International Journal of Science and Research (IJSR)
ISSN: 2319-7064
SJIF (2022): 7.942

A Study to Assess the Effectiveness of Planned Teaching Programme on Knowledge regarding Menstrual Hygiene among Adolescent Girls in a Selected School of Guwahati, Assam

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Abstract: ***A pre- experimental study has undertaken to assess the effectiveness of planned teaching programme on menstrual hygiene among adolescent girls. The study was conducted by using self structured questionnaire among 80 adolescent girls by using Non Probability purposive sampling technique. The findings reveal that pre-test knowledge score was 12.5% had adequate knowledge, 67.5% had moderate knowledge and 20.0 % had inadequate knowledge and Post test knowledge score was 87.5% had adequate knowledge and 12.5% had moderate knowledge. The pre mean score was 19.38 and the post mean score was 26.14 and standard deviation of pre score was 3.709 and standard deviation of post score was 1.840 with paired 't' value -19.52. So the post mean score was very highly significant than pre mean knowledge score of Adolescent school girls. Effectiveness of planned teaching programme was very highly significant at the level of p<.001 level. The chi-square value computed for pre-test knowledge score and with some demographic variables. Age, Education, Religion, Age of the menarche, Educational status of the mother, Number of elder sister, Type of the family which were significant at 0.05 level.***

Keywords: Knowledge, adolescent girls, menstrual hygiene, planned teaching programme

1. Introduction

The word adolescence is derived from the Latin verb "Adolescere" which means to grow into maturity. Adolescence is a period of transition from childhood to adulthood. There are the formative years when maximum amounts of physical, psychological and behavioral changes take place. Adolescent girls often lack knowledge regarding reproductive health including menstruation which can be due to socio cultural barriers in which they grow up. These differences create various problems for the adolescent girls. About 52% of the female population is of reproductive age and most of them are menstruating every month. Most them had no access to clean and safe sanitary products, or to clean and private space in which to change menstrual cloths and pads and to wash. Illiteracy poverty and lack of awareness are the major reasons behind menstruation still being a taboo in the Indian society. On a global level, at least 500 million women and girls lack adequate facilities for menstrual hygiene management. Lack of adequate information on sanitation and hygiene facilities, Particularly in public places like schools, workplaces or health centres can pose a major obstacle to women and girls. A 2014 report by the NGO Dasra titled 'spot on' informed that almost 23 million girls in India drop out of school annually ,because of lack of menstrual hygiene management facilities , including availability of sanitary napkin and awareness about menstruation . The report further suggest that the girls ,who don't drop out ,usually miss up to 5 days of school every month. A 2016 study titled – 'Menstrual hygiene management among adolescent girls in India' involving nearly 100,000 did not know about menstruation until the first time they go their period. According to a National Family Health Survey (NFHS) 2015-16, about 57.6 percent of the Indian women use sanitary napkins and 62 percent women in the age group 15-24 years still rely on a cloth during periods. The latest fact –sheet of NFHS -4 which provide information on population ,health and nutrition in each state –is the 4th in a series and highlights that only 44.8 % women aged between 15-24 in the state use hygienic methods to control menstrual flow. In the urban areas of the state is 70.8% and 40.9% in rural ASSAM.

2. Literature Survey

The World Health Organization (WHO) defines adolescents as individuals between 10-19 years of age .Today approximately 1/5 of the world's population is adolescents ,with more than four-fifth in developing countries. As per a report published by NDTV, as many as 60,000 cases of cervical cancer deaths are reported every year from India. Two-third deaths of this total number of the cases reported are from rural India and mainly due to poor menstrual hygiene. According to a National Family Health Survey (NFHS) 2015-16, about 57.6 percent of the Indian women use sanitary napkins and 62 percent women in the age group 15-24 years still rely on a cloth during periods.

Problem Definition:

Assessment: In this study, assess refers to evaluate the level of knowledge regarding menstrual hygiene among adolescent girls.
Knowledge: In this study knowledge refers to understanding of adolescent girl's on menstrual hygiene as elicited by the structured questionnaire devised by the questionnaire.

Effectiveness: In this study Effectiveness refers to the extent to which the planned teaching program developed, has achieved the desired results as expressed in terms of gain in knowledge score regarding the "menstrual hygiene" as measured by knowledge questionnaire.

