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A STUDY TO ASSESS THE EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME ON LEVEL OF KNOWLEDGE REGARDING RENAL CALCULI AND ITS MANAGEMENT AMONG THE STAFF NURSES IN SELECTED HOSPITAL AT KORBA (C.G.)

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CHAPTER-I

INTRODUCTION

“Dream is not that which you see while sleeping, it is something that does not let you sleep”

A. P. J. Abdul kalam

A Renal Calculi is a solid mass made up of tiny crystals. One or more stones can be in the kidney or urethra at the same time. It is the common cause of blood in the urine and pain in the abdomen, flank, or groin. Occurs in 1 in 20 people at sometime in their life. Development of the stones is related to decreased urine volume or increased excretion of stone-forming components such as calcium, oxalate, urate, cystine, xanthine, and phosphate.

The pain is usually of sudden onset, very severe and colicky, not improved by changes in position, radiating from the back, down the flank, and into the groin. Nausea and vomiting are common. Predisposing factors may include recent reduction in fluid intake, increased exercise with dehydration. The majority of stones pass spontaneously within 48 hours. However, some stones may not. There are several factors which influence the ability to pass a stone. These include the size of the person, prior stone passage, prostate enlargement,

pregnancy, and the size of the stone. A 4 mm stone has an 80% chance of passage while a 5 mm stone has a 20% chance.

The goal of treatment is to relieve symptoms and prevent further symptoms. Kidney stones that are small enough usually pass on their own. Drink at least 6 - 8 glasses of water per day to produce a large amount of urine. Depending on the type of stone, your doctor may prescribe medicine to decrease stone formation or help break down and remove the material that is causing the stone. Medications can include Allopurinol for uric acid stones, Antibiotics for struvite stones, Diuretics, Phosphate solutions, Sodium bicarbonate or sodium citrate which make the urine more alkaline. Surgery is usually needed if the stone is too large to pass on its own, the stone is growing, and the stone is blocking urine flow and causing an infection or kidney damage.

BACKGROUND OF THE STUDY

According to Martine A (2010) Renal stone is a painful condition that affects 1 – 2% of the general population. Kidney stones are aggregates of crystals mixed with a protein matrix that cause obstruction of urine flow in the renal collecting system, ureters, or urethra and result in severe pain, bleeding, or local erosion of kidney tissues.

There are several types of kidney stone. The most common type of kidney stone is composed of calcium oxalate and is caused by metabolic disorders that are often treatable. In general, the crystallization of stone-forming salts owes to an abnormal urinary composition that is either higher in crystallization promoters e.g. calcium, oxalate, uric acid or lower in inhibitors e.g. citrate, glycols aminoglycans, kidney proteins such as nephron-calcin, Tamm-Horsfall mucoprotein, Uro-protein, or both.

According to Crais (2015) The formation of the 4 basic chemical types of renal calculi is associated with more than 20 underlying etiologies. Stone analysis, together with serum and 24-hour urine examination, can identify an etiology in over 95% of patients. Specific therapy can result in a remission rate of over 80% and can decrease the individual recurrence rate by 90%. Emergency physicians, therefore, should stress the importance of urologic follow-up, especially in patients with recurrent stones, solitary kidneys, or previous kidney or stone surgery and in all children.

- Calcium stones (75%): Calcium oxalate, calcium phosphate, and calcium urate.
- Struvite (magnesium ammonium phosphate) stones (15%)
- Uric acid stones (6%): These are associated with urine pH less than5.5, high purine intake (e.g. organ meats, legumes, fish, meat extracts, gravies), Or malignancy (ie, rapid cell turnover). Approximately 25% of patients with uric acid stone have gout.
- Cystine stones (2%) (Crais-2005)

The causes of renal calculi can be classified as follow:-

Metabolic abnormalities (a patient may show more than one) Super saturation of urine with stone-forming salt

- Hypercalciuria (>300 mg/24hr):- 40-60% of cases
- Hyperuricosuria (>750 mg/24hr):- 20-35% of cases
- Hyperoxaluria (>40 mg/24hr):- 10-20% of cases
- Cystinuria (>250 mg/L):- 1-2% of cases
- Reduced inhibitors of stone formation
- Hypocitraturia (<320 mg/day):- 10-40% of cases
- Hypomagnesuria
- Abnormal nephron calcin or other glycoprotein defects (Tamm Horsfall protein, glycosaminoglycan, uro-protein, crystal matrix protein)
- Infection with urease-producing organisms (mostly Proteus): 10 -20% of cases
- Alterations in urinary pH
- pH<5.5 leads to uric acid stones
- pH>7.5 seen with struvite stones (Blangy-1989)

Calculus size and location are important determinants for the resultant degree of disease. The most important factor for passage of a calculus though the genitourinary tract is its size. The critical size for spontaneous passage is <5 mm. Approximately 90% of stones that are less than 5 mm and located in the lower ureter pass spontaneously within 4 weeks. 15% for stones between 5 and 8 mm. 95% of stones larger than 8 mm become impacted along the genitourinary tract, generally requiring lithotripsy or surgical removal. Intervention can usually be performed in the outpatient setting.

