

Effectiveness of Information Education Communication (IEC) on Knowledge Regarding Prevention of Urinary Tract Infection among Adolescents in a Selected School at Gonda

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Abstract

Urinary tract infection (UTI) is a common disease mainly affecting adolescents because of poor hygiene, dysfunctional voiding patterns, use of synthetic underwear and panties, tight jeans, wet bathing suits, allergens/irritants, hygiene sprays for women, bubble baths, perfumed toilet paper, sanitary napkins and soaps. Lack of adequate knowledge and practices related to maintenances of health leads to infections. A study to evaluate the effectiveness of Information Education Communication (IEC) on Knowledge Regarding Prevention of Urinary Tract Infection among Adolescents in a Selected School. The objectives of the study was to assess the pre-test and post-test level of knowledge regarding prevention of UTI among adolescents in a selected school, to evaluate the effectiveness of Information Education and Communication on prevention of urinary tract infection among adolescents in a selected school and to determine the association between the post-test level of knowledge regarding prevention of urinary tract infection among adolescents with their selected demographic variable. A quantitative approach was adopted with pre experimental one group pre-test post-test design was used in this study. The study was conducted in St. Xavier's School Gonda. 50 adolescents were selected through purposive sampling technique. Data was collected by structured self-administered questionnaire. The pre-test was conducted among adolescents on 1st day. Information education and communication (IEC) was given through power point presentation for 30 minutes on the same day. Posttest was conducted on 6th day. Results revealed that pre-test knowledge mean score was 11.2, with the SD 2.44 and post-test mean score was 17.5. with the SD 3.44, Mean difference was 2.94. The obtained t-value was 48.64, which was statistically significant at $p < 0.05$ level.

Keywords: IEC; UTI; Knowledge.

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INTRODUCTION

Urinary Tract Infection is a very common disease. There are myths, apprehension misunderstanding among the general population and students. Moreover, there are many wrong practices that are followed to prevent Urinary Tract Infection. These malpractices need to be changed because sometimes it rather increases the chance of infection even in normal healthy individual.



Examination Survey (2014) Urinary tract infection may occur among girls due to reason for unhygienic toilets and improper practice of menstrual hygiene. Dehydration can also be a cause of urinary tract infection. Urinary tract infection may progress to renal damage, renal failure and sepsis. Early recognition and prompt treatment helps to prevent occurrence of recurrent urinary tract infection and possibility of complications.

Various Genitourinary illnesses in adolescent girls can be caused by a lack of awareness. A bacterial infection that affects any section of the urinary tract is known as a urinary tract infection. UTI normally starts in the lower urinary tract (urethra and bladder), and if left untreated, it can spread to the upper urinary tract (ureters and kidneys), causing serious kidney damage. UTIs can also lead to bladder infection (cystitis), urethral infection (urethritis), kidney infection (pyelonephritis), and ureter infection (ureteritis) Infections of the urinary system can appear in a variety of ways depending on the place of infection and the length of time they have been present. Those that affect the lower urinary tract are known as cystitis, and symptoms include aching bladder.

The National Family Health Survey (2018) reported on prevalence of urinary tract infection in India among adolescents as 16.6% and the risk of bacteremia developing in adolescents as 5-10%. Common risk factors for adolescent urinary tract infection are poor hygiene, dysfunctional voiding patterns, use of synthetic underwear and panties, tight jeans, wet bathing suits, allergens/irritants, famine hygiene sprays, bubble baths, perfumed toilet paper, sanitary napkin and soap may aid in the development of cystitis. Lack of adequate knowledge and practices related to maintenances of health leads to various genitourinary infections during adolescence. Thus, it is very essential to initiate health intervention measures for the prevention and control of urinary tract infection among adolescence.

Need for the Study

According to World Health Organization (1948), "Health is a state of complete physical, mental and social wellbeing and not merely an absence of disease or infirmity". The state of positive health implies the notion of "perfect functioning" of the body and mind. A urinary tract infection is an infection that affects the urinary tract in any portion

of the body. The kidneys are two bean-shaped organs located in the upper back of the abdomen. The kidneys filter waste from the blood and eliminate it from the body. Urine is transported from the kidneys to the bladder via the ureters. Urine is stored in the bladder until it exits the body through the urethra. Although most urinary tract infections affect the lower tract, any or all of these components can become contaminated. According to a research, 76.38 percent of people have recurrent urinary tract infections, 19.5 percent have adequate awareness of the condition, 22 percent have moderate knowledge, and 35.54 percent have in adequate knowledge (Mekhana, 2017).