Menstrual Hygiene: In this study Menstrual hygiene refers to maintenance of hygiene during the menstrual period which includes use of clean pads, changing of soaked pads every 2-6 hours or whenever necessary, proper disposal of use pads, perineal and personal hygiene with usual daily activities, exercises ,diet and ways of preventing discomfort and problems related to menstruation.

Adolescent girls: In this study refers to the girls who had attained menarche between 12-17 years Adolescent girls who are studying in selected schools.

Planned teaching programme: Refers to systematically developed instructional and teaching aids, designed for adolescent girls to provide information regarding menstrual hygiene.

Evaluate: In this study Evaluate refers to systematically measuring and monitoring the level of knowledge before and after planned teaching programme by using questionnaire.

3. Methods / Approach

Research Design: A research design is the framework or guide used for planning, implementation and analysis of a study.

Pre-experimental one group pre-test post-test design will be used for this study.

Schematic representation of research design

Group	Pre-test	Intervention	Post-test
Study group	O1	x	O2

Keys
O1- Pre-test on knowledge regarding Menstrual hygiene.
X- Intervention- Planned teaching programme on Menstrual hygiene among adolescent girls in a selected school of Guwahati O2- Post-test on knowledge regarding Menstrual hygiene.

Setting of the study: This study was conducted in Bonda Anchalic High School of Guwahati, Assam.

Target population: The target population of the study comprises of adolescent girls in a selected school of Guwahati, Assam.

Accessible population: The Accessible population of the study comprises of Adolescent girls studying in 8^{th}, 9^{th} and 10^{th} standards in a selected school of Guwahati.

Sample size: A sample is a subset of a population selected to participate in a research study . The sample consists of 80 adolescent girls in a selected school of Guwahati, Assam..

Sampling technique: Non probability purposive sampling technique

Criteria for sample selection:

Inclusion criteria
- Adolescent girls who had attained menarche
- Adolescent girls studying in 8^{th}, 9^{th} and 10^{th} standards who are willing to participate.
- Adolescent girls studying in 8^{th}, 9^{th} and 10th standards who will be available during the period of data collection.
- Adolescent girls studying in 8^{th}, 9^{th} and 10th standards who are able to speak and read Assamese and English.

Exclusion criteria:
- Adolescent girls who are not attained menarche.

Variables:
- **Independent variable**: In this study ,the independent variable is "Planned Teaching Programme"
- **Dependent variable**: In this study the dependent variable is ,"Knowledge of the Adolescent Girls" regarding menstrual hygiene
- **Development of the tool**: A research instrument is a device used to measure the concept of interest in a research project that a researcher uses to collect data. Based on the objectives of the study, tools were developed in order to generate data.

The following sources was used for the development of questionnaire

Review of Literature
- Consultation and discussion with nursing experts
- Personal experience and discussion with colleagues

Description of the tool: Based on the objectives of the study, the following tool was developed to generate the data. The tool consists of following section,

Section 1: Demographic data proforma: It includes selected socio demographic variable of the samples which consist of age, Educational status, Religion, Age of menarche, Income of the family per month , Educational status of the mother, Number of elder sister ,Type of family, source of information etc.

Section 2: Self structured knowledge questionnaire on knowledge regarding menstrual hygiene. It consisted of 5 self structured multiple choice questions in anatomy and physiology of female reproductive system, 14 self structured multiple choice questions related to menstruation and 11 self structured multiple choice questions related to menstrual hygiene. A total of 30 multiple choice questions were used to assess the level of knowledge regarding menstrual hygiene among adolescent school girls in pre and post-test.

The answer was interpreted by the investigator. For each question four option was given and only one correct answer. For each correct answer score is 1 and for each wrong answer score is 0. In this study highest score is 30 and

lowest score is 0. Thus scoring for each classification was done according to Mean ± Standard deviation. Scores were allotted as follows.

Level of knowledge
>(Mean + Standard deviation) = Adequate level of knowledge
(Mean + Standard deviation) to (Mean - Standard deviation) = Moderately adequate level of knowledge
<(Mean - Standard deviation) = Inadequate level of knowledge

4. Results / Discussion

Hypotheses of the study:
The hypotheses tested at 0.05 level of significance.
H_1 = There is a significant difference between the pretest and post test level of knowledge regarding menstrual hygiene.
H_2 = There is a significant association between the level of knowledge regarding menstrual hygiene among adolescent girls with their selected socio demographic variables.