According to Naya. Y. (2002) An increase in fluid intake is common advice for patients with renal stones. A higher intake leads to increased urinary volume and, in turn, decreased in concentration of stone formation components, which will presumably decrease rate of stone formation. Alternatively, the increased urinary volume could decrease the concentration of inhibitors of stone formation.

NEED FOR THE STUDY

According to Tisulius HG (2003) The formation of stones in the urinary tract is a common and important problem that must be considered in daily urological practice. With a prevalence of>10% and an expected recurrence rate of 50%, stone disease has an important effect on the health care system. The condition affects 5-10% of the population in Europe and North America. An even higher frequency has been reported from other

parts of the world and there are only a few geographical areas in which stone disease is rare e.g. in Greenland and in the coastal areas of Japan.

The annual incidence of stone formation in the industrialized world is generally considered to be 1500-2000 cases per million. Over the past two or three decades there has been a dramatic development in the techniques for stone removal. Although the vast majority of stones pass spontaneously, open surgery for stone removal was previously a very common urological procedure.

Currently almost all stones can be removed by non-or slightly invasive methods. Despite these achievements, the problem of recurrent stone formation remains and despite considerable progress in this field, efforts to stop stone formation have so far been insufficient. This raised the question of how much has been accomplished in the field of further formation of renal calculi.

Study findings by curhan and colleagues questioned previous research findings and treatment of kidney stones. Their results suggest that a higher intake of dietary calcium was strongly associated with a decreased risk of calcium based renal stones. Curhan et at reported the incidence if kidney stones was lower by 50% in men with a calcium intake of upto 132 mg/day compared with incidence in those who took 576 mg calcium/day. The men who ingested up to two glasses of milk per day had half the risk of stone formation as those who drank less than one glass per month.

Mc Harg, T Rogers and Charlton K (2003) Another study reported a similar diet of high calcium, low protein and low sodium reduces the risk of recurrence of kidney stones.

In women it has been reported that increased dietary intake of calcium was not associated with risk of kidney stone formation. The intake of supplemental calcium was related to increased risk of kidney stones. Additionally, an increased intake of sucrose and sodium increased the risk of stone formation, where as increased fluids or potassium decrease the incidence. Sodium citrate preparations and cranberry juice were found to decrease risk of calcium oxalate stone formation in two separate studies.

Nurses should encourage clients who had at least one calcium oxalate kidney stone or renal calculi to increase fluids and dietary calcium intake and to reduce protein and sodium. Intake of dietary calcium should be encouraged in all clients to prevent osteoporosis and prevent calcium oxalate kidney stones. Other dietary adjustment to lower oxalate intake, take sodium citrate.

Nurses play an important role in providing care to the client with the renal calculi. During my clinical work I observed that nursing staff posted to provide care to patients with renal calculi were not aware about the role of diet with high calcium, low protein, low sodium and high fluid in these patients. If they plan the diet of patients accordingly, they can provide the best effective care. During my clinical supervision duty I taught some nurses about the proper care of the patients with renal calculi by providing proper treatment with diet like high calcium, low protein, low sodium and high fluid. So I found it necessary to assess the effectiveness of structured

teaching programme on care of patients with renal calculi on knowledge among staff nurses working in selected hospitals of Korba C.G.

STATEMENT OF THE PROBLEM

"A study to assess the effectiveness of structured Teaching Programme on level of knowledge regarding Renal Calculi and its management among the staff nurses in selected Hospital at Korba (C.G.)"

OBJECTIVES

1. To assess The Pretest level of Knowledge Regarding Renal Calculi And Its Management among the staff nurses.
2. To Evaluate The Effectiveness Of structured Teaching Programme On Renal Calculi And Its Management Among Staff Nurses.
3. To assess The post test level of Knowledge Regarding Renal Calculi And Its Management among the staff nurses.
4. To Find The Association between Pre Test level of Knowledge regarding Renal Calculi And Its Management With Their socio-demographic Variables.

HYPOTHESIS :- (level of significance P <0.05)

H_1: There will be significant difference between pretest and post test level of knowledge among staff nurses regarding renal calculi and its management.

H_2: There will be significant association between the post-test on knowledge score regarding renal calculi and its management among staff nurses with their socio-demographic variables.

