Effectiveness of Structured Teaching Programme (Stp) On Knowledge Regarding Prevention and Management of Urinary Tract Infection Among Female in Patients Admitted in Ah&Rc B G Nagara

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KEYWORDS

ABSTRACT

Background: Urinary tract infection occurs among the most prevalent infections in humans is urinary tract infection. When uropathogenic bacteria, typically Escherichia coli, rise from the perineum into the bladder and defeat host innate immunity, simple infections most frequently occur in apparently healthy women Urinary tract infection is one of the commonest infections to affect humans.

Purpose: The study assessed the effectiveness of Structured teaching programme on regarding UTI among female patients admitted in Adichunchanagiri Hospital & Research Center B G Nagara.

Method: The patient's level of knowledge was assessed using an 30-item Urinary Tract Infection female Patient Awareness Questionnaire. An STP was administered to 60 patients with UTI Female Patient.

Discussion: The pretest mean knowledge score was 42.89% and SD was ±2.45. The posttest mean knowledge score was 77.00% and SD was ±2.14. The paired t-test showed t=2.04, df=29.

Conclusion: STP was effective in enhancing the knowledge of UTI Female patients. This implies that when appropriately implemented, the UTI patients will bring the benefits of STP, Which could enhance their overall health condition.

INTRODUCTION

Urinary tract infection (UTI) is an infection in any part of the urinary system. The urinary system includes the kidneys, ureters, bladder and urethra. A large group of patients with UTIs is adult women.

The incidence of UTI in women increases with increasing age. Several peaks above baseline were associated with specific events, including an increase in women aged 18–30 years. Urinary tract infection (UTIs) occurs more often in women than in men, at a ratio of 8:1. Approximately 50–60% of women report at least one UTI in their lifetime, and one in three will have at least one symptomatic UTI necessitating antibiotic treatment by age 24.

Urinary tract infections (UTIs) are very common in the U.S. In fact, UTIs are the second most common type of infection in the body and are the reason for more than 8 million visits to the doctor each year. About 10 in 25 women and 3 in 25 men will have symptoms of a UTI during their lifetime.

The main function of the urinary system, which is made up of the kidneys, ureters, bladder, and urethra, is to filter blood by eliminating waste materials and extra water. The elimination of metabolic waste products from the circulation is largely accomplished by the urinary system. The system also plays a key role in controlling blood pressure and volume, as well as normalizing the concentration of ions and other solutes in the blood.

Each year, one million people worldwide are afflicted with urinary tract infections (UTIs), the most prevalent type of bacterial infection. Urine must contain more germs than 105/mL to be diagnosed with a UTI. The spectrum of symptoms associated with UTIs is wide; it can include a patient who is quite ill, has a high temperature, and occasionally develops secondary bacteraemia. There are three types of UTIs: asymptomatic bacteriuria, acute cystitis, and acute pyelonephritis.

When bacteriuria causes an inflammatory reaction that results in white blood cells being present in the urine, the urinary tract is thought to be infected. Treatment with antibiotics may be necessary for UTIs if they cause pain, irritation, or other symptoms that are commonly linked to inflammation of the urinary tract. These symptoms or indicators are rather simple to identify in younger people. It might be challenging to distinguish between a symptomatic infection that has to be treated and common asymptomatic bacteriuria in the elderly.

METHODS

Research approach

The study involved a quantitative research approach.

Research design

In the present study the Quasi-experimental (Two group pre-test and post-test) design was adopted to assess the effectiveness of Structured teaching programme on knowledge regarding prevention and management of UTI among female patients.

Setting

Research setting is the physical location and conditions in which data collection takes place. The present study was undertaken in Adichunchanagiri hospital and and research Centre, BG nagara. This setting was selected because of the geographical proximity, availability of the samples and permission to conduct the study.

Population

The term population is the entire set of individuals or objects having common characteristics that meet certain criteria for inclusion in the study.

Samples

Sixty female patients with UTI who are getting treatment in a selected hospital in AH&RC, Karnataka, India, meeting the inclusion criteria were selected as samples for the study.

Sample selection criteria

Female Patients who were admitted in-patients with UTI and the patients who were willing to participate in the study were included in the study. The patients who were not available during the data collection period were excluded from the study.

Sampling Technique

Sampling refers to the process of selecting a portion of the population to represent the entire population. In this study, non-probability convenient sampling technique was adopted.

