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AN EVALUATION OF THE IMPACT OF A STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE OF ANAEMIA AMONG ADOLESCENT GIRLS

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Abstract:

Background: Anaemia continues to be a significant public health concern among adolescent girls, especially in developing regions. Factors such as increased physiological demands during growth, menstrual blood loss, and insufficient awareness about nutrition and prevention contribute to its high prevalence. Strengthening knowledge during adolescence is crucial to minimize both the immediate and future health complications associated with anaemia. **Aim:** This study aimed to evaluate the Impact of a Structured Teaching Programme on Knowledge of Anaemia Among Adolescent Girls. **Methodology:** The current research design used a pre-experimental and one-group pre-test/ post-test design. Eighty participants were selected at schools of choice through the convenience method of sampling. Data were gathered through a demographic profile and a structured questionnaire assessing knowledge on anaemia. **Results:** The pre-test findings demonstrated poor baseline knowledge among the participants. Following the implementation of the structured teaching programme, a marked increase in post-test knowledge scores was observed. Statistical analysis using a paired t-test revealed a significant difference between pre- and post-intervention scores ($p < 0.05$), indicating the effectiveness of the educational intervention. **Conclusion:** The study establishes that structured teaching programmes significantly enhance knowledge about anaemia among adolescent girls. Incorporating such educational interventions into regular school health curricula is recommended to foster early prevention and improve long-term health outcomes.

Keywords: Anaemia, Adolescent girls, Knowledge.

INTRODUCTION

Anaemia is a common nutritional condition in adolescents and continues to be a major health issue of concern in international levels. The major features of adolescence include rapid development, increase in nutritional needs, and in women, the onset of menstruation, which increase the risk of iron deficiency. Lack of proper nutritional intake, menstrual menstrual hemorrhage, parasite infection and little knowledge about prophylactic

measures combine to increase the high rates of anaemia among this population. Anaemia during this period of development has an adverse effect on physical development, cognitive development, immunological development, and general welfare, and potential future implications on maternal health.

Anaemia is a condition that is disproportionately experienced by women and adolescent girls especially in low-and-middle-income countries globally. Indian statistics show that over half of the adolescent girls are anaemic, and highlights a long-running lack of nutritional and health education. Although such national programmes as iron supplementation and school-based health programs exist, a lack of knowledge related to causative factors, clinical manifestation, as well the prevention of the problem undermines their effectiveness and makes it impossible to achieve optimal compliance. Despite the fact that supplementation is still extensively marketed, less interventions focus on systematic education techniques. There is scanty evidence on the effectiveness of systematic teaching programmes in schools. Therefore, the given research was developed to evaluate the Impact of a Structured Teaching Programme on Knowledge of Anaemia Among Adolescent Girls.

METHODOLOGY:

The current research design used a pre-experimental and one-group pre-test/ post-test design. Eighty participants were selected at schools of choice through the convenience method of sampling. Willingness, presence, and the ability to comprehend the instruction were the criteria used to select the participants, and the rest that did not attend the post-test, had previously attended similar programs, or were sick were not included. The sampling was carried out using a structured questionnaire that included a demographic profile and a knowledge questionnaire that covered anaemia. Upon receiving permission and informed consent, a pre-test was conducted and the teaching program was delivered by the use of the lecture and discussion methods with the visual aids. Another test using the same instrument was given after a specific time. Data that were obtained were coded and analyzed through descriptive and inferential statistical analyses.

RESULTS:

The Table 1 shows the frequency and the percent distribution of the study participants who are adolescent females based on the chosen demographic variables, that is, age, grade level, religious affiliation, family typology, residential locality, dietary regimen, maternal educational attainment, and menstrual history. This table outlines the demographic background of the cohort at baseline and those contextual variables that may influence their competence on the issue of anaemia. The distributions of pre-test and post-test of knowledge levels, which are inadequate, moderate, and adequate, can be seen in Table 2. The significant change to the advanced knowledge levels experienced in the post-test provides support to the positive effect of the organized instructional intervention. Table 3 indicates the comparative analysis of mean pre-test and post-test knowledge scores through a paired t-test, the means, standard deviations, the difference between the means, t-statistic, the degrees of freedom, and the p-value. The difference in the result shows that the intervention is effective because the difference is statistically significant. Table 4 assesses how knowledge post-testing is related to the

demographic variables chosen using chi-square assessment. The analysis also determines variables that are statistically significant with the level of knowledge thus giving an insight on the variables that affect the level of results in education.

Table 1: Demographic variables among adolescent girls.

Demographic variable (Category)	Frequency (f)	Percentage (%)
Age (years)		
13	30	37.5
14	34	42.5
15	16	20.0
Class/Standard		
VIII	28	35.0
IX	27	33.8
X	25	31.2
Religion		
Hindu	70	87.5
Christian	6	7.5
Muslim	4	5.0
Type of family		
Nuclear	46	57.5
Joint	34	42.5
Place of residence		
Rural	52	65.0
Urban	28	35.0
Diet pattern		
Vegetarian	30	37.5
Mixed	50	62.5
Mother's education		
Primary	24	30.0
Secondary	32	40.0
Higher secondary	16	20.0
Graduate & above	8	10.0

Menstrual pattern		
Regular	58	72.5
Irregular	22	27.5

Table 2: Level of knowledge regarding anaemia.

Knowledge level	**Pre-test f (%)**	**Post-test f (%)**
Inadequate	56 (70.0)	8 (10.0)
Moderate	20 (25.0)	26 (32.5)
Adequate	4 (5.0)	46 (57.5)

Table 3: Effectiveness of STP.