OPERATIONAL DEFINITIONS

1. **Study**: The act of making an effort to learn by reading, practicing or memorizing.
2. **Assess**: It refers to judge the worth of structured teaching programme on knowledge regarding management of renal calculi among staff nurses of selected hospital korba.
3. **Knowledge**: In this study knowledge refers to the awareness and understanding regarding management of renal calculi.
4. **Effectiveness:** It refers to the extent to which the planned teaching programme has achieved the Desired result among staff nurses gain in knowledge as evidenced by higher mean post Test knowledge score, than the mean pretest knowledge score.
5. **Structured Teaching Programme**: It refers to systematically organized teaching programme which includes the charts with pictorial representation consisting of information related to measures to follow and what not to do for prevent renal calculi.
6. **Staff nurses:** a under-graduate and post-graduate nurse who is on the staff of a hospital.

7. **Renal calculi and its Management:** It refers to the overall management of patients with renal calculi in respect of drugs, Dietary modification and fluid therapy of renal calculi.

DELIMITATIONS

1. This study is limited to the age group of 21 -40 years.
2. This study is limited to the staff nurses who working in the hospitals.
3. The study is limited about the renal calculi and its management.

CONCEPTUAL FRAMEWORK

BASED ON ROSENSTOCH'S AND BECKER'S HEALTH BELIEF MODEL(1974)

This study is based on Rosenstoch's and Becker's health belief model (1974) which is most relevant to the present study to evaluate the effectiveness of structured teaching programme on renal calculi and its management among the staff nurses in selected hospitals at KORBA. Rosenstoch's and Becker's Health Belief Model (1974) addresses the relationship between a person's beliefs and practice. It provides a way of understanding and predicting how the staff nurses get knowledge regarding renal calculi.

INDIVIDUAL PERCEPTION:

It refers to the individual perception of working at hospital.

PERCEIVED SUSCEPTIBILITY TO DISEASE:

In this study the individual perceived as working at hospital as staff nurses who has lack of awareness about renal calculi.

PERCEIVED SERIOUSNESS OF DISEASES:

In this study the individual perceived that way of management of renal calculi.

MODIFYING FACTORS:

The influence of individual perception is modified by demographic and socio-psychological factors. In this study the researcher expects demographic variables like age, gender, occupational status, dietary method. The socio-psychological variables, educational status may affect the way individuals takes care of themselves.

PERCEIVED THREAT OF DISEASE:

Perceived threat is developing serious illness. In this study the perceived threat is risk factors such as fluid intake, food habits, climate, occupation, vitamin A hyperparathyroidism, infection of the urinary track, prolonged illness and restricted movements, drugs, congenital malformations and stasis, hereditary etc.

CUES OF ACTION:

In this study the researcher plans to use power point presentation and charts for teaching programme to prevent the renal calculi.

LIKELIHOOD OF ACTION:

It refers that a nurses will take preventive action which results from the person's perception of the benefits and barriers to take action.

PERCEIVED BENEFITS OF PREVENTIVE ACTION:

In this study the nurses perceived benefits to prevent the renal calculi.

PERCEIVED BARRIERS:

It includes life styles changes increased adherence to medical therapies or search for medical advice or treatment. In this study the perceived barriers are not taking adequate water, lack of eating vegetables and fruits, climate, occupation, vitamin, Hyperparathyroidism and lack of control over dietary pattern apart from ignorance about renal calculi diseases.

LIKELIHOOD OF TAKING ACTION

The staff nurse perception of susceptibility to disease, perception of seriousness of an illness, helps to determine the likelihood that the client will take part in healthy behaviors. In this study the likelihood of action is increased practices to prevent and reduce the renal calculi or decreased practices inducing the risk of renal calculi.

SUMMARY

This chapter dealt with the contents of introduction about renal calculi and its management, background of the study, need for the study, statement of the problem, objectives, hypotheses, operational definitions, delimitation, conceptual framework.

CHAPTER – II

REVIEW OF LITERATURE

Review of relevant literature is an analysis and synthesis of research sources to generate a picture of what is known about a particular situation and knowledge gaps that exist in the situation. A review of literature is an essential and important step for the scientific research project, the investigator to develop a deeper insight into the problem and gain information on what has been done before in the field and illuminates about significance of new studies. It help to build a foundation of the study.

According to Basavanthappa BT (2010) The review of literature is as a board, comprehensive in depth, systematic and critical review of scholarly publications, unpublished scholarly print materials, audiovisual materials, and personal communications.

A literature is a body of text that aims to review the critical point of current knowledge including substantive findings as well as theoretical and methodological contributions to a particular topic. Literature reviews are secondary source, and as such, do not report any new or original experimental work.

In order to accomplish this goal to present study, an attempt has been made to review and discuss the literature.

The literature reviewed for the present study is organized and presented under the following heading.

Section-I : Studies related to Renal calculi among staff nurses.

Section-II : Studies related to the management of renal calculi among staff nurses.

Section-III: Studies related effectiveness of teaching programme on renal calculi and its management among staff nurses

SECTION- I: STUDIES RELATED TO RENAL CALCULI AMONG STAFF NURSES

The following series of studies give empirical evidence of the etiology, risk factors and factors influencing the type of calculi formed in different environment and setting and its management.

