A Study to Assess the Effectiveness of Structured Teaching Programme on Knowledge regarding Urinary Tract Infection among Adolescent Girls at Selected Nursing College of Shimla, Himachal Pradesh

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Abstract: *Background: A woman's reproductive system is a delicate and complex system in the body. It is important to take steps to protect it from infections and injury, and prevent problems— including some long-term health problems. Taking care of yourself and making healthy choices can help to protect you and your loved ones from infections like urinary tract infection. Protecting your reproductive system also means having control over your health. The main aim of the study is to improve the knowledge regarding urinary tract infect among adolescent girls. Objectives: To assess the pre-test knowledge scores regarding urinary tract infection among adolescent girls, To assess the post-test knowledge scores regarding urinary tract infection among adolescent girls, To evaluate the effectiveness of structured teaching programme on knowledge regarding Urinary tract infection among adolescent girls by comparing pre and post test knowledge scores, To determine the association between post-test knowledge scores regarding urinary tract infection among adolescent girls with their selected socio-demographic variables. Methodology: Quantitative approach was adopted using the Pre experimental research design.100 sample were selected to collect the data by convenient sampling technique. The tools was used for the study was self structured questionnaire consisting of socio demographic characteristics and knowledge questionnaire. After conducting pre test, structured teaching programme on UTI was administered to the participants. Post test was conducted after relapse of seven days. Results: The result of the study revealed that total of 100 subject were enrolled convenient sampling technique was used to gather data from the adolescent girls regarding urinary tract infection. Inpre test (3%) of adolescent girls having good knowledge regarding UTI (95%) of adolescent girls having average knowledge regarding UTI, (2%) of adolescent girls having below average knowledge regarding UTI. In post test 100% of adolescent girls have good knowledge about urinary tract infection after administration of structured teaching programme. The study reveals that the structured teaching programme was effective in improving the knowledge regarding Urinary tract infection among adolescent girls at selected Nursing College of Shimla, Himachal Pradesh.*

Keywords: Urinary tract infection (UTI), Structured teaching program, Adolescent girls, Knowledge

1. Introduction

Urinary tract infections (UTIs) are one of the most common microbial diseases encountered in medical practice affecting people of all ages caused by E. coli. Worldwide, UTIs' prevalence was estimated to be around 150 million persons per year. **(Worldwide prevalence),** in India prevalence of UTI in females is (54.23%). Urinary tract infections (UTIs) are the inflammatory disorders of the urinary tract caused by the abnormal growth of pathogens. Urinary tract infection is known to cause short-term morbidity in terms of fever, dysuria, and lower abdominal pain and may result in permanent scarring of the kidney. Urinary tract infections can be community acquired or nosocomial. **(May Sewify 2015).**

Objectives
a) To assess the pre-test knowledge scores regarding urinary tract infection among adolescent girls.
b) To assess the post-test knowledge scores regarding urinary tract infection among adolescent girls.
c) To evaluate the effectiveness of structured teaching programme on knowledge regarding Urinary tract infection among adolescent girls by comparing pre and post test knowledge scores.
d) To determine the association between post-test knowledge scores regarding urinary tract infection among adolescent girls with their selected socio-demographic variables.

2. Methodology

Pre experimental (one group pre –test post-test) research design was used and 100 sample of adolescent girls were selected to collect the data by using convenient sampling technique at selected Nursing college of Shimla Himachal Pradesh. A self-structured questionnaire was prepared to collect data. Tool consists of two sections: **Section-A:** It includes socio-demographic profile of the participants. Age, family type, area of residence, educational status of parents, occupation of parents, family income, previous knowledge regarding urinary tract infection, source of information. **Section-B:** It include self-structured knowledge questionnaire consists of 30 items regarding urinary tract infection.

To ensure the validity of tool, it was submitted to 5 experts. The reliability of tool was calculated by split half method. The reliability of knowledge questionnaire was 0.94. The tool was found reliable.

