Effectiveness of structured teaching programme on genital tuberculosis among adolescent girls

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Abstract

Tuberculosis (TB) is a potentially fatal contagious disease that can affect almost any part of the body. Genital tuberculosis remains a major health problem in many developing countries, and responsible for a significant proportion of females presenting with infertility. A greater awareness of causes, clinical features and improved diagnostic methods are more helpful to identify genital tuberculosis at earliest. The purpose of the study was to assess the effectiveness of structured teaching programme on genital tuberculosis among adolescent girls. An evaluative approach was adopted. Using a simple random sampling technique 60 adolescent girls who meet the sampling criteria was selected for the study. Study findings revealed that 78.33 % of the girls not received health information regarding genital tuberculosis. The pre-test knowledge score was 42.67% (12.61±2.26) and post test knowledge score was 82.44% (24.25±1.348) showing an effectiveness of 39.77% (11.64±2.47). Significance of difference between pre-test and post-test score was found highly significant ($t=36.49$, $p<0.05$). There was no association between pre-test knowledge score and demographic variables**.** The findings of the study revealed that the knowledge has significantly improved after the structured teaching programme.

Conclusion: It is concluded that STP is highly effective in improving the knowledge of the adolescent girls regarding genital tuberculosis.

Keywords: Effectiveness, Genital tuberculosis, Structured teaching programme, Adolescent girls.

Introduction

Adolescence is the milestone of women hood. Because a child is not born as woman, she becomes woman with the attainment of reproductive maturity which starts with puberty or the beginning of adolescent. It is a time marked by dramatic physical, psychosocial and cognitive changes. An adolescent is a transitional stage of physical and mental human development generally occurring between puberty and adulthood.[1]

TB is the ninth leading cause of death worldwide and the leading cause from a single infectious agent, ranking above HIV/AIDS. In 2016 an estimated 1.3 million people who were HIV negative died of TB. In addition there were 374,000 million deaths resulting from TB disease among people who were HIV positive. So there were a total of 1,674,000 million TB related deaths. An estimated 250,000 children died of TB in 2016 including children with HIV associated TB.[2]

Female genital tuberculosis is common in countries where pulmonary tuberculosis is widespread. Genital TB occurs mostly secondary to pulmonary tuberculosis, commonly by the haematogenous route in a manner similar to spread to other extra-pulmonary sites like urinary tract, bones and joints etc. Female genital tuberculosis (FGTB) is an important cause of significant morbidity, short- and long-term especially infertility whose incidence varies from 3 to 16 % cases in India. Mycobacterium tuberculosis is the etiological agent for tuberculosis. The fallopian tubes are involved in 90–100 % cases, endometrium is involved in 50–80 % cases, ovaries are involved in 20–30 % cases, and cervix is involved in 5–15 % cases of genital TB. Tuberculosis of vagina and vulva is rare (1–2 %).[3]

The most common form of extra pulmonary TB is genitourinary disease, accounting for 27% (range, 14 to 41%) worldwide. In India the incidence of genital tuberculosis is nearly about 18% among women aged between 17-40 years.[4]

A prospective study was conducted in Bangalore to determine the incidence of genital tuberculosis a cause of infertility in the married. The finding shows that in Karnataka, incidence of genetic TB is estimated to be 7-8 cases per 100 patients and infertility experts say genital TB is the cause of 10% to 15% of infertility cases among women in India. Researcher concluded that there is high incidence of female genital tuberculosis and it is necessary to treat it at the earliest. In females the genital organs commonly affected are as follows: fallopian tube (95-100%), endometrium (50-60%), ovaries (20-30%), cervix (5-15%), myometrium (2.5%) and vulva/vagina (1%).[5]

Female Genital Tuberculosis (FGTB) is still a major cause of infertility in India in spite of the availability of specific therapy.[6] Fallopian tubes which transport eggs from the ovaries to the uterus are the most common organs involved and thus block the passages and lead to permanent infertility.[7]

Genital tuberculosis can adversely affect the newborn also. If the mother has genital tuberculosis there will be chance for the neonate to get infected. So it became necessary to prevent the genital tuberculosis, in the adolescent. Indian young adolescents are facing the serious problem of lack of access to reliable

knowledge on the prevention of genital tuberculosis. So it is necessary to teach the students about the prevention as well as the complications of genital tuberculosis.[8]

Objectives of the study

The objectives of the study were:

1. Determine the existing knowledge score of adolescent girls regarding genital tuberculosis using a structured knowledge questionnaire.
2. Find the effectiveness of structured teaching programme on genital tuberculosis among adolescent girls using the same structured knowledge questionnaire.
3. Find the association between pre-test knowledge score and selected demographic variables.

Materials and Method

An evaluative approach was adopted. Using simple random sampling 60 adolescent girls of age group 17-19 years were included in the study. A closed-ended structured knowledge questionnaire was prepared to measure the knowledge of adolescent girls. It consists of total 30 items related to knowledge regarding genital tuberculosis. The content validity of the questionnaire was ensured with expert's opinion and the reliability of the tool was tested (r- 0.86).

Ethical clearance was obtained from the institutional ethical committee. The purpose of the study was explained and written consent was obtained from the adolescent girls. Pre test was conducted on first day followed by the administration of STP. After seven days post test was conducted.

Results and Discussion

The demographic characteristics of the study subjects are given in table 1.

The above data indicates that 43.33% were in the age group of 19 years, 53.33% of the girls were in Degree II year, 81.67% belongs to nuclear family, and 78.33% of them had no information about genital tuberculosis.