Presentation of data: The data are presented under the following headings.
Section A: Description of Demographic characteristics of adolescent girls .
Section B: Distribution of pre-test and post-test Knowledge of adolescent girls regarding menstrual hygiene.
Section C: Effectiveness of planned teaching programme on menstrual hygiene.
Section D: Association between pre test knowledge with some selected demographic variables.

Section A: Distribution of demographic characteristics of adolescent girls
This section deals with the sample characteristics including age, education, religion, age of menarche, educational status of the mother, number of elder sister ,type of the family, source of information regarding menstrual hygiene. The data on sample characteristics were analysed by calculating descriptive statistics and presented in terms of percentage. Percentage distribution of age, Majority 67.50% of adolescent girls belongs to the age group of 14-15 years, 26.25% of them ate the age of 12-13 years and 6.25% of adolescent girls belongs to the age group of 16-17 years. Percentage distribution of education, majority 38.8% of adolescent girls were studying in class 10, 33.8% of adolescent girls were studying in class 8 and 27.5% of them were studying in class 9. Percentage distribution of religion shows that majority 90.0% of adolescent girls are Hindu and 10.0% of them are Islam. Percentage distribution shows that majority 90.0% of adolescent girls are Hindu and 10.0% of them are Islam. Percentage distribution of age of manerche shows that majority 45% of adolescent girls got menarche at 11 years of age, 35.0% of adolescent girls got menarche at 12 years of age ,13.8% of adolescent girls got menarche at 10 years of age and 6.3% them got menarche at 13 years of age. Percentage distribution of monthly income shows that 41.3% of adolescent girls their family monthly income is 10,002-29972, 41.3% of adolescent girls their family monthly income is ≤ Rs. 10,001 and 17.5% of adolescent girls their family monthly income is 29973-49961). Percentage distribution of educational status of the mother of adolescent girls shows that 11.3% of adolescent girls ,their mother is illiterate , 51.3% of them their mother is primary school passed ,26.3% of them their mother is middle school passed and 11.3% of them their mother is high school passed. Percentage distribution of number of elder sister of adolescent girls. Showing the percentage distribution of number of elder sister of adolescent girls shows that majority 43.8% of adolescent girls is having 1 elder sister, 28.8% of adolescent girls is having 2 elder sister, 26.3% of adolescent girls they don't have any elder sister , and 1.3% of them is having ≥3 elder sister. Percentage distribution of type of family of adolescent girls shows that majority 66.3% of adolescent girls are from nuclear family and 33.8% of adolescent girls are from joint family**.** Percentage distribution of source of information about menstrual hygiene of adolescent girls shows that majority 52.5% of adolescent girls they got information about menstruation from their family, 42.5% of adolescent girls they got information about menstruation from peer group and 5.0% of adolescent girls got information from mass media.

Section B: Distribution of pre-test and post-test Knowledge of adolescent girls regarding menstrual hygiene.

Knowledge level of 80 adolescent girls was assessed by using structured knowledge questionnaire by using descriptive statistics and inferential statistics as presented in tables.

Table: Distribution of Adolescent girls according to the level of pre-test knowledge on menstrual hygiene, n = 80

Pre-test level of knowledge	Range	Frequency (f)	Percentage (%)	Mean	SD
Inadequate Knowledge	(0-16)	16	20.0 %	19.38	3.709
Moderately adequate Knowledge	(17-23)	54	67.5%		
Adequate Knowledge	(23-30)	10	12.5%		
Total		80	100%		

The above table depicts the knowledge of the respondents based on the Pre-test score. Among all the respondents 20.0 % got inadequate knowledge, 67.5% got moderately adequate knowledge and 12.5% got adequate knowledge.

