JOURNAL OF SOCIAL KNOWLEDGE & PRACTICE

JOURNAL OF SOCIAL KNOWLEDGE & PRACTICE

*Vol. 01, No. 01*

# EFFECTIVENESS OF A STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE AND PREVENTIVE PRACTICES REGARDING URINARY TRACT INFECTION AMONG ADOLESCENT SCHOOL GIRLS IN JHANSI, UTTAR PRADESH

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## ABSTRACT

**Purpose of the Study**

This study aimed to evaluate the effectiveness of a structured teaching programme in improving knowledge and preventive practices regarding urinary tract infection among adolescent school girls in Jhansi, Uttar Pradesh. The research emphasizes the role of school-based health education in strengthening adolescent health literacy, promoting hygienic behavior, and reducing vulnerability to urinary infections during a critical developmental stage.

**Methodology**

A quasi-experimental one-group pre-test and post-test design was adopted. The study was conducted among 80 adolescent girls aged 12–17 years, selected through purposive sampling in a secondary school setting. Data were collected using a self-structured questionnaire assessing knowledge and preventive practices. A structured teaching intervention was implemented, followed by post-test evaluation using descriptive statistics.

**Main Findings**

The findings revealed that 85% of participants demonstrated good knowledge in the pre-test, while 58.75% showed inadequate preventive practices. After the structured teaching programme, good knowledge increased to 92.5%, and adequate preventive practices improved significantly to 90%. The results confirm that school-based educational interventions can effectively enhance awareness and hygiene-related behavior among adolescents.

**Novelty**

The novelty of this study lies in its focus on integrating urinary tract infection prevention into adolescent school health education as a learning and behavioral development strategy. It highlights the importance of structured teaching programmes in bridging health awareness gaps in developing country contexts and supports the inclusion of preventive health literacy within school-based social and character education initiatives.

***Keywords:***

Community-Led Total Sanitation,
Adolescent Girls,
Urinary Tract Infection
School-Based Health Education
Preventive Practices
Hygiene Behavior,
Open Defecation-Free,
Rural Sanitation,
Rural Water Supply,

## INTRODUCTION

Urinary Tract Infection (UTF) is the most prevalent bacterial infection in women and the second most frequent bacterial infection illness. UTF is the most common of all in affecting humans throughout their life pan [1]. The most common age group for UTF and UTI is adolescents. The most prevalent illness among teenage girls is thought to be lower UTF.
At least one episode of UTI occurs in nearly 5.6% of girls during their entry from high school to graduation [2].
UTFs are a widespread health issue that affects people of all ages and genders. They after result from the invasion and multiplication of pathogenic bacteria in the urinary system [3]. UTF is a special kind of infection that can occur anywhere in the urinary system. UTIs are caused by the presence of pathogenic bacteria in urine, although fungi and viruses may also be involved [4].
Adolescence is a critical developmental stage during which girls undergo significant physical and hormonal changes, including the onset of menstruation [5]. During this period, personal hygiene practices, menstrual hygiene management, and awareness of reproductive health become essential determinants of well-being [6]. In many developing country settings, adolescent girls often experience gaps in health education, limited access to accurate information, and inadequate hygienic practices, which may increase susceptibility to UTF s. Schools therefore serve as important social and educational environments for delivering structured health awareness programmes that promote preventive behavior, improve health literacy, and support adolescent girls in adopting safe hygiene practices [7].

