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Original Research Article

Effectiveness of structured teaching programme regarding reproductive health on knowledge among adolescent girls in selected school of rural area

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ABSTRACT

Background: Reproductive health is a crucial part of general health and central features of human development. WHO reported that nearly one-third of all healthy life lost among adolescent girls because of reproductive health problems. 250 million new cases of STD occur worldwide each year with a high rate in 16-19 years age group.
Methods: A quantitative study was carried out in 80 adolescent girls and the non-probability purposive sampling technique was used for the selection of the subjects and the school. The data was collected through of using a structured knowledge questionnaire. A structured teaching program was developed and administered to the adolescent group (13-19 years).
Results: The data were analyzed by using descriptive and inferential statistics. The result revealed that after the intervention the mean and standard deviation of the post-test knowledge was 18.41±3.40 being compared to mean and standard deviation of pre-test knowledge 14.06±2.46. The enhancement of knowledge score is the mean difference 4.35. It indicates that there was a significant improvement in the level of knowledge of participants. The calculated t-value (7.39) on analysis of the data was found to be significant at p value 0.05.
Conclusions: The study concluded that a structured teaching programme was significant effective to improving the level of knowledge of reproductive health.

Keywords: Adolescent girls, Effectiveness, Reproductive health, Structured teaching programme

INTRODUCTION

According to WHO, reproductive health could be a state of complete physical, mental and social wellbeing and not merely absence of disease or infirmity altogether matters referring to the system and its functions and process. India has the most important adolescent population within the world, 253 million, and each fifth person is between 10-19 years.[1]

As the Indian Council for Medical Research (ICMR) acknowledge, "despite 35 per cent of the population is within the 10-24 age groups, the health needs of adolescents have neither been researched nor addressed adequately; particularly their reproductive health needs are often misunderstood". Limited research shows that adolescent is indulging in premarital sex more frequently at an early age, the incidence of teenage pregnancies among them is rising and most of them face the danger of reproductive health problems and unsafe conditions, and contracting sexually transmitted infections including HIV.[2]

Reproductive health is a crucial a part of general health and central features of human development. WHO reported that just about one-third of all healthy life lost

among adolescent girls due to reproductive health problems? Teens are in danger of HIV/AIDS because they're within the transition phase of their life.[1]

Today's adolescent is tomorrow's adults who are the strength of the state. Today's adolescent girls are future homemakers. Most of the adolescents tend to be extremely unaware of their own body their physical wellbeing and psychological change. Half the adolescent age 12-15 years residing in 8th to 12th standards doesn't fathom menstruation until its onset.[3]

Menstrual hygiene is another important issue that each female must cater to in her life. There's an absence of knowledge on the method of menstruation, the physical and psychological changes related to puberty and proper requirements for handling menstruation. Good menstrual hygiene is critical for the health, education, and dignity of women and ladies because it is a crucial risk factor for RTI. This is often a very important sanitation issue which has long been within the closet and there was a long-standing must openly discuss it.[4]

Hence the adolescents have the rights to know the changes they're hunting and to develop knowledge of forming a healthy and responsible relationship. Many diseases can occur by lack of awareness and knowledge; misconception; hence there's a necessity to get awareness about reproductive health among the vulnerable group.[1]

Objectives

To assess the knowledge regarding reproductive health among adolescent girls in a selected school of rural area. To determine the effectiveness of structured teaching programme regarding reproductive health on knowledge among adolescent girls in a selected school of rural area. To determine the association between pre-test knowledge score and selected demographic variables of adolescent girls in a selected school of rural area.

METHODS

Study design

In this study, quasi-experimental (one group pre-test-post-test design) carried out in selected school of rural area of Lucknow district, Uttar Pradesh.

Study population

The population comprises of all adolescent girls age of 13-19 years of GRSS Inter College, Banthara of Sarojini Nagar, Lucknow.

Study area

The setting of the study was selected GRSS Inter College, Banthara of Sarojini Nagar, Lucknow.

Sample size

The sample size was 80.

