43% skip to take lunch in school. And the late adolescent girl shows about 46% took breakfast before going to school but 30% skip to take lunch in school respectively. Around 23.5% of adolescent girls consume vegetables and fruits more than 3 days in a week. And they also 31.1% avoid fast food or street food 3 days less in a week. They had good practices on wash hands with

soap and water before and after eating can prevent infectious diseases. Figure 2 shows the early adolescent girls' nutritional knowledge score about 61.5% moderate, 86.5% remain positive attitude and 21.2% had good practices in daily life. And among the late adolescent girls, the nutritional knowledge score shows about 57.1% moderate, 90.1% remain positive attitude and 11.3% had good practices in daily life. Table 5 shows the relationship between knowledge with their attitude and practices among the study subjects. Among the early adolescent girls shows the significant association of nutritional knowledge with attitude and practices ($p < 0.001$, $p = 0.005$). But in late adolescent girls show only a significant association of nutritional knowledge with attitude ($p = 0.002$).

Table 2: Nutritional knowledge among the adolescent Girls.

Questions	Answer					
	Yes (%)		No (%)		Not Know (%)	
	Early Adolescent (10-14) yr	Late Adolescent (15-19) yr	Early Adolescent (10-14) yr	Late Adolescent (15-19) yr	Early Adolescent (10-14) yr	Late Adolescent (15-19) yr
Balanced diet consists of all nutrients in proper proportion	268 (93.1)	199 (93.9)	13 (4.5)	8 (3.8)	7 (2.4)	5 (2.4)
Carbohydrate and fat produce heat & energy in the body	235 (81.6)	200 (94.3)	33 (11.5)	10 (4.7)	20 (6.9)	2 (0.9)

vitamin and mineral need to protect our body from diseases	250 (86.8)	198 (93.4)	25 (8.7)	6 (2.8)	13 (4.5)	8 (3.8)
Protein need to build up our body	256 (88.9)	193 (91.0)	9 (3.1)	10 (4.7)	23 (8.0)	9 (4.2)
Rice would be alternative to bread/noodles	148 (51.4)	85 (40.1)	107 (37.2)	97 (45.8)	33 (11.5)	30 (14.2)
Vegetable and fruit are rich sources of vitamin & mineral	255 (88.5)	191 (90.1)	18 (6.2)	7 (3.3)	15 (5.2)	14 (6.6)
Animal protein would be alternative to plant proteins	99 (34.4)	61 (28.8)	138 (47.9)	113 (53.3)	51 (17.7)	38 (17.9)
Fish can be replaced with tofu/nut/pulse	89 (30.9)	56 (26.4)	131 (45.5)	94 (44.3)	68 (23.6)	62 (29.2)
Milk and meat also are protein source	251 (87.2)	176 (83.0)	28 (9.7)	28 (13.2)	9 (3.1)	8 (3.8)
Cold drink is good for health	33 (11.5)	21 (9.9)	252 (87.5)	185 (87.3)	3 (1.0)	6 (2.8)
Physical exercise helps to prevent obesity	264 (91.7)	205 (96.7)	16 (5.6)	6 (2.8)	8 (2.8)	1 (0.5)
Ideal body weight is an indicator for health status	192 (66.7)	163 (76.9)	59 (20.5)	36 (17.0)	37 (12.8)	13 (6.1)
Iron helps to make blood cell	200 (69.4)	164 (77.4)	17 (5.9)	13 (6.1)	71 (24.7)	35 (16.5)
Vitamin C is required for absorption of non-iron	114 (39.6)	72 (34.0)	38 (13.2)	37 (17.5)	136 (47.2)	103 (48.6)
Anemia is a syndrome of Iron deficiency	207 (71.9)	173 (81.6)	22 (7.6)	8 (3.8)	59 (20.5)	31 (14.6)
Vitamin D is required with Ca for bone formation	206 (71.5)	168 (79.2)	17 (5.9)	14 (6.6)	65 (22.6)	30 (14.2)
Milk and milk products provide Ca and vitamin D in the body	232 (80.6)	174 (82.1)	16 (5.6)	16 (7.5)	40 (13.8)	22 (10.4)
Fiber rich foods are good for health	244 (84.7)	197 (92.9)	17 (5.9)	10 (4.7)	27 (9.4)	5 (2.4)
Sufficient amount of oil is required for the absorption of all nutrients	232 (80.6)	171 (80.7)	24 (8.3)	13 (6.1)	32 (11.1)	28 (13.2)
Wash hands with soap and water before and after eating can prevent infectious diseases	284 (98.6)	211 (99.5)	4 (1.4)	-	-	1 (0.5)

Values are expressed as number(%).

