

A Pre-Experimental Study to Assess the Effectiveness of Structure Teaching Programme on Knowledge Regarding Hygienic Practices for Prevention of Urinary Tract Infection Among Adolescent Girls in Selected Area of Dang District

Ms. Krupali S. Chaudhari¹, Ms. Visha Vinodbhai Patel²,
Mrs. Mayuri Patel³

^{1,2}M.Sc. Nursing, Department of Obstetrics and Gynecological Nursing, Sandra Shroff ROFEL College of Nursing, Vapi.

³GUIDE, Associate Professor, Department of Obstetrics and Gynecological Nursing, Sandra Shroff ROFEL College of Nursing, Vapi.

ABSTRACT

Introduction: Urinary tract infection is one of the major global health problems in developing countries. It is very common in females, especially adolescent girls. Mainly because of changes in the hormones, and it is also associated with poor intake of water, infrequent voiding, poor menstrual hygiene, and anatomical defects. For the prevention of UTI, many points are important to keep in mind, like drinking 6-8 glasses of water each day. Avoid wearing tight pants. Wear cotton undergarments. Wash the perineum after urinating. Wiping from front to back after a bowel movement. More than three times voiding during school hours. Drying the cloth in the sunlight. Voiding in a clean toilet, etc.

Aim: The main aim of this study was to assess the effect of a structured teaching program regarding hygienic practice for the prevention of urinary tract infection among adolescent girls in a selected area of Dang district.

Methodology: A quantitative approach was adopted for this study with a pre-experimental research design with one group pre-test and post-test. A total of 100 (adolescent girls) samples were selected to collect the data by using the non-probability convenience sampling technique. The tools used for the study were a self-structured questionnaire consisting of socio-demographic variables and a self-structured knowledge questionnaire to assess the knowledge of adolescent girls regarding the prevention of urinary tract infection. The data were analyzed using descriptive and inferential statistics.

Results: The findings of the study revealed that there was a significant difference between the mean pre-test (6.01) and post-test (14.19) knowledge scores, with a positive mean difference of 8.18. The calculated "t" value of 26.32 is higher than the table value of 1.645 at the 0.05 level of significance. There was a

significant association between the pre-test knowledge of adolescent girls, their age, and the monthly income of the family.

Conclusion: The study concluded that the structured teaching program was effective and significant in improving the knowledge of adolescent girls regarding the prevention of urinary tract infections, which was more effective and beneficial for them.

KEYWORDS: Effectiveness, Structure Teaching Programme, Knowledge, Prevention, Urinary Tract Infection, Adolescent Girls.

INTRODUCTION

“Education is the most powerful weapon which you can use to change the world.”

Urinary tract infection is one of the major global health problems in developing countries and is a leading cause of illness among people internationally. In India, it is very common among females, especially adolescent girls. Urinary Tract Infection (UTI) is a common disease mainly affecting adolescent girls because of poor hygiene, dysfunctional voiding patterns, the use of synthetic underwear and pants, tight jeans, wet bathing suits, allergens and irritants, famine hygiene sprays, bubble baths, perfumed toilet paper, sanitary napkins, and soaps. Lack of adolescent knowledge and hygienic practices related to the maintenance of health leads to infections. Thus, it is very essential to initiate health intervention measures for the prevention and control of urinary tract infection among adolescent girls. Urinary tract infection is very common among adolescent girls, which causes discomfort and makes them drop out of school. Good mental and physical health is essential in adulthood. If only we could prevent the morbidity in latent life by affecting millions of people each year, the fact attached to urinary tract infection is the tendency to develop an infection again and again.

PROBLEM STATEMENT

“A Pre-Experimental Study To Assess The Effectiveness Of Structure Teaching Programme On Knowledge Regarding Hygienic Practices For Prevention Of Urinary Tract Infection Among Adolescent Girls In Selected Area Of Dang District.”

OBJECTIVES

- Assess the pretest knowledge regarding hygienic practices for prevention of Urinary Tract Infection among adolescent girls in selected area of Dang District.
- Assess the effectiveness of structured teaching programme on knowledge regarding hygienic practice for prevention of Urinary Tract Infection among adolescent girls in selected area of Dang District.
- Determine the association between pretest knowledge regarding hygienic practices for prevention of Urinary Tract Infection among adolescent girls with their selected socio-demographic variables.