Ravi Sankar and R. Mani Deepika (2020)

Conduct the study about renal calculi is nothing but a crystalline structures of calcium oxalate ($C_2H_2CaO_5$) associated with risk factors like dehydration, high fat diet, high salt, animal protein and obesity. Due to the formation crystalline structure in the distal tubule, collecting duct etc. have symptoms like abdominal pain. Nephrolithiasis is a worldwide situation affecting all the regions. It is more prevalent in Europe, Canada, America, East Asia, Gulf region, Japan, China and different parts of India. The epidemiological study of renal calculi is evolving regarding the diet, obesity, gender etc. by modifying life style, diet and normal healthy weight, low fat and salt, proper hydration; we reduce the occurrence of renal calculi. The prevalence of renal

calculi increases with augmented intake of caffeinated, high sugar containing beverages etc. Recent study shows that consumption of 8-ounces of caffeinated coffee and tea decrease the risk of stone development in women by 10 % and 8 % respectively. The same amount of wine decreases the risk by 59 % while grape juice increases the risk by 44 %.

International Journal of Community Medicine and Public Health (2019)

A study was conducted on renal stone disease is a considerable burden on public health worldwide. this study Aim to assess the nurses knowledge regarding renal stone among the nurses working at a selected specialized hospital. A total of 120 sample were collected through purposive sampling technique. A descriptive cross-sectional study was conducted under quantitative approach. Data were collected using a structured questionnaire through face to face interview. A written informed consent was obtained from the hospital authority and nurses.

Data were analyzed using SPSS version20. In this study ninety percent of the responded were female and about 43.3%of the responded were in the group 31-35years. About 35.8%of the responded has postgraduate qualification and the majority (63.3%)of the responded had 4 years and above years of service experience. More than nine-tenths (95.8%) of responded mentioned that renal stone is one kind of urological disease and 75.8%of the respondents mentioned that calcium oxalate is responsible elements for formation of renal stone. About 63.3%of them mentioned pain or burning during urination as the symptoms of renal stone.66.7%of the responded mentioned that a patient with renal stone should be counseled stone specific dietary intervention.

The findings reveal that most of the study participants had good level of knowledge regarding the renal Stone. It was recommended that a special training on renal stone for nurses might be geared up to increase their level of knowledge.

AM J public health. (2016)

A study was conducted a review of kidney stone–related publications of NHS I and NHS II between 1976 and 2016. Studies using NHS I and NHS II data have demonstrated the importance of many factors in kidney stone formation and were the first to report that higher dietary calcium was associated with a lower risk of incident kidney stones in women. Data from these cohorts were instrumental in emphasizing that nephrolithiasis is a systemic disease and suggesting that a kidney stone or shared risk factors may lead to hypertension, diabetes, and cardiovascular disease. Findings from the NHSs have changed the scientific understanding and the clinical practice of stone prevention and have been incorporated into widely consulted textbooks and the American Urological Association Medical Management of Kidney Stones guidelines.

Shanthi. S, Shambhavi., Vinutha M D'Souza (2014)

The study was conducted on Kidney stones. The kidney stone is the commonest universal complaints. Kidney stones modify the victim's behaviour of great fear of the intense pain and are threatened with the failure of the kidney. The aim of the study was to assess the knowledge of renal calculi among patients admitted in urology

ward at selected hospitals in Madurai with a view to prepare a pamphlet.. A descriptive survey approach was adopted for the study. Sample of 100 patients admitted in urology ward age between 20-60 were selected. Purposive sampling technique was used. A demographic variable and structured knowledge questionnaire was used for data collection. The result revealed that majority (17%) of the samples had average knowledge regarding renal calculi, 80 % of the samples had poor knowledge and 3% of the patients had good knowledge regarding renal calculi and also found that there was no significant association of knowledge score with demographic variables at $P < 0.05$ level of significance.

According to D. Mattle And B. (2014)

Conducted a study to determine the preventive treatment of nephrolithiasis with alkali citrate. A total of 43 studies met the inclusion criteria and were further sub classified according to intermediate or ultimate endpoints as well as to study design. With stone recurrence as the ultimate endpoint, 21 uncontrolled studies in almost 1,000 patients demonstrated a reduction in stone forming rate by 47–100%.

In four randomized controlled trials including 227 patients, 53.5% on alkali citrate vs 35% on placebo remained stone-free after at least 1 year of treatment. Similar values (66% vs 27.5% for alkali citrate vs placebo, $P<0.0005$) were obtained in 104 patients from two randomized trials with dissolution/clearance of residual stones as endpoint. In this study it is concluded that subjects remain stone free after treatment with alkali citrate.

