International Journal of Advance Research in Community Health Nursing

E-ISSN: 2664-1666
P-ISSN: 2664-1658
www.communitynursing.net
IJARCHN 2025; 7(1): 47-50
Received: 04-12-2024
Accepted: 10-01-2025

Geethanjali N
Ph.D. Scholar, Professor, Community Health Nursing, SSV College of Nursing, Mangalore, Karnataka, India

Cheryl Lobo
Professor, Vice Principal & PhD Scholar, SSINS& RC, T Begur, Bangalore Rural, Karnataka, India

Deepa BM
Assistant Professor, Community Health Nursing, Raja Rajeshwari College of Nursing, Bangalore, Karnataka, India

Surekha Appireddygari
Professor, Medical-Surgical Nursing, SEA College of Nursing, Krishnarajapuram, Bangalore, Karnataka, India

Latha US
Assistant Professor, Child Health Nursing, M S Ramaiah Institute of Nursing Education and Research Bangalore, Karnataka, India

Kunhanam Lilly C
Professor, Child Health Nursing, Vidya Vikas College of Nursing, Mysore, Karnataka, India

Nagaratna Naik
Community Health Officer, NRHM, District Health Society, DHFW, Ayushman Arogya Mandir Chittakula, Karwara, Uttar Kannada, Karnataka, India

Corresponding Author:
Geethanjali N
Ph.D. Scholar, Professor, Community Health Nursing, SSV College of Nursing, Mangalore, Karnataka, India

The impact of health teaching on lifestyle leading to obesity among adolescent girls in a selected school in Karnataka

Geethanjali N, Cheryl Lobo, Deepa BM, Surekha Appireddygari, Latha US, Kunhanam Lilly C and Nagaratna Naik

DOI: https://www.doi.org/10.33545/26641658.2025.v7.i1a.219

Abstract
Background: Obesity among adolescent girls is a growing concern in India. It is particularly alarming as it is linked to a higher risk of illness and death during adulthood. This study aimed to investigate the effect of health education on lifestyle factors contributing to obesity among adolescent girls in a selected school in Karnataka.
Methods: The study used an evaluative approach employing a one-group pre-test and post-test design. The participants were 38 adolescent girls, aged between 14 to 16 years, who were selected using a non-probability purposive sampling technique from a private school in Bengaluru, Karnataka, India. Data on obesity was collected using a structured questionnaire, and an information booklet was provided to the participants. The post-test was conducted after thirty days using the same tool.
Result: A study of 38 adolescent girls found that 92% of them were unaware of the concept of obesity. Furthermore, a statistically significant correlation existed between the girls' knowledge of obesity after the study and their age group ($p< 0.05$). Additionally, the improvement in their knowledge levels from before to after the study was highly significant, with a P-value of less than 0.001.
Conclusion: Adolescent obesity is a major public health problem due to a lack of awareness about the risk factors for obesity. The information booklet has successfully increased the awareness level of adolescent girls on obesity, underscoring the crucial role that schools and the health system must play in this process. This highlights the need for a collaborative effort between educational institutions and the healthcare sector to educate adolescents about the risks associated with obesity and provide them with the necessary tools to make informed lifestyle choices.

Keywords: Adolescent girls knowledge attitude, practice, impact, obesity

Introduction

Adolescents are a group of seemingly healthy individuals, but their health status determines their health in adulthood. Numerous severe adult illnesses have their origins in adolescence [1].

Adolescence is a crucial period of growth marked by physical changes such as an increase in height, muscle mass, and body fat. Girls also experience menarche during this phase [2]. Obesity during adolescence is linked with a higher risk of illness and death during adulthood. According to the World Health Organization, the worldwide prevalence of obesity among adolescents aged 5-19 has risen dramatically from just 4% in 1975 to over 18% in 2016. The rise has occurred similarly among both boys and girls - in 2016 18% of girls and 19% of boys were overweight. While just less than 1% of children and adolescents aged 5-19 were obese in 1975, more than 124 million children and adolescents (6% of girls and 8% of boys) were obese in 2016 [3, 4]. According to the National Family Health Survey (NFHS-4) 2015-16–report the prevalence of obesity was 31.8% and 28.6% among men and women aged 15–49 years, respectively [5].