In this study sample size calculated using the acceptable formula for quasi-experimental study as:[3]

$$n = \frac{(Z_\alpha + Z_{1-\beta})^2 \times SD}{d^2}$$

$Z\alpha=1.9$,

$Z1-\beta=1.28$, $SD=3.6$, $d=1.5$

$n= (1.96+1.28)^2\times(3.6)^2/(1.5)^2$

$n= (3.24)^2\times(12.96)/(2.25)^2$

$n= 10.49\times12.96/2.25$; $n= 60.42$

$n= 60$

Minimum 60 samples for a study group based on the previous study. Adding 10% to make up for incomplete or poor responses. So the total sample size was n=80.

Sampling method

Non-probability, purposive sampling technique was used.

Inclusion criteria

All adolescent girls age between 13-19 years. Those who give consent are willing to participate. Adolescent girls who can understand the Hindi and English language.

Exclusion criteria

Girls below 13 years and above 19 years. Previous exposure regarding reproductive health. Adolescent girls are not available at the time of the study.

Data collection tool

Section A: Socio-demographic

The demographic variable used in the study was adolescent girl's age in years, religion, type of residence, type of family, father's educational level, mother's educational level, occupation of a mother, occupation of a father, monthly income of a family in rupees, previous knowledge regarding reproductive health. The source of information by.

Section B: Semi-structured knowledge questionnaire

A structured questionnaire related to reproductive health among adolescent girls. It consists of 30 items.

Table 1: Structured knowledge questionnaire criteria.

Score	Score (%)	Level of knowledge
1-10	3-33	Poor
11-20	37-67	Average
21-30	70-100	Good

Development of structured teaching programme and AV aids

The STP was prepared under the following headings:

The structured teaching program was given to adolescent girls. The structured teaching program consists of introduction, definition, the importance of reproductive health, health problems of adolescence, menstrual hygiene practice, anaemia in adolescence, and its prevention and sexually transmitted infection and its prevention.

Data collection

Data was collected through structured knowledge questionnaire to the adolescent girls, for duration of three moths from November 2019 to January 2020.

Statistical analysis

Data entered in Microsoft excel and analysis was carried in SPSS. The association between pre-test knowledge score of adolescent girls and their selected socio-demographic variables was done by chi-square test and effectiveness of structured teaching programme was done by using paired 't' test. The level of significance was set at p value <0.05.

Ethical clearance and informed consent

The study was carried out after obtaining approval from the institutional Ethical Committee of King George's Medical University, Lucknow and also the formal written permission from Principal, GRSS Inter College Banthara in a rural area of Sarojini Nagar, Lucknow.

RESULTS

Level of knowledge score of adolescent girls regarding reproductive health

The knowledge scores of the adolescent girls in pre-test and post-test under the category's poor, average and good. In pre-test there was 7.5% of the respondents had poor level of knowledge, followed by 92.5% had average level of knowledge and none of them had good knowledge and the post test result indicated that 80% of the respondents had achieved average knowledge and 20 % of the population had gained good knowledge (Table 2).

Table 2: Level of knowledge score of adolescent girls regarding reproductive health (n=80).

Knowledge level	Category	Classification of respondents			
		Pre-test		Post-test	
		(f)	(%)	(f)	(%)
Good	70-100% (>21 score)	00	00	16	20
Average	37-67% (11-20 score)	74	92.5	64	80
Poor	3-33% (<10 score)	06	7.5	00	00

Effectiveness of structured teaching programme by comparing the pre-test and post-test knowledge scores of adolescent girls

The mean and standard deviation of post-test knowledge i.e. 18.41±3.40 being compared to mean and standard deviation of pre- test knowledge i.e.14.06±2.46. The enhancement of knowledge score that was the mean difference of 4.35 indicate that there was a significant improvement in the level of knowledge of the sample which indicates that structured teaching programme was effective in improving the level of knowledge of adolescent girls regarding reproductive health. The researcher calculated the paired t-test value for the tabulated data. The calculated 't' value was 7.39. Then the researcher compared the calculated t value with the tabulated value. The tabulated value for this study with 79 degrees of freedom was 1.990. Since the calculated 't' value was higher than the tabulated value the researcher rejected the null hypothesis and accepted the alternative hypothesis. That means there is a significant change in the knowledge level of adolescent girls in post-test. So, this is evident that the structured teaching programme regarding reproductive health was effective in terms of knowledge score (Table 3).

