

A Study to Assess the Effectiveness of Planned Teaching on Knowledge Regarding Prevention of Nutritional Anemia among Adolescents in Kasturba Vidya Mandir, Sevagram, Wardha

Sheetal Sakharkar¹, Prinamol Punnoose², Shakuntala Pande³, Priya Navarate⁴

¹Assistant Professor, Dept. Medical Surgical Nursing, Smt. Radhikabai Meghe Memorial College of Nursing,

²Nursing Officer, INHS Kalyani Navy Hospital Vishakhapatnam, ³Nursing Officer, S.V.N.G.M.C. Yavatmal,

⁴Nursing Officer, S.B.H.G.M.C. Dhule

Abstract

Introduction: -Growth of all living organism depends on nutrition .In human being growth period is said to be from conception to adolescence and after that nutrition is required for maintenance of body. Lot of work has been done regarding role of nutrition during pregnancy, infancy and childhood but hardly any attention is paid to the group called adolescence i.e. period between childhood and adulthood. The most prevalent nutritional condition is anaemia worldwide. Prevalence in India of anemia among young girls were 56 % and this amount to an average 64 million girls at any point in time.

Aim: To determine the effectiveness of planned teaching on knowledge regarding prevention of nutritional anemia among adolescence.

Materials and Methods: A pre-experimental pre-test, post-test research design was used to conduct this study. The setting was selected in the Kasturba Vidya Mandir Sewagram,

Wardha (Maharashtra) after getting ethical permission. Purposive sampling was the sampling method used to collect data from 9th standard students on the basis of structured knowledge questionnaire. After collecting pre-test data, planned teaching was given for intervention regarding prevention of nutritional anemia to adolescents. Seven days were provided to the samples for utilizing planned teaching which was organized for 45-50 minutes. Post-test information was gathered after seven days from the day of intervention. The data were described by frequency, percentage and t-test was used to describe the difference between pre-test and post-test knowledge score. Chi-square test was also used to find out the association between knowledge of 9th standard students regarding prevention of nutritional anaemia and selected demographic variables.

Results: There was a significant difference between pre-test and post-test knowledge scores interpreted that planned teaching on knowledge regarding prevention of nutritional anaemia among adolescents were effective. Mean value of pretest was 10.10 and posttest was 19.08 and standard deviation values of pretest was ± 2.27 and posttest was ± 2.21 . The calculated t-value was 19.66 and p-value was 0.000.

Conclusion: - The study was effective because the post-test knowledge score improved than the pre-test knowledge score. So the planned teaching has proved to improve 9th standard students knowledge regarding prevention of nutritional anaemia.

Key Word: avoidance, teenage and vitamin-deficiency anemia

Corresponding author:

Ms. Sheetal Sakharkar

Datta Meghe Institute of Medical Sciences Sawangi
(Meghe), Wardha, Maharashtra, India
sheetalmude14@gmail.com

Introduction

The teen age demographic is the window of opportunity for children to correct their dietary status.

We will avoid potential effects of nutritional problems if we act appropriately during this time.

The most prevalent nutritional condition worldwide is anaemia. The life period between 10-19 years is specified according to the WHO teenage age group. The prevalence of anaemia among teenage girls in India was 56 percent, which at any point of time amounts to an average of 64 million girls.¹ Incidence of anemia in university health science students to be 43%. Anemia incidence is found to be more common in students of both sexes due to many causes such as insufficient ingestion of nutrients, socio-economic background etc.²

Studies performed in various regions of India found that in Madhya Pradesh, 37 % in Gujarat, 41.1 % in Karnataka, 85.4 % in Maharashtra, 21.5 % in Shimla, 56.3 % in Uttar Pradesh, 77.33 % in Andhra Pradesh, 58.4 % in Tamilnadu and Kerala, the prevalence of anaemia was 52.5 % (19.13 % among college students and 96.5 % in tribal area). Socio-economic condition, menstrual blood loss, nutritional status, hand hygiene and worm infestation were the key risk factors found by the above reports.¹

Girls' dietary requirements are usually neglected during puberty, resulting in stunting and ill health. Anaemia is one of the key implications of the physiological changes and nutritional negligence happening during this time.³

Hence, present study was conducted with an aim to determine the effectiveness of planned teaching on knowledge regarding prevention of nutritional anaemia among adolescents.