Ashton Miller m.a.m.d.f.r.c.s. and j.p.mitchellf.r.c.s. (2013)

Conducted a study to compare interrelationship of hyperparathyroidism and renal calculi. A case is described of bilateral renal calculi due to hyperparathyroidism in which no skeletal changes were found. A brief survey is given of all similar cases in the literature. The incidence of renal calculi in hyperparathyroidism and, conversely, of hyperparathyroidism in all cases of renal calculi, is discussed.

Attention is drawn to the fact that unilateral renal calculi may be due to hyperparathyroidism. In the early stages of the disease, hyperparathyroidism is more liable to produce renal lithiasis than skeletal changes. In this study it is stated that the possibility of hyperparathyroidism should be considered in all cases of multiple renal calculi, whether unilateral or bilateral.

Robert P. Heaney, MD, (2013)

Conducted a study to analyze and compare the relation between calcium supplementation and incident kidney stone risk. To assess the kidney stone risk in the post menopausal women using data accumulated in calcium supplement trials, bone activeagent registration trials, to compare these estimates with formal publishedepidemiological studies of stone risk. The researcher concluded that stone risk in postmenopausal

women has increased substantiallyin the past 40 years, but absolute population incidence estimatesvary widely from a low of about 70 incidents/100,000/yr forOlmsted County. Despite this uncertainty about background rate,most of the studies show no increase in stone risk with highcalcium intake.

Nancy Risser MN, RN (2011)

Conducted a study to comparethe association in between the kidney stone and obesity.obesity is associated with insulin resistance and metabolic changes that may lead to the formation of calcium-containing kidney stones. Using large cohorts from the Health Professionals Follow-up and the Nurses' Health Studies, 4,827 kidney stones were documented over a combined 46 years of follow-up with over 240,000 men and women.

Increased risk for symptomatic nephrolithiasis was also reported for men and women who gained more than 35 pounds since age 21 years versus subjects whose weight did not change. Men with a body mass index (BMI) >30 had a relative risk (RR) of 1.3 compared to those with a BMI of 21 to 23. For women, the RR of kidney stones was double in those with BMI >30 compared to those with a BMI of 21 to 23. hence the researcher concluded that the obesity is associated with increase incidence of kidney stone.

SECTION –II:- STUDIES RELATED TO MANAGEMENT OF RENAL CALCULI AMONG STAFF

AL Rodgers (2020)

Conducted a study to investigate the important role of fatty acids in the pathogenesis of hypercalciuria, a well-known risk factor for lithogenesis. To evaluate the relationships between the previously reported increase in plasma phospholipid arachidonic acid level and the factors responsible for calcium metabolism in idiopathic calcium nephrolithiasis. This new statistical application shows a causal relationship between plasma phospholipid arachidonic acid content, intestinal calcium absorption, biochemical markers of bone turnover, urinary calcium excretion and bone mineral density at the lumbar spine. This model suggests that a defect in the phospholipid fatty acid composition could represent the primary event responsible for the mosaic of metabolic and clinical alterations that are distinctive features of renal stone formers, such as kidney, intestine, and bone calcium metabolism, and several forms of idiopathic hypercalciuria.

International Journal of Advance Research in Nursing (2020)

People between 30 to 60 years of age most commonly affect with kidney stone in which it affects more commonly in men than women. It is estimated that renal colic, severe pain caused by a renal calculi affects 10-20% of men, and 3-5% of women. 12% of the population in India is expected to have urinary stones, out of which 50% may end up with loss of kidneys or renal damage. Among all types of stones recurrent stone formation is a common problem which acts as an important part of medical care of patients with stone disease. The researcher takes interest in this study as he had come across a large number of renal calculi patients while

he was working as a staff nurse in emergency department and in general ward, as well as he also had his personal experience of his uncle who suffered from renal calculi which is not detected earlier and they were not aware of the condition and delayed treatment lead him to several complication. Aim: The aim of the current study was to examine the effectiveness of Planned Teaching Programme on Knowledge Regarding Prevention of Renal Calculi among Patients admitted in Medical Ward, Rajiv Gandhi Government General Hospital, and Chennai-03. Design: A pre experimental design was used Setting: The study was conducted at the medical ward at Rajiv Gandhi Government General Hospital, and Chennai-03. Sample: A convenience sample of 60 adult patients Tools: Semi-structured Demographic Sheet and knowledge questionnaires Results: Overall knowledge score, in pretest Patients are having 10.62 score and in posttest they are having 18.80 score, so the difference is 8.18. This difference is large and statistically significant difference Statistical significance was calculated by using student's paired 't'test.

