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A Study to Evaluate the Effectiveness of Planned Teaching Program Regarding Prevention of Urinary Tract Infection in Client with Indwelling Catheter on Knowledge and Practice Among Staff Nurses Working in Selected Hospitals at Jaipur

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Abstract

"A STUDY TO EVALUATE THE EFFECTIVENESS OF PLANNED TEACHING PROGRAMME REGARRDING PREVENTION OF URINARY TRACT INFECTION IN CLIENT WITH INDWELLING CATHETER ON KNOWLEDGE AND PRACTICE AMONG STAFF NURSES WORKING IN SELECTED HOSPITALS AT JAIPUR"

Objectives of the Study

1. To evaluate the level of knowledge regarding prevention of urinary tract infection in clients with indwelling catheter among staff nurse.

2. To evaluate the practice regarding prevention of urinary tract infection in client with indwelling catheter among staff nurse.

3. To develop and validate planned teaching programme on prevention of urinary tract infection in client with indewelling catheter.

4. To evaluate the effectiveness of planned teaching programme regarding prevention of urinary tract infection in client with indwelling catheter.

5. To find out association between knowledge of staff nurses regarding prevention of urinary tract infection in client with indwelling catheter among staff nurse with there selected demographic variables.

6. To find out association between practice of staff nurses regarding prevention of urinary tract infection in client with indwelling catheter among staff nurse with their selected demographic variables.

The research approach adopted for the study was an evaluatory approach and Quasi-experimental design with one group pre-test and post-test. In the study investigator assess the existing knowledge regarding hand hygiene for prevention of infection in cancer patient with surgery among staff nurses using a structured knowledge questionnaire and find association between knowledge and selected demographic variables. The study also consists of the demographic variables such as gender, age, professional qualification, working experience, area of working, previous source of knowledge.

For generating necessary data, a self-structured questionnaire was developed which consist of 30 items. Development of tool involved the steps of reviewing of literature related to hand hygiene knowledge and contents validation and establishing of reliability.

The conceptual framework for this study was derived from Evaluation model by General System Model. Content validation by the various experts and the reliability of the questionnaire was established. Hence, this final tool was used for pilot study.

A pilot study was conducted on 30 items to check the feasibility of the questionnaire. Main study was carried out 60 staff nurses at B.M.C.H.R.C., Hospital, Jaipur. The data were collected during July 2017. Based on the objectives and the hypothesis, the data were analyzed by using various statistical test i.e., percentage, mean, and standard deviation. The chi square was applied to test the hypothesis and paired 't' test was applied to assess the effectiveness of PTP.

Major findings of the study reveal that gender wise distribution the majority (71.66%) of sample were female. Age wise distribution reveals that the majority (38.10%) of sample belong to the age group 31-40 years. Professional education wise majority (40.00%) of the sample's qualification was Post Basic B.Sc. Nursing., distribution of samples on the working experience reveals that the majority (35.00%) having 1-3 years' experience. In area of working majority (41.66%) of samples working in medical ward. Information acquired wise distribution reveals that most of sample (33.33%) had knowledge during professional qualification.

Distribution of subjects over all pretest knowledge in UTI reveals that majority 15% staff nurses' knowledge is poor, 83% of samples having average knowledge regarding prevention of UTI. Distribution of subjects over all posttest knowledge in UTI for prevention of infection reveals that majority 86% of staff nurses knowledge level is good, 14% of staff nurses have average knowledge regarding prevention of UTI.

Comparison of knowledge scores of pretests and posttest reveals there was a gain in knowledge scores. The above result reveals that the PTP was effective. The study reveals that there was a significant association between professional qualification, , previous source of knowledge where as there is no significant association between age, gender, working area and working experience.

Conclusion

The following conclusions were drawn on the basis of findings of the study:

- *The Pre- test findings showed that knowledge of students regarding prevention of UTI was average.*
- *The administration of Plan teaching program helped the staff nurses to understand more regarding prevention of UTI infection.*
- *Most of staff nurses were having good knowledge after administration of Plan teaching program.*
- *The Plan teaching program is proved to be very effective method of enhance knowledge*

Introduction

Background of the study

Human body is made up of complex structure with works properly with the synchronized work of all systems such as respiratory system, digestive system, circulatory system, central nervous system and integumentary system.

Renal system is comprised of kidneys, ureter, bladder, urethra. The kidney balance urinary excretion of substances against the accumulation within the body through ingestion or production. The ureters conduct urine from the kidney to the bladder by paristatic movement. The bladder is a distensible chamber that stores urine it is eliminated. The urethra is the exit passage way from the bladder and it carries urine for elimination from the body.

Urine is a clear and amber in colour, urine is composed of 96% of water,2% of urea and remaining 2% made of uric acid, creatinine, ammonia, sodium, potassium, chloride, phosphate, sulphates, oxalates. A healthy adult passes 1000-1500 ml per day. The amount of urine produced and the specific gravity vary according to the fluid intake and amount of solute excreted . The urine does not contain micro-organisms which are causing which causes urinary tract infection.

In some condition person is unable to pass urine from the body, such as acute and chronic urinary retension, benign prostate, hyperplasia, incontinence and the effect of various diagnostic surgical interventions in using the bladder and prostate in this condition patients are undergoing catheterization

A urinary tract infection (UTI) is a bacterial infection that affects any part of the urinary tract. The main etiologic agent is Escherichia coli. Although urine contains a variety of fluids, salts, and waste products, it does not usually have bacteria in it.

When bacteria get into the bladder or kidney and multiply in the urine, they may cause a UTI. Bladder infections are most common in young women with 10% of women getting an infection yearly and 60% having an infection at some point in their life. Pyelonephritis occurs between 18—29 times less frequently.

A urinary tract infection is an infection in the urine collecting system. UTI is the most common type of bacterial infections(E-coli), affecting the human body. An infection in the urethra is urethritis. If the infection is in the bladder is called cystitis. If the infection is higher in the tract affecting the kidney, it is called pyelonephritis.it is possible to have an infection of any one, or all, parts of the system.

Symptom of urinary tract infection is frequent need to urinate, burning sensation while urinating, pressor in the lower abdomen, pain in the lower back, blood in urine, fever chills, nausea and vomiting, discharge from the vagina, tenderness in the urethra, headache, chronic constipation, cloudy urine., Strong urine odor, Haematuria.

Urinary tract infection is most common affecting women's, particularly those aged 16-35 years are significantly more likely to experience UTI than men, specific population such as pregnant women, the elderly, or patient with spinal cord injury or diabetes are also at increased risk. UTI is occur more often in women than in men at a ratio 30:1. Approximately 50-60% women report at least 1 UTI in their life time.

Urinary tract infection are most common nosocomial infection. Responsible for 20-30% of nosocomial infection in medical or surgical intensive care unit. The overall incidence density of ICU nosocomial UTI as high 32%, 17% those in medical ward or 9% in rehabilitation unit, 7% in nursing home. catheter acquired UTI is one of the most common health cares acquired infection 70-80% of these infections are attributable to use of an indwelling urethral catheter.

Routine care of the indwelling catheter must include daily cleansing of the urethral area and the catheter with soap and water. Clean the area thoroughly after all bowel movements to prevent infection. Increase the fluid intake to 3000 cc of fluid per day. Also always keep the drainage bag lower than the bladder to prevent a backup of urine into the bladder. Empty the drainage device at least every 8 hours or when it is full. (9)

Need for the Study

"The test of any civilization is the measure of consideration and care which it gives to its weaker members"

Urinary catheterization is the introduce of tube(catheter) through the urethra into the urinary bladder to drain the bladder.

Infection of any part of kidney, ureter, bladder and urethra is called as UTI. UTI are the second most common bacterial disease and most common bacterial infection in women. Pregnant women are at increased risk for UTI. UTI complicate up to 20% of pregnancies and are responsible for 10% of all antepartum admission. UTI account for more than 8 million of visits each year and are associated with direct cost of $1.8 billion more than 1 lakh peoples are hospitalized annually because of UTI. More than 15% of patients who develops sign negative becteriamia die and1/3 of these cases are caused by bacterial infection originating in urinary tract.

Catheters interferes with the body's ability to clean microbs from urinary tract. Bacteria travel through or around the catheter and established a place where they can throw within the bladder a person who cannot urinate in the normal way or who is unconscious or critical ill often needs catheterization for more than few days. Most UTI are not serious but some infection can lead to serious problem such as kidney infection, chronic kidney infection, infection that reoccur or last long for a long time can cause permanent damage including kidney scar, poor kidey functioning, high BP, others' problems. Some acute kidney infection that develops can be life threatening specially if the bacteria inter blood stream causing septicemia.

Among bacterial infection, urinary tract infection is the second most common infection which is seen by health care providers. This infection is affecting more than 8 million people per year. In 1997, National Ambulatory Medical Survey reported that, 7 million office visits as well as 1million emergency room visits and 100,000 hospitalizations occur due to urinary tract infection.

Globally UTI is most common female infection accounting for an estimated 1.4 million cases each year with more than half of the 4.5 lakh UTI death occurring in low and middle income countries.UTI account 40% of all hospital acquired infection.

Use of indwelling catheter is common in Intensive care unit, Urological wards. And even medical and surgical units. Catheter associated all risk factor, increase urinary tract infection as the duration of catheter use increase; the estimated risk for infection is at least 5% per day of catheterization. Among all risk factor, increased duration of catheterization is the greatest for development of a urinary tract infection. (10)

Urinary tract infection account for 32% of all health care –associated infection and are the most common nosocomial infection in intensive care units. Urinary catheters are used routinely in ICUs, usually for frequent and accurate monitoring of urinary output. Once inserted, catheters tend to remain in place after appropriate indications for their use. Urinary infection in critically ill patient are associated with increase in length of stay and mortality. (11)

Use of indwelling catheter can lead to complications. Most commonly catheter is associated with urinary tract infections. Duration of catheterization is the major risk factor. These infections can result in sepsis, prolonged hospitalization, additional hospital costs and mortality. (12)

Catheter associated infection is the most common nosocomial infection accounting for more than 1 million cases in hospitals, nursing home., the risk of UTI increase with increase duration of catheterization.