OPERATIONAL DEFINITION

1. **ASSESS** : In this study it refers to find out the gain in knowledge regarding hygienic practices for prevention of Urinary Tract Infection among adolescent girls through the structured questionnaire.
2. **EFFECTIVENESS** : In this study it refers to determine the extent to which information in the structured teaching programme has achieved the desired effect as expressed by gain in knowledge score.

3. **STRUCTURE TEACHING PROGRAMME** : In this study it refers to the systematically planned and developed purposeful teaching programme on validated information on Prevention of Urinary Tract Infection in a lecture with flip book and chart.
4. **KNOWLEDGE** : In this study it refers to the correct response of adolescent girls to the questionnaire regarding hygienic practices for prevention of Urinary Tract Infection.
5. **HYGIENIC PRACTICE** : In this study it refers to the habits and these habits helping the adolescent girls to maintain their perineal hygiene.
6. **URINARY TRACT INFECTION** : In this study Urinary Tract Infection refers to bacterial invasion and multiplication involving the kidney and urinary tract pathway. The presence symptoms of dysuria, odour and supra-pubic discomfort.
7. **PREVENTION** : In this study providing a Structure Teaching Programme on Urinary Tract Infection, which helps the adolescent girls from growth of micro-organisms in the urinary tract.
8. **ADOLESCENT GIRLS** : In this study adolescent girls between the age group of 13 - 19 years who are studying in Gurukul secondary and higher secondary, School, Bhadarpad.

DELIMITATION

- This study is limited to the 100 Adolescent girls.
- This study is limited to the adolescent girls studying in selected school of Dang district.
- This study is limited to the adolescent girls between the age group of 13 - 19 years.
- This study is limited to the adolescent girls present during the time of data collection.
- This study is limited to 4 weeks of data collection.
- This study is limited to assess the knowledge.

HYPOTHESIS

- **H₁** - There is a significant difference between pretest and post-test knowledge regarding hygienic practices for prevention of Urinary Tract Infection among adolescent girls in selected area of Dang District at 0.05 level of significance.
- **H₂** - There is a significant association between pretest knowledge regarding hygienic practices for prevention of Urinary Tract Infection among adolescent girls with their selected socio-demographic variables at 0.05 level of significance.

RESEARCH METHODOLOGY

REASERCH APPROACH: Quantitative Research Approach

RESEARCH DESIGN: Pre-Experimental (One Group Pre-Test Post-Test Design)

VARIABLES:

Independent Variable: Structured Teaching Programme

Dependent Variable: Knowledge of Adolescent girls.

Socio Demographic Variables: Age, Education qualification, Monthly income of the family, Type of family, Religion.

RESEARCH SETTING: The study was conducted in Gurukul secondary and higher secondary, School, Bhadarpad.

POPULATION AND SAMPLE:

POPULATION: Adolescent girls studying in Gurukul secondary and higher secondary, School, Bhadarpad.

SAMPLE: 100 Adolescent girls

SAMPLING TECHNIQUE: Non-Probability Convenience Sampling Technique

DESCRIPTION OF TOOL:

1. SECTION I: SOCIO-DEMOGRAPHIC PROFILE

This part consists of 9 items for obtaining personal information about the subjects, such as age, education qualification, monthly income of the family, type of family, religion, toilet facilities at home, previous history of urinary tract infection and use of any medication.

2. SECTION II: SELF-ADMINISTERED STRUCTURED KNOWLEDGE QUESTIONNAIRE

It was prepared to assess the level of knowledge regarding Urinary Tract Infection among adolescent girls. It consists of 9 items. Each correct answer scored as 1 and wrong answer as 0. Hence, minimum score was 0 and maximum score was 9.

3. SECTION III: SELF-ADMINISTERED STRUCTURED KNOWLEDGE QUESTIONNAIRE

It was prepared to assess the level of knowledge regarding prevention of Urinary Tract Infection among adolescent girls. It consists of 11 items. Each correct answer scored as 1 and wrong answer as 0. Hence, minimum score was 0 and maximum score was 11.

SCORING KEY

- Each item were multiple-choice question and close-ended with single correct answer.
- Every correct answer was given a score of “1” mark and for wrong “0” mark. The total score of the item was 20.
- The raw score was converted to percentage to interpret the level of knowledge of Adolescent girls.