Mr. Kaushal Patidar (2019)

Renal calculi may be defined as the stone formation in the kidney. The stones may be calcium phosphate, calcium oxalate, uric acid and magnesium ammonium sulphate. Calcium ammonium sulphates are the most common.[1] many factors are involved in the incidence and the type of the stones formation which include metabolic changes, diet, climatic changes, lifestyles, occupation, urinary stasis and urinary tract infections, long term indwelling catheters. To assess the knowledge regarding the dietary awareness to reduce the risk of renal stones among the people of Mehsana city. To assess the effectiveness of planned teaching programme on knowledge regarding the dietary awareness to reduce the risk of renal stones among the people of Mehsana city. To find out the association between knowledge with their selected demographic variable among the people of Mehsana city. A quantitative approach using pre experimental one group pre test –post test design. 100 people were selected using non probability convenience sampling in Mehsana city. Planned teaching programme was given to the people residing in Mehsana city. Self structure questionnaire will prepare and used to assess the knowledge regarding dietary awareness to reduce the risk of renal stone.In this study overall the highest percentage in the demographic data including the age group 48% (20-30), gender 52% (female), religion 86% (Hindu), marital status married (70%), family type 73% (joint), education status 45% (higher secondary), occupation 50% (other), monthly income 38% (less than 5000), renal stone history 100% (no), type of water used to drink 55% (R.O.), take medication on regular basis 93% (no). Post test knowledge mean score (17.1$\pm$1.76) was higher than the pre test knowledge mean score (9.77$\pm$3.58). The calculated "T" value (25.77) was greater than the table value (1.98) at 0.05 level of significance. The pre test and post test mean % is 39.08% and 68.4% and different is 29.32%.so knowledge is increase after intervention. This indicates that the planned teaching programme is effective in increasing the knowledge regarding dietary awareness to reduce the risk of renal stone. Chi-square test to associate the level of knowledge and selected demographic variable.

Piotr Pawłowski (2019)

The study was conducted on Contemporarily urolithiasis. This disease is conditioned by many factors, including climatic, geographical, ethnic and genetic. The most important ones, however, include diet and the composition of urine excreted. Urolithiasis can be symptomatic and asymptomatic. There are many methods of its treatment. The most commonly used methods are pharmacological and surgical ones, and modern treatment methods are also on their increase. Untreated urolithiasis can lead to many complications. The aim of the study was to determine the tasks of a nurse in the care of a patient with urolithiasis treated with percutaneous nephrolithotripsy. The individual case method was used in the study, using the following research techniques: nursing interview, observation, measurement and documentation analysis. The research tools used for the study include the Individual Nursing Care Card, the Visual Analogue Scale - VAS, risk of postoperative nausea and vomiting- the Apfel score. Nine nursing diagnoses based on the patient's health issues were made during the study process. The nursing problems concerning the patient result from surgery and hospitalization.

Ziemba JB, Matlaga BR. (2017)

NHANES study was that it is subject to recall bias, as the diagnosis of kidney stones was self-reported. Furthermore, patients tend to recall only symptomatic stone events. We do know that asymptomatic stones are relatively common. In a retrospective study of 5,047 patients who underwent computed tomography colonography screening at a single institution between 2004 and 2008, a total of 395 patients (7.8%) were identified with urolithiasis (391 renal stones, 6 ureteral stones, and 2 bladder stones) . This represented a total of 814 stones with a mean stone size of 3.0 mm and a mean number of stones per patient of 2.1. Of the 395 patients with urolithiasis, only 36 (9.1% or 0.7% of the entire cohort), developed a future symptomatic stone event at a mean of 1.3 years following detection .

C D Scales (2016)

Expanding epidemiologic and physiologic data suggest that urinary stone disease is best conceptualized as a chronic metabolic condition punctuated by symptomatic, preventable stone events. These acute events herald substantial future chronic morbidity, including decreased bone mineral density, cardiovascular disease, and CKD. Urinary stone disease imposes a large and growing public health burden. In the United States, 1 in 11 individuals will experience a urinary stone in their lifetime. Given this high incidence and prevalence, urinary stone disease is one of the most expensive urologic conditions, with health care charges exceeding $10 billion annually. Patient care focuses on management of symptomatic stones rather than prevention; after three decades of innovation, procedural interventions are almost exclusively minimally invasive or noninvasive, and mortality is rare. Despite these advances, the prevalence of stone disease has nearly doubled over the past 15 years, likely secondary to dietary and health trends. The NIDDK recently convened a symposium to assess knowledge and treatment gaps to inform future urinary stone disease research. Reducing the public health burden of urinary stone disease will require key advances in understanding environmental, genetic, and other individual disease determinants; improving secondary prevention; and optimal population health strategies in an increasingly cost–conscious care environment.

USD is more than just a symptomatic stone: the body of evidence today suggests not only a chronic metabolic condition punctuated by severely symptomatic acute events but also, a condition that heralds substantial future chronic morbidity and demands preventive efforts. The burden of treating patients with USD falls across many specialties in addition to urology, including emergency medicine, nephrology, radiology, and primary care. The substantial clinical and research opportunities noted above will require a multi-institutional and transdisciplinary approach, which has prompted the NIDDK to support the formation of a Urinary Stone Disease Research Network. Through a collaborative approach, physicians, researchers, and patients will improve care and ameliorate the public health burden of excruciating acute stone events and more importantly, their inciting chronic metabolic derangements and morbidities.