Table 3: Effectiveness of Structured teaching programme on knowledge regarding reproductive health (n=80).

Knowledge score	Mean	Standard deviation	Mean difference
Pre-test	14.06	2.46	4.35
Post-test	18.41	3.40	

Level of significance p=<0.05

Association between pre-test knowledge score of adolescent girls with their socio-demographic variables

The association of pre-test knowledge score with their selected demographic variables by using Chi-square, the result revealed that in experimental group there was no significant association of pre-test level of knowledge with the socio- demographic variables i.e. knowledge level, age, religion, type of residence, type of family, education

of father, occupation of mother, occupation of father, family income and source of knowledge. Whereas there was significant association of pre-test of knowledge scores with education of mother was observed (Table 4).

Table 4: Association between the pre-test knowledge score of adolescent girls and their selected socio- demographic variable (n=80).

Variables	Category	Respondents knowledge			P value	χ^2 value
		Good 70-100% (>21 score)	Average 37-67% (11-20 score)	Poor 3-33% (<10 score)		
Age (in years)					5.99 df=2	0.720 NS
13-15	40	0	36	4		
16-18	40	0	38	2		
Religion					7.81 df=3	0.621 NS
Hindu	73	0	67	6		
Muslim	06	0	6	0		
Christian	0	0	0	0		
Others	1	0	1	0		
Type of residence					3.84 df=1	1.88 NS
Urban	18	0	18	0		
Rural	62	0	56	6		
Type of family					7.81 df=3	0.372 NS
Nuclear	32	0	29	3		
Joint	34	0	32	2		
Extended	13	0	12	1		
Broken family	1	0	1	0		
Education of father					7.81 df=3	0.895 NS
Illiterate	22	0	20	2		
Primary and secondary	37	0	35	2		
Higher secondary	18	0	16	2		
Graduate	3	0	3	0		
Education of mother					7.81 df=3	8.670 S
Illiterate	33	0	32	1		
Primary and secondary	33	0	7	3		
Higher secondary	10	0	4	0		
Graduate	4	0	7	0		
Occupation of father					7.81 df=3	1.746 NS
Job	7	0	7	0		
Business	11	0	10	1		
Farmer	24	0	21	3		
No occupation	38	0	36	2		
Occupation of mother					7.81 df=3	1.279 NS
Business	15	0	14	1		
Job	12	0	12	0		
Farmer	43	0	39	4		
House wife	10	0	9	1		
Family income					7.81 df=3	5.268 NS
Below 5000	42	0	41	1		
5,001 to 10000	24	0	20	4		
10,001 to 15,000	8	0	7	1		
Above 15001	6	0	6	0		
Source of knowledge					9.48 df=4	4.100 NS
Books	17	0	16	1		
Lectures	4	0	4	0		
Mass media	7	0	7	0		
Family members	37	0	32	5		
Friends	0	15	0	0		

Level of significant at ($p<0.05$); S=Significant; NS=Non-significant

DISCUSSION

The level of knowledge of the adolescent girls in pre-test and post-test was categorized by poor, average or good. In pre-test there were 92.5% girls had average level of knowledge and remaining 7.5% girls had poor level of knowledge and none of them had good level of knowledge. After implementing the intervention in post-test where as 80% girls had average level of knowledge, 20% had good level of knowledge and 0% had poor level of knowledge. The mean pre-test score of the respondents was 14.06 after giving structured teaching program there was marked gain in the mean knowledge score of the group which was 18.41. The standard deviation of pre-test score was 2.45 and the post-test score was 3.40.

