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Research Article

Assess the Effectiveness of Planned Teaching Program on Knowledge and Attitude Regarding Prevention of Urinary Tract Infection among Adolescent Girls in Selected School of Bhabhar City

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Abstract

Aim: The aim of this study was to evaluate the effectiveness of planned teaching program on knowledge and attitude regarding prevention of urinary tract infection among adolescent girls.

Materials and Methods: Underdeveloped nations have many urinary tract infections. Adolescent girls are more likely than boys to have it. Urinary tract infections occur in the urinary tract. The urinary tract includes the bladder, kidney, ureter, and urethra. UTIs can be caused by any urinary pathogen, with or without symptoms. Colon-dwelling Escherichia coli strains cause 80% of UTIs. Other microorganisms can cause disease. Although healthy, this stage of life nonetheless has many deaths, sicknesses, and injuries. Most of this is avoidable or treatable. Pre-test, post-test, and control group designs for quasi-experiments were modified. Adolescent girls participated in the study on preventing urinary tract infections. Data were collected using demographic characteristics and 40 samples were chosen using non-probability purposive sampling, self-administered knowledge questionnaire, and modified Likert scale.

Results: The study findings showed that Planned Urinary Tract Infection Prevention Education Program was significantly effective in improving teenage girls' attitudes and knowledge. Information base and outlook of girls regarding urinary tract infection and its prevention are improved.

Conclusion: According to the study's findings, planned teaching programs greatly improved the knowledge and attitudes of adolescent girls, regarding prevention urinary tract infection.

Keywords: Adolescent girls, assess, attitude, effectiveness, knowledge, planned teaching program, urinary tract infection

Introduction

Urinary tract infections (UTI) are a major source of sickness for people all over the world and are a global health concern. UTI, a major cause of illness for people worldwide and a global health concern, is more prevalent in women in India. The majority of UTI hospitalizations in India are among women, and our data regarding seasonality are presented. The summer is when UTIs are most common, while the off-season is when they are least common. Compared to men, women are more likely to have UTls. Seasonality is more evident in younger cases and becomes less pronounced with age. For every year of age among women, there was a decline one of the major causes of sickness among humans and a global health concern is UTI. An infection that can affect a UTI affects the urine system. The urogenital system is made out of the urethra, ureters, and feathers.[1] In India, UTI is common in females than in men.[2] A common ailment among women is UTI.[3] According to the cause

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of the infection, UTIs can be categorized as simple or complex, primary or intermittent, or neither, depending on the situation.[4]

UTIs mostly affect urethra and bladder in the lower urinary system, but if left untreated, they can also extend to the ureters and feathers in the upper urinary tract, which can be very harmful to the feathers. Infections of the urethra (urethritis), ureters (urethritis), bladders (cystitis), and urinary tracts (pyelonephritis) can all occur are additional problems brought on by UTIs.[5] Only respiratory and gastrointestinal infections are more frequent in itinerant cases than among the most prevalent illnesses in humans are UTIs.[6]

Clinical recommendations to treat and raise awareness of UTIs as a preventative approach against kidney scarring and long-term problems.[7] UTIs can be brought on by fungus, contagions, and urine-borne bacteria. Due to the narrow urethra, lack of prostatic stashing, gestation, and ease of tract impurity with fecal vegetation, UTI is more common in women than in men.[8]

Over 90% of UTI cases are caused by coli, the most frequent bacteria. Less frequent offenders include *Enterobacter* species, *Klebsiella* species, *Pseudomonas aeruginosa*, and mirabilis. Gram-positive organisms such *Staphylococcus haemolyticus* and Group B *Streptococcus aureus* saprophyticus, are less prevalent.[9]

UTIs can show a different of symptoms, ranging from mild burning urine to sepsis, bacteremia, or even death, and can be asymptomatic or symptomatic.[10] If not properly treated, UTIs typically start migrate up to the upper urinary tract (ureters and feathers) from the lower urinary system (urethra and bladder) and seriously harm the feathers.[11] Asymptomatic bacteriuria, a typical infection with microbial irruption, and urinary tract inflammation are all referred to as UTIs collectively. While over 90% of UTI cases at least one-third of those who report urinary tract symptoms — including frequent urination, painful urination, and burning urination — do not have bacteriuria.[12] The isolation of a specific count of microorganisms in the urine is referred to as asymptomatic bacteriuria, commonly known as an asymptomatic urinary infection. A specimen of properly collected urine obtained from a subject who does not exhibit any symptoms or indications of a urinary infection.[13] A number of interesting encyclopedic research have estimated the incidence of asymptomatic bacteriuria to be between 2 and 10.[12] These women are more likely to experience UTIs with posterior symptoms.[14]

Cystitis of the bladder, urethritis of the urethra, pyelonephritis of the order, and urethritis of the ureter are further complications brought on by UTIs.[15] Women who are mature enough can have multiple intermittent infections at once.[16]

Materials and Methods

Research design

A pre-experimental one-group pre-test and post-test design was used to evaluate the impact of the proposed teaching program on the knowledge and attitude of teenage girls in a particular school in the city of Bhabhar on the prevention of UTI.