World Health Organization (2018) reported that 700 million adolescents world wide among those 500 million in developing countries, one fifth of world's population accounts for 62% of population and in Tamil Nadu it is 59.9%. In United States, Healthcare Research and Quality, reported an increased incidence of 400000 hospitalizations for urinary tract infection. The overall prevalence of UTI in India was 66.78% of which 33.54% were females and 33.22% were from males. High prevalence was observed in females as compared to males.

Kripa, CK, (2020) A study was conducted as a non-experimental descriptive study to assess the knowledge on prevention of urinary tract infection among adolescents in a selected nursing college. Sample size for the present study consists of 30 adolescents from the Aswini College of Nursing, Thrissur, Kerala. Probability random sampling technique was adopted for the selection of sample. A standardized structured questionnaire was used to assess the socio-demographic data and knowledge level among adolescent. The present study revealed that out of 30 samples, 93% had average knowledge, 7% had inadequate knowledge and none have adequate knowledge. This study concluded by stating the need to educate adolescents in the college to appropriate knowledge regarding the prevention of urinary tract infection.

Nurses play an important role in health care providing health education becomes the foremost step. Information Education and Communication is an important tool in health education. Most of the adolescent are not aware of the prevention of urinary tract infection. So, the researcher felt the need to emphasize on this aspect, through the Information Education and Communication (IEC) and assess the effectiveness of information education and communication terms of the knowledge score.

Statement

A study to evaluate the effectiveness of Information Education Communication (IEC) on the level of knowledge regarding Prevention of Urinary Tract Infection among adolescents in a Selected School at Gonda.

OBJECTIVES

- To assess the pre-test and post-test level of knowledge regarding prevention of urinary tract infection among adolescents in a selected school.
- To evaluate the effectiveness of Information Education and Communication on prevention of urinary tract infection among adolescents in a selected school.
- To determine the association between the posttest level of knowledge regarding prevention of urinary tract infection among adolescents with their selected demographic variables.

Null Hypotheses

NH₁ - There is no significant difference between mean pre-test and post-test level of knowledge regarding prevention of urinary tract infection among adolescents in a selected school

NH₂ - There is no significant association between post-test on level of knowledge regarding prevention of urinary tract infection among adolescents with their selected demographic variable.

Assumptions

Adolescents may have inadequate knowledge regarding prevention of Urinary tract infection.

Information education and communication on prevention of urinary tract infection may help adolescents to improve their knowledge.

Delimitations

The study was delimited to a period of one week of data collection.

The adolescen studying in a selected school, Gonda.

Adolescent between the age group of 12-14 years.

Sample size is limited to 50.

sample selection criteria

Inclusion Criteria

- Adolescents those who are in the age group and studying 12-14 years.
- Adolescents who can speak and write English and Hindi.
- Adolescents who are willing to participate in the study.
- Adolescents who are present during the time of data collection.

Exclusion Criteria

Adolescents who have already got information regarding prevention of urinary tract infection.

Data collection procedure

Before proceeding with the study, formal permission was taken from the respected authorities of St. Xavier’s School Gonda. The objective of the study was explained. Obtained oral consent from the participants and the questionnaire was distributed to the subjects. A quantitative approach was adopted with pre-experimental one group pre-test post-test design was used in this study. 50 adolescents were selected through purposive sampling technique. Data was collected by structured self-administered questionnaire. The pretest was conducted among adolescents on 1st day. Information education and communication (IEC) was given through Power Point presentation for 30 minutes on same day. Post-test was conducted on 6th day to evaluate the knowledge of all the participants on the 6th day after the intervention by used the same structured knowledge questionnaire.

RESULTS

Table 1: Frequency and percentage distribution of demographic variables among adolescents

	N = 50	
Demographic Variables	Frequency (n)	Percentage (%)
Age in years		
12 years	13	26%
13 years	24	48%
14 years	13	26%
Religion		
Hindu	23	46%
Muslim	1	2%
Christian	26	52%

Table Cont..