The level of knowledge was categorized as:

LEVEL OF KNOWLEDGE	SCORE
Good	> 75 %
Average	50 - 75 %
Poor	< 50 %

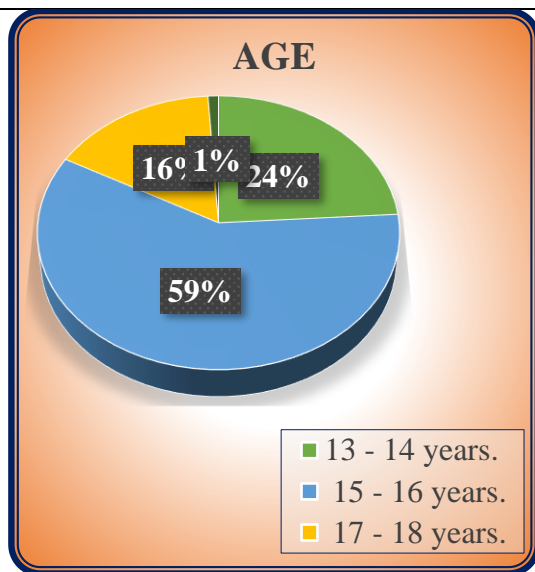
RESULTS

SECTION I: DESCRIPTION OF SOCIO-DEMOGRAPHIC VARIABLES OF ADOLESCENT GIRLS

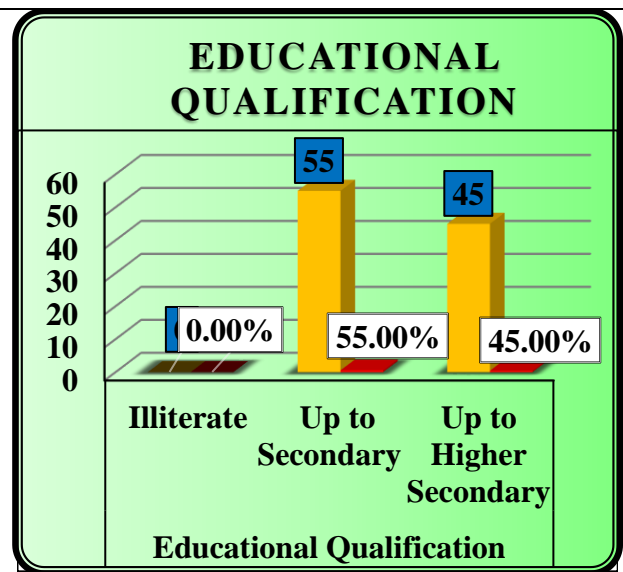
N = 100

SR. NO.	SOCIO DEMOGRAPHIC VARIABLES	CATEGORY	FREQUENCY	PERCENTAGE
1	Age	13 - 14 years.	24	24.00%
		15 - 16 years.	59	59.00%
		17 - 18 years.	16	16.00%

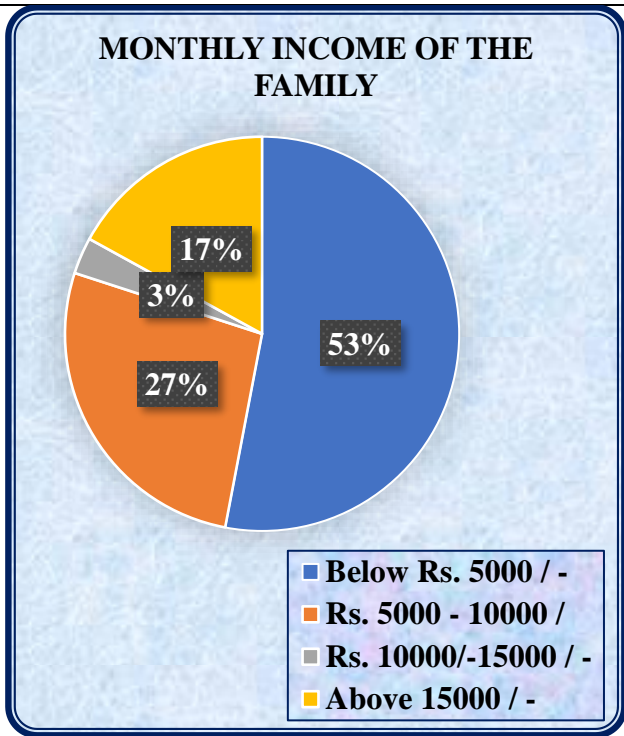
		19 years.	1	1.00%
2	Educational Qualification	Illiterate	0	0.00%
		Up to Secondary	55	55.00%
		Up to Higher Secondary	45	45.00%
3	Monthly income of the family	Below Rs. 5000 / -	53	53.00%
		Rs. 5000 - 10000 / -	27	27.00%
		Rs. 10000/-15000 / -	3	3.00%
		Above 15000 / -	17	17.00%
4	Type of Family	Nuclear Family	76	76.00%
		Joint Family	24	24.00%
5	Religion	Hindu	71	71.00%
		Muslim	0	0.00%
		Christian	29	29.00%
		Other	0	0.00%
6	Do you have toilet facilities at home	Yes	97	97.00%
		No	3	3.00%
7	Do you have any previous history of urinary tract infection	Yes	0	0.00%
		No	100	100.00%
8	Did you use any medication	Yes	0	0.00%
		No	100	100.00%