Test	**Mean**	**SD**	**Mean difference**	***t* value**	**df**	***p* value**
Pre-test	10.2	2.1	8.4	22.5	79	<0.001*
Post-test	18.6	1.9				

*Significant at $p < 0.05$.

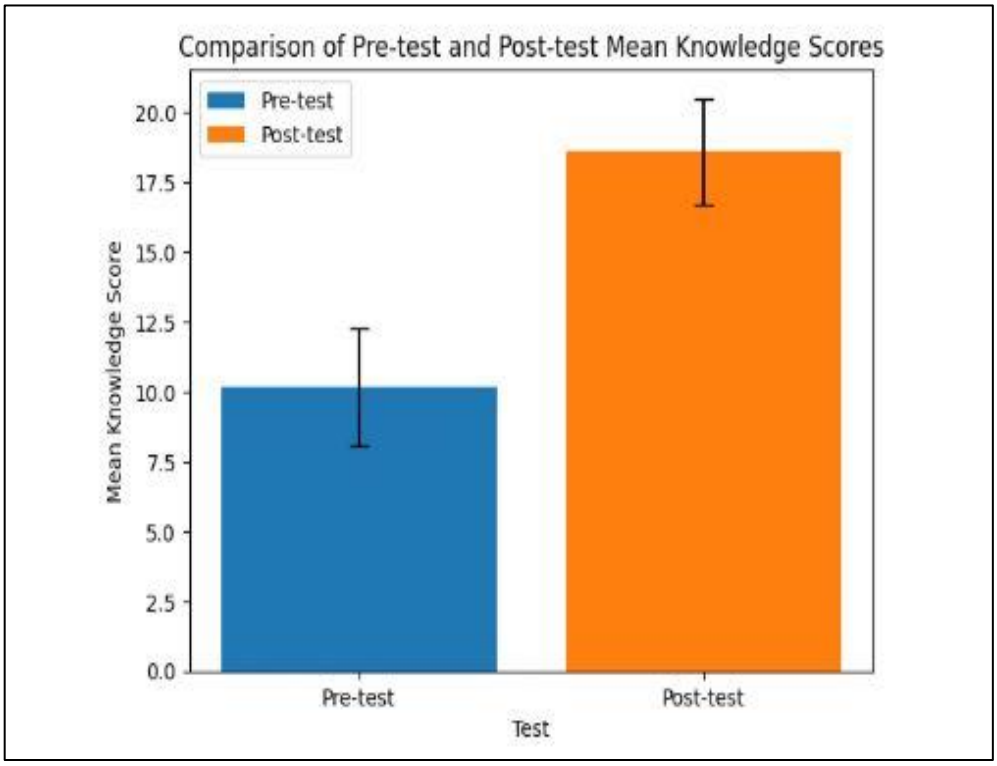

Figure 1: Mean score of knowledge scores

Table 4: Association of knowledge with selected demographic variables.

Demographic variable	χ^2	df	*p* value	Significance
Age (years)	3.12	4	0.538	NS
Class/Standard	5.48	4	0.241	NS
Religion	2.90	4	0.575	NS
Type of family	1.02	2	0.600	NS
Place of residence	6.40	2	0.041*	S
Diet pattern	7.10	2	0.029*	S
Mother's education	12.85	6	0.045*	S
Menstrual pattern	2.10	2	0.350	NS

NS = Not significant; S = Significant were p < 0.05.

DISCUSSION:

The current research showed a strong improvement of the knowledge about anaemia among adolescent girls during the period after the introduction of a systematic teaching programme. The average level of knowledge during the pre-intervention assessment was 10.2 (2.1), which is a poor baseline of knowledge about anaemia, its causes, clinical presentation, and methods of prevention. After the intervention the average score rose to 18.6 1.9 with a significant improvement. The statistical significance of the mean difference of 8.4 points was significant (t 22.5, p 0.001), which is why the structured curriculum was proven to be effective and indicates that the systematic and targeted instruction on health can help bridge the knowledge gaps in this group of participants. During the pre-test assessment, 70 percent of the respondents had poor knowledge, 25 percent moderate and only 5 percent had appropriate knowledge concerning anaemia. After the intervention, 57.5% achieved sufficient knowledge, with people having insufficient knowledge reducing drastically to 10%. This significant redistribution among the types of knowledge points out the strong influence of the educational program on the conceptual understanding of the anaemia-related concepts. The findings of the association analysis indicated that the levels of post-test knowledge were significantly correlated with place of residence (χ 2 = 6.40, p = 0.041), dietary pattern (2 = 7.10, p = 0.029), and the educational level of the mother (2 = 12.85, p = 0.045). These findings show that the environment and family factors shape health knowledge acquisition and reinforcement. The results can be compared to the previous study by Kaur et al., who have found that the average knowledge scores have increased significantly after the implementation of a systematic anaemia education programme (p < 0.001). On the same note, Sharma et al. recorded a 68 to 12 progress in the levels of inadequate knowledge, which was found to be effective as a result of the intended instructional methods. The improvement in the post-intervention scores was also statistically significant in a study by Patel

et al. among school-going adolescents who underwent anaemia health education. Overall, the present discussion supports the idea that structured teaching programmes represent an efficient way of promoting the knowledge on anaemia-related issues in adolescent females and underlines the need to incorporate such interventions into the health education programmes of regular schools.

CONCLUSION:

The research indicates that the structured teaching programme was successful in increasing adolescent girls knowledge on anaemia. The fact that the post-test scores increased highlights the importance of systematic health education as a tool in closing the gap as far as etiology, prophylaxis, and dietary management of anaemia are concerned. Residential environment, diet and maternal education were demographic factors that moderated results and thus highlighted the effects of socio-environment. Improving health services provided in schools by the implementation of such programmes is a viable way to empower adolescents and reduce anaemia.

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