When the condition progresses, anaemia causes adverse effects. It influences not only the development of teenage girls, but also their concentration, memory and achievement at school and success of school and attendance. It also induces delay in the initiation of menarche, leading to infections, affecting the immune system. If the anaemic teenage girl becomes pregnant, fetal morbidity and mortality may increase, perinatal risk may increase, low birth weight (LBW) occurrence may

increase, and infant mortality rate (IMR) and maternal mortality rate (MMR) may increase (MMR). As growing pregnant adolescents compete with the growing foetus for nutrients anaemia in pregnancy will be worse than in older women.⁴

Anemia accounts for much of the nutritional issues in worldwide. Owing to low socioeconomic status and inadequate access to health care, the incidence of anemia is considerably higher in developing countries. The teenage phase is characterized by marked physical activity and accelerated growth spurt; thus, they require extra nutritional nutrients and are at greatest risk of developing nutritional anemia.⁵

The teenage community is more vulnerable to food problems in developed countries and adolescent girls are more vulnerable to the disease. Studies have found that the biggest nutritional problems in developed countries is adolescent anemia. India had reported a high prevalence of anemia among teenage girls, which is obviously higher than in other developed countries.⁶

The World Health Organisation has described the era between 10 and 19 years of age as adolescence.⁷

This time is known to be the transition from childhood to adulthood. During this phase, due to marked physical activity and rapid growth spurt adolescence, significant psychological, behavioral, and physical developments require additional nutritional requirements. According to recent statistics, there are approximately 1.2 billion adolescents worldwide, representing one-fifth of the world's total population, and the numbers are increasing. Developing countries account for about 5 million adolescents of the total adolescent population, and in India about 21% of the total population are adolescents.⁵

Hypothesis:-

H1: There will be significant difference between pre and post-test knowledge scores of adolescents (9th standard students) on prevention of nutritional anemia.

H0: There will not be significant difference between pre and post-test knowledge scores of adolescents (9th

standard students) on prevention of nutritional anemia.

Materials and Methods

-A pre-experimental pre-test, post-test research design was used to conduct this study. The setting was selected in the Kasturba Vidya Mandir Sewagram, Wardha (Maharashtra) after getting ethical permission. The 50 9th standard students were informed and explained the objective of the study. The written informed consent dully signed individually by them was obtained.

Inclusion criteria: Those students who gave consent for participation in the study, and who were studying in 9th standard of Kasturba vidya mandir , and included male and female adolescents, and those who were available during data collection period.

Exclusion criteria: Who had participated in similar type of research.

Assumption:-Adolescents may have some knowledge regarding prevention of nutritional anemia.

Demographic variables were collected in terms of gender and dietary pattern .A structured questionnaire, which is attached in [Annexure V], has 40 multiple choice questions were used. The sections were - (i) introduction (ii) causes of nutritional anemia and (iii) and management of nutritional anemia and (iv) prevention of nutritional anemia. Each correct answer carries one mark and the total score is 40. The prepared tool was validated by 10 experts who included two from departments of statistics, one each from department of English, department of general medicine and, department of respiratory medicine and five from department of medical surgical nursing.

Parallel form method was adopted for reliability test and it was found as r=0.82. And hence tool was reliable and valid. The data collection process was planned to gather demographic information and the knowledge regarding prevention of nutritional anemia. The planned teaching organized on (i) introduction (ii) causes of nutritional anemia and (iii) and management of nutritional anemia and (iv) prevention of nutritional anemia There were two sessions conducted for education in two groups, each session had 25 students in each group in 45 minute. Each sample required mean time of 30 minutes to complete the pretest structured questionnaire. Then the planned teaching was intervened to the sample. The post test structured questionnaire was administered after 7 days. Based on the 40 questions each study participant was asked individually for his / her answers with the same questionnaire. As collected, the responses were arranged in tabular form to conduct statistical analyzes which are mentioned in the following sections.

Statistical Analysis

The collected data were coded, tabulated, and analyzed by using descriptive statistics (mean percentage, standard deviation) and inferential statistics. Significance difference between pre and posttest readings was tested by using a t-test; association of knowledge with demographic variables was done by one way ANOVA test and independent t-test. For statistical analysis SPSS version 15.0 was used.

Results

Association of knowledge with their demographic variables are depicted in Table No.1

Table No.1 Association of knowledge with their demographic variables

Demographic Variable	Frequency	Percentage (%)	Posttest Knowledge Mean±SD	F-value/ t-value	p-value
Gender					
Male	28	56.00	19.03±2.09	0.15	0.87 NS,p>0.05
Female	22	44.00	19.13±2.39		
Dietary Pattern					
Vegetarian	21	42.00	19.09±2.46	0.04	0.96 NS,p>0.05
Non-Vegetarian	29	58.00	19.06±2.05		

Table No.1 showed that

Majority of the 28(56%) sample were males whereas only 22(44%) of sample were belonged to female gender.

The majority of the 29(58%) sample belong to non-vegetarian and 21(42%) belong to vegetarian.

The demographic variables were not associated with ($p>0.05$) knowledge score of adolescence i.e., gender and dietary pattern.

