



## EFFECTIVENESS OF STRUCTURED TEACHING PROGRAM ON KNOWLEDGE REGARDING UTI AMONG ADOLESCENT GIRLS

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### ABSTRACT

Adolescents are the most delicate age group. This stage of life is characterized by significant physical, psychological, and social changes. Peer group influences adolescents more than anybody else in their lives. They are especially susceptible to reproductive development and growth. Adolescent girls are prone to Urinary tract infections (UTIs) due to lacking of awareness and hormones changes. A quasi-experimental one-group pretest-posttest design was adopted to assess the effectiveness of the structured teaching program (STP) on knowledge regarding UTI among adolescent girls. The study was carried out at a senior secondary school. A total of 60 adolescents were involved through purposive sampling. The data were collected from adolescent girls using demographic proforma and a pre-designed knowledge questionnaire. Pretest was conducted than STP was implemented, after two weeks posttest was conducted using by same questionnaire. The data were analyzed using IBM SPSS version 26. The study revealed that pretest means score of knowledge was  $14.60 \pm 2.18$ . The posttest mean score of knowledge was  $18.18 \pm 4.27$ . The mean difference was 3.58. Here paired 't' test was applied to find statistically difference between pre and posttest knowledge score. As result show that  $t_{49} = 6.585$ ,  $p = 0.001$  which indicate statistically significant at 0.01 level. The study found that STP significantly impacted adolescent girls' knowledge of UTI prevention. Thus, it was concluded that the educational intervention for preventing urinary tract infections in adolescent girls enhanced their knowledge.

**Keywords:** Adolescent girls, UTIs, STP, knowledge.

### INTRODUCTION

Adolescents are the most delicate age group. This stage of life is characterized by significant physical, psychological, and social changes. Peer group influences adolescents more than anybody else in their lives. They are especially susceptible to reproductive development and growth. This necessitates that they take more measures about internal and exterior bodily changes. Acute uncomplicated genitourinary tract infection is the fourth most common reason for adolescent females to seek outpatient care (Dutta DC, 2008)

Adolescents are a society's best hope for the future and its most valuable resource. The period of time between childhood and maturity known as adolescence is marked by fast changes in a person's physical, physiological, and Behavioural development (Barthakur C et al., 2017). Patients will more often have a urinary tract infection (UTI) as the result of stress during the course of their lifespan. It may strike anyone at any age, from infants to the elderly; however, women of any age, and particularly those in their adolescent stage, are more likely to be affected by it than men. The adolescent population is significant, and infections are the major source of morbidity and expenditures associated with healthcare in this age group, which has a population that is growing rapidly (R. Michele Davidson et al., 2008).

Lower urinary tract infections are the kind of UTI that affects adolescents the most often. During the time that they are in high school, about 5–6% of young women will suffer from at least one incident of urinary tract infection (UTI). The recurrence rate is fifty percent higher in females as compared to the rate in boys. Because the vagina and the anus are located so near to the entrance of the urinary tract, women are more likely to suffer from urinary tract infections (UTIs). Nearly 6-7 million young women in the United States seek medical attention each year for urinary tract infections (UTIs), making this a significant cause for worry for both parents and those who offer medical treatment. Any length of time that passes between diagnosis and treatment increases the risk of developing irreversible kidney damage, bacterial endocarditis, and infertility (Sheerin N, 2011 & Vijayan A et al., 2018).

According to the findings of one research, around 25 percent of the samples had above-average knowledge going into the pretest, 71.6% had average knowledge, and 3.3% had below-average knowledge. Following completion of the teaching programme (posttest), 85 percent of students had strong knowledge, while 15 percent had average knowledge (Saji N et al., 2006).

The researchers have shown that many hostel-dwelling students get recurring UTIs. One further incentive to study students is that they will be the main caretakers to take on the job of health educator by using the right methods for recognizing and treating problems, which is especially important in countries like India where such matters are seen as taboo. Therefore, if teenage girls are aware of the challenges they face, they will be more likely to take care of themselves, learn the signs of potential urinary tract infections and take preventative measures, and encourage other women to follow same practices. Proper hygiene may be ensured if women, especially teenagers, are educated by nurses and trainers with the necessary expertise and understanding (Vyas S et al., 2015 & Sequera SK et al., 2021).

As members of the health care team, nurses have the role of preventing urinary tract infections in adolescents by educating them and demonstrating the proper approach to take care of themselves. As a result, the investigator was inspired to carry out this investigation by the elements that were discussed above.

## **OBJECTIVES**

1. To evaluate the pretest level of knowledge regarding UTI among adolescent girls.
2. To evaluate the posttest level of knowledge regarding UTI among adolescent girls.
3. To effectiveness of STP on knowledge regarding UTI among adolescent girls.