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Type of Family		
Nuclear family	26	52%
Joint family	20	40%
Extended family	4	8%
Area of living		
Rural	4	8%
Urban	46	92%
Previous history of UTI		
Yes	5	10%
No	45	90%
Previous knowledge on UTI		
Yes	13	26%
No	37	74%

Table: 1 shows that the description of the demographic variables of the adolescents, The results indicated that with regard to age in years 13(26%) were in the age group of 12 years, 24(48%) were in the age group 13 years, 13(26%) were in the age group of 14 years, With regard to religion, 23 (46%) were Hindu, 1 (2%) were Muslim, and 26 (52%) were Christian. With regard to type of family, 26 (52%) from Nuclear family, 20 (40%) from Joint family, 4(8%) from Extended family. With regard to area of living 4(8%) were rural areas, 46 (92%) were urban areas. With regard to 5 (10%) had previous history of UTI, 45 (90%) had no previous history of UTI, With regard to 13 (26%) had previous knowledge on UTI 37 (74%) had no previous knowledge on UTI.

Table 2: Frequency and percentage distribution of pre-test and post-test level of knowledge regarding prevention of urinary tract infection among adolescents

N=50

Level of knowledge	One group Pre-test and Post-test			
	Pre-test		Post test	
	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
Inadequate knowledge (0-8)	6	12	1	2
Moderately adequate knowledge (9-16)	43	86	13	26
Adequate knowledge (17-25)	1	2	36	72

Table 2 shows that the frequency and distribution of pre-test and post-test level of knowledge regarding prevention of urinary tract infection among adolescents. Among 50 adolescents pre-test score was 6 (12%) had inadequate knowledge, 43 (86%) had moderately adequate knowledge, 1 (2%) had adequate knowledge in post-test score was 1(2%) had inadequate knowledge, 13 (26%) of them had moderately adequate knowledge, and majority 36 (72%) of them had adequate knowledge regarding prevention of urinary tract infection.

Table 3: Comparison of pre-test and post-test level of knowledge on prevention of urinary tract infection among adolescents

N=50

Knowledge	Mean	Standard Deviation	Mean difference	Paired 't test t-value
Pre Test	11.2	2.44	2.94	t=48.64 P=0.816 S***
Post Test	17.5	3.44		

***p<0.05 level, S - Significant

Table 3 shows that the mean, mean deviation, standard deviation, and t-value of pre-test and post-test level of knowledge regarding prevention of urinary tract infection among adolescents. Mean score of knowledge in pre-test was 11.2 with the SD of 2.44 and post-test was 17.5, with the SD of 3.44, and mean deviation score was 2.94. The obtained 't'-value is 48.64. It was found to be statistically significant at p<0.05 level. It is inferred that there was difference found between the pre-test and post-test level knowledge regarding prevention of urinary tract infection. Hence that stated Null hypotheses rejected.

Table 4 shows that the demographic variable of previous history of UTI ($\chi^2=11.13$, P=5.99) previous knowledge of UTI ($\chi^2=13.059$, P=5.99) had shown statistically significant association with level of knowledge on prevention of urinary tract infection among adolescents at p<0.05, and the other demographic variables had shown statistically significant association with the level of knowledge on prevention of urinary tract infection among adolescent.

Table 4: Association of post-test level of knowledge with their selected demographic variables.

N=50

Demographic variables	Inadequate Knowledge (0-8)		Moderately adequate Knowledge (9-16%)		Adequate knowledge (17-25%)		Chi-square Value
	(f)	%	(f)	%	(f)	%	
Age in years							
12 years	1	2	3	6	9	18	$\chi^2=3.049$ df=4 P=9.49 NS
13 years	0	0	7	14	17	34	
14 years	0	0	3	6	10	20	
Religion							
Hindu	0	0	3	18	20	40	$\chi^2=4.032$ df=4 P=9.49 NS
Muslim	0	0	0	6	1	2	
Christian	1	2	9	0	16	32	
Type of Family							
Nuclear family	1	2	7	14	18	36	$\chi^2=0.558$ df=4 P=9.49 NS
Joint family	1	2	4	8	15	30	
Extended family	0	0	1	2	3	6	
Area of living							
Rural	0	0	2	24	2	4	$\chi^2=1.086$ df=2 P=5.99, NS
Urban	1	2	12	4	33	66	
Previous history of UTI							
Yes	1	2	2	10	2	4	$\chi^2=11.13$ df=2 P=5.99, NS
No	0	0	8	4	37	74	
Previous Knowledge on UTI							
Yes	0	0	1	26	12	24	$\chi^2=13.059$, df=2, P=5.99, NS
No	1	2	13	2	23	46	

p<0.05, S – Significant, N.S – Not Significant

DISCUSSION

The basic aim of current study is to evaluate the effectiveness of information education and communication on level of knowledge regarding prevention of urinary tract infection among adolescents.

