

A Study to Assess the Effectiveness of Self-Instructional Module (SIM) on Low Cost Iron Rich Recipes among Under Graduate Students at Selected Colleges in Nagpur City

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Abstract

Anemia is a major nutritional problem in many parts of the world among adolescent girls, especially in developing countries. A descriptive study is used to assess effectiveness of self instructional module on low cost iron rich diet recipes among under graduate students at selected Nursing colleges of Nagpur city. The sample of study includes 150 under graduate students. The result were analyzed and interpreted. In demographic variables, maximum undergraduate students were in age group of 18-20 year 144 (96%), 4 (2.67%), 2(1.33%) were having education of basic B.Sc. Nursing 1st year. Maximum undergraduate students are from urban area 77 (51.33%). The knowledge score according to rating scale in pre-test was good and in posttest was very good. Mean score of pre-test was 14.72 and standard deviation was 3.72. Mean score of post-test was 18.62 and standard deviation was 4.81. Study reveals that mean post -test score was higher than pre-test score, thus the actual gain in knowledge is increased by 41%. Thus the study concludes that a self-Instructional module on low cost iron rich recipes and helps to improve knowledge of undergraduate students.

Keywords: Anemia; Self-Instructional Module (SIM); Adolescent; Physiologic needs

Introduction

Anemia is the condition of having a lower than normal number of red blood cells or quantity of hemoglobin or their oxygen carrying capacity is

insufficient to meet physiologic needs, which vary by age, sex, altitude, smoking & pregnancy status. Iron deficiency is thought to be most common cause of anemia globally, although other conditions such as foliate, vitamin B12 & vitamin A deficiencies.

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Chronic inflammation, parasitic infection & inherited disorders can all cause anemia. Pregnant women & children are particularly vulnerable. Patient with anemia may feel tired, fatigue easily, appear pale and develop palpitation, become short of breath. Children with chronic anemia are prone to infections & learning problem. The main causes of anemia are bleeding, hemolysis, underproduction of RBC. Women are more likely than men to have anemia because of menstrual blood loss.

Hemoglobin is measured in terms of the weight present in grams (g) per 100 milliliters (1 deciliter or dl) of blood. A normal level in females will lie somewhere between 11.5 and 15.5 g per dl, and in males between 13 and 18 g per dl. The normal range of red cell numbers per cubic millimeter of blood is 4,100,000–5,200,000 in females and 4,400,000–5,800,000 in males. According to the health state report 2017 by India council of medical research concluded that incidence of anemia remains a greater risk to women, man and children in the state. according to national family survey 4 half of the women age from 15 to 49 years and expected not to be child anemia. The survey report incidence of the anemia is 20% in age 15–49 year.

Objectives of the Study

1. To assess the knowledge of anemia among adolescent girl.
2. To create awareness about low cost iron rich recipes.
3. To compare the pretest and post-test knowledge scores
4. To associate pretest knowledge score with selected demographic variables.
5. To assess knowledge of low cost iron rich diet among undergraduate students.

Materials and Methods

Research Design

Descriptive study design

Sampling Technique

Non-probability convenient sampling technique

Sampling Size

Sample size consisted of 150 undergraduate students among nursing colleges of Nagpur city.

Variables

A variable is the measurable or potentially measurable component of an object or even that may fluctuate in quantity and quantity. Variables are a focus of a study and reflect the empirical aspect of a concept being studied. The investigator measures variables.

Research Variables

- (a) *Dependent:* hemoglobin level among anemic undergraduate students.
- (b) *Independent:* Self Instructional Module (SIM).
- (c) *Demographic Variables:* Age, Education, Socioeconomic, Occupation, Residence

Description of Tool

A tool consists of two sections.

Section A: This section consists of demographic data: Age, education, monthly family income, area of residence, occupation of father, and occupation of mother

Section B: This section deals with knowledge questionnaire regarding low cost iron rich diet.

Results and Discussion

Section A: Description of demographic variable of adolescents

Table 1 shows that among age group majority 96% adolescent belongs to 18–20 years, followed by 2.67% adolescents belongs to 20–21years, 1.33% adolescents belongs to 22–23 years and 0% from 25 and above.

