

# A Study to Evaluate the Effectiveness of Structured Teaching Program on Knowledge Regarding Use of Sanitary Napkin During Menstruation Among Early Adolescent Girls Studying in Government Middle School Childag at Childag, Angara, Ranchi, Jharkhand

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*Abstract—This study was conducted to evaluate the effectiveness of structured teaching program on knowledge regarding use of sanitary napkin during menstruation among early adolescent girls at G.M.S Childag, Angara, Ranchi, Jharkhand. The objective of the study is to assess the pre-test knowledge score regarding use of sanitary napkin during menstruation among early adolescent girls, to evaluate the effectiveness of structured teaching program on knowledge regarding use of sanitary napkin during menstruation among early adolescent girls and to find out the association between pre-test level of knowledge score and with its selected socio-demographic variable regarding use of sanitary napkin during menstruation among early adolescent girls. the conceptual framework used in this study is Dorothea Orem's theory of self-care A quantitative quasi-experimental research approach with pre-experimental research design was used for the study. The tool consists of socio-demographic data and 30 self-structured multiple-choice questionnaires to assess the level of knowledge regarding use of sanitary napkins. This study was conducted on 60 early adolescent girls Studying in Government Middle School Childag at Childag, Angara, Ranchi, Jharkhand. The sample was selected by using simple random sampling technique. The finding revealed that a major shift is identified at good category, percentage distribution was increased to 60% which was 33.33% priorly, average level was 56.66% and in poor level 10% of the participants belonged before intervention, however after structured teaching program more than half of the students were upgraded to good level of knowledge. The mean score of post-tests (20.25) is more than of pre-test (15.43) level of knowledge, with t-value 10.87 at df-59 and t-value 2 which is statistically significant at  $p \leq 0.05$  level.*

*There was significant increase in knowledge after teaching.*

*Index Terms—Early adolescent girls, Effectiveness, Knowledge, Menstruation, Middle School, Sanitary napkin, Structured teaching program.*

## I. INTRODUCTION

Menstruation is a natural physiological process, yet it continues to be surrounded by cultural taboos, silence, and misinformation in many parts of India. Early adolescent girls often enter menarche without appropriate knowledge of menstrual hygiene or the correct use of sanitary napkins. Lack of awareness during this period increases the risk of reproductive tract infections, dermatological problems, discomfort, and poor school attendance [1,2]. Studies conducted in India show that a considerable number of adolescent girls still use unhygienic materials such as old cloth, paper, or ash due to ignorance and cultural restrictions, resulting in poor menstrual hygiene practices [1,3]. Research also highlights that many girls are unaware of correct pad usage, changing frequency, and proper disposal methods, especially in rural and semi-urban areas [4,5]. Government initiatives such as the Menstrual Hygiene Scheme aim to distribute sanitary napkins and promote awareness, yet the effects remain limited due to insufficient school-based health education and persistent social barriers [5]. Evidence shows that structured teaching programs significantly

improve knowledge, correct misconceptions, and encourage safe menstrual hygiene behavior among adolescent girls [6,7]. In regions like Childag, Angara in Ranchi district, such educational gaps still exist. There is a need to provide age-appropriate, culturally sensitive, and structured teaching to early adolescent girls to enhance their menstrual hygiene knowledge and promote confident, healthy practices. Therefore, this study is essential to evaluate the effectiveness of a structured teaching program in improving knowledge regarding the use of sanitary napkins among early adolescent girls.

#### Problem Statement

A Study to Evaluate the Effectiveness of Structured Teaching Program on Knowledge Regarding Use of Sanitary Napkin During Menstruation Among Early Adolescent Girls Studying in Government Middle School Childag at Childag, Angara, Ranchi, Jharkhand.

## II. OBJECTIVES

1. To assess the pre-test knowledge score regarding use of sanitary napkin during menstruation among early adolescent girls.
2. To evaluate the effectiveness of structured teaching program on knowledge regarding use of sanitary napkin during menstruation among early adolescent girls.
3. To find out the association between pre-test level of knowledge score and with its selected socio-demographic variable regarding use of sanitary napkin during menstruation among early adolescent girls.

#### ASSUMPTION

We assumed that structured teaching program may help to gain knowledge regarding use of sanitary napkin during menstruation.

#### 3. HYPOTHESIS

H<sub>0</sub>: There will be no significant difference between pre-test and post-test knowledge score regarding use of sanitary napkin among middle school girls at the 0.05 level of significance.

H<sub>1</sub>: There will be significant difference between pre-test and post-test level of knowledge score regarding use of sanitary napkin at the 0.05 level of significance.

H<sub>2</sub>: There will be significant association between knowledge score and socio-demographic variable at the 0.05 level of significance.

#### DELIMITATION

The study is delimited to-

1. Early adolescent girls around 12-15years.
2. Early adolescent girls at selected middle school of Ranchi.
3. Early adolescent girls who are available during the data collection.