### Background of the study

Bacteria can infect any portion of the Urinary Tract (UT), including the kidney, which produces urine, the ureters, which transport urine from the kidney, and the urethra, which transports pee from the bladder out of the body.
The results of a non-experimental quantitative study that evaluated the knowledge of teenage girls aged 13 to 16 about UTIs at Carmel School Digia Tinsukia, Assam, showed that the majority of participants, 23, had moderately adequate understanding [8].
A study conducted on knowledge regarding prevention of UTF among adolescent girls in ninchiyampalayam, dharapuram tamandua the non-experimental research approach was adopted in this study with descriptive research. In this study the data revealed that majority 16(53%) had adequate knowledge and 14(47%) had moderately adequate knowledge [9].
Erum Naaz et al. conducted a KAP study using a non-probability purposive sample technique on 287 female teenage girls from rural areas who are between the ages of 10 and 19. Out of 287 females, 143 (61.3%) had bad knowledge about UTF, 116 (49.7%) had good attitude, and 227 (97.4%) had inadequate practice about prevention of UTF, according to the study's assessment of the knowledge, attitude, and practice of UTF among the selection population size. Data from their study also showed that 39.9% of participants had a UTI [10].
A study was conducted in a selected village of New Tehri, Uttarakhand, to assess the effectiveness of a structured educational programme on the knowledge of teenage girls regarding UTF. The research adopted a pre-experimental one-group pre-test and post-test design. The sample consisted of 50 adolescent girls from the Sursingdhar community of New Tehri, who were selected through a consecutive sampling technique. Data were collected using a questionnaire method. Findings revealed that during the pre-test, 44% of the participants demonstrated good knowledge, 38% had average knowledge, 10% showed excellent knowledge, and 8% had poor knowledge. After the intervention, the post-test results indicated that 78% of the girls achieved excellent knowledge, while 22% exhibited good knowledge, with none falling under poor or fair knowledge categories. These results confirm that the structured teaching programme was effective in improving awareness regarding the prevention of UTF [11].

### Need of the study

Now a days the prevalence of UTI cases is increasing day by days and during the period of adolescent age group the risk is much higher due to hormonal changes, colonization by various UTI causing bacteria which can migrate to the periurethral area and causes UTF [12]. The major symptoms of UTF were burning Micturition, fever, pain, etc.
Bacteria migrating to the urethra from the vagina or rectum is the most frequent cause of UTF. 80% are caused by E.coli bacteria commonly find in the gut of faeces [13]. Hence the need of the study to conduct in Modern school Jhansi is to create awareness and improve practice level among adolescent school girls to prevent UTF.

### Objectives of a study

- "To assess the pre-test level of a knowledge regarding UTF among modern public school Jhansi."
- "To assess the pre-test level of a Practice regarding UTF among modern public school Jhansi."
- "To implement a planned structured teachings program, me on UTF among Adolescent girls."
- "To assess post-test level of a knowledge regarding UTF among modern public school Jhansi."
- "To assess the post-test level of a Practice regarding UTF among modern public school Jhansi."

### Operational definition

- **Assess-** In this study assess is defined to evaluate the effectiveness of structural teaching program.
- **Knowledge**- it refers to a turn taken to reduce UTI among adolescent girls regarding UTI and its prevention.
- **Prevention-** it refers to a turn taken to reduce UTI among adolescent girls regarding UTI and it's of UTF among antenatal mothers. International journal of midwifery and nursing

- **Pre test**- it is a study to assess the knowledge among adolescent girls about UTI and its inhibition.
- **Post test-** it is the study to assess knowledge after given structured teaching program regarding UTI and its prevention.
- **Stuctured teaching program**- a structured teaching program is a formal systematic organized in structured plan design to educate adolescent girl regarding UTI and its prevention.

### Assumption
Adolescent girls in groups 12–17 years old and up at Modern School Jhansi might be knowledgeable about UTF and have a high degree of UTF prevention practice.

## MATERIAL AND METHODS

### The Research Approach
An experimental method was used.

### The Research Design
A pre-experimental approach design was utilized.

### Setting
The research study is conducted in Modern School. For conducting the research, group from class $9^{th}$ to $12^{th}$ class was taken. Total strength of the students from this group is taken was 80.

### Variables
1. Demographic variables: Class, Religion, Age, Type of Family, Type of Community, Age of attaining Menarch.
2. Research variable: Knowledge and practice regarding UTF among the adolescent girls of age group of 12-17 years and above in Modern School, Jhansi Uttar Pradesh.

### Population of the study
Adolescent girls of Modern School, Jhansi Uttar Pradesh.

### Sample
The adolescent girls of age 12-17 years and above of Modern School, Jhansi Uttar Pradesh.

### Sample size
80 teenage females from Modern School in Jhansi, Uttar Pradesh, who are between the ages of 12 and 17.

### Approach
Nonprobability goal-directed technique who was present on the day of data gathering and those who agreed to take part in the research.

### Development of tool
After analyzing relevant literature and an existing tool, a self-structured questionnaire was created.

### Data collection procedure
After providing 80 teenage females in grades 9 through 12 with enough information about the study's goal and obtaining their informed consent, a structured questionnaire was placed on the seats. After the adolescent girls had 30 minutes to do the pre-test questionnaire, they had a structured lesson, and then a post-test was administered.