Table 1: Frequency and percentage distribution of selected demographic variables

Demographic variables	Frequency	Percentage %
Age		
(a) 18–20 year	144	96.00
(b) 20–21 year	04	2.67
(c) 22–23 year	02	1.33
(d) 25-and above	00	0.00

Demographic variables	Frequency	Percentage %
Education		
(a) 1 st year	150	100.00
(b) 2 nd year	00	00.00
(c) 3 rd year	00	00.00
(d) 4 th year	00	00.00
Monthly family income		
(a) Less than 10,000	28	18.67
(b) 10,000-15,000	13	8.67
(c) 15,000-20,000	33	22.00
(d) More than 20,000	76	50.66
Area of residence		
(a) Urban	77	51.33
(a) Rural	73	48.67
Occupation of father		
(a) Government employee	40	26.67
(b) Private employee	18	12.00
(c) Farmer	47	31.33
(d) Labourer	22	14.66
(e) Any other	23	15.34
Occupation of mother		
(a) Government employee	13	8.67
(b) Private employee	04	2.67
(c) Farmer	15	10.00
(d) Labourer	11	7.33
(e) Any other	107	71.33

Section B: Assessment of knowledge of undergraduate students regarding low cost iron rich recipes and anemia before Self Instructional Module

Table 2 show that in pre-test majority of undergraduate 28.5 (57.33%) had good knowledge, 11 (22.67%) had average knowledge level, nobody had very good knowledge and 1.3 (2.67%) had poor knowledge.

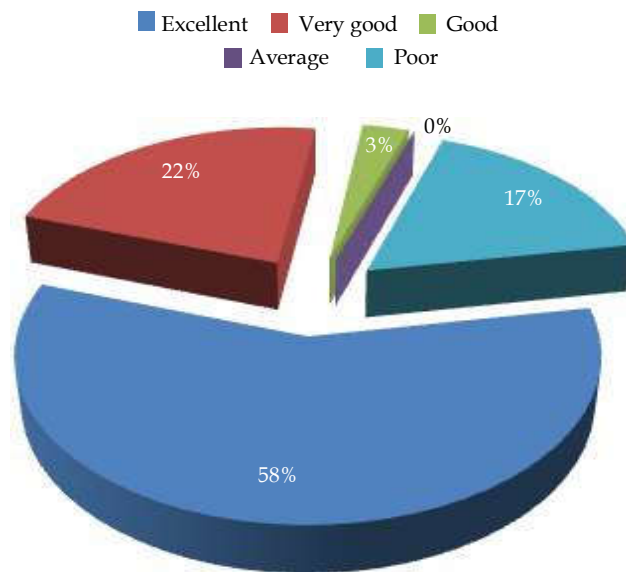


Fig. 1: Pre-test knowledge score.

Table 2: Assessment of knowledge of undergraduate students regarding low cost iron rich recipes and anemia before self instructional module

Pre-test knowledge score of undergraduate students N = 150

Pre-test knowledge score	Frequency	Percentage (%)
Excellent (25-30)	0	0.0
Very good (19-24)	26	17.0
Good (13-18)	86	57.0
Average (7-12)	34	22.0
Poor (0-6)	4	2.6

Section C: Effectiveness of SIM on knowledge regarding low cost iron rich diet by providing Self Instructional Module.

22 (44.67%) had very good knowledge, 5 (10.67%) got excellent level knowledge, 5 (10%) got average level knowledge, 1 (2%) got poor knowledge.

Table 3 shows that majority of undergraduate students 16 (32.67%) got good level knowledge,

Table 4 Show that there is a comparison between pre-test and post-test, in that knowledge about low cost iron rich diet is increased by 41%.

Table 3: Post-test knowledge of undergraduate students

N = 150

Post-test knowledge	Frequency	Percentage (%)
Excellent (25-30)	15	10.00
Very Good (19-24)	67	44.67
Good (13-18)	49	32.67
Average (7-12)	16	10.66
Poor (0-6)	3	2.60

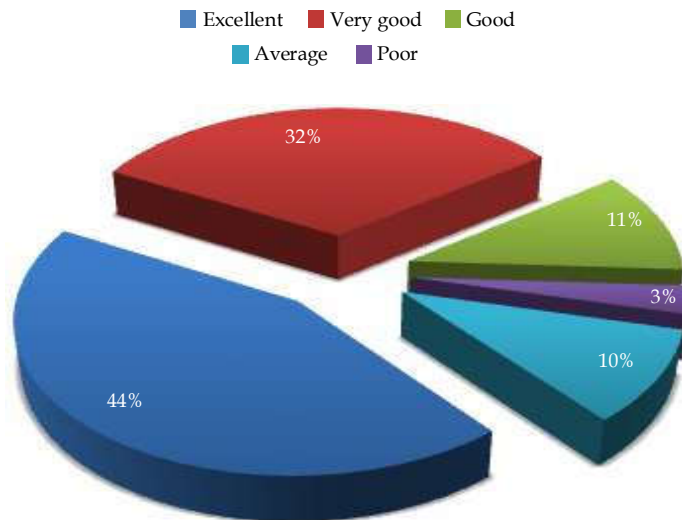


Fig. 2: Post-test knowledge score.