Prevalence statistics for UTI the following statistics related to prevalence of UTI-

- 1 in 5 women will develop UTIs in their lifetime in America (Kidney and Urology foundation of
- 34% of adults over 20 self-reported having at least one occurrence of a urinary tract infection in the US 1988-1994 (Weighted Analysis of 1988-1994 NHANES, 2003, NIDDK)
- 13.9% of adults aged 20-74 who self-reported having urinary tract infections were men in the US 1988-1994 (Weighted Analysis of 1988-1994 NHANES, 2003, NIDDK)
- 53.5% of adults aged 20-74 who self-reported having urinary tract infections were women in the US 1988-1994 (Weighted Analysis of 1988-1994 NHANES, 2003, NIDDK) urinary tract infection account for 40% of all hospital acquired infection, 805 of those infections are associated with indwelling urinary catheterization.

Prevention starts with the health care provider, except in special circumstances, all urinary catheter should placed in a sterile fashion. Insertion of non sterile catheter or using a non sterile technique is much more likely to result in a urinary tract infection

Urinary tract infection is an important cause of morbidity and mortality in Indian subjects, affecting all age groups across the life span. Though Escherichia Coli, which is normally present in the gastrointestinal tract, is the commonest causative organism, other gram negative colonic bacteria have been gaining prominence in India over the last two decades. Because of the proximity of the gut to the urinary tract, these organisms ascend through the urinary passage to the urinary bladder and the kidneys to produce infection (7).

An estimated 3 percent of girls and 1 percent of boys have had a urinary tract infection (UTI) by the age of 11. 24,025 cases of urinary tract infection occurred in those who also experienced a patient safety incident in the US 2000-2002. In 5 women will develop UTIs in their lifetime in America (34% of adults over 20 self-reported having at least one occurrence of a urinary tract infection in the US 2003, NID 13.9% of adults aged 20-74 who self-reported having urinary tract infections were men in the US 2003. 53.5% of adults aged 20-74 who self-reported having urinary tract infections were women in the US 1988-1994 34% of adults over 20 in the USA have urinary tract infection 794 per 10,000 adults aged

over 20 had at least one occurrence of a urinary tract infection in the US8 Hospitalizations for Urinary tract infections in America is 1.5 million

Extrapolated Prevalence of urinary tract infection are in India is 31,952,118 and Population Estimated Used are 1065,070,6079. According to Indian study Urinary Tract Infection, commonly known as UTI, affects as many as 50% women at least once during their lifetime. All individuals are susceptible to Urinary Tract Infection (UTI); however the prevalence of infection differs with age, sex and certain predisposing factors (10).

Among adolescent girls, lower urinary tract inflections are very common. Atleast one episode of urinary tract infection will occur in nearly 5-6% of girls during first grade to graduation from high school. Compare to boys, the recurrence rate is 50% greater in girls. 13 Due to urinary tract infection every year nearly 6-7 million young women visits physicians. (14)

The life time incidence of urinary tract infection in United States is found to be one in every five woman and eleven million per year takes medicine for urinary tract infection.15 More frequently compare to men, women have urinary tract infection, because of shorter urethra and anatomical proximity of the urethra to rectum. (16)

A study involving 1000 school children between the ages of 5 and 10 years, the overall prevalence of asymptomatic bacteriuria of 1.1% was reported by a group of workers from K.E.M. Hospital, Bombay. In the above study, 2.1% of school girls and

0.8% of school boys showed asymptomatic bacteriuria. A study of 1000 pregnant women from National Medical College, Calcutta has revealed the prevalence of bacteriuria to be 10.2%. This included 8% cases of symptomatic bacteriuria and 2.2% of asymptomatic bacteriuria. We studied bacteriuria in a randomised outpatient diabetic population and found asymptomatic bacteriuria to be present in 3.4% of the population. Amongst the group of 596 adult subjects studied for suspected urinary tract infection, it was noted that urinary infection was found in 36.3% of the hospitalised group and 15.9% of the non-hospitalised subjects. In the most vulnerable group of patients with acute and chronic renal failure undergoing dialysis, the prevalence of urinary infection was found to be 73.0% and 57.5% respectively (11)

A study investigates the Prevalence and antimicrobial susceptibility of Escherichia coli in outpatient urinary isolates in Izmir, Turkey. Knowledge of antimicrobial resistance pattern in Escherichia coli, the predominant pathogen associated with urinary tract infection (UTI), is important as a guide in selecting empirical antimicrobial therapy. The aim of this study was to determine the antibiotic susceptibility patterns of E. coli strains isolated from adult outpatients with UTI, in Izmir, Turkey. Isolates were analyzed by standard methods and antimicrobial susceptibility testing was performed by Kirby-Bauer disc diffusion method.

The most important finding of study is that a considerable proportion of the studied E. coli isolates were resistant to most antibiotics except amikacin. And this study highlighted patients have inadequate knowledge(13)

Personal experience of the investigator and review of literature revealed that lack of adequate knowledge and unhygienic practices are most common causes for urinary tract infection among patient. Nurses being the part of health team have responsibility to educate the patient and show correct pathway to prevent urinary tract infection while catheterization. Hence, the above-mentioned factors motivated the investigator to undertake the study.

Statement of the Problem

"A study to evaluate the effectiveness of planned teaching programme regarding prevention of urinary tract infection in client with indwelling catheter on knowledge and practice among staff nurses working in selected hospitals at Jaipur."

Objectives of the Study

1. To evaluate the level of knowledge regarding prevention of urinary tract infection in clients with indwelling catheter among staff nurse.

2. To evaluate the practice regarding prevention of urinary tract infection in client with indwelling catheter among staff nurse.

3. To develop and validate planned teaching programme on prevention of urinary tract infection in client with indewelling catheter.

4. To evaluate the effectiveness of planned teaching programme regarding prevention of urinary tract infection in client with indwelling catheter.

5. To find out association between knowledge of staff nurses regarding prevention of urinary tract infection in client with indwelling catheter among staff nurse with there selected demographic variables.

6. To find out association between practice of staff nurses regarding prevention of urinary tract infection in client with indwelling catheter among staff nurse with their selected demographic variables.

OPERATIONAL DEFINITIONS

Evaluate: -

It is statistical measurement between pre and post test knowledge and practice course of staff nurses regarding prevention of urinary tract infection in client with indwelling catheter.

Effectiveness

It refers to significant difference in pre- test and post-test score

Planned Teaching Programme A class that is pre planned and well prepared to educate the staff nurses regarding Prevention of Urinary Tract Infection in client with indwelling catheter.

Prevention: The deliberate steps or actions that would decrease or prevent the chances of UTI with indwelling catheter.

Urinary Tract Infection

A urinary tract infection (UTI) is a bacterial infection [Ecoli] that affects any part of the urinary tract.

Indwelling Catheter

Any catheter which is inserted into the bladder and allowed to remain in the bladder is called an indwelling catheter.

Knowledge

Refers to the correct responses received from the staff nurses regarding prevention of urinary tract infection in client with indwelling catheter as elicited through a closed ended questionnaire.

Practice

It is act of rehearsing a behavior over and over ,or engaging in a activity again and again for the purpose of improving and mastering of the activity.

Staff Nurses

A person who is completed either a diploma in general nursing or B.Sc.(Nursing) qualification and working as a staff nurse in selected hospitals at Jaipur.

Assumptions

It is assumed that: -

1. Nurses may have knowledge regarding urinary tract infection in clients with indwelling catheter.

2. The knowledge will vary according to their selected demographic variable i.e. sex ,age, area.

3. The PTP will be effective to improve their knowledge.

Hypothesis

H1- The mean post-test knowledge score of the staff nurses regarding prevention of urinary tract infection in client with indwelling catheter will be significant than the mean pre-test knowledge scores.

H2- The mean post-test practice of the staff nurses regarding prevention of urinary tract infection in client with indwelling catheter will be significant than the mean pre-test knowledge scores.

H3- There will be a significant association between the selected demographic variables and the pre/post knowledge score of staff nurses regarding prevention of urinary tract infection in client with indwelling catheter.

H4- There will be a significant association between the selected demographic variables and the pre/post practice of staff nurses regarding prevention of urinary tract infection in client with indwelling catheter.

Delimitations

The study will be delimited to:

a. Staff nurses who are working in selected hospitals at Jaipur, Rajasthan.

b. Staff nurses available during data collection period

c. Willing to participate in the study.

Study is delimited to staff nurses who know English and hindi languages in selected hospitals at Jaipur, Rajasthan.

Conceptual Framework

A conceptual framework is a theoretical approach to study the problems that are scientifically based and emphasize the selection, arrangement and classification of its concepts.

The conceptual framework formalizes the thinking process, so that other may read or know the frame of reference basic to research problem. It provides framework of reference for clinical practice, research and education.

The purpose of conceptual framework is to provide a logical, coherent through which phenomena of concern can be understood and discussed. Conceptual framework provides a frame of reference for members of a discipline to guide their thinking, observation and interpretation, proposition of a conceptual framework are abstract and general.

The selected conceptual framework in the present study was based on input, process and output modes by General system model. It consist of 3 steps mainly input, process and output evaluation, in which context refers to goal setting, input refers to information to be processed for the desired outcomes, process refers to the method by which the input can be processed and is released and product refers to the output.

According to the study, input includes: Selected variables age, sex, area, professional qualification, working experiences., Assessing the knowledge and practice of staff nurses regarding prevention of UTI using pre-test., Plan teaching programme regarding prevention of UTI., Knowledge questionnaire

In this study process involves: Development of plan teaching programme., Administration of plan teaching programme.