## III. METHODS AND DESIGN

A quantitative quasi-experimental research approach with pre-experimental research design was used for the study. The researcher Evaluated the Effectiveness of Structured Teaching Program on Knowledge Regarding Use of Sanitary Napkin During Menstruation Among Early Adolescent Girls Studying in Government Middle School Childag at Childag, Angara, Ranchi, Jharkhand. The independent variables of this study were structured teaching program and independent variables were knowledge regarding use of sanitary napkins during menstruation. The tool consists of socio-demographic data and 30 self-structured multiple-choice questionnaires to assess the level of knowledge regarding use of sanitary napkins. This study was conducted on 60 early adolescent girls Studying in Government Middle School Childag at Childag, Angara, Ranchi, Jharkhand. The sample was selected by using simple random sampling technique.

#### Inclusion criteria:

- Early adolescent girls studying in Middle school those who were willing to participant in the study.
- Early adolescent girls studying in Middle school those who will be available during the data collection period.

#### Exclusion criteria:

- Early adolescent girls studying in Middle school those who are not willing to participate in the study.
- Early adolescent girls studying in Middle school those who will absent during data collection.

IV. RESULT AND FINDING

Section-A: Distribution (frequency and percentage) of sample according to socio-demographic variables.

In present study majority (81.66%) of sample were between 10-11 years of age. A vast majority (90%) were Hindu. Almost half (55%) of the students studying in VII. Almost all (99%) belongs from rural area. Nearly half (46.66%) of the students' mothers were completed secondary education. One third (33.33%) of the students' father were completed secondary education. Around 45% students' mother were unemployed. More than half (60%) of the student's father were working in private sector. Almost half (53.33%) of the students' family income were between 10000-25000/-Rs per month. Nearly three-fourths (73.33%) students' gathered information regarding use of sanitary napkins from peer group.

Section-B: Assessment of knowledge regarding use of sanitary napkin during menstruation among early adolescent girls.

*Overall analysis of pre-interventional knowledge regarding use of sanitary napkin during menstruation among early adolescent girls based on set category using frequency and percentage distribution.*

In order to attain first objectives pre-interventional knowledge were assessed. The findings shows that half n-30 (56.66%) of the students have average knowledge; followed by n-20 (33.33%) have good knowledge and only six (10%) got poor knowledge score. (Table-I & fig.-1)

Table no.-I Frequency and percentage distribution of samples according to pre-interventional level of knowledge.

N=60

Level of Knowledge	Range Score	Frequency	Percentage
Good	0-10	20	33.33%
Average	11-20	34	56.66%
Poor	12-30	6	10%
Total		60	100%

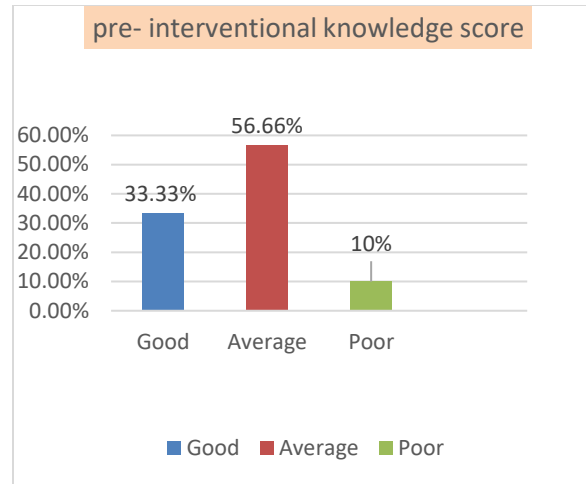


Fig.-1: Bar diagram to represent percentage distribution of samples according to pre-interventional level of knowledge.

*Overall analysis of pre-interventional and post-interventional knowledge regarding use of sanitary napkin during menstruation among early adolescent girls based on set category using frequency and percentage distribution.* In order to attain second objectives, the pre-interventional and post-interventional knowledge scored were compared. The finding revealed that a major shift is identified at good category, percentage distribution was increased to 60% which was 33.33% priorly, average level was 56.66% and in poor level 10% of the participants belonged before intervention, however after structured teaching program more than half of the students were upgraded to good level of knowledge. (Table-II & Fig.-2)

Table no.-II Frequency and percentage distribution of samples according to pre-interventional and post-interventional level of knowledge.

N=60

Level of Knowledge	Pre-interventional knowledge (Frequency and percentage)	Post-interventional knowledge (Frequency and percentage)
Good	20 (33.33%)	36 (60%)
Average	34 (56.66%)	19 (35%)
Poor	6 (10%)	3 (5%)
Total	60 (100%)	60 (100%)

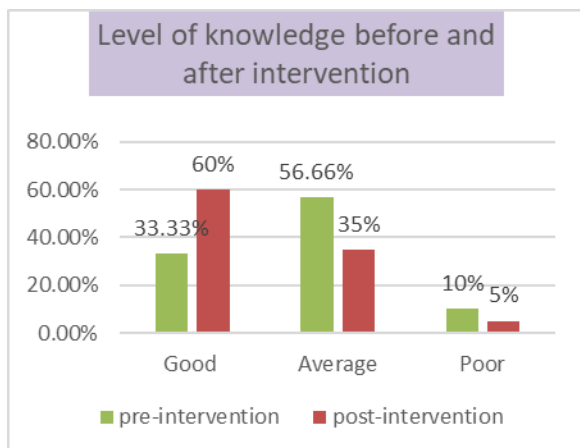


Fig.-2: Multiple bar diagram to represent percentage distribution of samples according to pre-interventional and post interventional level of knowledge.