Canes, David; Desai, Mihir M (2013)

Conducted a study to summarize recent literature on advances in technology pertaining to the treatment of renal and ureteral calculi. Recent findings: Significant advances in ureteroscope technology are reviewed, focusing on digital optics, scope design and accessories. Early results of flexible robotics are summarized. Published experience with biologic hemostatic agents for percutaneous nephrolithotomy is discussed.

Finally, they reviewed recent publications and future prospects for surgical simulators. Hence researcher summaries that new technology is significantly impacting the minimally invasive endourologic approach to stone disease. Instrument designs and accessories continue to evolve, allowing increasingly delicate maneuverability in confined spaces, with excellent stone clearance and enhanced safety.

According to Lotan Y (2012)

Conducted a study to discuss the economics and cost of care of stone disease. Nephrolithiasis is associated with a high cost to society because of the high prevalence of disease and high recurrence rates. The total annual medical expenditures for urolithiasis in the United States were estimated at $2.1 billion in 2000. The cost of stone disease reflects the cost of health care services required to manage stone disease and the rate of utilization. Costs continue to rise because of increases in the prevalence of kidney stones. There are 2 potential areas that would allow for a decrease in stone disease-related costs, lower health care-related costs, and decreased prevalence of stone disease.

Reducing treatment-related costs are unlikely to provide a solution to the high cost of caring for stone disease because physician-fee reductions did not result in a significant reduction in costs. Hence the researcher concludes that more efforts should be made to improve medical management of stone formers. These efforts include improving dietary recommendations, identifying barriers to evaluations and treatment of recurrent stone formers, improving patient compliance with recommendations, and development of new medications.

J Urol. (2010)

Conducted a study to investigate the effectiveness of supplemental dietary sodium on risk factor for urinary stone disease in stone forming patients with hypocitraturia. Ten patients diagnosed with recurrent isolated hypocitraturic calcium urolithiasis were identified. Baseline 24-hour urinalysis was performed with patients on their regular diet, including citrate replacement with 20 mEq potassium citrate 3 times per day. Patients then received supplemental sodium chloride for 1 week (1 gm orally 3 times per day), in addition to their regular diets and potassium citrate supplementation.

Patients on supplemental dietary sodium demonstrated significantly increased mean urinary voided volume (933 ml per day above baseline, $p < 0.05$) and mean urinary sodium excretion (66 mEq per day above baseline, $p<0.05$).

Here the researcher concluded that dietary sodium supplementation resulted in an increased voided urine volume and decreased the relative risk super saturation ratio for calcium oxalate stones in patients with a history of hypocitraturic calcium oxalate nephrolithiasis. Urinary calcium excretion as well as other urine parameters that are risk factors for nephrolithiasis was not changed. Sodium supplementation may be beneficial in these patients because it results in voluntary increased fluid intake

SECTION-III: STUDIES RELATED EFFECTIVNESS OF TEACHING PROGRAMME ON RENAL CALCULI AND ITS MANAGEMENT AMONG STAFF NURSES

Aditya Raja, Fiona Wood & Hrishi B. Joshi (2019)

The study was conducted on Seventy-four patients were invited to participate. Sixty-two patients took part in interviews with a mean age of 51 (range 19–92). Ten patients declined, with reasons stated being ‘not interested’ and ‘lack of time’. Eight patients (five had taken part in the interviews, three had not) participated in a consensus focus group and no new themes were elicited during the process. Four patients were asymptomatic at the time of interview and 58 were symptomatic. Twenty-one participants were female (33%) and 41 male (67%). Twenty were first-time stone formers (32%) and 42 recurrent stone formers (68%). Three patients suffered with cystinuria (5%) and one patient had the diagnosis of distal renal tubular acidosis (2%).

American jounaral association (2018)

The study was conducted onurolithiasis it is a common condition in the U.S. Patients frequently present to the emergency department (ED) for care, including analgesia and treatments to facilitate stone passage.Urolithiasis occurs primarily through supersaturation of urine and commonly presents with flank pain, hematuria, and nausea/vomiting. History, examination, and assessment with several laboratory tests are cornerstones of evaluation.

Urinalysis is not diagnostic, but it may be used in association with other assessments. Risk assessment tools and advanced imaging can assist with diagnosis. Computed tomography (CT) is often considered the gold standard. Newer low-dose CT imaging may reduce radiation. Recent studies support ultrasound as an alternate diagnostic modality, especially in pediatric and pregnant patients. Nonsteroidal anti-inflammatory drugs remain first-line therapy, with opioids or intravenous lidocaine reserved for refractory pain. Tamsulosin can increase passage in larger stones but has not demonstrated benefit in smaller stones.