Description of the tool:

The instrument consists of two sections. Section A: Socio Demographic Data, The socio demographic data consists of 10 items pertaining to Age, Education, occupation, type of family, frequency of hospitalization, information about Prevention and management of UTI , income/month. of in-service education programme. Section B: Structured knowledge questionnaire This part of the tool consists of 30 items covering the content of areas such as General aspects of Prevention and management of UTI.

Translation of the tool

The tool was translated to Kannada language and retranslated to English language. Then, again, the tool was translated to Kannada language to check the clarity of the items, ambiguity of the language, and feasibility of the tool. The average time taken to complete the tool was approximately 20minutes. The language of the tool was found simple and easy to understand.

Reliability and validity of the tool
The prepared instrument was submitted to seven experts including nephrologists , urologist and medical surgical nursing experts to establish the content validity. The tool got its final shape after the modifications based on the opinions of the experts.

Description of intervention
The STP comprised of information related to UTI and its Prevention and Management. It included the contents, namely, controlling the blood pressure, meeting the blood glucose goal if having diabetes, working with the healthcare team to monitor the Urinary Tract health, taking medicines as prescribed, maintain a hygiene to control the UTI , making physical activity part of routine, aiming for a healthy weight, getting enough sleep, stop smoking, and finding healthy ways to cope with stress and depression. The STP was reviewed and validated by the experts. The STP was delivered using PowerPoint slides and pamphlets. The intervention lasted for 45 minutes. The doubts of the participants were clarified.

Ethical considerations
Ethical approval was obtained from the Research and Ethics Committee of AH &RC, BG Nagara, Karnataka, India. Formal permission was obtained to collect the data from the UTI Female patients. The principal investigator personally visited each participant, introduced herself to UTI Female patients, and explained the purpose of the study and ascertained the willingness of the participants. The participants signed in the written informed consent form. The respondents were assured of anonymity and confidentiality of the information provided by them. The participants were not compelled to participate in the study. They were given the freedom to withdraw from the study at any point of time.

Procedure for data collection
The data were collected by the principal investigator from April 12, 2023 to May 13, 2023 in the chosen hospital. Pretest was conducted by distributing the questionnaire to the UTI Female patients. It took approximately 20 minutes to complete the questionnaire. Soon after the pretest, the STP was given to the participants. On the 8th day, the post test was conducted by using the same tool to determine the effectiveness of STP.

Plan for data analysis
The data were analyzed using descriptive and inferential statistics.

RESULTS
Table 1: Experimental group among the UTI patients 3.33% belongs to the age group of 18-20 years, 46.67%belonged to the age group of 21-25 years, 40.00%belonged to the age group of 26-30years and remaining 10.00%of the subjects were in the age group of 31 & above years, control group among the UTI patients 3.33% belongs to the age group of 18-20 years, 40.00% belonged to the age group of 21-25 years, 46.67% belonged to the age group of 26-30 years and remaining 10.00% of the subjects were in the age group of 31 & above years, Experimental group 76.67% of the participants is Hindu , 0.00% were Christian and remaining 23.33% were Muslim, control group 76.67% of the participants is Hindu , 0.00% were Christian and remaining 23.33% were Muslim, Experimental group 10.00% of the participants has Urban,16.67% is Semi Urban/Town and remaining 73.33% is rural area,control group 10.00% of the participants has Urban,20.00% is Semi Urban/Town and remaining 70.00% is rural area,experimental group 40.00% of the participants is Business, 0.00% is Agriculture, 10.00% is coolie and remaining 50.00% is home made, Control group 30.00% of the participants is Business, 20.00% is Agriculture, 20.00% is coolie and remaining 30.00% is home made, experimental group 0.00% of the participants is Primary Education, 73.33% is Secondary Education and remaining 26.67% is Graduate ,Control group

group 33.33% of the participants is Primary Education, 43.33% is Secondary Education and remaining 23.33% is Graduate ,Experimental group 30.00% of the participants are having knowledge regarding UTI, 70.00% of the participants are not having knowledge regarding UTI,Control group 30.00% of the participants are having knowledge regarding UTI, 70.00% of the participants are not having knowledge regarding UTIExperimental group ,3.33% of the samples are belongs to joint family and 86.67% of them belongs to Nuclear family,Control group 16.67% of the samples are belongs to joint family and 83.33% of them belongs to Nuclear family,experimental group 0.00% of the source is from family below 10000, 23.33% is 10000-20000, 36.67% of the family income is 20000-30000 remaining 50.00% were 30000 and above, Control group 3.33% of the source is from family below 10000, 20.00% is 10000-20000, 16.67% of the family income is 20000-30000 remaining 60.00% were 30000 and above.