Table 3: Nutritional attitude among the adolescent Girls.

Question	Answer			
	Agree		Disagree	
	Early Adolescent (10-14) yr	Late Adolescent (15-19) yr	Early Adolescent (10-14) yr	Late Adolescent (15-19) yr
Breakfast makes it easy to learn	263 (91.3)	196 (92.5)	25 (8.7)	16 (7.5)
Variety of food provide all nutrients	259 (89.9)	190 (89.6)	29 (10.1)	22 (10.4)

Healthy food is expensive	41 (14.2)	13 (6.1)	247 (85.8)	199 (93.9)
Consume 2-3 servings of fruit per day	279 (96.9)	205 (96.7)	9 (3.1)	7 (3.3)
Consume 1 cup of leafy vegetables per day	270 (93.8)	209 (98.6)	18 (6.2)	3 (1.4)
Consume ½ cup of vegetables per day	271 (94.1)	202 (95.3)	17 (5.9)	10 (4.7)
Consume 2-3 servings of protein per day	249 (86.5)	153 (72.2)	39 (13.5)	59 (27.8)
Vegetables and fruits inevitable for the body healthy and fit	282 (97.9)	211 (99.5)	6 (2.1)	1 (0.5)
Animal protein is better than vegetable protein	157 (54.5)	124 (58.5)	131 (45.5)	88 (41.5)
Consume fish is good for health	285 (99.0)	209 (98.6)	3 (1.0)	3 (1.4)
Drink 1 glass or 150 ml of milk per day is good for sound health	278 (96.5)	204 (96.2)	10 (3.5)	8 (3.8)
Drink at least 8 glasses or 2 liters of water per day	280 (97.2)	210 (99.1)	8 (2.8)	2 (0.9)
Use Iodized salt for cooking food	247 (85.8)	202 (95.3)	41 (14.2)	10 (4.7)
Necessary to monitor weight at least each month	271 (94.1)	195 (92.0)	17 (5.9)	17 (8.0)
To Cut & clean the nails for healthy behavior	287 (99.7)	212 (100.0)	1 (0.3)	-

Values are expressed as number (%).

Table 4: Nutritional attitude among the adolescent Girls.

Question	Answer									
	yes		< 3 days in a week		> 3 days in a week		Seldom		No	
	Early Adolescent (10-14) yr	Late Adolescent (15-19) yr	Early Adolescent (10-14) yr	Late Adolescent (15-19) yr	Early Adolescent (10-14) yr	Late Adolescent (15-19) yr	Early Adolescent (10-14) yr	Late Adolescent (15-19) yr	Early Adolescent (10-14) yr	Late Adolescent (15-19) yr
Take breakfast before going to school/ college	186 (64.6)	98 (46.2)	23 (8.0)	39 (18.4)	44 (15.3)	30 (14.2)	14 (4.9)	19 (9.0)	21 (7.3)	26 (12.3)
Consumption of vegetable per day	168 (58.3)	113 (53.3)	43 (14.9)	36 (17.0)	61 (21.1)	47 (22.2)	9 (3.1)	7 (3.3)	7 (2.4)	9 (4.2)
Consumption of fruit every day	155 (53.8)	54 (25.5)	45 (15.6)	73 (34.4)	77 (26.7)	51 (24.1)	10 (3.5)	25 (11.8)	1 (0.3)	9 (4.2)
Avoid fast food or street food	32 (11.1)	32 (15.1)	97 (33.7)	60 (28.3)	67 (23.3)	59 (27.8)	71 (24.7)	56 (26.4)	21 (7.3)	5 (2.4)
Take meal in a specific time	157 (54.5)	82 (38.7)	51 (17.7)	38 (17.9)	49 (17.0)	47 (22.2)	19 (6.6)	24 (11.3)	12 (4.2)	21 (9.9)
Take lunch in school/ College	106 (36.8)	81 (38.2)	8 (2.8)	11 (5.2)	15 (5.2)	13 (6.1)	35 (12.2)	45 (21.1)	124 (43.1)	62 (29.2)
Wash hands with soap and water before and after eating	277 (96.2)	181 (85.4)	4 (1.4)	6 (2.8)	6 (2.1)	24 (11.3)	-	-	1 (0.3)	1 (0.5)
Eat egg in every day	126 (43.8)	52 (24.5)	53 (18.4)	62 (29.2)	81 (28.1)	60 (28.3)	23 (8.0)	23 (10.8)	5 (1.7)	15 (7.1)