Obesity rates have been rising at an alarming rate. In 2010, it was estimated that over 42 million children were overweight across the world. Out of these, almost 35 million of them lived in developing countries, with higher rates in urban areas compared to rural ones [6, 7].

Obesity is increasing in most high-income countries, developing countries, undergoing nutrition transition and even in poor countries with current food insecurity and under

nutrition problems. Obesity harms life both in physical as well as psychological contexts [7]. Behavioural–lifestyle factors, in particular diet and physical activity, are the major causes of obesity. A diet high in saturated fats and sugars and low in fruit and vegetables has been identified as one of the leading risk factors for obesity [8].

Obesity-related symptoms in adolescents include psychosocial problems, cardiovascular risks, abnormal glucose metabolism, gastrointestinal issues, sleep apnea, and orthopaedic conditions [9]. Early childhood is the ideal time to prevent obesity, which can be done through changes in diet and increased physical activity [10]. Therefore it is essential to increase awareness about obesity among adolescents and prevent it early. This study aimed to educate adolescent girls about obesity using an information booklet.

Materials and Methods

For this study, an evaluatory approach employing a one-group pre-test and post-test design was chosen. The sample included 38 adolescents studying in a selected high school in Bangalore. Non-probability purposive sampling technique was used to select the participants. A structured questionnaire was used that consisted of socio-demographic variables such as age group, class, type of family, religion, dietary habits, etc. It also included 28 knowledge and attitude questions, and the scoring system is mentioned below (Table 1). A pre-test was conducted to assess the knowledge and attitude of the adolescents. The participants were then given an information booklet containing information about the risk factors, symptoms, complications, and preventive measures of obesity in adolescents. After 30 days, a post-test was conducted using the same questionnaire to evaluate the effectiveness of the information booklet. The collected data was statistically analysed to determine the effectiveness of the information booklet.

Table 1: Knowledge scoring

Knowledge level	Percentage	Marks	Total score
Poor	< 50	<7	14
Average	50-80%	7-11	
Good	>80%	>11	

Result

Demographic variables of adolescent girls

In the present study, 38 adolescent girls were selected for this study. Out of 38 adolescent girls the majority i.e., 22 (58%) of them were 14 years of age, 11 (29%) were 15 years of age, and the remaining 05 (13%) were 16 years of age. The majority i.e., 19 (50%) adolescent girls were studying in 8th standard, 11 (29%) were studying in 9th standard, 08 (21%) were studying in 10th standard.

The majority i.e., 35 (92%) adolescent girls had not heard about obesity, and 02 (05%) adolescent girls had known about obesity from their teachers. And 01 (03%) of the adolescent girls had known from their family members. The majority i.e., 27 (71%) adolescent girls belonged to the nuclear family, and the remaining 11 (29%) adolescent girls belonged to joint family. The majority i.e., 31 (82%) adolescent girls consumed a mixed type of diet, and the remaining 07 (18%) adolescent girls vegetarian diet, and 20 (20%) handled non-vegetarian food. Majority i.e., 32 (82%) adolescent girls were Hindu, 05 (13%) adolescent girls were Muslim and only 01(03%) was Christian.

The majority, i.e., 37 (97%) adolescent girls, did not have any health issues, only 01 (03%) of them had asthma, and none of the adolescent girls were taking any kind of medication.

The results of the paired t-test indicate a statistically significant difference between the pre-test and post-test knowledge scores of the adolescent girls regarding lifestyle leading to obesity. The calculated t-value of 16.32 is significantly higher than the critical value, resulting in a P-value of less than 0.001. This extremely low P-value further supports the conclusion that the observed difference between the pre-test and post-test knowledge scores is not due to chance, but rather a result of the intervention.