Table No.2:-The significant difference between the pre-test and post-test knowledge of adolescents n=50

Overall	Mean	SD	Percentage	t-value	p-value
Pre Test	10.10	2.27	33.66	19.66	0.000 S, $p<0.05$ (significant)
Post Test	19.08	2.21	63.60		

The effectiveness of planned teaching was analyzed as follows:

The mean value of the pre-test is 10.10 and the post-test is 19.08 and the standard deviation values of pre-test are ± 2.27 and post-test is ± 2.21 . The calculated t-value is 19.66 and the p-value is 0.000 [table 2]. Hence it was statistically interpreted that the planned teaching on knowledge regarding prevention of nutritional anemia among adolescence was helpful. Thus the H_1 is accepted and H_0 is rejected in this research.

Discussion

Present study was conducted to evaluate the effectiveness of planned teaching on knowledge regarding prevention of nutritional anemia among adolescence. It intends to promote adolescence knowledge regarding prevention of nutritional anemia among adolescence. The mean value of the pre-test is 10.10 and the post-test is 19.08 and the standard deviation values of pre-test are ± 2.27 and post-test is ± 2.21 . The calculated t-value is 19.66 and the p-value is 0.000. Hence it is statistically interpreted that the planned teaching on knowledge regarding prevention of nutritional anemia among adolescence was helpful. Similarly for a period of 6 months, pre-experimental research was carried out on 60 teenage high school girls aged 10-19 years of age studying at Handignur High Schools, Belgaum, Karnataka conducted on Effectiveness of Planned

Teaching Programme on Prevention of Anaemia among School Going Adolescent Girls. Analysis of the data showed that 100% of adolescent girls in pre-test had average knowledge, whereas in post-test majority 73.33% of the adolescent girls had good knowledge and 26.67% had average knowledge, which indicates that the Planned Teaching Programme has impact in prevention of anaemia. The post test score was high and statistically significant that is the planned teaching on Prevention of Anaemia among School Going Adolescent Girls was effective.⁸

The present study illustrated quasi experimental research design among 50 adolescence in which majority of the sample belong to non-vegetarian i.e., 58% and 42% belong to vegetarian.

The calculated t-value is 0.04 and the p-value is 0.96 and In another similar study on Prevalence of Anemia and Its Associated Risk Factors Among Adolescent Girls of Central Kerala in which majority of the sample belong to non-vegetarian i.e., 51 and 3 belong to vegetarian. The calculated t-value is 0.853 and the p-value is 0.356.¹

Limitation:-

The study was limited to sample size i.e., 50, which might be inadequate to generalize the study findings.

More time duration would give more relevant results with variations of any research, but the investigator planned to complete the research work within one week to get more feasibility of getting sample. Therefore, sufficient number of sample and time duration was required to establish the effect of planned teaching, in general.

Conclusion

Study concluded that knowledge regarding prevention of nutritional anaemia improved after administering planned teaching among adolescents.

Acknowledgement:- Authors express their sincere thanks to all faculties of Kasturba Nursing College Sevagram, Wardha, Maharashtra India for smooth completion of my research work.

Ethical Clearance- Taken from Institutional Ethics Committee

Source of Funding- No funding.

Conflict of Interest - Nil

References

1. Siva PM, Sobha A, Manjula VD. Prevalence of Anaemia and Its Associated Risk Factors Among Adolescent Girls of Central Kerala. *J Clin Diagn Res JCDR*. 2016 Nov;10(11):LC19–23.
2. K S, George M, Seshadri D, Jena A, Chandraprabha N. Prevalence of anemia among health science students of a university in South India. *Int J Res Med Sci*. 2016 Dec 19;4(10):4598–601.
3. Kattula D, Sarkar R, Rao Ajjampur SS, Minz S, Levecke B, Muliyl J, et al. Prevalence & risk factors for soil transmitted helminth infection among school children in south India. *Indian J Med Res*. 2014 Jan;139(1):76–82.
4. Asia WHORO for S-E. Prevention of iron deficiency anaemia in adolescents. role of weekly iron and folic acid supplementation [Internet]. 2011 [cited 2021 Mar 3]; Available from: <https://apps.who.int/iris/handle/10665/205656>
5. Chandrakumari AS, Sinha P, Singaravelu S, Jaikumar S. Prevalence of Anemia Among Adolescent Girls in a Rural Area of Tamil Nadu, India. *J Fam Med Prim Care*. 2019 Apr;8(4):1414–7.
6. Alam N, Roy SK, Ahmed T, Ahmed AMS. Nutritional Status, Dietary Intake, and Relevant Knowledge of Adolescent Girls in Rural Bangladesh. *J Health Popul Nutr*. 2010 Feb;28(1):86–94.
7. Age limits and adolescents. *Paediatr Child Health*. 2003 Nov;8(9):577.
8. Moreshwar SA, Naik VA, Chrostina BC. Effectiveness of Planned Teaching Programme on Prevention of Anaemia among School Going Adolescent Girls. *Int J Nurs Educ*. 2014 Jun 18;6(1):234-237–237.