Setting

The investigation was conducted in a chosen school in the city of Bhabhar.

Sample

Teenage girls between the ages of 13 and 18 made up the sample chosen for this study.

Instrument

In this study, the tool consisted of following

- Demographic Variables: This includes questions that obtain information regarding demographic data of adolescent girls
- Self-administered knowledge questionnaire: It consists of 25 questions regarding UTI, one mark for correct answer and 0 mark for wrong answer. The total maximum score would be 25
- Modified Likert Scale: Modified Likert scale was prepared to assess the attitude level in adolescent girl before and after providing planned teaching program.

Results

Organization and presentation of the data

The data were analyzed and interpreted using descriptive and inferential statistics based on the objectives and hypothesis formulated for the present study.

The findings are presented under the following headings:

Section A

Table 1 shows that frequency and percentage distribution sociodemographic variables.

Age (in year), majority 75% belonged to the age group of 16–17 years, then 25% belonged to the 15–16 years, and 00% belonged to 13–14 years.

Religion, majority 52.5% belongs to the Hindu, then 20% belongs to the Muslim, then 17.5% belongs to the other, and 10% belongs to the Christian religion.

Education shows that majority 55% belongs to high secondary school education, 45% belongs to secondary school education, and 00% belongs to primary education.

The previous knowledge regarding UTI shows that the majority 67.5% having knowledge related to the prevention of UTI, then 32.5% belongs to No.

Section B

Analysis of data related to assessment of the level of knowledge of the adolescent girls regarding UTI

Table 2 shows that majority 70% of adolescents had adequate knowledge regarding UTI including 20% moderate knowledge and 10% inadequate knowledge regarding UTI.

Table 3 shows that majority 62.5% of adolescents had positive attitude regarding UTI including 27.5% of neutral attitude and 10% of negative attitude regarding UTI

Table 4 shows that relation to the knowledge regarding UTI among adolescent girl, mean SD, and mean percentage was 33.66, 3.13, and 84.15%, respectively.

In relation to the attitude regarding UTI among the adolescent girl mean, SD, and mean percentage was 29.5, 2.98, and 73.75%, respectively.

Correlation between level of knowledge and attitude of the adolescent girls regarding UTI.

Table 5 shows that correlation between the level of knowledge and attitude was found to be 0.29, that is, correlation is shown in Table 4.

- The Chi-square value of df (3) was significant at $P < 0.05$ level showing that there was an association between educational qualification and level of knowledge among the adolescent girls [Table 6]
- The Chi-square value of df (1) is significant at $P < 0.05$ level shows that there was an association between religion and level of knowledge among the adolescent girls [Table 7].

Discussion

This chapter summarizes the findings in relation to the study's goals and contrasts them with those of a related study. The objectives and results of this study have been explored in relation to it.

Sequera *et al*., (July 2021): A study was conducted regarding school girls in Kolkata having the information and attitude necessary to prevent UTIs. With the help of a non-probability sampling technique, 40 school girls were chosen. About 52% of girls are belonged to 13–14 years of age. About 86 % of girls have their age of 17–18 years of age. Therefore, the research study was concluded that adolescent girls need a adequate education and suitable to prevent UTI, Journal of Clinical and Diagnostic Research, 15 (07).[17]

Mafuyai *et al*., (August 2019): A descriptive correlational study was conducted regarding assessment of attitude of adolescent girls in relation to UTI prevention. Using a non-probability purposive sampling technique, 60 teenage girls made up the sample. The outcome indicates that majority (96.66%) had favorable attitude and 3.33% had unfavorable attitude. The research study was concluded that resulted in improving the attitude regarding prevention of UTI (IRJPEH Vol.6 (5), pp. 89-96, August 2019).[18]

Ramandeep and Jalandhar, (2015): A pre-experimental study was conducted to assess the effects of a structured training program on the knowledge of preventing UTIs among 110 1st-year nursing college students residing in semi-urban Jalandhar, Punjab. The study utilized a one-group pre-test and post-test design. The data were collected through an unstructured questionnaire. Based on the findings of the study, it was seen that the average knowledge score before the examination was 15.9 out of a total of 30; however, the average knowledge level subsequent to the test was recorded as 24.7 out of 30. The findings of this study indicate that the implementation of structured educational programs

Table 1: Frequency and percentage distribution of sociodemographic variables (*n*=40)