### Description of tool
The tool had three sections

### Section A
The tool consisted of 6 items to collect information. The characteristics included age, age of menarches, religion, education qualification, gender, type of community, type of family.

### Section B
Consisted of 15 items for assessing the effectiveness of STP to assess level of knowledge UTI and is preventive measure. The score on knowledge item was 15 with score one for each correct answer and for each in correct response. The knowledge level grading criteria considered appropriate was a follow.

**Table:1 Category of Knowledge Score (for multiple choice questions)**

| S.NO | CATEGORIES | SCORE |
|---|---|---|
| 1. | Good knowledge | 8-15 |
| 2. | Poor knowledge | 0-7 |

**Section C**

In this section the tool consisted of 14 items to assessing the effectiveness of STP to assess the level of practice towards UTF and its preventive measure among adolescent girls.

**Table:2 Scoring Key for Practice Score Questionnaire**

| S.NO | CATEGORIES | SCORE |
|---|---|---|
| 1. | Adequate Practice | 7-14 |
| 2. | Inadequate Practice | 0-6 |

**Data analysis**

Both descriptive and inferential statistics was used.

# RESULT

**Section I:**

**Finding related demographic profile of adolescent girls**

Frequency and percentage of subjects.

**Table 3**: "**Frequency and Percentage Distribution of Demographic Variables of Respondents" (n)= 80**

| S.NO | DEMOGRAPHIC VARIABLES | FREQUENCY | PERCENTAGE(%) |
|---|---|---|---|
| **1** | **Age (year)** | | |
| **1.1** | 12-13 | 0 | 0 |
| **1.2** | 14-15 | 49 | 61.25 |
| **1.3** | 16-17 | 25 | 31.25 |
| **1.4** | 17 Above | 6 | 7.5 |
| **2** | **Gender** | | |
| **2.1** | Female | 80 | 100 |
| **3** | **Age of Menarches** | | |
| **3.1** | <10 year | 3 | 3.75 |
| **3.2** | 11-12 Year | 31 | 38.75 |
| **3.3** | 13- 14 year | 39 | 48.75 |
| **3.4** | >15 year | 7 | 8.75 |
| **4** | **Religion** | | |
| **4.1** | Hindu | 73 | 91.25 |
| **4.2** | Muslim | 6 | 7.5 |
| **4.3** | Sikh | 0 | 0 |
| **4.4** | Christian | 1 | 1.25 |
| **4.5** | Other | 1 | 1.25 |
| **5** | **Education Qualification** | | |
| **5.1** | 9th class | 36 | 45 |
| **5.2** | 10th class | 29 | 36.25 |
| **5.3** | 11th class | 14 | 17.5 |
| **5.4** | 12th class | 7 | 8.75 |
| **6** | **Type of family** | | |
| **6.1** | Joint Family | 34 | 42.5 |
| **6.2** | Nuclear Family | 43 | 53.75 |
| **6.3** | Extended Family | 3 | 3.75 |
| **6.4** | Others | 0 | 0 |

The majority of the finding shows that out of 80 adolescent girls 61.25% belong to the age group of 14-15 years, 48.75% of adolescent girls attain the menarches ate the age of 13-14 years, 91.25% belongs to Hindu religion, 36.25% was from $10^{th}$ class 42.5% belongs to joint family.