The pre-test knowledge score of adolescent girls shows that 78.33% had average knowledge. About 21.67 % had good knowledge and none had excellent and poor knowledge about genital tuberculosis. Whereas the post-test knowledge score shows that 73.33% had excellent knowledge and 26.67% had good knowledge about genital tuberculosis.

The findings also revealed that an increase of (39.77%) was found in total mean knowledge score with mean±SD of 11.65±2.04. The effectiveness of STP was observed in all areas suggesting that it was effective in increasing the knowledge of the adolescent girls regarding g

enital tuberculosis. (Tab. 2).

Findings of table 3 reveal that the calculated't' value, ($t=36.49$, $p<0.05$) was greater than the table value at 0.05 level shows significant gain in knowledge of adolescent girls through structured teaching program on genital tuberculosis.

Chi square test was computed between pretest knowledge score and selected demographic variable like age, educational qualification, type of family and health information and it was (0.3020, 2.604, 0.8006, 0.7469) not significant at 0.05 level revealing there is no significant association between pretest knowledge score and selected demographic variables of adolescent girls (Table 4).

This study finding is similar to the study conducted in Udupi, Karnataka among 791 rural girls of age group 16- 19 years to assess the effectiveness of structured teaching program on knowledge regarding reproductive health. Result shows that a significant increase in overall knowledge after the intervention (from 14.4 to 68%, $P < 0.01$) was observed regarding contraception.[9]

The finding of this study is consistent with the study conducted among 150 college students of Mumbai to determine the effectiveness of STP on knowledge and attitude regarding female foeticide. Findings showed that post test mean score (43.41%) was significantly higher than that of pretest mean scores (24.41%). With a 't' value of 42.22 ($p< 0.01$) was highly significant indicated that structured teaching program was effective in improving the knowledge of college students.[10]

Table 1: Frequency and percentage distribution of adolescent girls according to their demographic variables (n=60)

S. No	Demographic variables	Frequency	%
1	**Age in years**		
	a) 17 yrs	11	18.33
	b) 18 yrs	23	38.33
	c) 19 yrs	26	43.33
2	**Educational Qualification**		
	a) I year	20	33.33
	b) II year	32	53.33
	c) III year	8	13.33

3	**Type of family** a) Nuclear b) Joint c) Extended	 49 6 5	 81.67 10 8.33
4	**Source of information** a) Yes (from health professionals) b) No	 13 47	 21.67 78.33

Table 2: Effectiveness of STP with mean, SD and mean percentage of pre-test and post-test knowledge scores of adolescent girls

S. No.	Areas	Max Possible score	Pre test (X)		Post test (Y)		Effectiveness (Y-x)	
			Mean ±SD	Mean %	Mean ±SD	Mean %	Mean ±SD	Mean %
1.	Female reproductive system	3	0.833±0.860	27.77	2.6±0.494	86.67	1.77±0.871	59
2.	Concept of genital Tuberculosis	3	1.9±0.629	63.33	2.72±0.490	90.67	0.82±0.833	27.33
3.	Pathology of Genital Tuberculosis	4	0.95±1.016	23.75	3.42±0.645	85.50	2.47±1.255	61.75
4.	Clinical features of Genital TB	7	2.9±1.003	41.43	5.38±0.825	76.86	2.48±1.269	35.43
5.	Diagnostic test of Genital TB	4	2.33±0.968	58.25	3.05±0.622	76.25	0.72±1.180	18
6.	Treatment and Prevention of Genital TB	9	3.7±1.293	41.11	7.08±0.976	78.67	3.38±1.379	37.56
	Total	30	12.61±2.263	42.67	24.25±1.348	82.44	11.64±2.470	39.77

Table 3: Significance of mean difference between pre-test and post-test knowledge score

S. No	Knowledge Areas	Mean	SD	SE	"t"
1.	Female reproductive system	1.77	0.871	0.112	15.804
2	Concepts of genital tuberculosis	0.82	0.833	0.107	9.346
3	Pathology of genital tuberculosis	2.47	1.255	0.162	15.247
4	Clinical features of genital tuberculosis	2.48	1.269	0.164	15.122
5	Investigations of genital tuberculosis	0.72	1.180	0.152	4.737
6	Treatment and prevention of genital Tuberculosis	3.38	1.379	0.178	18.989
	Total	11.64	2.470	0.319	36.49

*Highly significant, $p<0.05$, d f = 59
Table value at 0.05 level of significance t =2

Table 4: Chi square values showing association between pre-test knowledge scores and selected demographic variables

S. No	Sample Characteristics	< Median	> Median	X^2	Level of significance
1.	**Age in years** 17 18 19	 7 13 14	 4 10 12	0.3020	NS*
2.	**Educational Qualification** I year II year III year	 10 21 3	 10 11 5	2.604	NS*
3.	**Type of family**			0.8006	NS*

	Nuclear Joint Extended	29 3 2	20 3 3		
4.	**Source of health Information** Yes No	 6 28	 7 19	0. 7469	NS*

*NS Not significant $X_1^2 = 3.84$, $X_2^2=5.99$; $P < 0.05$, M = 12

Conclusion

Female Genital Tuberculosis (FGTB) is still a major cause of infertility in India in spite of the availability of specific therapy. Early diagnosis and treatment of the patients in the reproductive age group may improve the outcome before permanent and extensive tissue damage gets established. Genital tuberculosis can adversely affect the newborn also. It is necessary to teach the adolescent girls about the prevention as well as the complications of genital tuberculosis. As health team members, nurses not only have the greater responsibility to give curative care, but also should provide promotive and preventive care by imparting knowledge to the society.

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