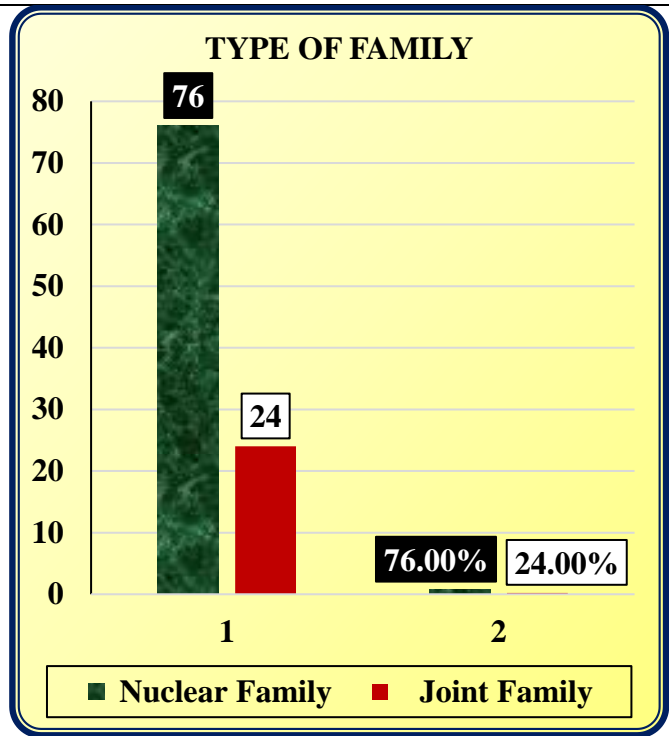
GRAPH - 1: DISTRIBUTION OF THE PARTICIPANTS ACCORDING TO THE AGE



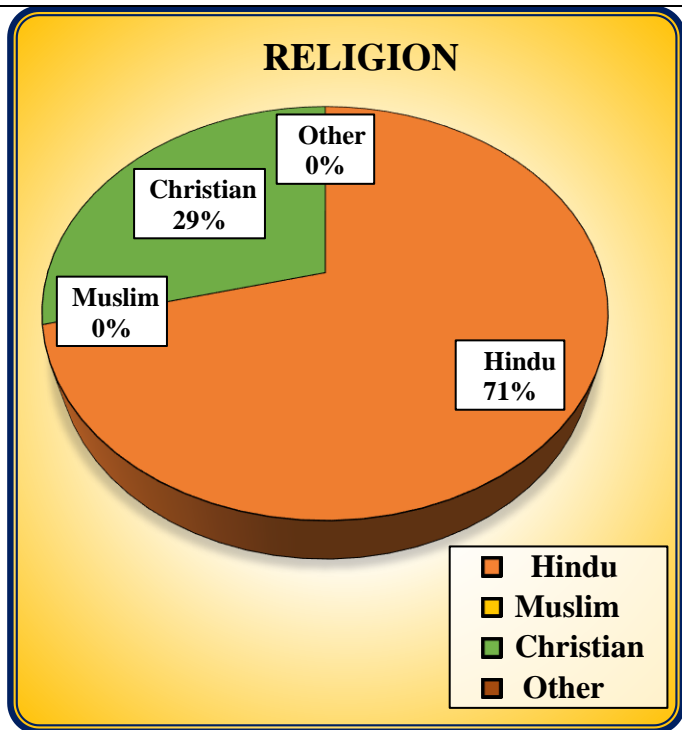
GRAPH - 2: DISTRIBUTION OF THE PARTICIPANTS ACCORDING TO THE EDUCATION QUALIFICATION