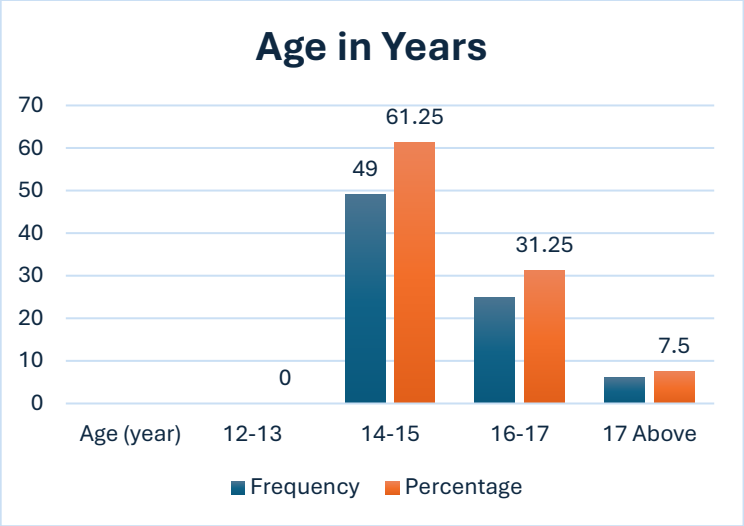



**Figure 1: Age Distribution of Respondents**

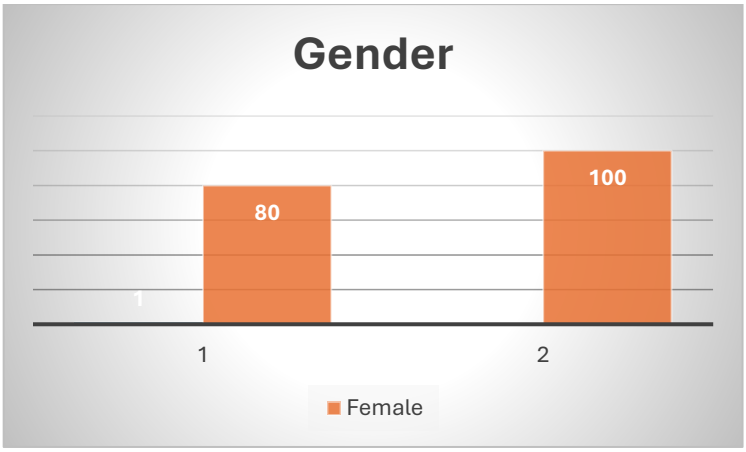