In this study the output refers to: Gain knowledge score of staff nurses, Acceptability of teaching programme.

According to the theory, dysfunction in any one of the steps can cause disturbances in the whole phenomena. In this study the effectiveness of plan teaching programme is tested by elements such as input, process and output. The process of administration of plan teaching programme will be assessed in terms of its effectiveness in the product evaluation.

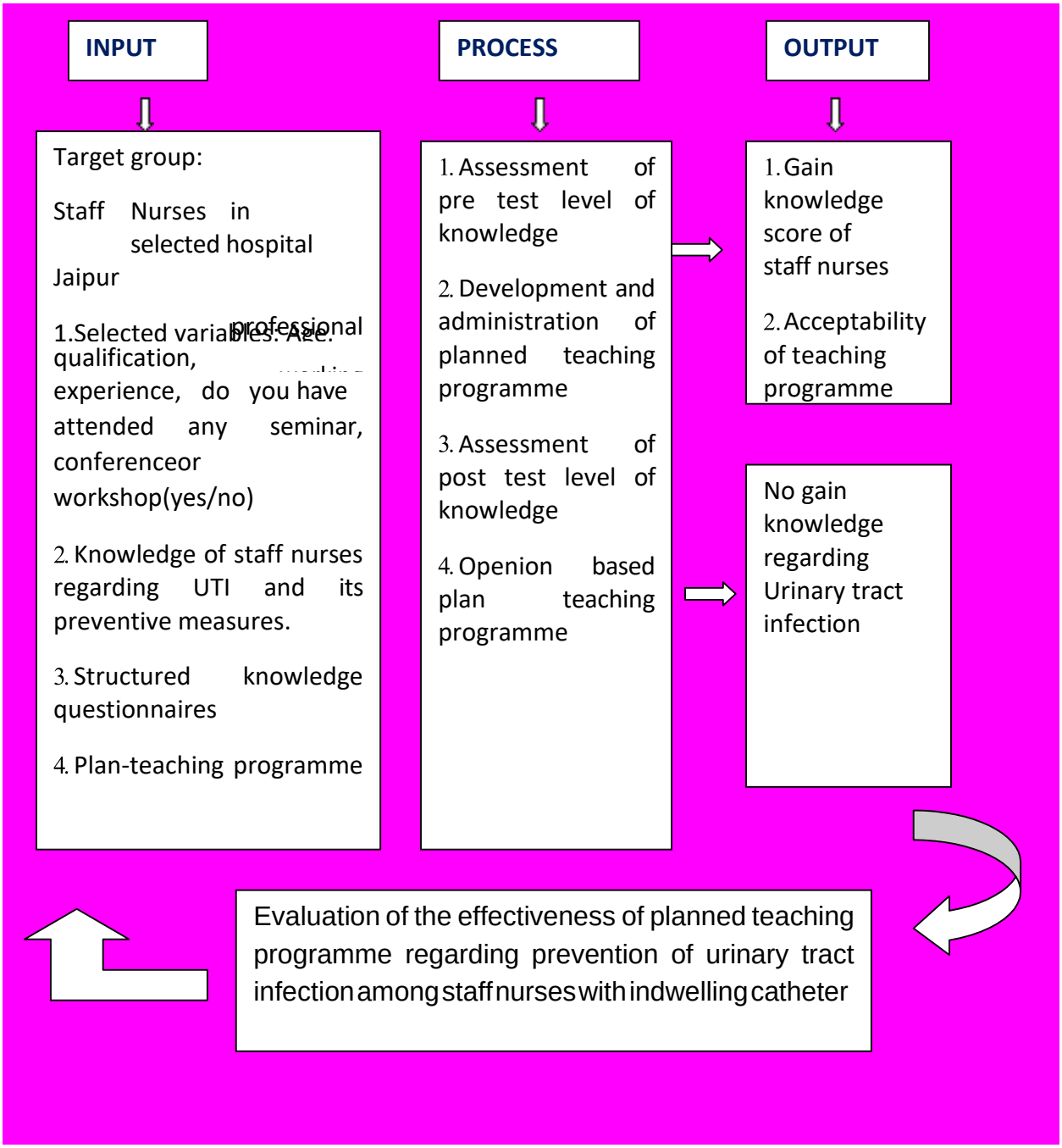


Figure 1: Conceptual Framework (General System Model)

Ethical Consideration

1. Written permission was obtained from the concerned hospital authorities.

2. Informed written consent was obtained from the individual samples, who were enrolled for the study. Assured them that all the information will be kept confidential and will be used only for the present study.

Summary

This chapter deals with the contents of introduction about knowledge on prevention of UTI in patient among staff nurses, background of the study, need for the study, statement of problem, objectives of the study, operational definition, assumption, hypothesis, conceptual framework, delimitation and ethical consideration.

Research Methodology

Research methodology is a way to solve the research problem systematically. It may be understood as a science of studying how research is done scientifically. The scope of research methodology is wider that of research methods. Research methodology is not only about the research methods but also consider the logics behind the methods use in the context of the research study. It explains why a particular method or technique is used or not used in the study. Thus, research results are capable of being evaluated either by the research or by others.

This chapter deals with the methodology adopted for the proposed study and the different steps undertaken after gathering and organizing data for investigation. It includes research approach, research design, the setting and population, sampling technique development and description of the tool, pilot study and method of data collection and plan for data analysis.

Research Approach

An evaluatory research approach was used to find out the effectiveness of plan teaching programme on knowledge and practise regarding prevention of urinary tract infection in patients with indwelling catheter among staff nurses.

Research Design

A researcher's overall plan for obtaining answers to the research questions for testing the research hypothesis is referred to as the research design.

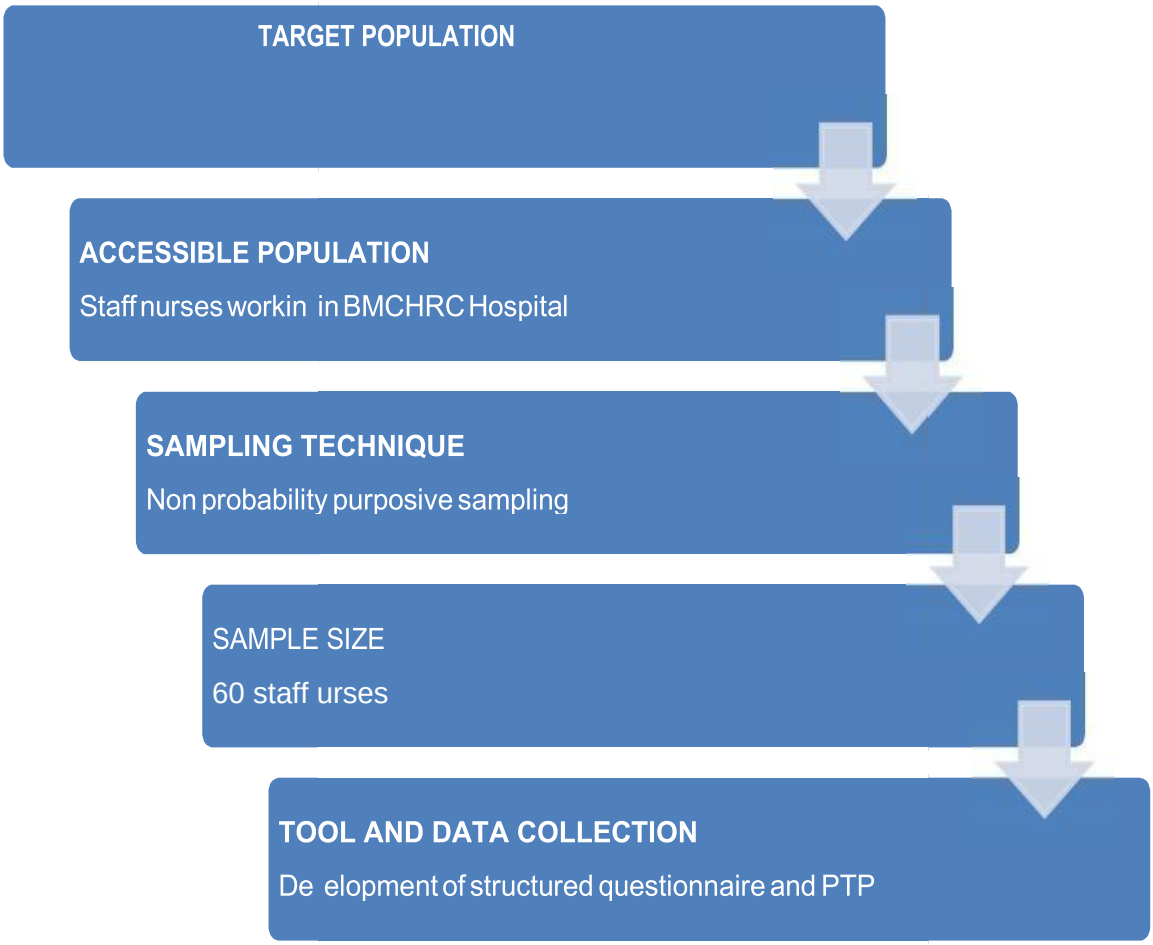
The research design selected for the study was quasi experimental with one group pre-test – post-test design, in which pre-test is followed by administration of PTP and then conducting post-test for the same group after 7 days.

Quasi experimental design [One group pre-test – post-test design] was used in the study to assess the knowledge and practice of staff nurses regarding prevention of urinary tract infection and to test the effectiveness of PTP prepared for staff nurses.

Group	Pre test	Intervention	Post test
I	Assessment of knowledge and practice before administering PTP	Administration of plan teaching program	Assessment of knowledge and practice after administering PTP
	O1	X	O2

TABLE – 1

The sample comprised of 60 staff nurses was taken by Non probability purposive sampling technique. The schematic representation of study design was presented.