Approval was taken from ethical committee of Shivalik Institute of Nursing, Shimla. Apart from this, written informed consents were taken from each study participants. Confidentiality and privacy of the study subjects was maintained.

3. Results

Frequency and percentage distribution of demographic variables revealed the major findings that out of 100 adolescent girls, (50%) of subjects were having age group of 19 years. (70%) of adolescent girls lives in a nuclear family, (30%) of adolescent girls live in joint family, (63%) of adolescent girls belongs to urban area, (43%) of fathers educational status of adolescent girlsis graduated, (30%) fathers are self employed / businessman, (54%) mothers having higher secondary education, (87%) mothers are homemaker, (33%) were having >25000 income, (100%) adolescent girls of selected nursing college having previous knowledge regarding UTI, (61%) uses books for source of information regarding UTI.
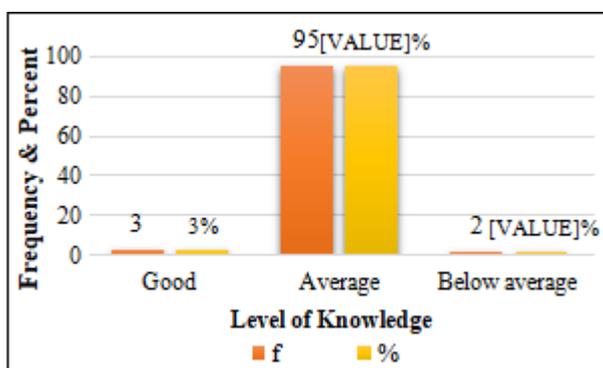

Figure 1: Pre Test Level of Knowledge regarding urinary tract infection among adolescent girls at Selected Nursing College Shimla

Figure 1: Percentage distribution of pre test level of knowledge regarding urinary tract infection among adolescent girls at selected Nursing College Shimla; (3%) of adolescent girls having good knowledge regarding UTI (95%) of adolescent girls having average knowledge regarding UTI, (2%) of adolescent girls having below average knowledge regarding UTI.

Table 1: Mean, standarddeviation, mean percentage and frequency of of Pre-test level of knowledge regarding urinary tract infection among adolescent girls at selected Nursing College Shimla, N=100

S. No.	Level of knowledge	Frequency (f)	Percentage (%)	Mean ± SD
1.	Good	3	3	
2.	Average	95	95	17.83 ± 2.507
3.	Below average	2	2	

NB: Minimum score=0, Maximum score = 30, SD= Standard deviation

Table 1. depicts that pre-test mean score and SD of adolescent girls was 17.83 ± 2.507. Hence findings indicates that majority of adolescent girls having average level of knowledge regarding urinary tract infection. This indicates that it was necessary for the investigator to improve the

knowledge of adolescent girls of selected Nursing college of Shimla by giving specific information on urinary tract infection.

Figure 2: Post Test Level of Knowledge regarding urinary tract infection among adolescent girls at Selected Nursing College Shimla

Figure 2: Percentage distribution of Post-Test level of knowledge regarding urinary tract infection among adolescent girls at selected Nursing College Shimla; Post test knowledge score (100%) of adolescent girls having good knowledge regarding UTI.

Table 2: Mean, standarddeviation, mean percentage and frequency of of Post-test level of knowledge regarding urinary tract infection among adolescent girls at selected Nursing College Shimla, N=100

S. No.	Level of Knowledge	Frequency (f)	Percentage (%)	Mean ± SD
1.	Good	100	100	28.24 ± 1.342

NB: Minimum score=0, Maximum score = 30, SD= Standard deviation
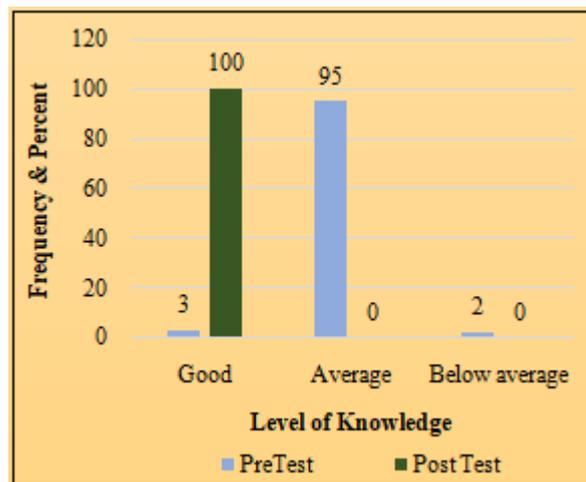