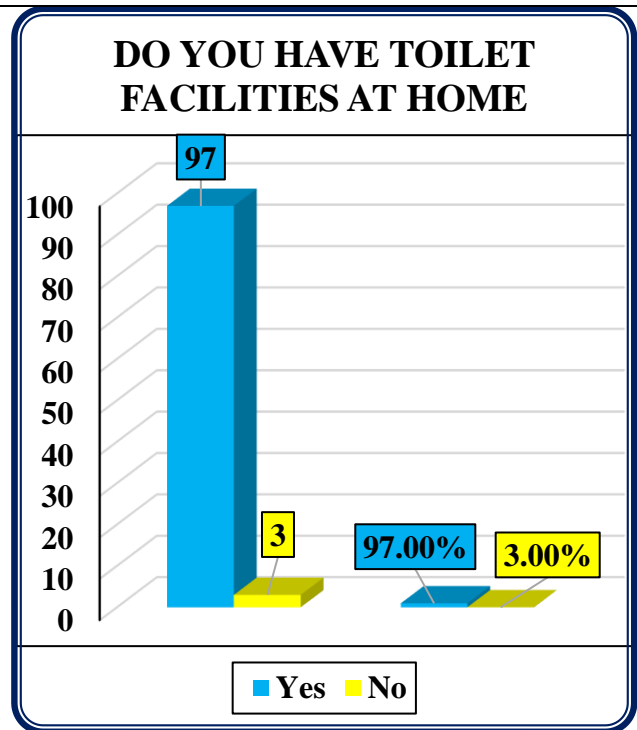
GRAPH - 3: DISTRIBUTION OF THE PARTICIPANTS ACCORDING TO THE MONTHLY INCOME OF THE FAMILY



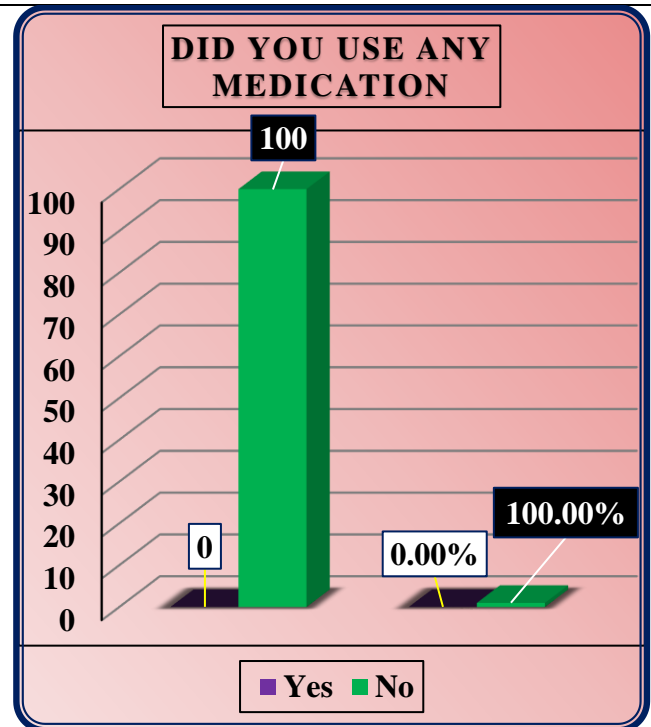
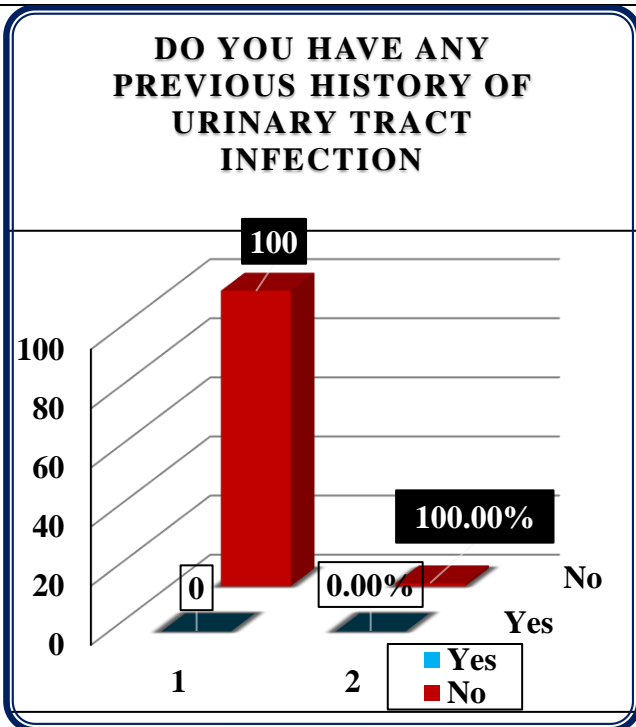
GRAPH - 4: DISTRIBUTION OF THE PARTICIPANTS ACCORDING TO THE TYPE OF FAMILY