Schematic Presentation of Research

TARGET POPULATION ACCESSIBLE POPULATION

⇩

Staff nurses working in BMCHRC Hospital

⇩

SAMPLING TECHNIQUE

Non probability purposive sampling

⇩

SAMPLE SIZE

60 staff nurses

⇩

TOOL AND DATA COLLECTION

Development of structured questionnaire and PTP

⇩

POST TEST O1

Administration of structured questionnaire

⇩

INTERVENTION(ADMINISTRATION OF PTP)

⇩

POST TEST O2

Administration of structured questionnaire

⇩

DATA ANALYSIS AND INTERPRETATION

(Descriptive and inferential statistics)

⇩

REPORTING THESIS

FIGURE 2: Schematic Representation Of Research Process

The Independent Variable

The independent variable is the condition or characteristics manipulated by the researcher. In experimental studies, the independent variables is "cause" or the variable that is influence the independent variable.

In this study the independent variable is plan teaching programme on " Urinary tract infection

Knowledge and practice for prevention of infection".

The Dependent Variables

The dependent variable is the effect or the variable that is influenced by the researcher's manipulation of independent variables. The dependent variable is referred to as the criterion variable. It is the effect of the action of independent variables.

The dependent variable in the study is the knowledge and practice regarding UTI for prevention of infection in patients with indwelling catheter among staff nurses.

The Demographic Variables

The demographic variable is an uncontrolled variable that greatly influences the study. The study also consist of demographic variables Gender, Age, Professional qualification, Working area, Working experience, Source of knowledge.

Setting

The setting of the study refers to the area where the study is conducted. The study was conducted in B.M.C.H.R.C., Jaipur.

Population

The entire set of individual or objects having the same and common characteristics. The population for the present study were staff nurses working in B.M.C.H.R.C. Jaipur.

Sample

Sampling is the process of selecting a portion of population to represent the entire population. Sample is a subset of population elements.

The sample for the present study were 60 staff nurses working in B.M.C.H.R.C. Jaipur during the period of data collection.

Sampling Technique

It refers to the process of selecting a portion of the population to represent the entire population.

In this study , a non – probability purposive sampling technique is used to select the sample. Purposive sampling technique is strategy in which researcher's knowledge of the population and element are used to select sample which are typical to the population.

Criteria for Selection of the Sample

Inclusion and exclusion criteria

- Staff nurses who are working at B.M.C.H.R.C. , Jaipur.
- Staff nurses who are present at the time of data collection.
- Staff nurses who are willing to participate in the study.

Exclusion criteria

•Staff nurses who are sick or on leave at the time of data collection.

Sample Size

The sample size was 60 staff nurses working at B.M.C.H.R.C. , Jaipur during the period of data collection.

Selection and Development of Tool

The instrument selected in a research must be a vehicle that obtains best data for drawing conclusion to the study.

The researcher prepared tool with the help of literature review and by expert's suggestion and sent for content validity. According to their suggestion and recommendation necessary correction were made. The modified tool was used for data collection. For assessing the reliability of the tool, it was administered to 6 samples at B.M.C.H.R.C. , Jaipur.

A. Selection of the Tool

Structured questionnaire was selected for the study to collect the data from staff nurses to assess their knowledge regarding hand hygiene for prevention of infection in cancer patients.

a. **Development of the Tool**

A structured questionnaire was prepared to assess the knowledge and practice of staff nurses regarding prevention of urinary tract infection.

The following steps were carried out in preparing the tool:

- Review of literature
- Preparation of structured questionnaire on the knowledge regarding prevention of uti among staff nurses.
- Preparation of blue print which consist of 30 questions.
- Preparation of plan teaching programme.
- Consultation with guide and subject experts.
- Establishment of validity and reliability.

b. Description of the tool

PART I - It consists of demographic characteristics of staff nurses seeking information like gender, age, source of knowledge, professional qualification, working experience, area of working

PART II - It consist of 30 structured questionnaire .

c. Scores

Knowledge questionnaire : Among 30 question each items has 4 options out of which, one is correct, score " 1 " was given to every correct answer. Score " 0 " was given to wrong answer. Total score was converted into score and score and interpreted as 0-10- Poor, 11-20- Average, 21-30- Good knowledge. Thus for 30 question there were 30 correct answers with 30 maximum obtainable scores. The collected information was statistically analyzed by using frequency and percentage distribution.

d. Content validity:

Content validity refers to the degree to which the instrument measures what it is intended to measure.

To ensure the content validity of the tool, the structured questionnaire along with the plan teaching programme was send to 6 experts. They were requested to give their opinion on the appropriateness, relevance of the items in the tool and content of plan teaching programme. The toll was established by obtaining the suggestion from the experts from the fields Medical-Surgical Nursing, Infection controller and statistician of experts. After consulting the guide and statistician the final tool was reframed.

e. Reliability

Reliability is the degree of c

]onsistency that the instrument of procedure demonstrated whatever it is measuring. To establish the reliability of instrument, the tool was administered to 6 staff nurses other than the study sample at B.M.C.H.R.C. , Jaipur.

The co-efficient of internal consistency was computed for structured knowledge questionnaire, using split half method. The reliability of the test was found out using Karl Pearson's correlation co-efficient formula. The reliability of the structured knowledge questionnaire was found to r = 0.852, which indicates that the tool was reliable.

B. Development of plan teaching programme regarding prevention of urinary tract infection

The plan teaching programme was developed based on the review of related research and non-research literature.

The following steps were adopted to develop the plan teaching programme.

- Development of plan teaching programme.
- Establishment of content validity by subject experts.
- Final draft prepared.

a. Stating the Objective

The objectives were identified and written in behavioural terms for increasing knowledge regarding prevention of urinary tract infection.

b. Selection of the Content

The content of the plan teaching programme on prevention of uti was selected through review of literature and the consultation with the experts. Then the content was divided into areas like introduction to urinary tract infection, definition, incidence of urinary tract infection Risk factor of uti. Causes of uti. pathophysiology of urinary tract infection. clinical manifestations of urinary tract infection .diagnostic evaluation of uti .medical management of uti. prevention of uti.complication of uti.

c. Organization of the Content

The content was organized into the following areas:

1. Introduction
2. Definition
3. Incidence.
4. Risk factor
5. Causes
6. Pathophysiology of urinary tract infection
7. Clinical manifestations
8. Diagnostic evaluation
9. Medical management
10. Prvention of urinary tract infection.

d. Content Validity of Plan Teaching Programme

The PTP was developed according to the objective prepared. The developed PTP was given to experts in the field of Medical-Surgical Nursing, Infection controller to establish content validity. Experts were asked to give their suggestion and opinions about the content of PTP.

e. Determining the Method of Evaluating the Plan Teaching Programme

The PTP was to be evaluated through conducting a post test after 7 days of administering the programme.

f. Pilot Study

Pilot study is the trial run of the methodology planned for the major project to make improvements in the research projects and to detect problems that must be solved before the major study is attempted.

After obtaining permission from concerned authority the pilot study was conducted from 01-07-2017 to 07-07-2017 at B.M.C.H.R.C. Jaipur. The samples choose were similar to population under study. The investigator used purposive sampling technique to select the samples from the total population. 6 samples were selected for the study and these were excluded from the final study.

A pre-test was conducted by administering questionnaire then it was followed by administering Plan Teaching Programme on prevention of UTI. The pre-test was administered for each staff nurses. On the 7th day a post-test was administered by using the same tool which was used in pre-test.

The mean knowledge post test score 77.22% was higher than the mean knowledge pre- test score 49.44%. the pilot study revealed that procedure for the study was feasible and appropriate.

Procedure for Data Collection

a. Permission from the Concerned Authority

Formal prior permission was obtained from the ethical committee of B.M.C.H.R.C. Jaipur to conduct the study.

b. Period of Data Collection

The main study was conducted from 10-07-2017 to 24-07-2017 for a period of 2 weeks in B.M.C.H.R.C., Jaipur.

c. Pre-test (o1)

The demographic and knowledge questionnaire was used to obtain data from samples before showing Plan Teaching Programme in B.M.C.H.R.C., Jaipur.

d. Post Test (O2)

The same pre-test questionnaire was used for post-test. It was conducted on the 7th day after pre test.

Plan for Data Analysis

The data analysis was planned to include descriptive and inferential statistics. The following plan of data analysis was made with consultation of statistical expert. The analysis will be done based on the objectives and hypothesis to be tested. The steps planned for data analysis are:

- Organizing the data on a master sheet.
- Frequencies and percentage to be used for data analysis of demographic data.
- Calculation of mean, standard deviation of pre-test and post-test score.
- Application of paired test to test whether there is significant difference in the mean knowledge score of pre-test and post-test values.

- Application of Chi square test to find out the impact of demographic variables with pre test, post-test knowledge scores.

Summary

This chapter presented the overall methodology of this particular research study. It includes research approach, research design, variables setting of the study, population, samples, sampling techniques, criteria for sample selection, method of data collection, tool of data collection, content validity and reliability of tool, description of pilot study, conduction of main study, brief description of data analysis and the plan and steps of preparation of plan teaching programme.

Analysis and Interpretation

Analysis and interpretation of data is the most important phase of the research process, which involves the computation of the certain measures along with searching for patterns of relationship that exist among data groups. Data collection is followed by the analysis and interpretation, where data are analyzed and interpreted n accordance with study objectives. Analysis and interpretation of data included compilation, editing, coding, classification, and presentation of data. The purpose of analyzing the data collected in a study to describe the data in meaningful terms.

“Analysis is a process of organizing and synthesizing the data in such a way that research

question can be answered and hypothesis can be tested” `.