Sl. No	**Socio demographic variables**	**Categories**	**Experimental Group (N=30)**		**Control Group (N=30)**	
			Frequency	**%**	**Frequency**	**%**
1	**Age**	**18-20years**	1	3.33%	1	3.33%
		21-25 years	14	46.67%	12	40.00%
		26-30 years	12	40.00%	14	46.67%
		Above 31 years	3	10.00%	3	10.00%
2	**Religion**	**Hindu**	23	76.67%	23	76.67%
		Christian	0	0.00%	0	0.00%
		Muslim	7	23.33%	7	23.33%
		others	0	0.00%	0	0.00%
3	**Residential area**	**Urban**	3	10.00%	3	10.00%
		Semi urban/Town	5	16.67%	6	20.00%
		Rural	22	73.33%	21	70.00%
4	**Occupation**	**Business**	12	40.00%	9	30.00%
		Agriculture	0	0.00%	6	20.00%
		Coolie	3	10.00%	6	20.00%
		Home made	15	50.00%	9	30.00%
		Any other (Specify)	0	0.00%		0.00%
5	**Qualification**	**Primary Education**	0	0.00%	10	33.33%
		Secondary Education	22	73.33%	13	43.33%
		Graduate	8	26.67%	7	23.33%
6	**Any previous knowledge regarding prevention of UTI,**	**Yes**	9	30.00%	9	30.00%
		No	21	70.00%	21	70.00%
7	**Type of family**	**Joint family**	4	13.33%	5	16.67%
		Nuclear family	26	86.67%	25	83.33%
8	**Income of the family**	**Below 10000**	0	0.00%	1	3.33%
		10000-20000	7	23.33%	6	20.00%
		20000-30000	8	26.67%	5	16.67%
		30000 and above	15	50.00%	18	60.00%

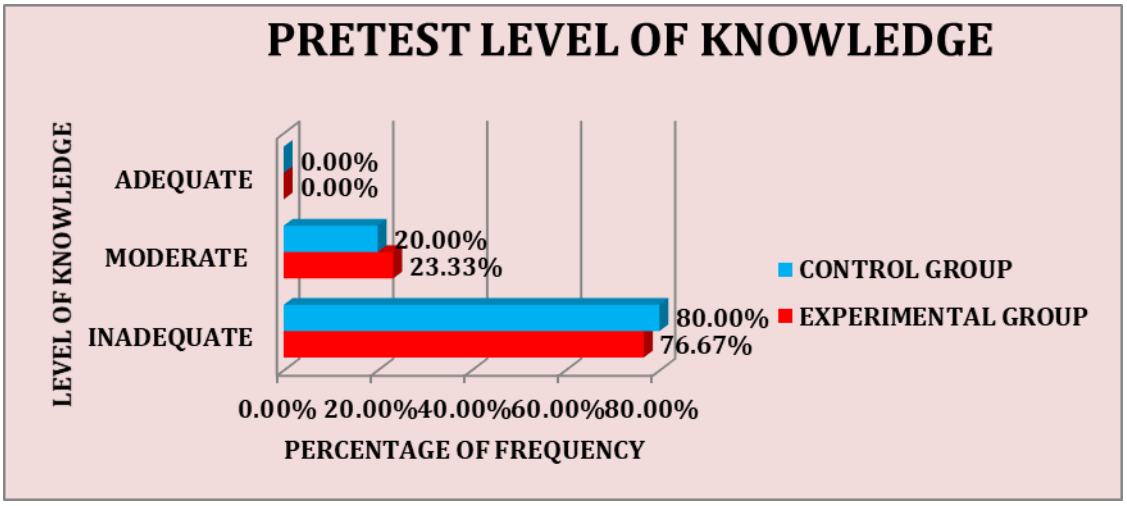

Figure 1: Classification of female in-patients in experimental and control group based on their pre-test knowledge level.