GRAPH - 5: DISTRIBUTION OF THE PARTICIPANTS ACCORDING TO THE RELIGION



GRAPH - 6: DISTRIBUTION OF THE PARTICIPANTS ACCORDING TO TOILET FACILITY AT HOME



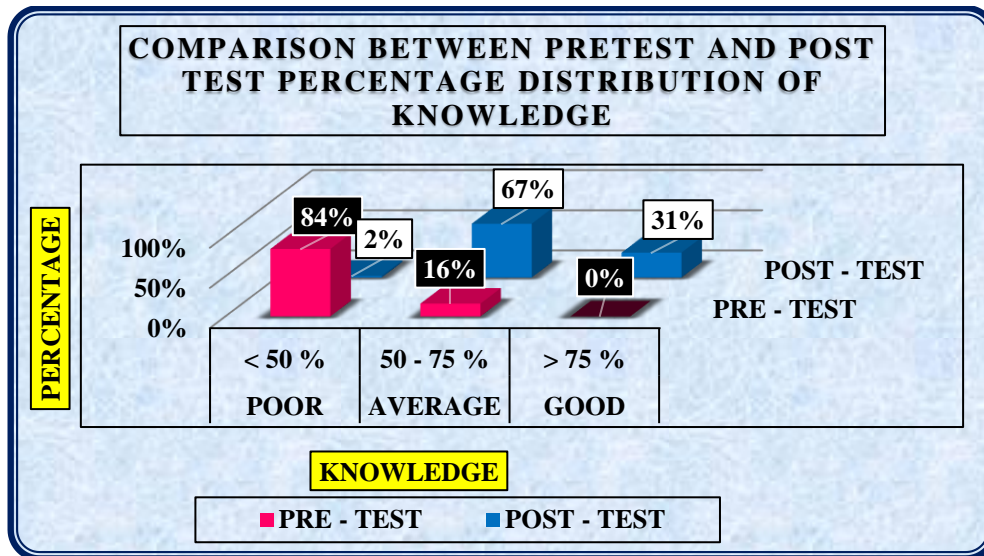
GRAPH - 7: DISTRIBUTION OF THE PARTICIPANTS ACCORDING TO PREVIOUS HISTORY OF URINARY TRACT INFECTION

GRAPH - 8: DISTRIBUTION OF THE PARTICIPANTS ACCORDING TO USE ANY MEDICATION

SECTION II: COMPARISON OF PRETEST AND POST-TEST OVERALL PERCENTAGE DISTRIBUTION OF KNOWLEDGE AMONG ADOLESCENT GIRLS REGARDING PREVENTION OF URINARY TRACT INFECTION.

N = 100

KNOWLEDGE		PRETEST	POST TEST
POOR	< 50 %	84 %	2 %
AVERAGE	50 - 75 %	16 %	67 %
GOOD	> 75 %	00 %	31 %



GRAPH - 9: COMPARISON BETWEEN PRETEST AND POST-TEST OVERALL PERCENTAGE DISTRIBUTION OF KNOWLEDGE

SECTION III: EFFECTIVENESS OF STRUCTURE TEACHING PROGRAMME ON PREVENTION OF URINARY TRACT INFECTION AMONG ADOLESCENT GIRLS.

N = 100

Observation	Mean	SD	Mean Differences	Calculated value of paired 't' test	Table value of 't'	DF n-1	Inference
Pre test	6.01	2.8	8.18	26.32	1.645	99	S*
Post test	14.19	2.48					

Note: S*

Statistically significant $t \geq 1.645$ at 0.05 level of significance.

SECTION IV: ASSOCIATION BETWEEN PRETEST KNOWLEDGE REGARDING HYGIENIC PRACTICES FOR PREVENTION OF URINARY TRACT INFECTION AMONG ADOLESCENT GIRLS WITH THEIR SELECTED SOCIO-DEMOGRAPHIC VARIABLES.