This chapter deals with analysis and presentation of results of the data collected from “A study to evaluate the effectiveness of planned teaching programme regarding prevention of urinary tract infection in client with indwelling catheter on knowledge and practice among staff nurses working in selected hospitals at Jaipur.”

keeping in view the objectives of the study. One group pre-test and post-test design with pre-experimental approach was adopted to evaluate the effectiveness of plan teaching programme on knowledge and practice regarding UTI for prevention of infection in patient with indwelling catheter among staff nurse. The data was collected from the respondent before and after administrating the self-instructing module. The collected information was organized, tabulated, analyzed and interpreted using descriptive and inferential statistic.

Objective of the Study

1. To evaluate the level of knowledge regarding prevention of urinary tract infection in clients with indwelling catheter among staff nurse.

2. To evaluate the practice regarding prevention of urinary tract infection in client with indwelling catheter among staff nurse.

3. To develop and validate planned teaching programme on prevention of urinary tract infection in client with indewelling catheter.

4. To evaluate the effectiveness of planned teaching programme regarding prevention of urinary tract infection in client with indwelling catheter.

5. To find out association between knowledge of staff nurses regarding prevention of urinary tract infection in client with indwelling catheter among staff nurse with there selected demographic variables.

6. To find out association between practice of staff nurses regarding prevention of urinary tract infection in client with indwelling catheter among staff nurse with there selected demographic variables

Hypothesis

H1- The mean post-test knowledge score of the staff nurses regarding prevention of urinary tract infection in client with indwelling catheter will be significant than the mean pre-test knowledge scores.

H2- The mean post-test practice of the staff nurses regarding prevention of urinary tract infection in client with indwelling catheter will be significant than the mean pre-test knowledge scores.

H3- There will be a significant association between the selected demographic variables and the pre/post knowledge score of staff nurses regarding prevention of urinary tract infection in client with indwelling catheter.

H4- There will be a significant association between the selected demographic variables and the pre/post practice of staff nurses regarding prevention of urinary tract infection in client with indwelling catheter.

SECTION – I

a) Description of sample characteristics in frequency and percentages.

b) Description of total knowledge and practice score in pre test by frequency and percentage.

c) Description of total knowledge and practice score in post-test by frequency and percentages.

d) Comparison of knowledge and practice score between pre-test and post-test by frequency and percentages.

e) Area-wise analysis of pre-test knowledge and practice of staff nurses regarding prevention of UTI

f) Area-wise analysis of post-test knowledge and practice of staff nurses regarding prevention of UTI

SECTION II

a) Mean, mean differences, standard deviation, 't' value of pre-test and post-test knowledge and practice scores of the staff nurses.

g) Relationship between various demographic variables with pre-test knowledge and practice score about prevention of UTI

SECTION- I

a) Description of sample characteristics in frequency and percentages.

This section describes the distribution of sample according to their characteristics such as gender, age, information acquired regarding prevention of UTI professional qualification, working experience and area of working in hospital.

Sample	Frequency	Percentage
age(year)		
21-30 years	9	15.00%
31-40 years	22	38.10%
41-50	18	29.90%
>50 years	11	17.00%
Gender		
Male	17	28.33%
Female	43	71.66%
Professional Qualification		
GNM	11	18.33%
B Sc. Nursing	20	33.33%
Post Basic B.Sc. Nursing	24	40.00%
M.Sc Nursing	5	08.33%
Years of Experience in hospital		
1-3 years	26	35.00%

4-6 years	15	26.66%
7-9 years	15	26.00%
> 10 years	5	13.33%
Working Area		
Male Ward	12	20.00%
Female ward	16	26.66%
ICU ward	25	41.66%
Others ward	7	11.66%
Previous source of knowledge		
Journals	14	23.33%
During professional qualification	20	33.33%
Continuing nursing education	16	26.66.%
Others sources	10	16.66%

Table 2: Frequency and percentage distribution of demographic variable

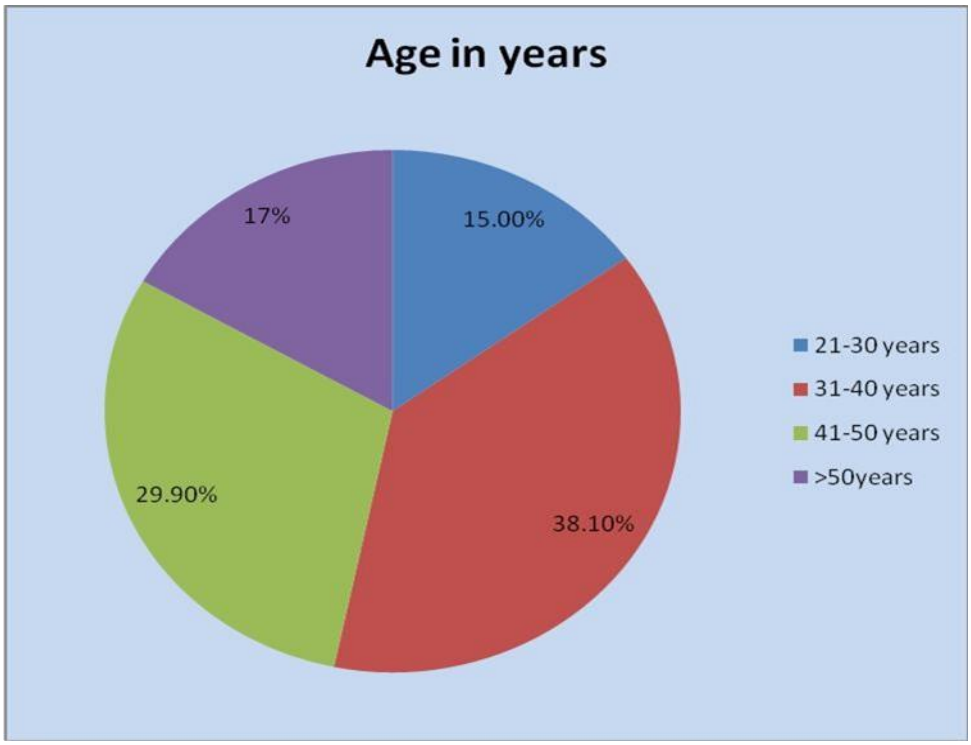


Fig-3: Percentage Distribution of Prevention of Uti Knowledge and Practices by Age in Year

From the above figure 3, the pie diagram Presents the age distributions of the prevention of UTI knowledge and practices who have participate in the study. (9) 15% respondents were belong to the age group of below 21-30 years, (22) 38.10% Respondents were belong to the age group of between 31-40 years, (18) 29.90% was found in the age group of between 41-50 years and (11) 17.00% was found in the age group of > 50 years. The maximum participant in the research study from the age group of 31-40 years.

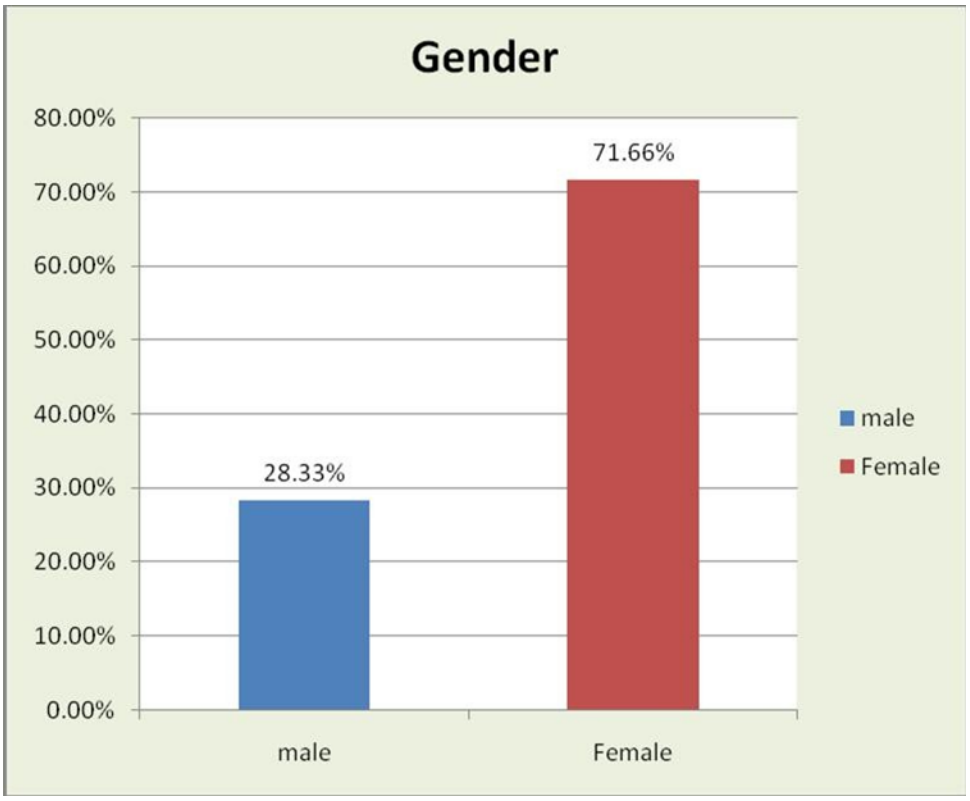


Fig-4: Percentage Distribution of Prevention of Uti Knowledge and Practice by Gender

From the above figure 4, the column diagram give the gender distributions of prevention of UTI knowledge and practice who have participate in the study. (17) 28.33% respondents were belong to the Male, and (43) 71.66% respondents were belong to the Female. The maximum participant in the research study from the gender group of Female.

Fig-5: Percentage Distribution of Prevention of Uti Knowledge and Practice by Professional Qualification

From the above figure 5, the column diagram give the Professtional Qualification distributions of the prevention of UTI knowledge and practice have participate in the study. (11) 18.33% respondents were belong to the GNM, (20) 33.33% respondents were belong to the B.Sc. Nursing, (24) 40.00% respondents were belong to the Post Basic B.Sc. and (5) 8.33% respondents were belong to the M.Sc Nursing. The maximum participants in the research study from the Professtional Qualification group of. Post Basic B.Sc.