Table 4: Comparison between pre-test and post-test

N=150

Score range	Pre-test	Post-test
Excellent (25-30)	0	15
Very good (19-24)	26	67
Good (13-18)	86	49
Average (7-12)	34	16
Poor (0-6)	4	3

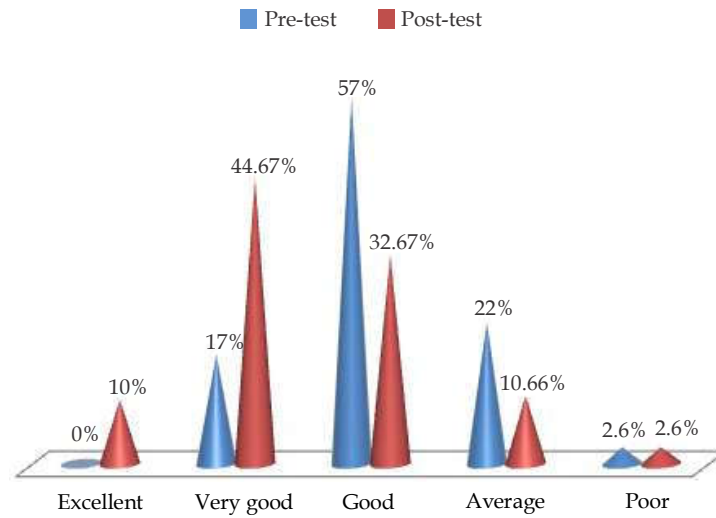


Fig. 3:

Section D

Table 5 Shows that pre-test mean knowledge score 14.72 with standard mean deviation. 3.73, and the post-test mean knowledge score 18.62 with standard mean deviation 4.81.

The hypothesis was tested using chi-square test,

the result are presented in the following table.

According to Table 6, the selected demographic variables were not significant at 0.05 level of significance hence null hypothesis is accepted.

Table 5: Distribution of mean and standard deviation of pre-test and post-test knowledge score regarding low cost iron rich recipes and anemia among undergraduate students

Test	Mean knowledge score	Standard mean deviation
Pre-test	14.72	3.73
Post-test	18.62	4.81

Table 6: To associate pre-test knowledge with selected demographic variables

Sr. No	Variables	X ² value	df	p-value	Inference
1.	Age	2.46	6	0.87	NS
2.	Monthly family income	6.52	9	0.68	NS
3.	Area of residence	5.24	3	0.15	NS
4.	Occupation of father	13.02	12	0.36	NS
5.	Occupation of mother	9.43	12	0.66	NS

NS = not significant.

Section E

Table shows that, the calculated t-value is -7.388 which is lower than the table value at p-value of 1.96. This means that the value is significant. So, the

null hypothesis H0 is rejected and the alternative hypothesis H1 is accepted with the inference that the self-Instructional module is useful in improving the knowledge regarding low cost iron rich recipes and anemia was effective.

Table 7: Calculation of t-value for acceptance of hypothesis

N = 150

Knowledge area	Mean score	Mean difference	Standard deviation	t-value	Df	Table value	Inference
Pre-test	14.72	-3.4	3.73	-7.388	298	1.96	significant
Post-test	18.62		4.81				

The finding of the pre-test study show that the post-test knowledge score was greater than the pre-test knowledge score of adolescent girl, hence the recent hypothesis is proved.

Conclusion

The study conclude that, In demographic variables, maximum undergraduate students were in age group of 18–20 year 144 (96%), 4 (2.67%), 2 (1.33%) were having education of basic B.Sc. Nursing 1st year. Maximum undergraduate students are from urban area 77 (51.33%). The knowledge score according to rating scale in pre-test was good and in posttest was very good. Mean score of pre-test was 14.72 and standard deviation was 3.72. Mean score of post-test was 18.62 and standard deviation was 4.81. The study reveals that mean post -test score was higher than pre-test score, thus the actual gain in knowledge is increased by 41%. Thus the study concludes that a self-Instructional module on low cost iron rich recipes and helps to improve knowledge of undergraduate students. In our study, new research is implication in practical setting of undergraduate students of various nursing colleges, Nagpur city. This study will help nursing students to improve their knowledge

regarding low cost iron rich recipes to prevent anemia. This nursing research will be source of review of literature for other studies.

Recommendations

- A descriptive study can be conducted.
- A similar study can be replicated with a controlled group.
- Other strategies can be used for a similar study.

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