N = 100

SR. NO.	SOCIO DEMOGRAPHIC VARIABLES	CATEGOR Y	TOTAL SCORE			D F n - 1	TABL E VALU E	CHI SQUAR E	INFERENC E
			< M	M	> M				
1	Age	13 - 14 years.	22	1	1	6	12.6	36.93	S*
		15 - 16 years.	16	9	34				
		17 - 18 years.	9	1	6				
		19 years.	0	1	0				

2	Educational Qualification	Illiterate	0	0	0	4	9.49	5.37	NS
		Up to Secondary	31	7	17				
		Up to Higher Secondary	16	5	24				
3	Monthly income of the family	Below Rs. 5000 / -	20	7	26	6	12.6	12.88	S*
		Rs. 5000 - 10000 / -	15	1	11				
		Rs. 10000/- 15000 / -	0	1	2				
		Above 15000 / -	12	3	2				
4	Type of Family	Nuclear Family	36	9	31	2	5.99	0.02	NS
		Joint Family	11	3	10				
5	Religion	Hindu	35	8	28	6	12.6	0.53	NS
		Muslim	0	0	0				
		Christian	12	4	13				
		Other	0	0	0				
6	Do you have toilet facilities at home	Yes	46	1	40	2	5.99	1.34	NS
		No	1	1	1				
7	Do you have any previous history of urinary tract infection	Yes	0	0	1	2	5.99	0	NS
		No	47	1	41				
8	Did you use any medication	Yes	0	0	0	2	5.99	0	NS
		No	47	1	41				

Note: S* = Statistically significant $p \leq 0.05$

NS = Statistically not significant

DISCUSSION

SECTION I: DISCUSSION REGARDING SOCIO-DEMOGRAPHIC PROFILE OF THE ADOLESCENT GIRLS

In this present study,

- Majority of the participants are belonging to age group 15 - 16 years 59 (59%), while 24 (24%) were 13 - 14 years, 16 (16%) were 13 - 14 years and 1 (1%) were 19 years.

- Majority of the participants 55 (55%) were Up to Secondary education, while 45 (45%) had Up to Higher Secondary education.
- Majority of the participants 53 (53%) were Below Rs. 5000 / - Monthly income of the family, while 27 (27%) were Rs. 5000 - 10000/-, 3 (3%) were Rs. 10000 - 15000/- and 17 (17%) were above 15000/.
- Majority of the participants 76 (76%) were belongs to nuclear family, while 24 (24%) of participants are belongs to joint family.
- Majority of the participants 71 (71%) were Hindu, while 29 (29%) participants are Christian.
- Majority of the participants 97 (97%) were have toilet facilities at home, while 3 (3%) participants have no toilet facilities at home.
- Majority of the participants 100 (100%) had no previous history of urinary tract infection.
- Majority of the participants 100 (100%) had no use any medication.

SECTION II: COMPARISON OF PRETEST AND POST-TEST OVERALL PERCENTAGE DISTRIBUTION OF KNOWLEDGE AMONG ADOLESCENT GIRLS REGARDING PREVENTION OF URINARY TRACT INFECTION.

In this present study, in pretest maximum adolescent girls 84 (84%) are having poor knowledge, 16 (16%) adolescent girls are having average knowledge and 0 (00%) adolescent girls are having good knowledge regarding prevention of urinary tract infection. **In post-test** 2 (2%) of adolescent girls are having poor knowledge, 67 (67%) of adolescent girls are having average knowledge and 31 (31%) of adolescent girls are having good knowledge regarding prevention of urinary tract infection. It shows an improvement in knowledge regarding prevention of urinary tract infection after structured teaching programmed.

SECTION III: EFFECTIVENESS OF STRUCTURE TEACHING PROGRAMME ON PREVENTION OF URINARY TRACT INFECTION AMONG ADOLESCENT GIRLS.

The present study shows that the mean post-test score (14.19) was greater than mean pretest score (6.01). The mean difference of pretest and post-test knowledge score is 8.18. The calculated “t” value (26.32) is greater than the table value (1.645) with df 99 at 0.05 level of significance. It reveals the structure teaching programme was effective to improve the knowledge regarding prevention of urinary tract infection among adolescent girls.

SECTION IV: ASSOCIATION BETWEEN PRETEST KNOWLEDGE REGARDING HYGIENIC PRACTICES FOR PREVENTION OF URINARY TRACT INFECTION AMONG ADOLESCENT GIRLS WITH THEIR SELECTED SOCIO-DEMOGRAPHIC VARIABLES.

The present study shows the significant association of Age, Education qualification, Monthly income of the family, Type of family, Religion, Toilet facilities at home, Previous history of urinary tract infection, Use of any medication.