Fig-6: Percentage Distribution of Prevention of Uti Knowledge and Practice by Years of Experience in Hospital

From the above figure 6, the column diagram give the Years of Experience in hospital distributions of prevention of UTI knowledge and practice who have participate in the study.

35.00% respondents were belong to the 1-3 years, (15) 26.66% Respondents were belong to the 4-6 years, (15) 26.00% Respondents were belong to the 7-9 years, and (4) 13.33% Respondents were belong to the >10 years. The maximum participant in the research study from the Years of Experience in hospital group of 1-3years.

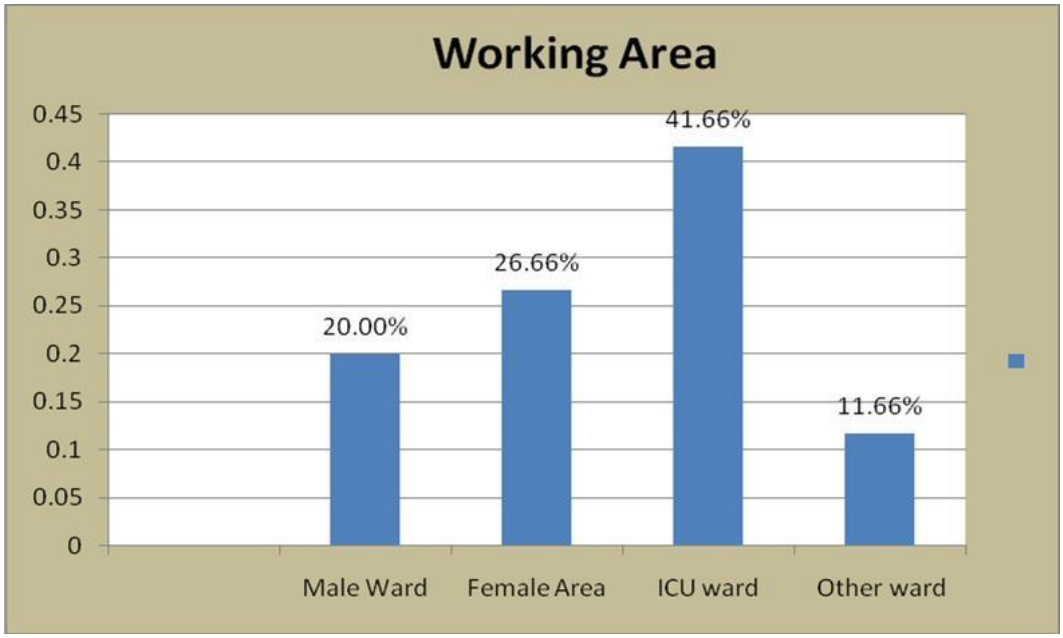


Fig-7: : Percentage Distribution of Prevention of Uti Knowledge and Practice by Working Area

From the above figure 7, the column diagram give the Working Area distributions rural of the prevention of UTI knowledge and practice who have participate in the study. (12) 20.00% respondents were belong to the Male ward, (16) 26.66% respondents were belong to the female ward, (25) 41.66% respondents were belong to the ICU ward and (7) 11.66% respondents were belong to the others. The maximum participants in the research study are from the Working Area group of Male wards.

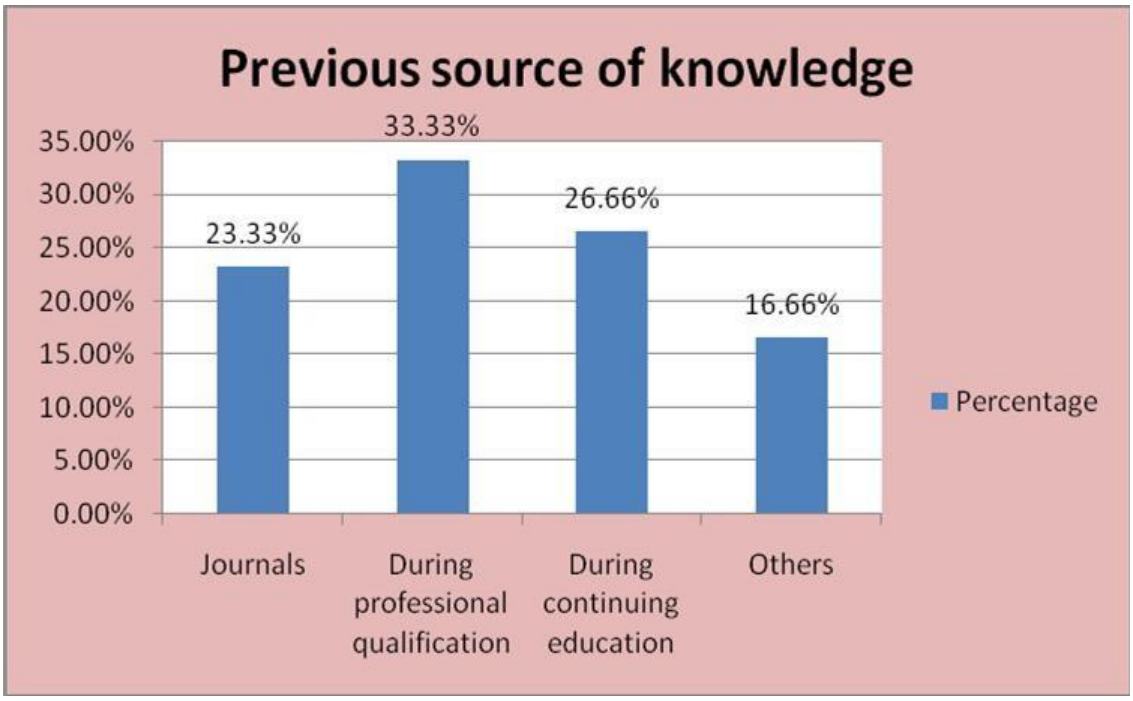


Fig-8: Percentage Distribution of Prevention of Uti Knowledge and Practice by Previous Source of Knowledge

From the above figure 8, the column diagram give the Previous source of knowledge distributions of the prevention of UTI knowledge and practice who have participate in the study. (14) 23.33% respondents were belong to the Journal, (20) 33.33% respondents were belong to the During professional qualification (16) 26.66% respondents were belong to the Continuing nursing education (10) 16.66% respondents were belong to the others. The maximum participant in the research study from the previous source of knowledge group is During professional qualification.

Section II

	Pre-test		**Post-test**	
Level of knowledge	**Frequency (f)**	**Percentage (%)**	**Frequency (f)**	**Percentage (%)**
Poor **0-35%**	9	15	0	00
Average **36-70%**	50	83	8	14
Good **71% above**	1	1.66	52	86
	60	100.0	60	100.0

Table 3. Scores and Responses of Participants on The Level of Knowledge Regarding Prevention of Uti

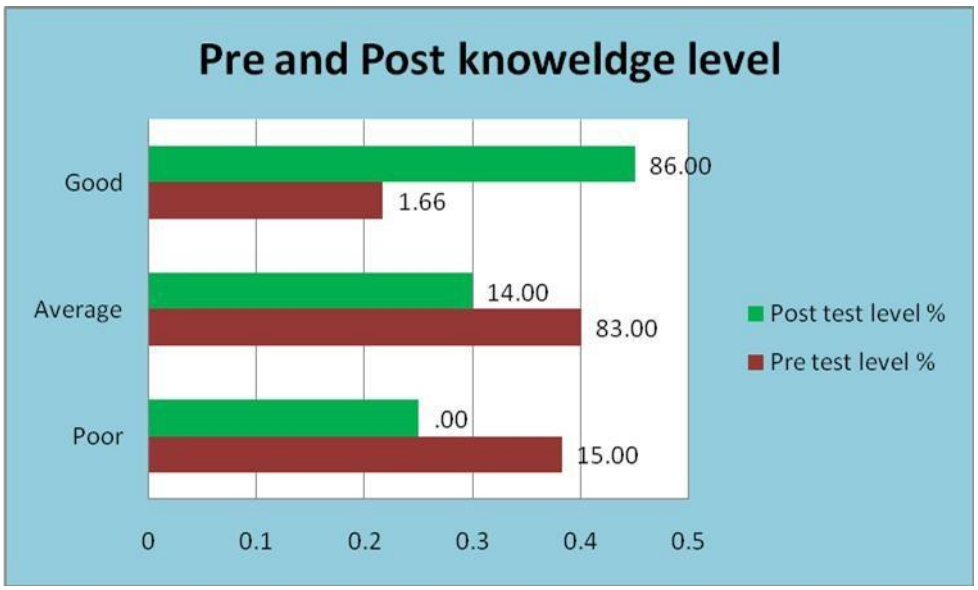


Fig-9 Shows the Pre and Post Test Level of Knowledge and Practice Regarding Prevention of Uti

From the above figure 9, the Bar diagram give the knowledge wise distribution of Hand hygiene knowledge who have participate in the study. 50(83.00%) respondents were belonging to the average knowledge score in pre-test, 52(86.00%) respondents were belonging to good knowledge score in post-test.

	Pre (X)			Post (Y			Effectiveness (Y-X)		
Aspect of knowledge	**Mean**	**S.D.**	**Mean %**	**Mean**	**S.D.**	**Mean %**	**Mean**	**S.D.**	**Mean %**
Total-30	13.50	3.735	51.67	23.32	4.46	81.27	9.82	0.711	29.60

Table 4 Effectiveness aspect –wise analysis on knowledge and practice regarding improving knowledge and practice regarding prevention of uti.

The above table 4 shows the overall knowledge among staff nurses regarding PTP teaching on knowledge and practice regarding prevention ot UTI is 29.60% . The mean difference is 9.82.