Figure 3: Pre test and Post Test Level of knowledge among adolescent girls regarding urinary tract infection at Selected Nursing College Shimla

Figure: 3 reveals that, in the pre test level of knowledge of adolescent girls regarding urinary tract infection at selected Nursing College Shimla, (3%) of adolescent girls having good knowledge regarding UTI (95%) of adolescent girls having average knowledge regarding UTI, (2%) of adolescent girls having below average knowledge regarding UTI. the post test level knowledge of adolescent girls

regarding urinary tract infection at selected Nursing College Shimla, (100%) of adolescent girls having good knowledge regarding UTI.

Table 3: Pre test and Post Test Level of knowledge scores regarding urinary tract infection among adolescent girls by comparing pre and post test knowledge scores, N=100

Level of Knowledge	Pre Test f & %	Post Test f & %
Good	3	100
Average	95	0
Below average	2	0
Mean ± SD	17.83 ± 2.507	28.24 ± 1.342

Table 3 reveals that in the pre test level of knowledge of adolescent girls regarding urinary tract infection at selected Nursing College Shimla, (3%) of adolescent girls having good knowledge regarding UTI (95%) of adolescent girls having average knowledge regarding UTI, (2%) of adolescent girls having below average knowledge regarding UTI. The post test level knowledge of adolescent girls regarding urinary tract infection at selected Nursing College Shimla, (100%) of adolescent girls having good knowledge regarding UTI.
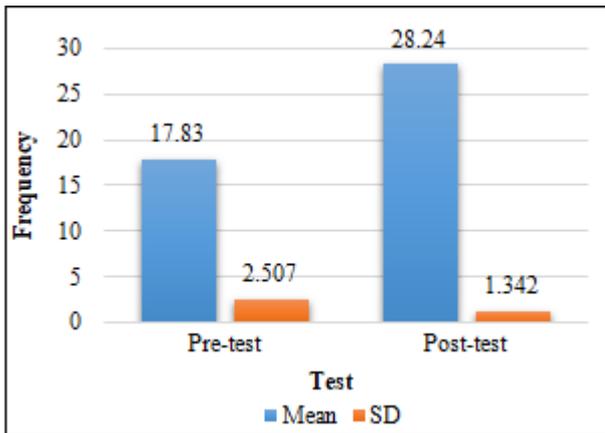

Figure 4: Effectiveness of Structured Teaching Programme on Level of Knowledge regarding Urinary tract infection among adolescent girls

Figure 4depict that compare the knowledge of pre-test and post test about urinary tract infection among adolescent girls. The pre-test mean score, SD of adolescent girls was 17.83 ± 2.507 whereas in post-test mean score, SD was 28.24 ± 1.342 after giving an intervention of structured teaching programme on urinary tract infection with a mean difference of 10.410. Therefore, this is essential to put it under statistical significance. So suitably the paired 't'-test was applied. Here The calculated t-value is 62.101, p value 0.001which is highly significant at 0.01 level.