**Figure 2: Gender Distribution of Respondents**

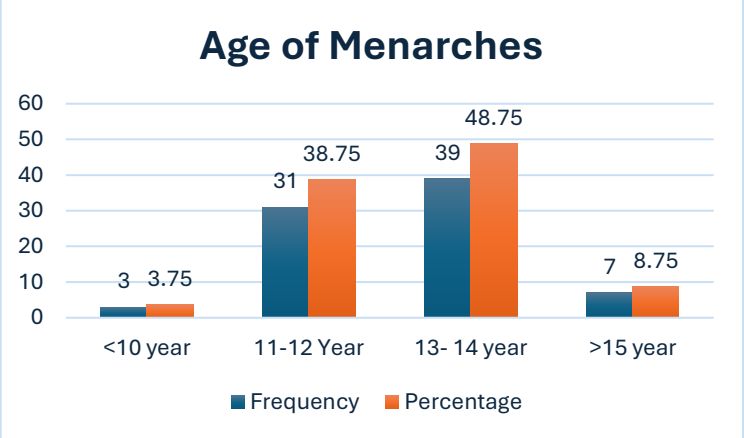
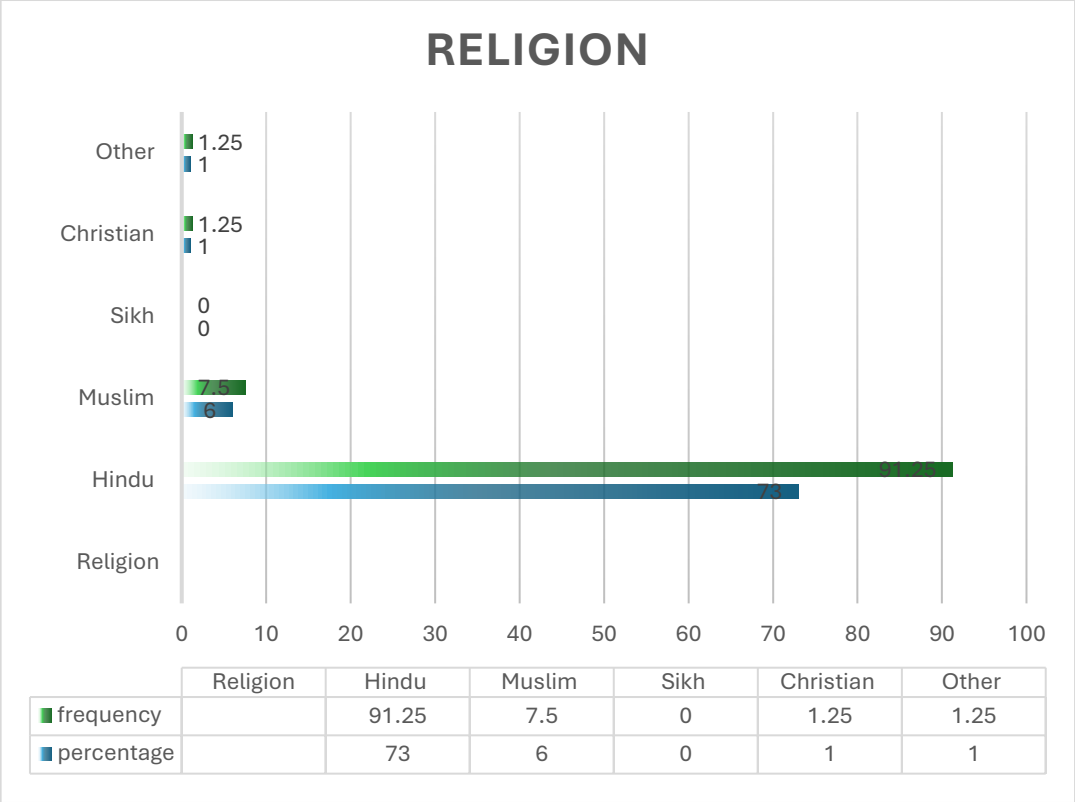