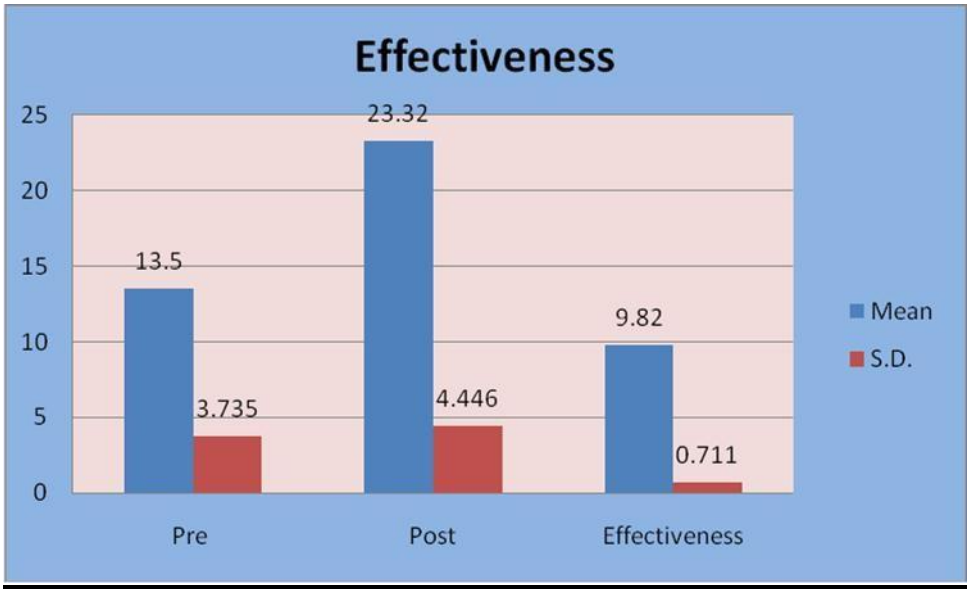


Fig 10 Column Diagram Showing Effectiveness Aspect –Wise Analysis On Knowledge And Practice Regarding Prevention Of Uti.

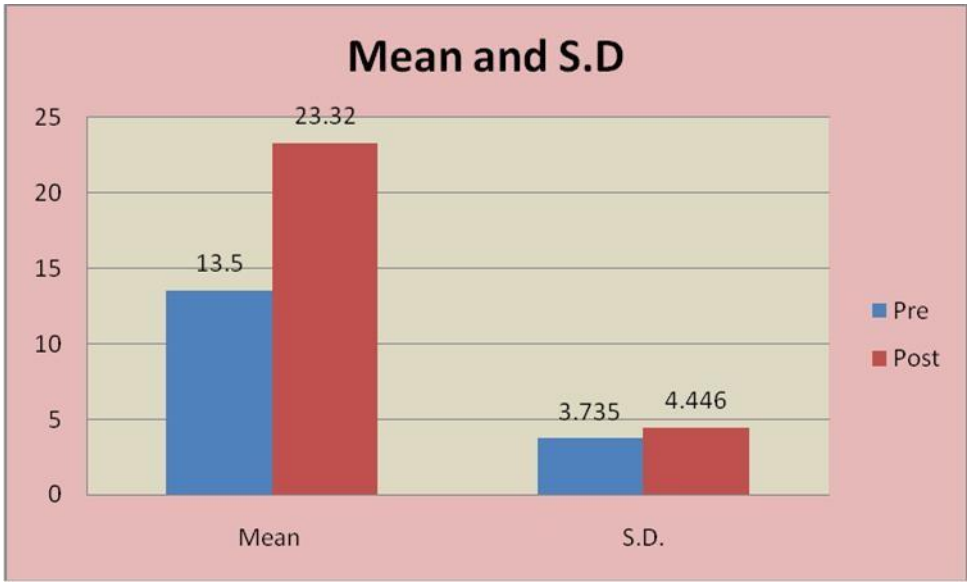
N=60

		Mean	Std. Deviation	Std. Error Mean	Mean Difference	Parried t-test	Result
Total knowledge	Pre	13.50	3.735	.482	9.82	11.742	Accepted
	Post	23.32	4.46	.574			

Table 5 Compression of Pre and Post Group on Knowledge and Practice Regarding Regarding Prevention of Uti

(0.05 level of significance)

According to table 5 which indicates that Mean & S.D of Pre Vs Post on knowledge of Selected Hospital in Jaipur regarding knowledge and practice regarding prevention of UTI i.e., Pre group are 13.50±3.735, Post are 23.32±4.446. As per the table the mean difference of pre-Vs post group Selected Hospital in Jaipur is (9.82) and the t-test was statistically significant as the obtained value (11.742) is higher than the tabulated value (1.97) required for t-ratio to be significant at .05 level of significance. Our Hypothesis is accepted.



Fig–11 Compression of Pre and Post Group on Knowledge and Practice Regarding Improving Knowledge and Practice Regarding Prevention of Uti.

S. No.	Variables	Df	Chi- square	Table value	Result
1	Age	1	0.663	3.81	Not significant
2	Gender	1	0.046	3.84	Not significant
3	Professional qualification	2	6.70	5.99	Significant
4	Working experience	1	0.118	3.84	Not significant
5	Working area	3	1.59	7.81	Not significant
6	Previous source of knowledge	3	7.98	7.81	Significant

Table 6: Frequency distribution based on association given by your demographic distribution level knowledge and practice on regarding prevention of UTI knowledge and practice in selected hospital, in Jaipur.

1. Association between the knowledge on the prevention of UTI knowledge with their Age (Year).

Date presented in the table revealed that there is a not significant association between the knowledge of the prevention of UTI knowledge with their Age (Year) as the calculated Chi- square value 0.663 was less than the tabulated value 3.81 at $p>0.05$.

2 Association between the knowledge on the prevention of UTI knowledge with their Gender .

Data presented in the table revealed that there was not significant association between the knowledge of the prevention of UTI with their Gender as the calculated Chi-square value

0.046 is less than the tabulated value 3.84 at $p>0.05$

3. Association between the knowledge on the prevention of UTI knowledge with their Professional Qualification.

Data presented in the table revealed that there was significant association between the knowledge on the prevention of UTI knowledge with their Professional Qualification as the calculated Chi-square value 6.70 is higher than the tabulated value 5.99 at $p>0.05$.

4. Association between the knowledge on the prevention of UTI knowledge with their Years of Experience in hospital.

Data presented in the table revealed that there was no significant association between the knowledge on the prevention of UTI with their Years of Experience in hospital as the calculated Chi-square value 0.118 is less than the tabulated value 3.84 at p>0.05.

5. Association between the knowledge the prevention of UTI knowledge with their Working Area.

Data presented in the table revealed that there was no significant association between the knowledge the prevention of UTI with their Working Area, as the calculated Chi-square value 1.59 is lesser than the tabulated value 7.81 at p>0.05.

6. Association between the knowledge the prevention of UTI knowledge with their Previous source of knowledge.

Data presented in the table revealed that there was significant association between the knowledge the prevention of UTI with Previous source of knowledge, as the calculated Chi- square value 7.98 is greater than the tabulated value 7.81 at p>0.05.

Summary

This chapter has dealt with the analysis and interpretation of data using descriptive and inferential statistics. The characteristics and opinion regarding utility of PTP were assessed by using frequency and percentage, mean, standard deviation were computed for knowledge score. The comparison of pre-test and post-test done by using independent 't' test, chi-square were calculated to find out the association between knowledge with demographic variables.

Major Findings Summary and Conclusion

The essential part of conducting researchers is its findings and discussion, limitations, delimitations, implications and recommendations. This chapter includes all these vital components.

Major Findings of the Study

- In gender wise distribution the majority (71.66%) of the sample were female.
- In age wise distribution the majority (38.10%) of sample belongs to the age group 31- 40 years.
- Information acquired wise distribution reveals that most of sample (33.33%) had knowledge during professional qualification.
- Formal education wise majority (40.00%) of samples qualification was Post Basic B.Sc. Nursing.

- In working experience wise distribution the majority (35%) having age group 1-3 years experience.
- Infrequency of UTI patient in the ward wise the majority (41.66%) belongs to ICU ward.
- Pre test knowledge on prevention of UTI reveals that majority of staff nurses knowledge level is average.
- Post test knowledge on prevention of UTI reveals that majority of staff nurses knowledge level is good.
- Comparison of knowledge score of pre-test and post test reveals that there was gain in knowledge score from 13.50-23.32.
- The above results reveals that the plan teaching programme was effective.
- The study reveals that there was a significant association between age, information acquired, working experience, area of working where as there is no significant association between gender, professional qualification and frequency of UTI patients in the ward.

Discussion

Objectives of the Study

1. To evaluate the level of knowledge regarding prevention of urinary tract infection in clients with indwelling catheter among staff nurse.

2. To evaluate the practice regarding prevention of urinary tract infection in client with indwelling catheter among staff nurse.

3. To develop and validate planned teaching programme on prevention of urinary tract infection in client with indwelling catheter.

4. To evaluate the effectiveness of planned teaching programme regarding prevention of urinary tract infection in client with indwelling catheter.

5. To find out association between knowledge of staff nurses regarding prevention of urinary tract infection in client with indwelling catheter among staff nurse with there selected demographic variables.

6. To find out association between practice of staff nurses regarding prevention of urinary tract infection in client with indwelling catheter among staff nurse with there selected demographic variables

Discussion of demographic variables:

- Gender wise distribution of samples reveals that the majority of staff nurses female 71.66% and male were 28.33%.