In this present study subjects who participated that age group chi-square is 36.39 (calculated value) and table value is 12.6 at df 6, Education qualification chi-square is 5.37 (calculated value) and table value is 9.49 at df 4, Monthly income of the family chi-square is 12.88 (calculated value) and table value is 12.59 at df 6, Type of family chi-square is 0.02 (calculated value) and table value is 5.99 at df 2, Religion chi-square is 0.53 (calculated value) and table value is 12.6 at df 6, Toilet facilities at home chi-square is 1.34 (calculated value) and table value is 5.99 at df 2, Previous history of urinary tract infection chi-square is

0 (calculated value) and table value is 5.99 at df is 2 and Use of any medication chi-square is 0 (calculated value) and table value is 5.99 at df 2.

The chi-square value showing that there was an association between pretest knowledge among adolescent girls with their age and monthly income of the family at the 0.05 level of significance.

CONCLUSION

Formal permission to conduct the study was obtained from the Principal of Gurukul secondary and higher secondary, School, Bhadrapad prior to data collection process. During the data collection period the investigator established a good rapport with the Adolescent girls who are participatory in the study and took written consent from each Adolescent girls before collecting the data of socio-demographic data and the structured knowledge questionnaires. The data was collected from 6th July, 2023 to 31st July, 2023 in Gurukul secondary and higher secondary, School, Bhadrapad. The investigator introduced herself and explained the purpose and confidentiality of the study to Adolescent girls and planned time schedule for collection of data. Self-administered structured knowledge questionnaire was given to the group for pretest. 15 minutes given to answer the questionnaire. Group structured teaching programme given after the pre-test to the group for 45 minutes. After 7 days reassessment of the knowledge of Adolescent girls was done by post-test. The study concluded that the structured teaching program was effective and significant in improving the knowledge of adolescent girls regarding the prevention of urinary tract infections, which was more effective and beneficial for them.

REFERENCES

1. Amitha Raj, Jinsha James, Jismin Jimmy, Sneha Mariya, Ananda. S. Knowledge and Self-Reported Practices Regarding Prevention of Urinary Tract Infection among Adolescents Girls in Selected College of Mangaluru. *European Journal of Molecular & Clinical Medicine*. October 2020; 7 (11): 4515-4522.
2. Available from: <file:///D:/2nd%20YEAR%20M.SC%20NURSING/RESEARCH/ADOLECENT%20GIRLS/AG%20-%20STUDY/UTI.pdf>
3. Sarah Ramchandra Budhe. A Study to Assess the Effectiveness of Structured Teaching Programme on Knowledge Regarding Urinary Tract Infection among Adolescent Girls in Junior College, Nagpur. *International Journal of Science and Research (IJSR)*. July 2020; 9 (7): 1965-1969.
4. Available from: <https://www.ijsr.net/archive/v9i7/SR20728150430.pdf>
5. Sherpa S Z, Rai N, Giri S, Dhakal K, Lepcha K W, Subba C H, et.al. Knowledge, Attitude and Hygienic Practice towards preventive measures of urinary tract infection among adolescent girls of selected rural areas Sikkim. *International Journal of Advances in Nursing Management*. 2022; 10 (1): 1-5.
6. Available from: <https://ijanm.com/HTMLPaper.aspx?Journal=International%20Journal%20of%20Advances%20in%20Nursing%20Management;PID=2022-10-1-1>
7. G. Suba. A study to evaluate the effectiveness of information education and communication (IEC) on knowledge regarding prevention of urinary tract infection among adolescent girls in a selected school at valparai, coimbatore. October 2019.
8. Available from: <http://repositorytnmgrmu.ac.in/20289/2/300110219suba.pdf>
9. Ms. Nimmy Saji, Ms. Amrutha C, Ms. Binupriya, Mr. Jibin. V Varkey, Dr. Assuma Beevi T.M.

Effectiveness of Structured Teaching Programme on Prevention of UTI among Adolescent Girls.
International Journal of Science and Healthcare Research. July-Sept. 2018; 3 (3): 1-6.

10. Available from: https://ijshr.com/IJSHR_Vol.3_Issue.3_July2018/IJSHR001.pdf

11. Polit DF, Beck CT. Nursing Research. LWW; Wolter Kluwer publication. 10th edition: 2020.

12. Sharma S K. Nursing research and statistics. Elsevier publishers: 2020.