Table 4: Effectiveness of Structured Teaching Programme on Level of Knowledge regarding Urinary tract infection among adolescent girls by comparing pre and post test knowledge score, N=100

Level of Knowledge	Mean	SD	MD	't' value	df	'p' value
Pre-test	17.83	2.507	10.410	62.101	99	.001**
Post-test	28.24	1.342				

*NB: SD= Standard Deviation, MD= Mean difference, df= degree of freedom, **= Significant at 0.01 level*

Table 4depict that compare the knowledge of pre-test and post test about urinary tract infection among adolescent girls. The pre-test mean score, SD of adolescent girls was 17.83 ± 2.507 whereas in post-test mean score, SD was 28.24 ± 1.342 after giving an intervention of structured teaching programme on urinary tract infection with a mean difference of 10.410. Therefore, this is essential to put it under statistical significance. So suitably the paired 't'-test was applied. Here The calculated t-value is 62.101, p value 0.001which is highly significant at 0.01 level.

Table 5: Association between post-test knowledge scores regarding urinary tract infection among adolescent girls with their selected socio-demographic variables, N=100

S. No.	Variables	Level of Knowledge		χ^2 value	df	*p*-value
	Age (years)	<Median	≥Median			
1.	17	3	13	1.969	2	.374[NS]
	18	4	30			
	19	12	38			
2.	**Type of Family**					
	Nuclear	11	59	1.637	1	.201[NS]
	Joint	8	22			
3.	**Residence**					
	Rural	9	28	1.082	1	.298[NS]
	Urban	10	53			
4.	**Educational status of father**					
	No formal education	2	9	.869[F]	3	.790[NS]
	Higher Secondary	7	33			
	Graduate	8	35			
	Post graduate	2	4			
5.	**Occupation of father**					
	Govt. employee	8	19	12.343	3	.006**
	Pvt. employee	6	8			

	Self employee /Businessman	4	26			
	Others	1	28			
6.	**Educational status of mother**					
	No formal education	2	9	1.645	2	.439 NS
	Higher Secondary	8	46			
	Graduate	9	26			
7.	**Occupation of mother**					
	Govt. employee	0	3	1.511^F	2	.453 NS
	Pvt. employee	3	7			
	Homemaker	16	71			
8.	**Family income (Rs. /month)**					
	<5000	4	13	.371^F	3	.939 NS
	5001-15000	3	16			
	15001-25000	6	25			
	>25000	6	27			
9.	**Source of information**					
	Television	0	1	1.696	2	.122 NS
	Books	14	47	1.933	2	
	Internet	5	33	1.047	1	

NB: χ^2= Chi-square, F= Fisher's Exact, df=degree of freedom, NS= Non-significant (at 0.05 level, **= Significant (0.01 level)

Table 5: shows that the association between post-test knowledge scores regarding urinary tract infection among adolescent girls with their selected socio-demographic variables. Based on the objectives Chi square test used to associate the level of knowledge and selected demographic variables.

The chi square value shows that there is association between the score level and demographic variable (occupation of father). The calculated chi square value is more (12.343) than the table value (11.34) at the 0.01 level of significance. There is no significant association between the level of scores and the other demographic variables (age, type of family, residence, educational status of father, mother, occupation of mother, family income, previous knowledge regarding UTI, source of information).

4. Conclusion

The present study assessed the knowledge level regarding Urinary tract infection among adolescent girls at selected Nursing College of Shimla, Himachal Pradesh. The knowledge level of adolescent girl prior structured teaching programme was average. After the implementation of structured teaching programme, there was a significant improvement in the knowledge of adolescent girls at selected Nursing College of Shimla, Himachal Pradesh.

5. Future Scope

Nursing Education
Nurse educator pay more attention on educating adolescents regarding urinary tract infection and its consequences so, that they can learn and impart knowledge to others. More emphasis has to be put on adding some content about urinary tract infection and its consequences in their curriculum so as to prevent urinary tract infection and to promote their health. Adolescent girls can be motivated to organize various health campaigns regarding urinary tract infection to aware public about its consequences.

Nursing Research and Practice
As the adolescent girls are more prone to get urinary tract infection it is very essential to educate the adolescent girls regarding urinary tract infection and its ill effects, complications. The findings of the present study is helpful for the adolescents to conduct further awareness program to find out the effectiveness of various methods of providing education on improving the knowledge among adolescents. It will in turn strengthen nursing research.

References

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