**Figure 3: Distribution of Age at Menarche Among Participants**




| | Religion | Hindu | Muslim | Sikh | Christian | Other |
|---|---|---|---|---|---|---|
| frequency | | 91.25 | 7.5 | 0 | 1.25 | 1.25 |
| percentage | | 73 | 6 | 0 | 1 | 1 |

**Figure 4: Religious Distribution of Respondents**

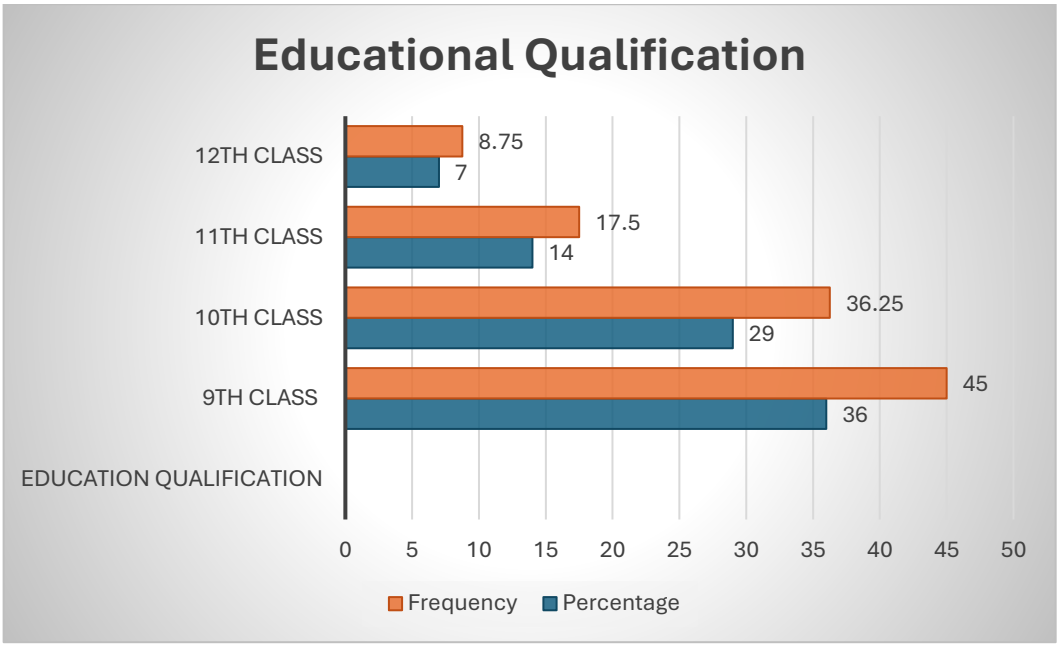



**Figure 5: Educational Qualification of Respondents**

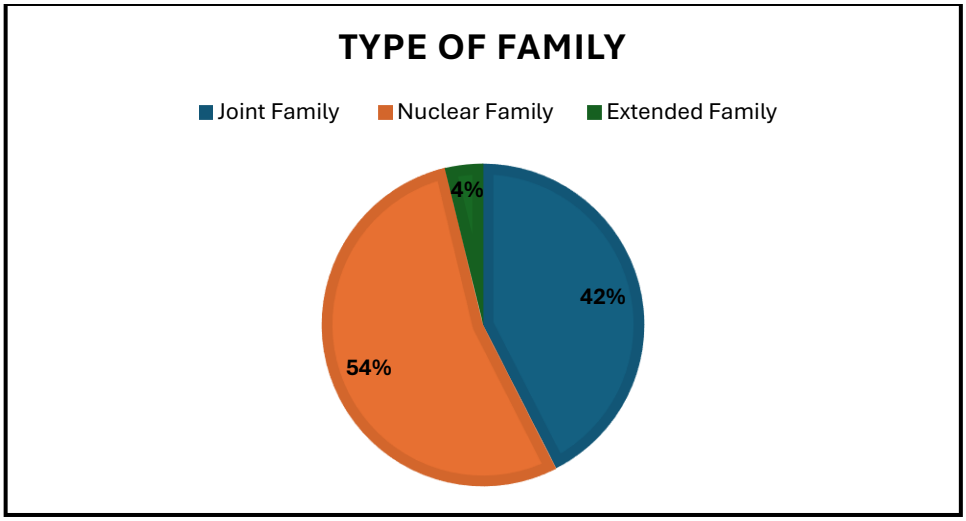



**Figure 6: Type of Family Distribution of Respondents**

**Section II:**

**Table 4 "Pre-test and Post-test Knowledge Regarding UTF among adolescent girls"(n) = 80**

| Category of knowledge | Pre-test | | Post-test | |
|---|---|---|---|---|
| | Frequency | Percentage (%) | Frequency | Percentage (%) |
| Good Knowledge | 68 | 85 | 74 | 92.5 |
| Poor Knowledge | 12 | 15 | 6 | 7.5 |

The result in this section depicts that out of 80 adolescent school girls from selected school of Jhansi
Prior to and following the implementation of the structured teaching program, 68 (85%) had strong knowledge on the pre-test, whereas 12 (15%) had inadequate knowledge it is increased, majority of the population in post-test have good knowledge 74 (92.5%), and 6 (7.5%) have poor knowledge.

