



International Journal of Home Science

ISSN: 2395-7476
IJHS 2018; 4(1): 01-03
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www.homesciencejournal.com
Received: 01-11-2017
Accepted: 02-12-2017

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Nutrition education to advance knowledge of adolescent girls

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Abstract

The present study was conducted to study the knowledge of nutrition and effect of nutrition education on knowledge gain among adolescent girls. Sample group of 1003 adolescent girls in the age group of 12-17 years was selected from one government school of Gadarpur, District Udham Singh Nagar. A nutrition awareness programme of one week duration was developed and implemented on the sample group after assessing their existing nutritional knowledge with the help of pre-test. After imparting nutrition education to the girls with the help of booklets, lecture and discussion, post-test was conducted and the knowledge increment was calculated with the help of pre and post test scores. The average knowledge increment was 43.67% which shows the positive impact of nutrition education on adolescent girls.

Keywords: Adolescents, knowledge increment, nutrition education

Introduction

Healthy eating is an important part of a healthy lifestyle and is something that should be taught at a young age. Adolescence is a time of tremendous biological, psychosocial and cognitive growth and development. Biological, psychosocial and cognitive changes that begin during puberty and continue throughout adolescence directly affect nutritional status and nutrient needs. Adolescents experience dramatic physical growth and development during puberty, which in turn appreciably increases their requirements for energy, protein, vitamins and minerals. The increased need for energy and nutrients among adolescents combined with increasing financial independence, increasing need for autonomy when making food choices and immature cognitive abilities places adolescents at nutritional risk (Stang and Story, 2005)^[5]. Adolescence is a learning stage and it is easier for adolescents to grasp things and learn in a faster way. If at this stage nutrition education is imparted to them it can have lifelong impact on them which further helps them to live healthy and stronger life. Nutrition education as one of the important practical aspects of nutritional knowledge, it plays an important role in public awareness and ultimately health of society (Berino *et al*, 1997)^[1]. Keeping the above things in view the present study was formulated to assess the existing level of knowledge about nutrition among adolescents and the effect of nutrition education on nutrition knowledge increment.

Materials and methods

The present study was carried out in one school of district Udham Singh Nagar from November 2016 to February 2017. The study was conducted on a sample group of 1003 adolescent girls of age group 12 to 17 years. The study was conducted to assess the knowledge of nutrition among the adolescent girls and a questionnaire was used for this purpose. To judge the existing nutritional knowledge of girls pre-test was conducted in which 15 question carrying one mark each were set. After conducting pre-test, nutrition education was imparted to the girls with the help of booklet containing 5 modules. Five days session was conducted in each class and one module had been taught in one session. On 6th day, post-test containing questions same as pre test was conducted to assess the knowledge gain. The collected data was analyzed and knowledge increment percent was calculated by using the following formula:

$$\text{Knowledge increment percent (KI\%)} = \frac{\text{Post test score} - \text{Pre test score}}{\text{Post test score}} \times 100$$

$$\text{Quantum of improvement} = \text{post test score} / \text{pre test score}$$

Result and discussion

It can be inferred from data in table 1 and table 2 that 63.60% of the students obtained marks in the range of 0-5 in pre test whereas only 13.45% students obtained 0-5 marks in post-test. It was seen that 36.2% students got score in the range of 6-10 and only 1% obtained marks in the range of 11-15 in pre-test. In post-test 72.18% students were in the range of 6-10 and 14.35% got marks in the range of 11-15(Fig 1). This

shows that there is a positive impact on nutrition education on adolescent girls. Study done by Jain and Chawla (1999) [2] on school going adolescent girls of Kanpur also found positive impact of nutrition education on adolescent girls. Also, the present study results are in line with an earlier study of Singh *et al* (2013) [3] who concluded that there is a positive effect of nutrition education on adolescent girls.

Table 1: Distribution of students based on pre-test scores out of 15

Class	Total No. of Students	Pre Test Score		
		0-5	6-10	11-15
7 th	150	136 (90.66%)	14 (9.33%)	0
8 th	145	115 (79.31%)	30 (20.68%)	0
9 th	256	164 (64.06%)	92 (35.93%)	0
10 th	182	86 (47.25%)	96 (52.74%)	0
11 th	159	58 (36.47%)	100 (62.89%)	1(1%)
12 th	111	79 (71.17%)	32 (28.82%)	0
Total	1003	638 (63.60%)	364 (36.29%)	1(0.09%)

Table 2: Distribution of students based on pre-test scores out of 15.