A quasi-experimental study on effectiveness of planned teaching regarding reproductive health among adolescent girls in Pune city and the non-probability purposive sampling technique was used to select 60 adolescent girls and the data was collected through structured questionnaire. The results revealed that mean knowledge score of adolescent girls regarding reproductive health in pre-test was 15.16 and in the post test it became 20.43. The study was concluded that the planned teaching programme was highly effective in enhancing the knowledge of girls regarding reproductive health.[6]

A quasi-experimental study was conducted to assess the effectiveness of planned teaching program on knowledge regarding menstrual hygiene among adolescent girls in the selected school. 100 adolescent girls were selected through simple random sampling technique and the data collected was structured knowledge questionnaire. The result revealed that 72% had inadequate knowledge, 28% had a moderate level of knowledge and 0% had an adequate level of knowledge regarding menstrual hygiene. The mean and SD was 11.07±0.7 with the 'z' value of 27.55 at 0.05level of significance. The study concluded that the planned teaching program was to enhance the knowledge.[7]

The result revealed that majority of adolescent girls were in age group of 14 years, 82.50% of them were having inadequate knowledge in the pre-test, and 75% of them had moderately adequate knowledge in post-test. The study concluded that planned teaching program was effective in improving the level of knowledge level among adolescent girls.

The researcher calculated the paired t-test value for the tabulated data. The calculated 't' value was 7.39. Then the researcher compared the calculated 't' value with the tabulated value. The tabulated value for this study with 79 degrees of freedom was 1.990. Since the calculated value was greater than the tabulated value the researcher rejected the null hypothesis and accepted the alternative hypothesis. That means there is a significant change in the level of knowledge of respondents in pre-test and post-test. So, this was evident that the structured teaching programme on knowledge regarding reproductive health was effective.

A quasi-experimental study was conducted to assess the effectiveness of planned teaching program on knowledge on reproductive health among adolescent girls and the systematic random sampling technique was used to select 50 adolescent girls. The result revealed that post-test scores were (46%) of adolescent girls are having adequate knowledge. The analysis reveals that concerning knowledge the mean value 12.42 with standard deviation 1.73 of pre-test and the mean value 19.16 with standard deviation 2.68 of the post-test. The study concluded that the planned teaching program on reproductive health among adolescent girls were effective.[1]

At the appropriate degree of freedom, the analysed data reveals that there was no significant association of pre-test level of knowledge with the socio-demographic variables i.e. age, religion, type of residence, type of family, and education of father, occupation of mother, family income and source of knowledge. Whereas there was significant association of pre-test of knowledge scores with education of mother was observed.

A quasi experimental study was conducted to assess the effectiveness of structured teaching programme on knowledge regarding reproductive health among 60 adolescent girls. The result revealed that pre-test mean knowledge score was 13.81±3.67 post-test mean knowledge score was 22.71±2.35. The association between the pre-test knowledge score with selected demographic variables i.e. age, religion, resident, type of family, education of mother and father, occupation of father and mother, monthly income of family and source of knowledge was found to be not significantly associated with pre-test knowledge score regarding reproductive health.[7]

Limitations of the current study were: the study was limited to adolescent girls of age group between 13-19 years only. The study was limited to those who are participating in study.

CONCLUSION

The present study assessed the level of knowledge regarding reproductive health among adolescent girls that the mean knowledge score of the respondents in pre-test was 14.06 and in post-test were 18.41. The standard deviation in pre-test was 2.46 and in post-test was 3.40. The study finding proved that the structured teaching programme intervened by the researcher was effective to increase the level of knowledge regarding reproductive health among adolescent girls. So there is a need of providing proper information and demonstration and education regarding reproductive health, its importance, benefits, and diseases related to lack of knowledge. So, health care provider should provide health education to improve their knowledge regarding reproductive health

on knowledge among adolescent girls. The study concluded that the structured teaching programme was effective in improving the knowledge of adolescent girls regarding reproductive health.

Recommendations

Similar studies can be replicated on larger samples for wider generalization mainly in the community. Similar studies can be conducted as a comparative study in rural and urban settings.

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