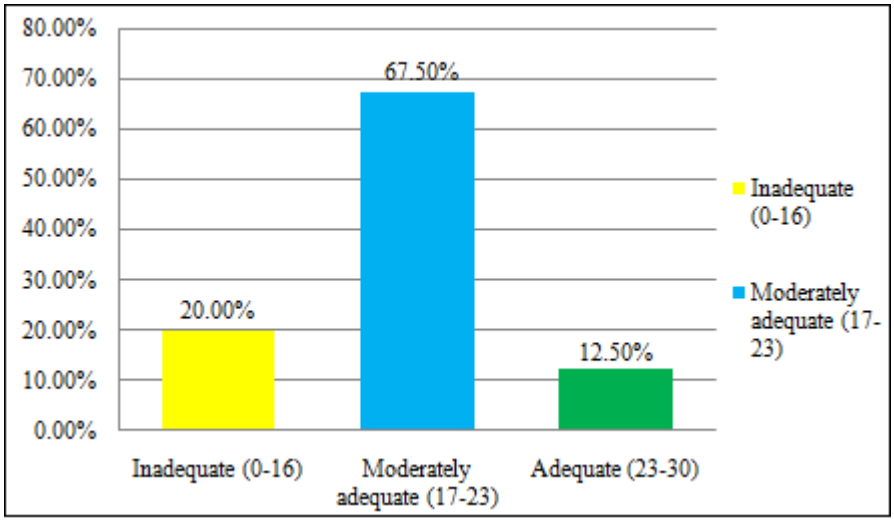

Figure: Bar Diagram showing percentage distribution of subjects according to the pre-test knowledge scores

Fig: Shows that the knowledge of the respondents based on the Pre-test score. Among all the respondents 20.0 % got inadequate knowledge, 67.5% got moderately adequate knowledge and 12.5% got adequate knowledge.

Table: Distribution of Adolescent girls according to the level of post-test knowledge on menstrual hygiene, n = 80

Post-test level of knowledge	Range	Frequency (f)	Percentage (%)	Mean	SD
Inadequate Knowledge	(0-16)				
Moderately adequate Knowledge	(17-23)	10	12.5%	26.14	1.840
Adequate Knowledge	(23-30)	70	87.5%		
Total		80	100%		

The above table depicts the knowledge of the respondents based on the Post test score. Among the respondents majority of them, 87.5% got adequate knowledge and 12.5%got moderately adequate knowledge.

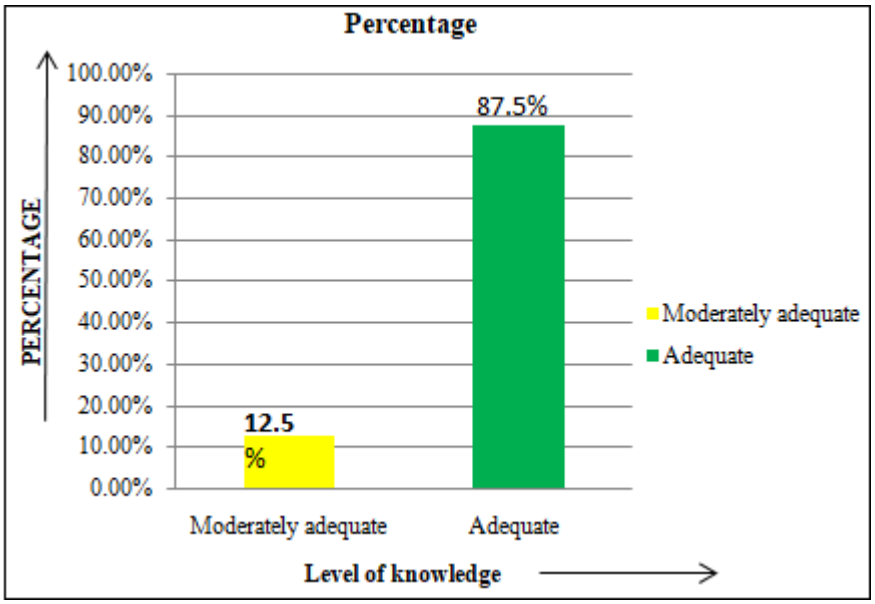

Figure: Bar Diagram showing percentage distribution of subjects according to the post-test knowledge scores

Fig: shows that the knowledge of the respondents based on the Post test score. Among the respondents majority of them, 87.5% got adequate knowledge and 12.5%got moderately adequate knowledge. **Section C: Effectiveness of planned teaching programme on menstrual hygiene**.

Table: Paired "t" value of pre-test and post-test knowledge score of adolescent girls.