Section-C: Evaluation of Effectiveness of structured teaching program on knowledge regarding use of sanitary napkin during menstruation among early adolescent girls based on set category.

The mean score of post-tests (20.25) is more than of pre-test (15.43) level of knowledge, with t-value 10.87 at df-59 and t-value 2 which is statistically significant at  $p \leq 0.05$  level. There was significant increase in knowledge after teaching. (Table-III)

Table no.-III Analysis of effectiveness of structured teaching program on the basis of mean, SD, CV, and t-test value.

Variables	Level of knowledge	
Pre-test	Mean	15.43
	SD	4.98
	CV	32.27
Post-test	Mean	20.25
	SD	4.57
	CV	22.27
Df	59	
Tabulated t-value	2	
Calculated t-value	10.87	

Hence null hypothesis

$H_0$ : There is no significant difference between pre-test and post-test knowledge score regarding use of sanitary napkin among middle school girls at the 0.05 level of significance is rejected and research hypothesis

$H_1$ : There is significant difference between pre-test and post-test level of knowledge score regarding use

of sanitary napkin at the 0.05 level of significance is accepted.

Table no.-III inferential statistic to evaluate the effectiveness of structured teaching program on knowledge regarding use of sanitary napkins

Section-D: Association between pre-interventional knowledge score and selected sociodemographic data. In order to attain third objective Chi-square analysis was done to assess the association between knowledge score and selected sociodemographic variables and findings proven a significant association with educational qualification, mother's occupation and father's occupation were 17.22, 10.32 and 12.59 respectively at  $p < 0.05$  level of significance.

Hence  $H_2$ : There is significant association between pretest knowledge score with the educational level, mother's occupation and father's occupation is accepted at 0.05 level of significance, which implies that there is association between knowledge score of early adolescent's girls, use of sanitary napkin during menstruation with educational qualification and mother's occupation, father's occupation.

## V. NURSING IMPLICATION

Nursing service: -

- Nurses are the key person of the health team, who play a major role in health promotion and maintenance. Nurse should be update with knowledge and competence in providing quality care.
- The nurse personnel need to prepare teaching and learning material like information guide which can be studied at schools.

Nursing education: -

- The nurses should be encouraged participant to participate in the structured teaching program regarding use of sanitary napkin during menstruation.
- Nurse as an educator, there is an abundant opportunity for nursing professionals to educate people about use of sanitary napkin during menstruation.
- Nurse educator should conduct health campaigns and should use different strategies.

Nursing administration: -

- The nursing administrator should develop standardized protocols in managing use of sanitary napkin during menstruation.

- Nursing administrator can organize continuing education program on the use of sanitary napkin during menstruation for nursing personnel and motivate them to educate the common public.

Nursing research: -

- The researcher can develop appropriate health education tools for educating people.
- The study will motivate beginning researcher to conduct the same study with different variables on large scale.

## VI. RECOMMENDATIONS

- A similar study can be done with a large sample for generalization.
- A study can be carried out to evaluate the efficiency of other teaching strategies like structured teaching program.

## VII. CONCLUSION

This study was conducted to "A study to evaluate the effectiveness of structured teaching program on knowledge regarding use of sanitary napkin during menstruation among early adolescent girls studying in Government Middle School at Childag, Angara, Ranchi Self-structured socio-demographic variables and self-structured questionnaire was prepared for data collection and knowledge assessment of the early adolescent girls. Subjects were selected by using simple random sampling technique. The present study was conducted on Government Middle School at Childag, Angara, Ranchi. Pre-test was conducted at day 1 of the study followed by structured teaching program. After 7 days post-test was conducted to evaluate the increase in knowledge score. The collected data were analyzed and interpreted through the use of descriptive and inferential statistics. The result shows that, there was a significant improvement of knowledge among early adolescent girls after administration of structured teaching program. The study findings conclude that there is increase in knowledge level regarding use of sanitary napkin during menstruation through the structured teaching program. There is a positive correlation between structured teaching program and knowledge level regarding use of sanitary napkin during menstruation.

## ACKNOWLEDGMENT

I extend my sincere appreciation to all those who played a crucial role in the completion of this research

work. This endeavor was made possible through the support & guidance of my dedicated teachers, who patiently explained complex concepts and provided invaluable assistance throughout the project. Furthermore, my peers deserve special acknowledgement for their collaborative efforts, which greatly enriched the final result. Lastly, I want to express my gratitude to my family for their unwavering encouragement, which motivated me to excel in this endeavor.

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