Demographic variables	Frequency (%)
Age (year)	
13–14	00 (00)
15–16	10 (25)
16–17	30 (75)
Total	40 (100)
Religion	
Hindu	21 (52.5)
Christian	4 (10)
Muslim	8 (20)
Other	7 (17.5)
Total	40 (100)
Education	
Primary education	00 (00)
Secondary school education	18 (45)
High secondary school education	22 (55)
Total	40 (100)
Previous knowledge regarding urinary tract infection	
Yes	13 (32.5)
No	27 (67.5)
Total	40 (100)

Table 2: Assessment of the level of knowledge of the adolescent girls regarding urinary tract infection

Level of knowledge	Score (%)	No of respondents, *n* (%)
Inadequate	0–33	4 (10)
Moderate	34–67	8 (20)
Adequate	68–100	28 (70)
Total		40 (100)

Table 3: Analysis of data related to assessment of the level of attitude of the adolescent girls regarding urinary tract infection

Level of attitude	Score (%)	No of respondents, *n* (%)
Negative attitude	0–33	4 (10)
Neutral attitude	34–67	11 (27.5)
Positive attitude	68–100	25 (62.5)
Total		40 (100)

Table 4: Analysis of data related to the effect of planned teaching program, mean, standard deviation, and mean % of level of knowledge and attitude regarding urinary tract infection (*n*=40)

Domain	Max score	Range	Mean	SD	Mean (%)
Knowledge	25	14–22	33.66	3.13	84.15
Attitude	50	30–46	29.5	2.98	73.75

SD: Standard deviation

focused on UTIs significantly enhances the understanding of nursing students.[19]

Vijayan *et al*. (2017): In a few girl's schools in Chitra Durga City, a community-based interventional study was done on adolescent girl students' attitudes and practices regarding UTI. The study employed non-probability convenient sampling on 467 adolescent girls as its samples. According to the findings, the mean attitude toward UTIs among the 467 adolescent girls who participated in the study increased from 4.78 pre-test to 10.87 post-test following intervention. In addition, 10.94 has a better attitude than other grades. The study found that research studies had an immediate impact on changing people's attitudes on preventing UTIs.[20]

Indhumol *et al*., (2014): To determine the impact of the planned training program on 119 adolescent girls' knowledge on the

Table 5: Correlation between the level of knowledge and attitude

Domain	Mean	SD	Correlation r
Knowledge	33.66	3.13	0.29*
Attitude	29.5	2.98	

*Significant at $P<0.05$ level, df 39, tab 0.25, SD: Standard deviation

Table 6: Analysis of data related to association between level of knowledge and selected demographic variables of adolescent girls regarding urinary tract infection ($n=40$)

Demographic variable	Level of knowledge			χ^2	Difference	*P*	Significant
	<Median	>Median	Total				
Age (year)							
13–14	00	00	00	0.63	1	0.042	Significant
15–16	6	4	10				
17–18	22	8	30				
Total	28	12	40				
Religion							
Hindu	15	6	21	5.87	3	0.011	Significant
Christian	1	3	4				
Muslim	5	3	8				
Other	2	5	7				
Total	23	17	40				
Education							
Primary education	00	00	00	1.04	1	0.030	Significant
Secondary school education	13	5	18				
High secondary school	12	10	22				
Total	25	15	40				
Previous knowledge							
Yes	9	4	13	0.68	1	0.040	Significant
No	15	12	27				
Total	24	16	40				

Significant at $P<0.05$ level

Table 7: Analysis of data related to the association between levels of attitude and selected demographic variables of adolescent girls regarding urinary tract infection ($n=40$)

Demographic variable	Level of attitude			χ^2	Difference	*P*	Significant
	<Median	>Median	Total				
Age (year)							
13–14	00	00	00	2.76	1	0.096	Significant
15–16	8	2	10				
17–18	15	15	30				
Total	23	17	40				
Religion							
Hindu	13	8	21	2.84	3	0.041	Significant
Christian	1	3	4				
Muslim	6	2	8				
Other	4	1	7				
Total	24	16	40				
Education							
Primary education	00	00	00	2.43	1	0.011	Significant
Secondary school education	11	7	18				
High secondary school	8	14	22				
Total	19	21	40				
Previous knowledge							
Yes	5	8	13	0.63	1	0.042	Significant
No	14	13	27				
Total	19	21	40				

Significant at $P<0.05$ level

prevention of UTI, a pre-test and post-test control group research study was carried out. For data gathering, samples were chosen using one-stage cluster sampling procedures. Structured knowledge questionnaires were used to obtain the data. The study's result revealed a statistically significant difference in the experimental research group's knowledge score about the prevention of UTIs among those who had participated in the organized instruction program. This study advocated for the necessity and significance of putting diverse educational strategies and programs for teenage girls into practice. It would be beneficial to increase knowledge and adopt healthy habits.[21]

Conclusion

The study concluded that the planned program was significantly efficient in enhancing adolescent girls' knowledge and attitudes about preventing UTIs.

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Conflicts of Interest

None.

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