



EFFECTIVENESS OF SELF-INSTRUCTIONAL MODULE (SIM) ON KNOWLEDGE REGARDING NUTRITIONAL ANEMIA AND ITS IMPACT ON BIRTH OUTCOME AMONG POST GRADUATE STUDENTS OF REPRODUCTIVE AGE STUDYING IN SELECTED COLLEGES, MANGALURU.

Mrs. Sinitha P B* | Dr. Brintha Balakrishnamony**

*Research Scholar, Himalayan University, Itanagar, Arunachal Pradesh, India.

**Research Guide, Himalayan University, Itanagar, Arunachal Pradesh, India.

<https://doi.org/10.47211/idcij.2025.v12i03.001>

ABSTRACT

This study was aimed to assess the effectiveness of SIM on knowledge regarding preconception health among undergraduates of selected degree colleges, Mangaluru. Methodology: an evaluative approach with Quasi experimental design was used to assess the effectiveness of SIM on knowledge. Fifty post graduate students from selected colleges were selected using random sampling technique. The data collection instruments were Demographic proforma and structured knowledge questionnaire. Results: in pretest majority 29(58%) of them had poor knowledge, 19(38%) of them had average knowledge and two (4%) had good knowledge regarding nutritional anemia and its impact on birth outcome among post graduate students in reproductive age group whereas in posttest 32(64%) had average knowledge, 18(36%) had good knowledge and none had poor knowledge regarding nutritional anemia and its impact on birth outcome among post graduate students in reproductive age. Overall knowledge in posttest Mean and SD of post-test was 19.74 ± 2.97 which was greater than the pre-test knowledge score 12.14 ± 5 . Calculated 't' value was 12.36 which is greater than the tabled value at 0.05 level of significance ($p < 0.001$). Association between knowledge scores and demographic variables of post graduates revealed there was significant association between knowledge scores and diagnosis with anemia ($\chi^2 = 5.983$, $p < 0.05$), hence the research hypothesis was accepted and null hypothesis rejected in this variable and no association with other demographic variables. Conclusion: SIM was effective in improving the knowledge regarding nutritional anemia and its impact on birth outcome among postgraduate students.

Key words: knowledge, effectiveness, nutritional anemia and its impact on birth outcome, SIM, postgraduates, colleges.

ABOUT AUTHORS:



Author Mrs. Sinitha P B is Research Scholar in Himalayan University, Arunachal Pradesh, India. She has attended various Seminars and conferences.



Dr. Brintha Balakrishnamony is an accomplished academician and researcher with numerous publications to her credit. She has actively contributed to the scholarly community by attending and organizing several national and international conferences. Known for her expertise and engaging delivery, she has delivered extensive lectures on diverse topics within her field, inspiring both students and professionals alike.



INTRODUCTION

Anemia is a common condition that results from a lack of certain vitamins and minerals. Nutritional deficiency anemia can lead to a low red blood cell count, low hemoglobin in the red blood cells, or red blood cells that do not function as they should. Nutritional deficiency anemia mainly results from a lack of iron, but a lack of folate, protein or vitamin B12 can also cause anemia.² Prevention and treatment of anaemia in women of reproductive age is essential to prevent low birth weight, perinatal and maternal mortality, and associated risk of disease.² Nutritional anemia is a major public health problem worldwide particularly in developing countries among women of reproductive age. National Family Health Survey data shows that the prevalence of anemia among women of reproductive age in India is 56.1% whereas that in Karnataka is 55.9%.³

In women, anaemia may become the underlying cause of maternal mortality and perinatal mortality.⁴ In pregnancy it also leads to premature births, low birth weight, fetal impairment and infant deaths. It reduces the productivity of women. The reduction in women's productivity places an economic burden on the families, communities and the societies.⁵

The knowledge and household practices of women towards the prevention of iron deficiency anaemia differ from region to region and with individual woman.⁶ Adequate Maternal knowledge of anemia may encourage women to take iron supplements during pregnancy and after childbirth. Lower maternal education will lead to higher rates of anemia in the mother in rural areas.⁷

The ignorance of women about nutritional anemia and lack of knowledge on preventive practices may still contribute to poor health conditions of self and their offsprings.⁸ Reviews and literature shows that nutritional anemia has an effect on the newborn and knowledge regarding the nutritional anemia is less among women in reproductive age group. The researcher selected post graduates of reproductive age students as they will be soon or already stepped into the married life, so investigator felt that there is a need to educate the regarding nutritional anemia and its impact on birth outcome using self-instructional module.