TABLE 2: Pre-test level of knowledge among female in-patients in experimental and control group. (N=60)

KNOWLEDGE			FREQUENCY		FREQUENCY %	
LEVEL	SCORES	PERCENTAGE	EG	CG	EG	CG
INADEQUATE	0-14	<50%	23	24	76.67%	80.00%
MODERATE	15-22	50-74%	7	6	23.33%	20.00%
ADEQUATE	23-30	≥75%	0	0	0.00%	0.00%
Total			30	30	100.00%	100.00%

EG= EXPERIMENTAL GROUP (N=30) CG= CONTROL GROUP (N=30)

Table 2 and the figure 1 depicts that in experimental group 76.67% of the patients had inadequate knowledge, 23.33% had moderate knowledge in the pretest and remaining 0.00% had adequate. In control group 80.00% of the patients had inadequate knowledge, 26% had moderate knowledge in the pretest and remaining 0.00% had adequate.

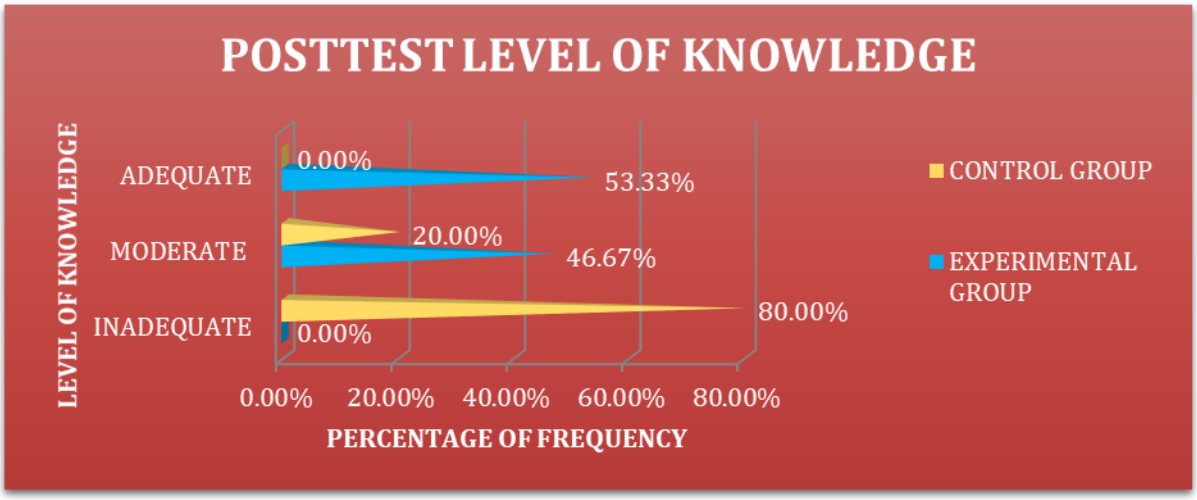

Figure 2: Classification of female in-patients in experimental and control group based on their post-test knowledge level.

TABLE 3: Post-test level of knowledge among female in-patients in experimental and control group. (N=60)

KNOWLEDGE			FREQUENCY		FREQUENCY %	
LEVEL	**SCORES**	**PERCENTAGE**	**EG**	**CG**	**EG**	**CG**
INADEQUATE	**0-14**	**<50%**	23	24	76.67%	80.00%
MODERATE	**15-22**	**50-74%**	7	6	23.33%	20.00%
ADEQUATE	**23-30**	**≥75%**	0	0	0.00%	0.00%
Total			30	30	100.00%	100.00%

EG= EXPERIMENTAL GROUP (N=30) **CG= CONTROL GROUP (N=30)**

Table 3 and the figure 2 shows in experimental group 0.00% pf inadequate knowledge, 46.67% is moderate and 53.33% of knowledge is adequate. In control group 80.00% of inadequate knowledge, 20.00% is moderate and 00.00% of knowledge is adequate.

TABLE 4 : Comparison of mean, mean%, SD and CV of overall pre-test knowledge scores among female in-patients in experimental and control groups and calculated unpaired t test value. (N=60).

	Minimum	**Maximum**	**Range**	**Mean**	**mean%**	**Std. Deviation**	**co-efficient of variance**	**Unpaired t Test Value**
EXPERIMENTAL GROUP (N=30)	9	18	9	12.87	42.89%	2.45	19.01%	**0.33 (NS) df=58**
CONTROL GROUP(N=30)	9	18	9	12.67	42.22%	2.22	17.51%	

(NS)= NOT SIGNIFICANT **t (0.05, 58df) =2.02**

Table 4: pre test mean score value is 12.87%, mean percentage is 42.89%, and standard deviation is 2.45.In post-test mean score value is 23.10, mean percentage is 77.00%, and standard deviation is 2.14.