- Age wise distribution of samples reveals that majority 22 (38.10%) of samples belongs to the age group of 31-40 years than the other 18 (29.90%) staff nurses are between age group of 41 – 50 years. Whereas 11 (17.00%) staff nurses belongs to the age group of more than 50 years and the rest of the staff nurses 9 (15.00%) are between age group of 21-30 years.
- Information acquired wise distribution reveals that 20 (33.33%) samples have knowledge during professional qualification, 16 (26.66%) through continuing education, 14 (23.33%) through journals and 10 (16.66%) get knowledge through other sourse .
- Distribution of samples on the basis of formal education shows the majority 24(40.00%) qualification was post basic B.Sc Nursing.
- Distribution on the basis of working experience the majority 26 (35.00%) of samples had 1-3 years of clinical experience.
- Distribution of samples on the basis of area of working the majority 25 (41.66%) working in the ICU ward.

Assessment of level of knowledge of staff nurses regarding prevention of UTI

- The findings of the study reveals that during pre test majority 15.00% knowledge is poor, 83% of samples having average knowledge regarding prevention of UTI.
- During post test majority 86% of staff nurses knowledge level is good. 14% of staff nurses have average knowledge regarding prevention of UTI
- Area wise assessment of pre test, post test knowledge depicts that there is a high gain knowledge score in all content area of introduction of UTI at post test knowledge score than the pre test score.

Association between level of knowledge and demographic variables

- The study reveals that there was a significant association between age, information acquired, working experience, area of working where as there is no significant association between gender, professional qualification frequency of UTI patient in the ward.
- The results reveal there is no significant association between the gender and the knowledge scores as calculated Chi square value is 0.046 is less than the tabulated value 3.84 (1df) at 0.05 level of significance, Hence the research hypothesis is rejected.
- The results reveals that there is significant association between the age groups and the knowledge scores as calculated Chi square value is 0.663 is more than the tabulated value 3.81(2df) at 0.05 level of significance, Hence the research hypothesis is rejected.

- The results reveal there is significant association between the information acquired and the knowledge scores as calculated Chi square value is 7.98 is more than the tabulated value 7.81(1df) at 0.05 level of significance, Hence the research hypothesis is accepted.
- The results reveals there is no significant association between the formal education and the knowledge score as calculated Chi square value is 6.70 is less than the tabulated value 5.99(1df) at 0.05 level of significance. Hence the research hypothesis is accepted.
- Effectiveness of Plan teaching programme on knowledge and practice regarding prevention of UTI among staff nurses
- The results reveals that the mean difference is 9.82 and the standard deviation of difference is 0.711 and the calculated value is 3.82 which is significant at 0.05 level. Hence, it indicates a highly significant difference and effectiveness of plan teaching programme on knowledge and practice regarding prevention of UTI.

Summary

The study was proposed to explore and describes the level of knowledge and practice regarding prevention of UTI among staff nurses of selected hospital in general ward, icu, post operative ward of B.M.C.H.R.C. Hospital, Jaipur.

The pre-experimental study is conducted to test the following research hypothesis:

Hypothesis

H1- The mean post test knowledge score of the staff nurses regarding prevention of urinary tract infection in client with indwelling catheter will be significant than the mean pre test knowledge scores.

H2- The mean post test practice of the staff nurses regarding prevention of urinary tract infection in client with indwelling catheter will be significant than the mean pre test knowledge scores.

H3- There will be a significant association between the selected demographic variables and the pre/post knowledge score of staff nurses regarding prevention of urinary tract infection in client with indwelling catheter.

H4- There will be a significant association between the selected demographic variables and the pre/post practice of staff nurses regarding prevention of urinary tract infection in client with indwelling catheter.

Objectives of the Study

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The Conceptual Framework for this Study was Derived from General Systeam Model

A review of related literature helped the investigator to highlight the study and also to strengthen the study.

It motivates the investigator to determine the effectiveness of plan teaching programme and also to place the data analysis.

The present study was conducted with 60 subjects in B.M.C.H.R.C. Hospital, Jaipur which have been selected by non probability purposive sampling technique. The study was adopted by experimental approach, on the basis one group pre test post test design was used.

Data has been collected by structured questionnaire method. The tool composed of categorized under different areas such as introduction to UTI, causes of UTI, incidence, clinical manifeststions pathophysiology, investigation, management, and prevention of UTI.

The experts have given the valuable suggestions for the tool. Reliability and feasibility were observed. Reliability was found $r = 0.86$ ($p < 0.05$).

Pilot study was conducted 01-07-2017 to 07-07-2017 at Bhagwan Mahaveer Cancer Hospital & Research Centre, Jaipur. It was shown feasibility.

On the basis of final study conducted during July 2017. Data were gathered and analyzed. It was interpreted in terms of objectives. Descriptive and statistical inferential were used for the data analysis.

Conclusion:

- The following are the conclusion of the study:
- In gender wise distribution the majority (71.66%) of the sample were female.
- In age wise distribution the majority (38.10%) of sample belongs to the age group 31- 40 years.
- Information acquired wise distribution reveals that most of the sample (33.33%) had knowledge during professional qualification.
- Formal education wise majority (40.00%) of the samples qualification was post basic B.Sc Nursing.
- In working experience wise distribution, the majority (35.00%) having 1-3 years' experience.
- In area of working majority (41.66%) of samples working in ICU ward.
- Pre-test knowledge on prevention of UTI reveals that majority of staff nurses' knowledge level is poor.
- Post-test knowledge on prevention of UTI reveals that majority of staff nurses' knowledge level is good.
- Comparison of knowledge scores of pre-tests and post-test reveals that there was gain in knowledge scores from 13.50 – 23.32.
- The above results reveal that Plan Teaching Programme was effective.
- The study reveals that there was a significant association between age, information acquired, working experience, area of working where as there is no significant association between gender, professional qualification.

Implication of the Study:

Nursing Implication

Knowledge is a right of every human being and every human person has the right to health. Attainment of health by all is proposed by the Alma Ata declaration of WHO. This slogan should be felt by all and every individual should take the responsibility towards promoting health. The findings of the study have implication for nursing practice, nursing education, nursing administration and nursing research.

Nursing Practice

- The nursing practice has been undergoing many evolutions in the recent past. The expanded role of professional nurse emphasizes the activities which promote health and promotive behaviours among people.
- Since there is less knowledge regarding prevention of UTI among staff nurses, so every nurse make the use of these results to update their knowledge.
- When such instructional module with low cost can better increase the knowledge of staff nurses, it is always possible for the nurses to develop such instructional programme for the patients.
- The plan teaching programme will also provide sound and comprehensive knowledge regarding prevention of UTI.
- The plan teaching programme prepared for this study can be utilized to educate the staff nurses and patients can be used to promote health and prevent various complications of ill health.
- Nursing personnel's working in hospital can improve their knowledge and practice regarding prevention of UTI. Thus can enhance the quality care.

Nursing Education

- Nurse educators should get the benefit of these studies to include them in their classroom teachings to enhance the knowledge o the students.
- Nurse may make the use of plan teaching programme, which is prepared for use as a teaching tool. The students should be motivated to give health teaching using the teaching materials available.
- There is a direct need to plan the education programme according to th level of understanding of the beneficiaries, their attitudes and needed improvement in them.
- The studies of this nature will help the nurse educators in planning the awareness camps as well as classroom teachings.
- There should be specialized training and course to improve the knowledge and practice regarding prevention of UTI.
- The education curriculum must include preparation of such plan teaching programme and inspire young aspiring students to explore their talent in writing, specially relating to health because health matters and in doing so the nursing education can no doubt increase in the quality.
- Opportunities should be given to nursing students to develop and such educational material in a variety of settings like school, college. Hence preparation of such plan teaching programme can be included in the nursing education curriculum.

Nursing Research

- The study will be a reference for research scholars.
- Nursing research is the most required field to be developed and it i8s only through research that nurse can prove their proficiency in the field of education, practice and administration in health care aspects.
- This study helps the nurse researchers to develop a appropriate teaching learning tool for nurses to improve their knowledge and practice regarding prevention of UTI.
- There is a need for advanced research for improving the nursing services.
- Various methods can be used to strengthen the knowledge of the people by the researcher, which should be published for the benefit of those who are not able to participate in the studies.

Nursing administration

- The nurse administrators should plan, organize and provide materials for the effective awareness programs regarding prevention of UTI , and should be open for discussion and suggestion.
- The nurse administrators should modify the behavior of the nurses to match the corporate level clients, so that everybody will have faith in health teachings given by nurses.
- Nurse as administrators should take great interest in encouraging nurses to learn more about urinary tract infection detection and prevention measures and to use their knowledge in practice.
- Nurse administrator should formulate policies. This is possible if the nurse as an administrator takes initiatives in imparting the health information through printed materials, in the form of booklets, pamphlets, and posters to patients who can read and write, and arrange for group teaching for patients who cannot use printed materials.
- Nurse administrators should take initiative in organizing in-service education programme for nurses and motivate nurses to participate in such activities.
- The nurse administrators should see that enough support is provided in terms of manpower, money and material for disseminating information regarding prevention of UTI. .

Limitations

- Effectiveness of interventions is measured in term of knowledge and practice level only.
- The study was conducted only on staff nurses with age group 21- 60 years.
- The study was carried out on a small population so the findings can not be generalized for a large population.
- The relevant literature was scanty, as hardly few studies has been conducted on the topic under investigation.

Suggestion

- There should be plan for more educative programs for all groups of women regarding the prevention of UTI to minimize the complications.
- Staff nurses themselves should involve in mobilizing the spread of knowledge and practice regarding prevention of UTI.

Recommendations

Based on findings of the present study, the following recommendations were made.

- A similar study can carried out in varied nursing educational institutes.
- A similar study can be replicated with experimental and control group.
- A descriptive study can be conducted among nursing students.
- A comparative study can be conducted among graduates and diploma nurses.
- A comparative study may be undertaken between the nurses of two different hospitals.
- A comparative study can be conducted to evaluate the effectiveness of two different teaching methods.

This chapter includes a brief overview of research process, summary of main findings, conclusion, nursing implications, recommendations, limitations and suggestions for further research.

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