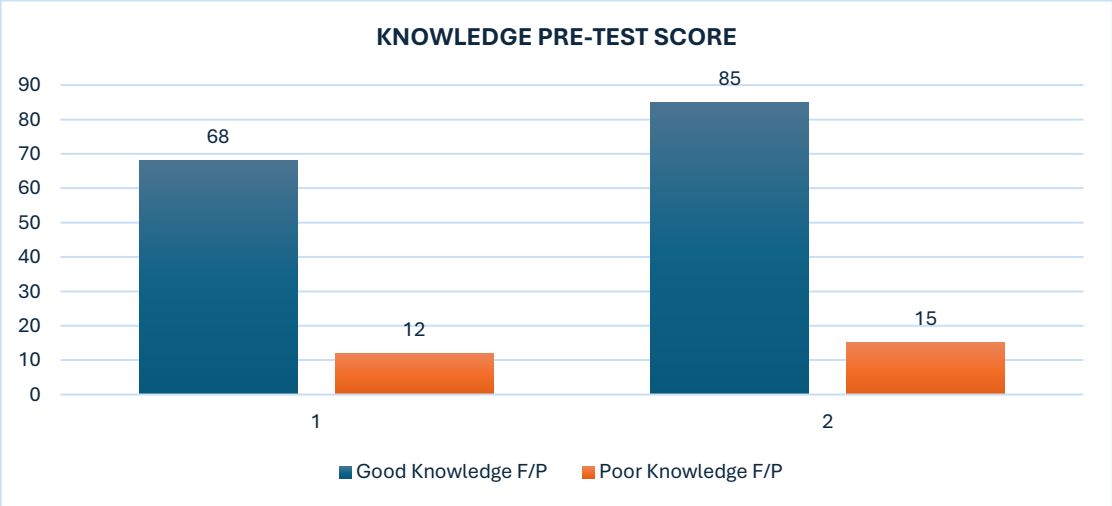


**Figure 7: Pre-Test Knowledge Level of Participants**

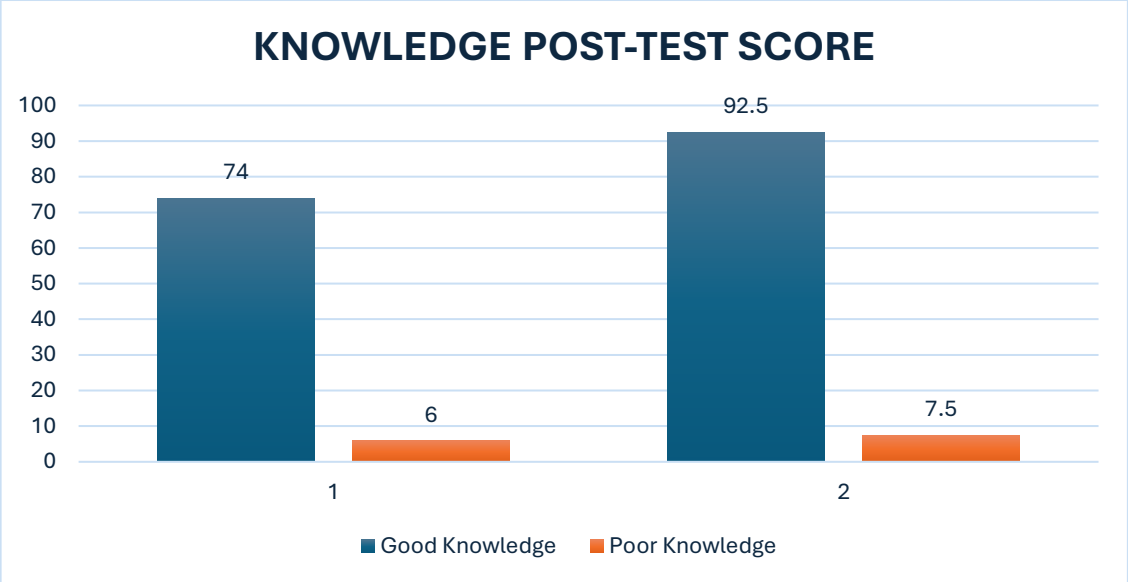



**Figure 8: Post-Test Knowledge Level of Participants**

**Table 5 "Pre-Test and Post-Test knowledge of adolescent girls regarding UTF and its preventive measures"**

| Attribute | Total score | Possible Range of score | Obtained range of score | Mean | Median | Mode | SD |
|---|---|---|---|---|---|---|---|
| **Pre-Test** | 15 | 0-15 | 2-13 | 8.68 | 9 | 9 | 2.28360324 |
| **Post-Test** | 15 | | 4-14 | 10 | 10.5 | 12 | 2.30864544 |

The data in the table present the mean Pre-Test (8.68), Median (9), Mode (9) and SD (2.28360324) of knowledge scores and for post-test mean (10), median (10.5), mode (12) and SD (2.30864544)

**Section III:**

**Table 6 "Pre-test and Post Test practice regarding UTF among adolescent girls" (n) = 80**

| Category of knowledge | Pre-test | | Post-test | |
|---|---|---|---|---|
| | Frequency | Percentage (%) | Frequency | Percentage (%) |
| **Adequate practice** | 33 | 41.25 | 72 | 90 |
| **Inadequate practice** | 47 | 58.75 | 8 | 10 |

The result in this section depicts that out of 80 adolescent schoolgirls from selected school of Jhansi
• In pre-test 47(58.75%) have poor level of practice, 33 (41.25%) have good level of practice before giving structured teaching program and after implementing the structured teaching program it is increased, majority of the population in post-test have good level of practice 72 (90%), and 8 (10%) have poor level of practice.