Class	Total No. of Students	Post Test Score		
		0-5	6-10	11-15
7 th	150	45 (30%)	93 (62%)	12 (8%)
8 th	145	34 (23.44%)	100 (68.96%)	11 (7.58%)
9 th	256	26 (10.15%)	204 (79.68%)	26 (10.15%)
10 th	182	4 (2.19%)	147 (80.76%)	31 (17.03%)
11 th	159	2 (1.25)	101 (63.52%)	56 (35.22%)
12 th	111	24 (21.62%)	79 (71.17%)	8 (7.20%)
Total	1003	135 (13.45%)	724 (72.18%)	144 (14.35%)

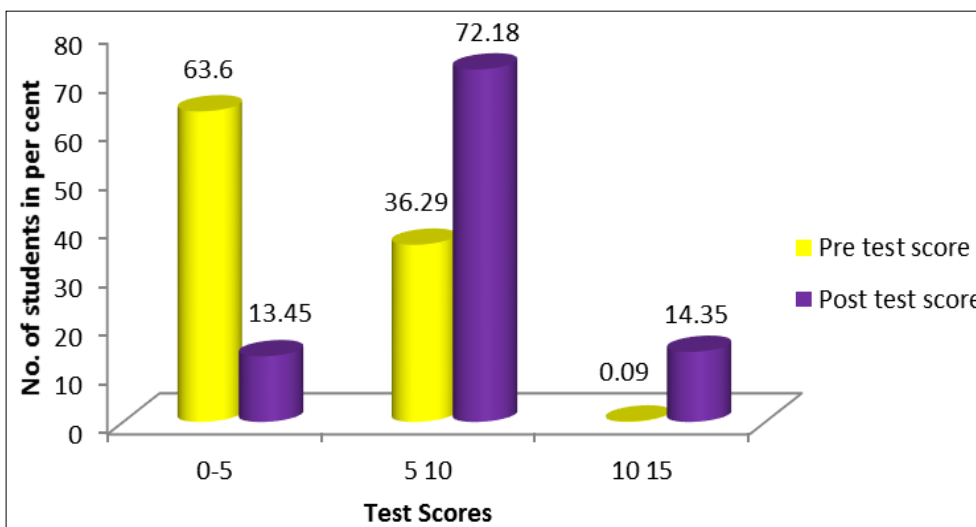


Fig 1: Distribution of students based on pre and post test scores.

The statistical analysis of data revealed that an average score in pre-test obtained by adolescent girls was 4.55±2.40 which increased to 7.95±2.33 in post-test (Table 3). The average knowledge gain was 22.7 per cent and this shows 1.74 times improvement in knowledge level of girls. The findings of the present study are also at par with the findings of Singh *et al* (2015) [4] who observed 1.8 times improvement in knowledge level of 1015 adolescent girls.

In the present study the average knowledge increment per cent was calculated. Table 4 shows that the average knowledge gain in per cent for 7th, 8th, 9th, 10th, 11th and 12th was 56.17, 45.28, 47.59, 33.18, 38.02 and 41.81 per cent respectively. The average knowledge per cent increment across all the classes was 43.67 per cent.

Table 3: Average knowledge gain by the students.

Test	Knowledge
Average pre-test score	4.55±2.40
Average post-test score	7.95±2.33
Average knowledge gain	3.40 (22.7%)
Quantum of improvement	1.74 times

Table 4: Knowledge increment across all classes

Knowledge increment (%)						Average knowledge increment (%)
7 th	8 th	9 th	10 th	11 th	12 th	
56.17	45.28	47.59	33.18	38.02	41.81	43.67

Conclusion

Adolescence is a time of tremendous biological, psychosocial and cognitive growth and development. It is important to impart nutrition education at this age as biological, psychosocial and cognitive changes that begin during puberty and continue throughout adolescence directly affect nutritional status and nutrient needs. The result of the present study shows that there is a positive impact of nutrition education on adolescent girls. The knowledge increment was 43.67%. It was seen that 63.6% girls scored marks in the range of 0-5 in pre-test which was reduced to only 13.45% after imparting nutrition education. It was seen that there was 1.74 times improvement in knowledge level of girls.

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