The first objective of the study was to assess the pre-test and post-test level of knowledge regarding prevention of urinary tract infection among adolescents. Findings of the study was among 50 adolescents, in pre-test 6 (12%) adolescents had inadequate knowledge, 43 (86%) adolescents had moderately adequate knowledge, and 1 (2%) adolescents had adequate knowledge. Where as in post-test 1 (2%) adolescents had inadequate knowledge, 13 (26) adolescents had moderately adequate knowledge, and 36 (72%) adolescents had adequate knowledge.

The pretest study supported with the following study conducted by Kaur Ramandeep *et al.*, (2019) conducted a pre experimental study one group pre-test and post-test design to assess the effectiveness of structured teaching program on knowledge regarding prevention of urinary tract infection among 110 first year nursing students in semi-urban Jalandhar, Punjab. Data was collected by using a self-structured knowledge questionnaire. The study revealed that pre-test mean knowledge score was 15.9 out of whereas post-test mean knowledge score was 24.7 out of 30. This study concluded that structured teaching program regarding prevention of urinary tract infection had significant impact on knowledge of first year nursing students.

The second objective of the study findings revealed that pre-test knowledge mean score was 11.2, standard deviation 2.44, and post-test

knowledge mean score was 17.5, standard deviation score 3.44, mean deviation 2.94 and t value was 48.64. It was statistically significant at $p < 0.05$ level.

Sharmin Sherasiya *et al.*, (2019) conducted pre-experimental one group pre-test post-test design study to assess the outcome of Information Education Communication on Knowledge regarding UTI among 60 adolescents in selected Schools at Gujarat. The data was collected through structured knowledge questionnaire level of knowledge assess among adolescents. The study revealed that majority are having inadequate level of knowledge (53%), than (28%) having moderately adequate knowledge, and only (19%) as having adequate level of 22 knowledge in pre-test and in post-test, majority have got moderately adequately knowledge (50%), than (37%) got adequate level of knowledge and only (13%) got inadequate knowledge. The obtained 't' value was 10.72 which was significant at 0.05 level. The finding of the study revealed that Information Education Communication helps in increasing the level of knowledge among all the demographic variable only education of mother and father, occupation of mother and father and source of information was significant at 0.05 level.

The third objective of the study finding was consistent with the study findings of a similar study by Sheela pavithran *et al.*, (2019) who conducted a study using quantitative pre-test and post-test control group design in Kochi to assess the effectiveness of structured teaching program on knowledge regarding prevention of urinary tract infection among 119 adolescents. Subjects were selected by one stage cluster sampling. Data was collected by using structured questionnaire. The study result showed knowledge was significantly associated with selected demographic variables like frequency of voiding during school hours, voiding in unclean toilet, taking bath during menstruation and cleaning genitalia during menstruation. This study recommended the need a importance of implementing various teaching programs for adolescents.

SUMMARY & CONCLUSION

The study results showed that the level of knowledge on the post-test based on knowledge mean Score 17.5 with a SD 3.44 was significantly higher than the level of knowledge on the pre-test based on knowledge mean Score 11.2 with a SD 2.44. As the post-test analysis was done after information education and communication it

is evident that the adolescents learnt better and showed improvement in knowledge on prevention of urinary tract infection

After information education and communication, it was found that they had significantly improved in level of knowledge regarding prevention of urinary tract infection among adolescents. Samples became familiar and found themselves comfortable and also expressed satisfaction. The study revealed that through Information Education and Communication (IEC) they gained adequate knowledge on urinary tract infection and also this information can be communicated to others, to prevent urinary tract infection in the family and community. Thus, it was concluded that, Information Education and Communication on prevention of urinary tract infection among adolescents was effective to improve the level of knowledge.

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