	Mean	SD	Mean Diff	SD Diff	t	df	*P*-value	Remark
Pre Score	19.38	3.709	6.76	3.10	19.52	79	<.001	S
Post Score	26.14	1.840						

The pre mean score was 19.38 and the post mean score was 26.14 and standard deviation of pre score was 3.709 and standard deviation of post score was 1.840 with paired "t" value 19.52. So the post mean score was very highly significant than pre mean knowledge score of Adolescent school girls. Effectiveness of planned teaching programme was very highly significant at the level of p<.001 level. Thus the research hypothesis (H_1) was accepted.

Section D: Association between pre test knowledge with some selected demographic variables.

Table: The association between level of knowledge regarding menstrual hygiene among adolescent girls with some selected demographic variables n = 80

Demography	Sub Group	Pre Test Knowledge Level			Total	Chi Sq	df	T-value	Remarks
		Inadequate	Moderately adequate	Adequate					
Age (Yrs)	Dec-13	15	5	1	21	53.76	4	48.33	S
	14- 15	1	44	9	54				
	16-17	0	5	0	5				
Education	VIII	15	11	1	27	35.08	4	9.49	S
	IX	0	20	3	22				
	X	1	23	7	31				
Religion	Hindu	13	52	7	72	8.18	2	5.99	S
	Muslim	3	2	3	8				
Age of the menarche (Yrs)	10	1	4	6	11	22.6	6	12.59	S
	11	6	28	2	36				
	12	7	19	2	28				
	13	2	3	0	5				
Monthly income	29973-49961	1	10	3	14	3.69	4	9.49	NS
	Rs. 10002-29972	6	24	3	33				
	≤Rs.10001	9	20	4	33				
Educational status of the mother	Illiterate	8	1	0	9	36.5	6	12.59	S
	Primary School	7	31	3	41				
	Middle School	1	16	4	21				
	High School	0	6	3	9				
Number of elder sister	0	15	5	1	21	51.83	6	12.59	S
	1	0	32	3	35				
	2	1	16	6	23				
	>=3	0	1	0	1				
Type of the family	Nuclear	16	33	4	53	11.87	2	5.99	S
	Joint	0	21	6	27				
Source of information	Peer Group	6	23	5	34	2.53	4	9.49	NS
	Family	10	27	5	42				
	Mass Media	0	4	0	4				
Total		16	54	10	80				

The data in the table shows the chi-square value computed for pre-test knowledge score and with some demographic variables. Age, Education, Religion, Age of the menarche, Educational status of the mother,Number of elder sister,Type of the family which were significant at 0.05 level. Therefore it can be interpreted that there is significant association between knowledge of adolescent girls and with some selected demographic variables. Thus the research hypotheses (H_1) was accepted.

The present study conducted among 80 adolescent girls found that most of the subject are (67.50%) are 14 - 15 years old. Similar study was by **P. Anita (2007)** among 218 adolescent girls, aged between 12- 15 in Kolar, Karnataka where she assessed the effectiveness of planned teaching programme on the high school adolescent girls regarding menstrual hygiene.

The present study found that post test result was more adequate i.e (87.5%) than pre-test result i.e (12.5%). This study also was supported by **Suganya .V (2017%)** among 50 adolescent girls where the researcher found post test result was more adequate i.e (78%) than pre-test result i.e (8%.).

Discussion of the study findings and comparing with other related studies. The discussion was done in accordance with the objectives of the study . Study findings shows that post test score was i.e. (87.5%) more adequate than pre-test score i.e. (12.5%) so it also shows that planned teaching programme was effective and there was significant association between pre test knowledge with some selected demographic variables.

5. Conclusion

The present study is to assess the effectiveness of planned teaching programme on knowledge regarding menstrual hygiene among adolescent girls in a selected school of Guwahati, Assam released that among 80 students 20.0 % got inadequate knowledge 67.5 % got adequate knowledge and 12.5% got adequate knowledge in pre- test and 87.5% got adequate knowledge and 12.5% got moderately adequate knowledge in post- test, also the effectiveness of planned teaching programme was very highly significant at the level of p<.001 level and there is significant association between knowledge of adolescent girls with some selected demographic variables.

6. Future Scope

- A similar study can replicate on a sample with different demographic characteristics.
- A similar study can replicated with a control group.
- A similar study may be replicated on a larger sample for wider generalization.
- A descriptive study may conducted to find out the nature of problems related to menstruation.
- A comparative study may be conducted between the pre-menstrual and post menstrual girl about their attitude towards menstruation

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