4. To determine the association between pretest knowledge with their demographic variables.

## MATERIAL AND METHODS

A quasi-experimental one-group pretest-posttest design was adopted to assess the effectiveness of the structured teaching programme on knowledge regarding UTI among adolescent girls. The study was carried out at a senior secondary school in Sri Ganganagar. A total of 60 adolescents were involved through purposive sampling with inclusion criteria who were willing to participate. The data were collected from adolescent girls using demographic proforma and a pre-designed knowledge questionnaire on Information, prevention and management of UTIs. Pretest was conducted and STP was implemented. After two weeks posttest was conducted using the same questionnaire. There were 30 knowledge questionnaires; each correct answer was allocated one point, while each incorrect response was allocated zero points. The lowest possible score was zero, and the maximum score was 30; in addition, the levels of knowledge were categorized as excellent (24-30), good (15-23), and average (< 15). Informed consent was obtained. The data were analyzed using IBM SPSS version 26. Confidentiality and anonymity were maintained during and after data collection

## RESULTS

**Table 1: Socio-demographic profile of adolescent girls. N=50**

S.No.	Variables	f	%
1.	<b>Age (years)</b>		
	12-14	11	22
	14-15	24	48
	16-17	15	30
	<b>Mean SD</b>	<b>14.68±1.50</b>	
2.	<b>Religion</b>		
	Hindu	20	40
	Sikh	24	48
	Christen	6	12
3.	<b>Type of Family</b>		
	Nuclear	32	64
	Joint	18	36
4.	<b>Habitat</b>		
	Rural	32	64
	Urban	18	36
5.	<b>Educational status</b>		
	Secondary	33	66
	Senior secondary	17	34
6.	<b>Family income (Rs/month)</b>		
	<10000	4	8
	10000-20000	14	28
	20001-30000	16	32
	30001-40000	8	16
	40001-50000	3	6

	>50000	5	10
	<b>Mean SD</b>	<b>28700.± 14824.48</b>	
7.	<b>Source of information regarding UTI</b>		
	Television	29	58
	Internet	12	24
	Health Professional	9	18

**Table 2: Pretest level of knowledge regarding UTI among adolescent girls. N=50**

S. No.	Level of Knowledge	f	%	Mean ± SD
1.	Good	22	44	14.60±2.18
2.	Average	28	56	

**Table 3: Posttest Level of Knowledge regarding UTI among adolescent girls. N=50**

S. No.	Level of Knowledge	f	%	Mean ± SD
1.	Excellent	9	18	18.18±4.27
2.	Good	32	64	
3.	Average	9	18	

**Table 4: Effectiveness of structured teaching programme on knowledge regarding UTI among adolescent girls. N=50**

S. No.	Knowledge score	Mean	SD	MD	t value	df	p value
1.	Pretest	14.60	2.18	3.58	6.585	49	0.001*
2.	Posttest	18.18	4.27				

NB: SD= Standard deviation, MD=Mean difference, df= degree of freedom, \*=significant at 0.01 level

**Table 5: To determine the association between pretest knowledge scores regarding UTI among adolescent girls with selected socio-demographic variables. N=50**

S. No.	Variables	N	Mean	SD	F/t value	df	p value
1.	<b>Age (years)</b>	11	15.18	2.52	.492	2	.615 <sup>NS</sup>
	12-14	24	14.42	1.84			
	14-15	15	14.47	2.50			
	16-17						
2.	<b>Religion</b>	20	15.00	2.24	.548	2	.582 <sup>NS</sup>
	Hindu	24	14.33	2.12			
	Sikh	6	14.33	2.42			
	Christen						
3.	<b>Type of Family</b>						
	Nuclear	32	14.81	2.08	.915	48	.365 <sup>NS</sup>
	Joint	18	14.22	2.36			
4.	<b>Habitat</b>						
	Rural	29	14.45	2.32	-.573	48	.569 <sup>NS</sup>
	Urban	21	14.81	2.01			

5.	<b>Educational status</b>						
	Secondary	33	14.79	2.05	.845	48	.403 <sup>NS</sup>
	Senior secondary	17	14.24	2.43			
6.	<b>Family income (Rs/month)</b>						
	<10000	4	13.75	3.09	.500	5	.775 <sup>NS</sup>
	10000-20000	14	14.79	2.39			
	20001-30000	16	14.81	1.47			
	30001-40000	8	14.62	2.06			
	40001-50000	3	13.00	1.00			
	>50000	5	15.00	3.67			
7.	<b>Source of information regarding UTI</b>						
	Television	29	14.31	1.91	.783	2	.463 <sup>NS</sup>
	Internet	12	15.25	2.45			
	Health Professional	9	14.67	2.69			

NB: SD=Standard deviation, df=degree of freedom, F= Anova, t= independent t test, NS=Non-significant, (Significant level at 0.05)

## DISCUSSION

This study shows that nearly half of the 48% of adolescent girls were lies between 14-15 years, 30% were between 16-17 years and 22% were lies between 12-14 years. The mean age of adolescent girls was  $14.68 \pm 1.50$ . Regarding religion, nearly half of them, 48% were Sikh, 40% were Hindu and 12% were Christen. As per their family pattern, maximum 64% belonged to nuclear family and 36% belonged to joint family, 64% belonged to rural areas and 36% belonged to urban areas. Regarding their monthly income, 32% had between 20001-30000 Rs. /Month, 28% had between 10000-20000 Rs. /Month, 16% had between 30001-40000 Rs. /Month, 10% had above 50000 Rs. /Month, 8% had less than 10000 Rs. /Month and only 6% had between 40001-50000 Rs. /Month. The mean family income was  $28700 \pm 14824.48$ . Regarding the source of information, 58% had from television, 24% from the internet and 18% from the health profession.