Table 2: Inferential statistic for pre-test and post-test knowledge score N=38

Variable	n	Mean	SD	t-test value	df	*P* value
Pre-test	38	5.18	1.54	16.3296	37	<0.001
Pre-test		10.10	1.81			Significant difference

Data reveals that the $p< 0.001$. The difference between pre-test and post-test knowledge is statistically significant

Discussion

Findings related to knowledge of adolescent girls regarding lifestyle leading to obesity

The present study result shows that adolescent girls had poor knowledge regarding lifestyle leading to obesity. During the pre-test, out of 38 adolescent girls, 35 (92%) of them had poor knowledge, 03 (08%) had average knowledge and none had good knowledge. The post-test results revealed that out of 38 adolescent girls 11 (29%) had good knowledge, 25 (66%) had average knowledge, and only 02 (05%) had poor knowledge regarding lifestyle leading to obesity among adolescent girls. The pre-test and post-test knowledge mean score was 5.18 (36%) and 10.10 (73%) respectively

A study was conducted among 100 Adolescents age group between 15 and 18 years who were selected by convenient sampling technique. The results showed that (67% of) the samples had Inadequate knowledge, (32%) of the samples had moderately adequate knowledge and (1%) had adequate knowledge of obesity [11]. The findings of the study support the idea that adolescents lack knowledge about obesity, and there is a need for educational interventions to address this issue.

Findings related to the attitude of adolescent girls regarding lifestyle leading to obesity

During the pre-test, out of 38 adolescent girls 28 (74%) of them negative attitude and only 10 (26%) had a positive attitude. The post-test results revealed that all 38 (100%) positive attitudes regarding lifestyle led to obesity among adolescent girls.

Findings related to the practice of adolescent girls regarding lifestyle leading to obesity

During the pre-test out of 38 adolescent girls 16 (42%) were eating bakery items daily, 20 (52%) were eating bakery items weekly once and during the post-test 24 (63%) did not eat bakery items only 14 (37%) were eating bakery items weekly once.

During the pre-test 09 (24%) were eating junk foods more

than 2 times a day, 11(52%) were eating junk foods twice a day and 13(34%) were eating junk foods once a day during the post-test 16(42%) did not eat junk food and 19 (50%) were eating junk foods once a day.

1. During Pre-test the majority 26(68%) were watching TV one hour a day, 06(16%) of them 2 hours a day, the majority 28 (74%) said they watch TV while eating, 20(53%) used only PT period for their physical activity and only 07 (18%) practised simple exercises, 13 (34%) eat non-vegetarian diet twice a week, 10(26%) had once a week and 8(21%) had more than twice a week
2. During the post-test the majority 34(89%) were watching TV one hour a day, 02(05%) of them 2 hours a day, the majority 35 (92%) said they did not watch TV while eating, 21(55%) got involved in the household work and 12 (32%) practised simple exercises, 04(11%) practised yoga, 22 (58%) ate non-vegetarian diet one a week

Findings related to the significant difference between pre-test and post-test knowledge

Paired t-test- was applied to find the difference between the pre-test and post-test knowledge scores of the adolescent girls regarding lifestyle leading to obesity. The test revealed that t=16.32 (p<0.001) indicates that there is a significant difference between the pre-test and post-test knowledge scores of adolescent girls regarding lifestyle leading to obesity. The structured teaching program improved the knowledge of adolescent girls

A similar study was conducted among 60 adolescents aged between 13-17 years, samples were selected by convenient sampling technique to assess the effectiveness of the planned teaching program regarding prevention of obesity. The result revealed that the Overall mean knowledge score in the pre-test was 48.78% whereas in the post-test is 82.33%, and also shows that the improvement of the mean value of knowledge scores of the post-test when compared to the pre-test because of the gain in knowledge after planned teaching program at a level of significance of P= 0.05% [12]. This study supports the idea that education programs on healthy lifestyles and obesity prevention can improve the knowledge level of adolescent girls regarding lifestyle leading to obesity

Findings related to the association between knowledge score and the demographic variable

Data reveals that there was a significant association between post-test knowledge of adolescent girls and age group (p<0.05). All the other demographic variables like class, family income, family type, dietary habits, awareness about obesity, and religion were not significantly associated with the knowledge score of adolescent girls.