Aim of the study:

To assess the effectiveness of Self Instructional Module (SIM) on knowledge regarding nutritional anemia and its impact on birth outcome among post graduate students of reproductive age studying in selected colleges, Mangaluru.

Objectives of the study:

1. To assess the knowledge regarding nutritional anemia and its impact on birth outcome among post graduate students of reproductive age studying in selected colleges, Mangaluru.
2. To evaluate the effectiveness of Self Instructional Module (SIM) on knowledge regarding nutritional anemia and its impact on birth outcome among post graduate students of reproductive age studying in selected colleges, Mangaluru.
3. To find out the associate between the knowledge scores regarding nutritional anaemia and its impact on birth outcome among post graduate students of reproductive age and their selected demographic variables.

Hypothesis:

All Hypotheses will be tested at 0.05 level of significance.

H₁: There will be a significant difference between pre-test and post test knowledge regarding nutritional anemia and its impact on birth outcome among post graduate students in reproductive age.

H₂: There will be a significant association between pre test knowledge scores regarding nutritional anemia and its impact on birth outcome among post graduate students in reproductive age and their selected demographic variables

RESEARCH METHODOLOGY

An evaluative approach with Quasi experimental design was used to assess the effectiveness of SIM. Fifty post graduate students from selected colleges were selected using random sampling technique. The data collection instruments were Demographic proforma and structured knowledge questionnaire. Reliability of the tool was established split half method which measures the co-efficient of internal consistency using Karl Pearson's correlation coefficient formula. The reliability coefficient for the structured knowledge questionnaire was found to be 0.84. Hence the tool was found to be reliable.

The Pilot study was conducted and results concluded that there was significant difference in the knowledge scores among postgraduates students and SIM was effective in improving the knowledge. The research tools

were found to be feasible and practicable. No further changes were done in the tool after the pilot study. Ethical clearance was obtained from ethical committee.

Pre-test was administered using structured knowledge questionnaire. SIM was distributed. After seven days of administration of SIM post-test was conducted using the same structured knowledge questionnaire.

RESULTS

Section 1: Distribution of demographic variables

Regarding age all 50 (100%) postgraduates were within the age group of 21-30 years. In referring to the type of family, it is evident that most 37 (74%) of them belonged to nuclear family, majority 46(92%) of them were spinster, it was observed that most 17(34%) were with range of 10001-15000 monthly family income, regarding type of diet, it is observed that majority 34 (68%) of postgraduates were Non Vegetarian, most 41(82%) didn't had anemia whereas nine (18%) were diagnosed as having anaemia. It was observed that most 30 (60%) of postgraduates had no prior information about regarding nutritional anemia and its impact on birth outcome and most of them 14 (28%) gained information from health personal.

Section 2: Level of knowledge

Table 1: Frequency and percentage distribution according to the pre-test level of knowledge.

Category	Level of stress			
	Pretest		Post test	
	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
Good	2	4	18	36
Average	19	38	32	64
Poor	29	58	0	0

Table 1 reveals that in pretest majority 29(58%) of them had poor knowledge, 19(38%) of them had average knowledge and two (4%) had good knowledge regarding nutritional anemia and its impact on birth outcome among post graduate students in reproductive age group whereas in posttest 32(64%) had average knowledge, 18(36%) had good knowledge and none had poor knowledge regarding nutritional anemia and its impact on birth outcome among post graduate students in reproductive age.

Section 3: Determining the effectiveness of SIM on knowledge regarding nutritional anemia and its impact on birth outcome among post graduate students in reproductive age

H₀₁: There is no significant difference in the knowledge regarding nutritional anemia and its impact on birth outcome among post graduate students in reproductive age before and after administration of the SIM.

Table 2: Overall mean, Standard deviation, Mean difference, t value and p value of pre-test and post-test knowledge scores.

	Mean	Standard deviation	Mean difference	t value	p value	Inference
Pre-test	12.14	5.46	-7.60	12.36	<0.001	Significant
Post-test	19.74	2.97				

Calculated 't' value was 12.36 which is greater than the tabled value at 0.05 level of significance ($p < 0.001$). Mean and SD of post-test was 19.74 ± 2.97 which was greater than the pre-test knowledge score 12.14 ± 5.46 . Hence, the null hypothesis was rejected H_{01} and research hypothesis was accepted indicating that the gain in knowledge was not by chance. Therefore, it is concluded that the gain in knowledge through the Self-instructional module was statistically significant.