The supported study by Panwar S et al. (2021) showed that 31 (62%) girls belong to the age group of 17–18 years and 12 (24%) girls belong to the age group of 15–16 years, 7 (14%) belongs to age group of 13–14 years. According to their religion, 46 (92%) of the girls were Hindu. The majority of the girls 30 (60%) were on 12th standard. According to family, 2 (4%) had a monthly income <5000, 7 (14%) had a monthly income above 5000–10000, 8 (16%) had a monthly income of 10000–15000, and 33 (66%) had monthly income more than 15000. Shukla A. (2020) reported that 46 of girls were within the age group of 21-23 years and the lowest percentages belonged to the age of more than 24 years, and 46 % belong to Christianity. The majority 70.4% of the subjects belonged to the nuclear family. Saji N et al. (2018) indicated that 57% have secondary education, 30% have UG, 8% Primary, and 5% have PG and above educational level. The majority of the sample were Christian (60%), 37% belonged to Hindu and 3% belonged to Islam.

The current finding shows the pretest knowledge regarding UTI among adolescent girls; 56% had average knowledge and 44% had good knowledge. While in the posttest, 64% had good e, 18% had excellent similarly 18% had average knowledge. A supported study by Budhe S R (2020) also showed that in pretest 43.33 % had poor, 53.33 % had average and 3.33% had good knowledge and the mean score was 6.1. In the posttest, 43.33% had good, 43.33 % had very good, 6.67% had average and 6.67 % had very good. The mean score was 10.86. Almatrafi MA et al. (2022) showed that 58.8% of the participants had a high total awareness score regarding childhood UTIs (47.3±8.4). Natali et al. (2022) showed that before the administration of structured teaching program in the experimental group 50% had moderate knowledge and in the control group 76% had moderate knowledge. But after the administration of structured teaching program in the experimental group 68% had adequate knowledge and in the control group 90% had moderate knowledge. In addition, Ahmadi et al. (2019) in a study explained that the prevention of urinary tract infection in the intervention group before the education increased from  $2.85 \pm 0.51$  to  $3.74 \pm 0.29$ . In their study, Y. Goutham *et al.* (2018) found a 7.02 mean knowledge score. Vijayan A et al. (2018)<sup>16</sup> showed that the pretest mean knowledge score was  $4.78 \pm 1.6$ . Semwal T et al. (2020) showed that the overall mean awareness score of the study participants was  $12.29 \pm 4.26$ . Shah *et al.* (2017) found that the Mean knowledge of participants was 66% with standard deviation of 25.3%.

Our result shows that the pretest mean score of knowledge was  $14.60 \pm 2.18$ . The posttest mean score of knowledge was  $18.18 \pm 4.27$ . The mean difference was 3.58. The paired 't'-test was applied ( $t_{49} = 6.585$ ,  $p < 0.001$ ) which indicates highly significant at 1% level. Hence, the STP effectively enhances the knowledge regarding UTI among adolescent girls. Saji N et al. (2018)<sup>6</sup> showed that the mean pretest knowledge score is 15.133 and mean post test score is 20.2. Paired t-test was used to compare the pretest and post test scores. As the calculated test statistic value 9.2515 is higher than table value 2.0 at 59 degrees of freedom ( $p < 0.001$ ), the null hypothesis was rejected and the already stated research hypothesis was accepted. i.e., the mean posttest knowledge score of adolescent girls is significantly higher than their mean pretest knowledge score.

Similarly, Natali et al. (2022) showed Comparison of Pretest and Post- test Knowledge scores in the Experimental Group and Control Group to determine the effectiveness of Structured Teaching Programme. In the Experimental group, mean posttest knowledge score, 25.98 was significantly higher than the mean pretest knowledge score 13.50 as evident from 'Z' value 18.08 at 0.005 level of significance. In the control group Mean posttest knowledge score, 13.66 was significantly higher than the mean pretest knowledge score 13.56 as evident from 'Z' value 0.279 at 0.005 level of significance. Ahmadi et al. (2020) showed that educational intervention was effective in changing the behaviors of the mothers after the intervention compared to before the intervention (the mean was 2.89 before the intervention and it increased to 3.74 after the intervention).

## CONCLUSION

According to the results of the research, there is an essential need for healthcare practitioners to educate adolescent girls about UTI prevention. The study found that STP significantly impacted adolescent girls' knowledge of UTI prevention. Thus, it was concluded that the educational intervention for preventing urinary tract infections in adolescent girls enhanced their knowledge.

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**Conflict of Interest:** The authors declare no conflict of interest.

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