Conclusion

The study revealed that adolescent girls lacked awareness about the risk factors for obesity prior to the intervention. However, their level of knowledge improved significantly and favourably after the post-test. This research offers valuable insights into the adolescent period, which is a critical stage where most chronic or long-term lifestyle diseases emerge. Understanding the knowledge, attitude, and practice gaps during this period can help in formulating effective preventive measures at an early age. The study also suggests that schools should play a pivotal role in promoting healthy behaviors, such as encouraging healthy eating habits and physical activities. Additionally, schools should conduct periodic screenings for overweight among adolescents and counsel their parents on the importance of lifestyle modification. Emphasizing the adoption of a healthy lifestyle is crucial at individual, family, and community levels.

Limitations

- Information collected from the adolescents was based on the self-reported responses only.
- The study was confined to adolescent girls aged 14-16 years only.
- The study was limited to 38 adolescent girls in a selected School in Bangalore only
- The study was limited to an assessment of the knowledge, attitude and practice of adolescents attending a selected school only.

Recommendations

In light of the above findings and the personal experience of the investigator, the following recommendations are offered.

- The study can be replicated on a larger sample; thereby findings can be generalized for a larger population.
- The study can be done in the community area.
- A comparative study can be done between private and Government school
- A similar study can be conducted among the adolescent boys
- A similar study can be conducted to compare the knowledge and practice levels of adolescent girls and boys in different school

Conflict of Interest

Not available

Financial Support

Not available

References

1. Jajulwar MB, Meshram PV, Saji DA. To assess the knowledge, attitude and practices of people regarding overweight and obesity: A cross-sectional study. Int. J Community Med Public Health. 2017 Aug 23;4(9):3113.
2. Todd A, Street S, Ziviani J, Byrne N, Hills A. Overweight and Obese Adolescent Girls: The Importance of Promoting Sensible Eating and Activity Behaviors from the Start of the Adolescent Period. Int J Environ Res Public Health. 2015 Feb 17;12(2):2306–2329.
3. Chandra N, Anne B, Venkatesh K, Teja Gd, Katkam S. Prevalence of childhood obesity in an affluent school in Telangana using the recent IAP growth chart: A pilot study. Indian J Endocrinol Metab. 2019;23(4):428.
4. World Health Organization: Global strategy on diet, - Google Scholar [Internet]. [cited 2024 Feb 8]. Available from: https://scholar.google.com/scholar_lookup?title=Global+strategy+on+diet,+physical+activity+and+health&publication_year=2004&
5. India Fact Sheet National Family Health Survey

(NFHS-4) 2015-16.
6. Nayak BS, VinodBhat H. Prevalence of Overweight / Obesity among School Children In Karnataka, South India. 2011;(2011).
7. Kumar Sg, Kotian S, Kotian Ms Prevalence and determinants of overweight and obesity among adolescent school children of South Karnataka, India. Indian J Community Med. 2010;35(1):176.
8. K.Park. Preventive And Social Medicine. 23rd Banarsidas Bhanot; c2017. p. 415–16.
9. Malnutrition Status of Adolescent Girls in India: A Need for the Hour. Int. J Sci Res IJSR. 2016 Mar 5;5(3):642-646.
10. Alok P, Malay P, Divyeshkumar V. Prevalence of Overweight and Obesity in Adolescents of Urban and rural Areas of Surat, Gujarat. Natl J Med Res. 2012 Sep;2(3):325-329.
11. Kaur R, Kumari R. A Study to Assess the Knowledge and Attitude of Adolescents on Obesity at Selected Senior Secondary Schools in Amritsar in a View to Develop and Distribute Information Booklet. Int. J Educ Appl Res. 2014;4(1):35-39.
12. Narayan Swami M. A Study To Evaluate The Effectiveness Of Planned Teaching Programme On Knowledge And Practice Regarding Prevention Of Obesity Among Adolescents In Selected Schools Of Bangalore District. Int. J Res Eng. 1(1):6-15.

How to Cite This Article
Geethanjali N, Lobo C, Deepa BM, Appireddygari S, Latha US, Lilly KC, et al. The impact of health teaching on lifestyle leading to obesity among adolescent girls in a selected school in Karnataka. International Journal of Advance Research in Community Health Nursing. 2025;7(1):47-50.