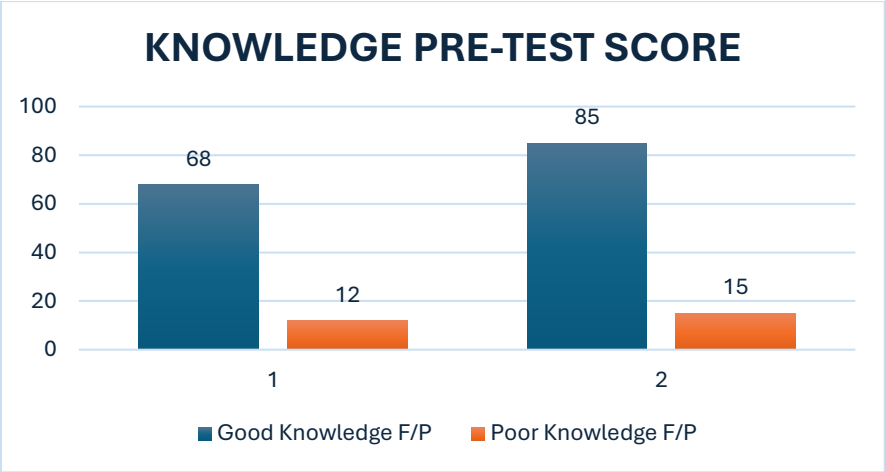



**Figure 9: Distribution of Knowledge Pre-Test Scores Among Respondents**

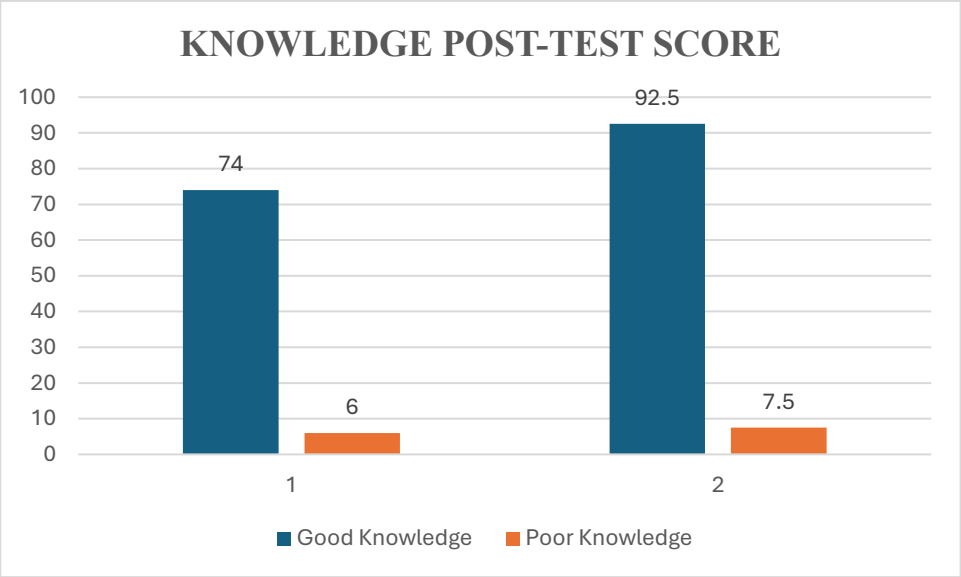



**Figure 10: Post-Test Knowledge Score Assessment of Participants**

**Table 7 "Pre-Test and Post Test Practice of Adolescent Girls Regarding UTF And Its Preventive Measures" (N) = 80**

| Attribute | Total score | Possible Range of score | Obtained range of score | Mean | Median | Mode | SD |
|---|---|---|---|---|---|---|---|
| **Pre-Test** | 14 | 0-14 | 2-12 | 7 | 7 | 6 | 2.44948974 |
| **Post-Test** | 14 | | 4-13 | 9.725 | 10 | 11 | 2.43413229 |

Pre-Test Mean (7), Median (7), Mode (6) and SD (2.44948974) of Practice Scores and for post-test mean (9.725), median (10), mode (11) and SD (2.43413229).

**Implications**
This study emphasizes the significance of integrating school-based health education into adolescent learning programmes. Structured teaching interventions can improve health literacy, promote hygienic behavior, and support character development among students. Such programmes may be incorporated into social and life-skill education curricula to strengthen preventive awareness in developing country school settings.

**Limitations**
- The information collected from the subjects was based Return responses only thorough structure questionnaires schedule
- The study was confined to a tiny sample size, which restricts how broadly the study's conclusions can be applied.
- The data gathering tool was created specifically for the project by investigators as no standard tools could be found.

## CONCLUSION

Data collected from 80 adolescent girls with the help of Structure questionnaire in Modern School Jhansi and after analysis the data shows that the planned teaching program on UTF is effective, majority of the population have knowledge but don't have proper knowledge for its preventive measures but after implementing the population's understanding of the structured teaching curriculum as well as practice is increase and improve to most extent. This study supports the inclusion of adolescent health literacy and hygiene awareness within school-based social education programmes. Strengthening preventive education at the secondary school level can contribute to improved student well-being, attendance, and responsible health behavior.

## Acknowledgment
I would like to thank to the Principal of Modern School Jhansi, and other for helping with the data collection and conducting the structured teaching program.

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