Drink a glass of milk in everyday for good health	163 (56.6)	37 (17.5)	48 (16.7)	40 (18.9)	36 (12.5)	20 (9.4)	20 (6.9)	61 (28.8)	21 (7.3)	54 (25.5)
Drink eight glasses of water in everyday for better health	230 (79.9)	120 (56.6)	15 (5.2)	26 (12.3)	16 (5.6)	36 (17.0)	18 (6.2)	23 (10.8)	9 (3.1)	7 (3.3)

Values are expressed as number (%).

Table 5: The relationship between knowledge with their attitude and practices among the study subjects.

Attitude and Practices	Knowledge							Significance test p value Poor Knowledge (n= 20)	
	Poor Knowledge (n= 20)		Moderate Knowledge (n= 298)		Good Knowledge				
	Early Adolescent (10-14) yr	Late Adolescent (15-19) yr	Early Adolescent	Early Adolescent (10-14) yr	Late Adolescent (15-19) yr	Late Adolescent	Early Adolescent (10-14) yr	Late Adolescent (15-19) yr	
Attitude	Negative	0	0	0	1	0	0		X ² = 24.027 P =<0.001
	Indifference (n= 59)	7	3	28	14	4	3	X ² = 16.482 P =0.002	
	Positive (n=440)	7	3	149	106	93	82		
Practices	Poor	3	1	13	38	2	19		X ² = 14.714 P =0.005
	Moderate (n=339)	11	5	131	72	67	53	X ² = 4.703 P =0.319	
	Good (n= 85)	0	0	33	11	28	13		

Values are expressed as number (n), P<0.05 was considered as statistically significant.

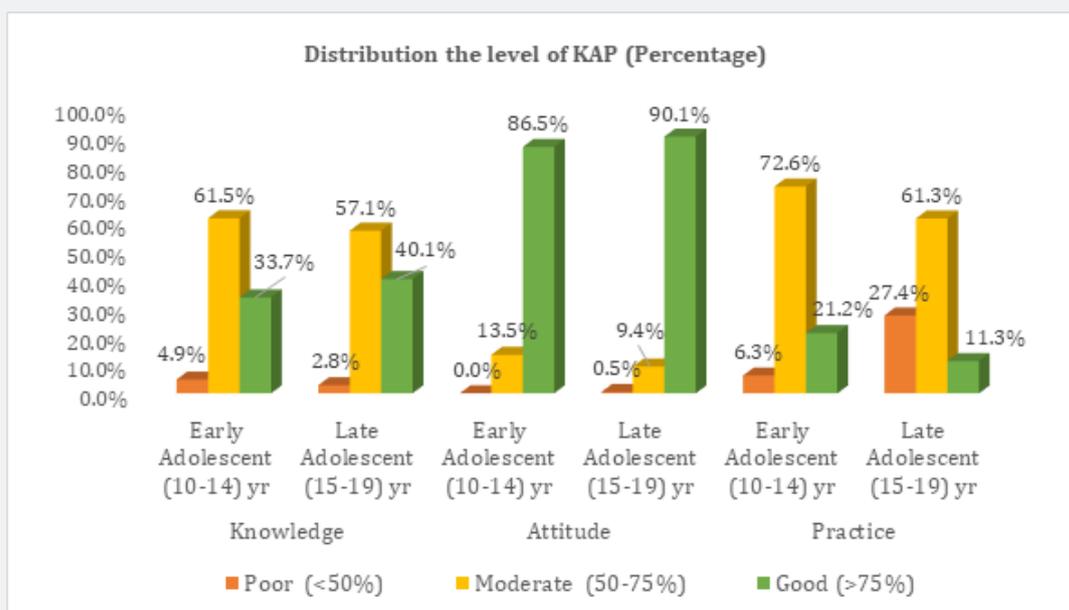


Figure 2: Percentage distributions the level of Knowledge Attitude & Practices (KAP) of the study subjects.