TABLE 5: Comparison of mean, mean%, SD and CV of overall pre-test and post-test knowledge scores with enhancement among female in-patients in experimental group and calculated paired t test value. (N=30).

	Minimum	**Maximum**	**Range**	**Mean**	**mean%**	**Std. Deviation**	**co-efficient of variance**	**Paired t Test Value**
PRETEST	9	18	9	12.87	42.89%	2.45	19.01%	**20.66 (S) P<0.001 Df=29**
POSTTEST	20	28	8	23.10	77.00%	2.14	9.26%	
ENHANCEMET	5	15	10	10.23	34.11%	2.71	26.51%	

(S)= SIGNIFICANT **t (0.05, 29df) =2.04**

Table 5: pretest 42.22% in pretest of knowledge, 42.56% is post test of knowledge, and remaining 00.34% is Enhancement knowledge.

Sl. No	Socio demographic variables	Categories	Pre-test level of knowledge		Chi square value	df	p value
			Inadequate	Moderate			
1	Age	18-20years	1	1	9.92 (S)	3	0.019
		21-25 years	25	1			
		26-30 years	18	8			
		Above 31 years	3	3			
2	Religion	Hindu	36	10	0.006 (NS)	1	0.980
		Christian	0	0			
		Muslim	11	3			
		others	0	0			
3	Residential area	Urban	6	0	2.12 (NS)	2	0.345
		Semi urban/Town	9	2			
		Rural	32	11			
4	Occupation	Business	16	5	3.10 (NS)	3	0.376
		Agriculture	6	0			
		Coolie	8	1			
		Home made	17	7			
		Any other (Specify)	0	0			
5	Qualification	Primary Education	10	0	8.71 (S)	2	0.012
		Secondary Education	29	6			
		Graduate	8	7			
6	Any previous knowledge regarding prevention of UTI,	Yes	11	7	4.49 (S)	1	0.034
		No	36	6			
7	Type of family	Joint family	6	3	0.84 (NS)	1	0.356
		Nuclear family	41	10			
8	Income of the family	Below 10000	1	0	1.21 (NS)	3	0.748
		10000-20000	11	2			
		20000-30000	9	4			
		30000 and above	26	7			

(NS)= NOT SIGNIFICANT (S) = SIGNIFICANT AT 0.05 LEVEL

Limitation

The study limits its generaliz ability as the STP was tested only in a small group of participants in a single setting**.**

Implications

Nursing professionals shall provide STP as part of their routine care, which will be effective in enhancing the patients' knowledge on UTI. Nurse educators shall emphasize the nursing students to teach the UTI female patients regarding the UTI and its Prevention and management. In-service education can be planned and provided to the nursing professionals on UTI updates. Study materials can be prepared and distributed to the nursing professionals and patients to have updates on UTI. Nurse educators can work with the hospital authorities to draw up a special policy based on current clinical practice guidelines. Nurse administrators should plan and organize a staff development programme on effects of Prevention and management. Nurse researchers can develop appropriate health education tools for educating the UTI Female patients regarding UTI and its prevention and management according to their demographic, socioeconomic, cultural, and political characteristics. Nurses should come forward to take up unsolved questions in the field of UTI and its Prevention

and management among UTI female patients and publish them for the benefit of patients, public, and nursing fraternity. The public and private agencies should also encourage research in this field through materials and funds.

Recommendations

The authors recommend organizing frequent educational interventions to motivate the UTI patients to keep them updated with necessary knowledge regarding UTI and its Prevention and Management. Because this study was carried out on a small sample, the results can be used only as a guide for further studies. A similar study on a large sample may help to draw more results that are definite. A similar study can be conducted using descriptive exploratory approach to identify the determinants of lack of awareness on UTI, which might generate hypothesis for future research. A study can be conducted using different methods of teaching to determine the most effective method of teaching.

CONCLUSION

We conclude that every hospital should initiate STP to enhance the knowledge of female patients with UTI, thereby improving the quality of their life.

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Conflicts of interest

The authors declare that they do not have any conflict of interest.

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