Section 4: Association between knowledge scores regarding nutritional anemia and its impact on birth outcome among post graduate students in reproductive age and their demographic variables.

H₀₂: There will be no association between pre test knowledge scores regarding nutritional anemia and its impact on birth outcome among post graduate students in reproductive age and their selected demographic variables. There was significant association between knowledge scores and diagnosis with anemia ($\chi^2 = 5.983$, $p < 0.05$), hence the research hypothesis was accepted and null hypothesis rejected in this variable. Whereas no association between knowledge scores and other variables, hence the null hypothesis was accepted and research hypothesis rejected.

DISCUSSION

In the present study investigator found that Calculated t value was greater than the tabled value. Thus, it proves that SIM on nutritional anemia and its impact on birth outcome was effective.



The findings of the present study can be discussed with a descriptive study conducted to assess the prevalence and knowledge of anemia among women of reproductive age group (15-49 years) residing in rural areas of Punjab. As per the knowledge part is concerned about 52.5% were having average knowledge regarding anemia (causes, sign & symptoms & treatment). The overall mean score was 6.92. The overall findings of the study show the high prevalence of anemia. Study concluded that there is need to improve the health care services, facilities and more importantly knowledge among the women on topics related to anemia and its prevention.⁹

The findings of this study is consistent with a Quasi experimental study to assess the effectiveness of Structured teaching programme on knowledge regarding iron deficiency anemia among adolescent girls in Higher Secondary School. The sample consisting of 140 Senior Secondary School Students was selected by using simple random sampling. The tool comprised of structured self-administered questionnaire. The pretest was conducted and the structured teaching programme was administered. The post test was conducted after one week. The data obtained were analyzed by using descriptive and inferential statistics. The mean score of post-test knowledge 22.55 (62.63%) was apparently higher than the mean score of pre-test knowledge 13.85 (38.47%), suggesting that the structured teaching programme was effective in increasing the knowledge of the adolescent girls regarding iron deficiency anemia. The mean difference 8.7 between pre-test and post-test knowledge score of the adolescent girls was found to be significant.¹⁰

CONCLUSION

The present study would help to understand the Level of knowledge on nutritional anemia and its impact on birth outcome. Findings of the study showed that self-instructional module was effective.

REFERENCES

1. Vette Y. What is nutritional deficiency anemia? Medical News Today (Newsletter) .Last updated Thu 10 August 2017
2. Kapil U, Dr Pasricha S, Dr Jayatissa R, Dr Khera A, Dr de las M, Dr Winichagoon P. Strategies to prevent anemia: recommendations from an expert group consultations. World Health Organization. New delhi, india, 5-6 december 2016.
3. Family Welfare Statistics in India. Statistics division, Ministry of Health and Family Welfare, New Delhi: Government of India; 2006. p. 76
4. M Ezzati; AD Lopus; A Dogers; HS Vander; C Murray, Lancet, 2002, 360, 1347-1360.
5. Nutritional anaemia [<http://www.sightandlife.org/pdf/NAbook.pdf>]
6. Myrada & St. John's Medical College. Study of anaemia prevention and control among adolescent girls and pregnant women in three districts of Karnataka, India; 2020.
7. Souganidis E S, Sun K, Pee S D, Kraemer K Rah J H, Pfanner R M, Sari M, Bloem W M, Semba R D Relationship of maternal knowledge of anemia with maternal and child anemia and health-related behaviors targeted at anemia among families in Indonesia. Matern Child Health J. 2018 Dec; 16(9): 1913–1925
8. Tashara IF, Achen RK, Quadras R, D'Souza MV, D'Souza PJJ, Sankar A. Knowledge and self-reported practices on prevention of iron deficiency anemia among women of reproductive age in rural area. 2015, IJASR: 01(7) p 289-92.
9. Mamta, Devi LT. Prevalence of Anemia and Knowledge Regarding Anemia Among Reproductive Age Women . IOSR Journal of Nursing and Health Science (IOSR-JNHS) e-ISSN: 2320–1959.p- ISSN: 2320–1940 Volume 3, Issue 2 Ver. II (Mar-Apr. 2014), PP 54-60 www.iosrjournals.org
10. Meena S, Deepak Y. Effectiveness of Structured Teaching Programme on Knowledge Regarding Iron Deficiency Anemia Among Adolescent Girls In Higher Secondary School. IOSR-JNHS, 2018;;7(2):76-80.