Discussion

The present study shows that 31% of early adolescent girls were underweight according to different BMI categories (adapted from WHO guidelines-2004) [10]. Early adolescents are at higher risk of undernutrition than late adolescents. Similar to this study's findings, two studies among adolescent girls also stated that nutritional status increases with age and education status [17,18]. In the present study, it is encouraging to note that the majority of respondents had basic knowledge regarding nutrition. The majority of the adolescent girls both early and late adolescent (93.5%) knew a balanced diet, in line with the finding by Sitti et al [14] that 96% of an adolescent having a good knowledge of a balanced diet. Besides, milk, as well as meat, are good sources of protein (85%), around 36% know about vitamin C has a role in iron absorption and about 95% expressed sports prevent obesity which conforms to the studies by Talakad et al [12] and Sireesha et al [15]. However, there was a high level of knowledge about 99% in both early and late adolescent girls regarding the requirement of personal hygiene and the importance of hand wash using soaps and clean water before and after eating can prevent infectious diseases (Table 2). This was in agreement with another study carried out in India (2017) among teenage girls, as (80.5%) know the importance of hand washing before meals [15].

This also reported by adolescent school girls in Maros district, South Sulawesi, Indonesia (2016) where the majority of students (98.5%) knew the requirement of personal hygiene [14]. About the attitude of adolescent girls, the majority of respondents both early and late adolescent girls (88.3%) had a positive attitude towards nutrition. The girls opined positively that vegetables and fruits are very important to keep the body healthy and fit (98.7%), consumption of vegetables per day (95.45%) are good, drinking water a day at least 8 glasses or 2 liters (98.15%) and cutting & cleaning of nails for healthy behavior. So it was found that both early and late adolescent girls have positive attitudes in these issues which were similar to the studies by Sitti et al [14] and Sireesha et al [15]. Regarding the nutritional practices different picture was shown on apply of nutritional knowledge in daily life. As breakfast, a part of a healthy diet and lifestyle can positively impact adolescent girl's health and wellbeing. Compared to 55.4% of the girls in this study who ate breakfast before going to school/college, Buerger et al [19] study indicated that only 41% eat breakfast. Although in one study 87% of participants said they ate breakfast on most days, 54% of those breakfasts were high in fat [20]. By skipping breakfast, adolescents have already started poorly and are missing out on the essential nutrients [21].

Coming to the hygienic practices 68.25% of both early and late adolescent girls wash hands with soap and water before & after every meal which was almost similar to the level (76%) reported by Sitti et al [14], but it was much lower than the level (80%) reported from an Indian study by Sireesha et al [15].

According to the scoring system of knowledge attitude & practices (KAP), was scored three categories poor (<50%), moderate (50-75%) and good (>75%). Among the early adolescent girls, the nutritional knowledge score was showed about 61.5% moderate, 86.5% remain positive attitude and 21.2% have good practices in daily life. And among the late adolescent girls, the nutritional knowledge score was showed about 57.1% moderate, 90.1% remain positive attitude and 11.3% have good practices. Among the early adolescent girls was showed a significant association of nutritional knowledge with attitude and practices ($p < 0.001$, $p = 0.005$). But in late adolescent girls showed an only significant association of nutritional knowledge with attitude ($p = 0.002$). No other study has addressed the scoring system of knowledge attitude, and practices (KAP) regarding nutrition in adolescent girls of Bangladesh.

Conclusion

From the above results, it may conclude that the both early and late adolescent girls have knowledge regarding nutrition but they are not well informed nutritional needs for maintaining good health. They are also not much aware of the health effects and consequences of unhealthy eating practices. Therefore, there is a need for nutritional intervention (knowledge, SBCC, etc) programs for adolescent girls which will go a long way to conduct a healthy life. Further studies need to be elucidated by considering a follow-up study with a large sample size.

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