Nifedipine and intravenous fluids are not recommended to facilitate passage. Surgical intervention is based upon stone size, duration, and modifying factors. Patients who are discharged should be advised on dietary change. Urolithiasis is a common disease increasing in prevalence with the potential for significant morbidity. Focused evaluation with history, examination, and testing is important in diagnosis and management. Understanding the clinical features, risk assessment tools, imaging options, and treatment options can assist emergency physicians in the management of urolithiasis.

Kiertisin Dharmsathaphorn, Dan H. Freeman, Henry J. Binder and John W. Dobbins (2016)

Conducted a study to determine whether steatorrhea is associated with nephrolithiasis,. The 159 patients with steatorrhea were compared to 162 patients without steatorrhea. The two groups were comparable in age, sex, urine specific gravity, and serum uric acid and phosphorus; serum calcium was slightly less in the steatorrhea group Although 19 patients with steatorrhea had nephrolithiasis compared to 7 control patients 15 of these 19 patients had ileal disease and only 4 of the 118 patients with steatorrhea but without ileal disease had stones. In contrast, in patients with ileal disease the incidence of nephrolithiasis increased with the severity of steatorrhea. Thus this study leads to the conclusion that the presence of both ileal disease and steatorrhea greatly increases the risk of nephrolithiasis; however, neither steatorrhea alone nor ileal disease alone are risk factors for nephrolithiasis.

Endourological Society Guideline 2016

The study was conducted to identify peer-reviewed studies relevant to the surgical management of stones. The review yielded an evidence base of 1,911 articles after application of inclusion/exclusion criteria. These publications were used to create the guideline statements. If sufficient evidence existed, then the body of evidence for a particular treatment was assigned a strength rating of A (high quality evidence; high certainty), B (moderate quality evidence; moderate certainty), or C (low quality evidence; low certainty). Evidence-based statements of Strong, Moderate, or Conditional Recommendation, which can be supported by any body of evidence strength, were developed based on benefits and risks/burdens to patients. Additional information is provided as Clinical Principles and Expert Opinions when insufficient evidence existed.

Pourmand A, (2016)

The study was conducted In the United States, Urolithiasis affects approximately 1 in 11 people, and there is evidence that the prevalence is increasing. A relatively recent treatment strategy for urolithiasis involves using medical expulsive therapy to increase the likelihood of spontaneous passage of ureteral stones. The 2 leading drug classes for medical expulsive therapy are alpha1-andrenergic receptor blockers and calcium channel blockers. Tamsulosin, an alpha-1- adrenocepter blocking agent, is thought to induce spontaneous stone passage by relaxing ureteral smooth muscle tone. However, Tamsulosin has not been proven effective for increasing ureteral stone passage and is not approved by the food and Drug Administration for this indication. There is a relative paucity of data on the efficacy of Tamsulosin for urolithiasis, and of the published results, there are conflicting conclusions from the data. Because of the acute and often severe nature of symptoms from urolithiasis, emergency medicine physicians are frequently the first to diagnose and treat this condition.

According to Andrs T. (2012)

A study was conducted on High Excretion of Uric acid combined with high excretion of Calcium Links Kidney Stone Disease to familial hypertension revealed that 34% of the patients with the combined abnormalities of hyperuricosuria and hypercalciuria had a positive family history of hypertension, defined as 2 or more first degree relatives with treated hypertension, that are significantly higher than inpatients with either “pure” hyperuricosuria (15%, P<0.02), “pure” hypercalciuria (8%, P<0.001), or patients with “other” abnormality (10%, P<0.001).the adjusted result for positive family history of hypertension in the “combined” abnormality group compared to the control Kidney Stone Disease patients group was 5.6 (2.39 – 13.30).

The prevalence of hypertension in siblings of patients with the combined abnormality (13%)was significantly higher than in siblings of patients either “pure” hyperuricosuria (3%,P<0.001), “pure” hypercalciuria (1%, P<0.001), or siblings of control patients with “other” abnormality(4%, P<0.001). the adjusted result for hypertension in siblings of a patient with “combined” abnormality compared to a control Kidney Stone Disease patient was 3.4 (1.97 – 5.91). patients in the “combined” abnormality group were also characterized by significantly elevated urinary sodium, phosphorus, citrate and potassium excretion.

J Am Soc Nephrol. (2010)

Conducted a study analyse the impact of the Dietary Approaches to Stop Hypertension (DASH) diet on kidney stone formation. Researchers examined the relation between a DASH-style diet and incident kidney stones in the Health Professionals Follow-up Study (45,821 men; 18 yr of follow-up), Nurses' Health Study I (94,108 older women; 18 yr of follow-up), and Nurses' Health Study II (101,837 younger women; 14 yr of follow-up). Over a combined 50 yr of follow-up, we documented 5645 incident kidney stones.

SUMMARY

This chapter deal with review of literature related to knowledge regarding renal calculi and its management.

CHAPTER-III

RESEARCH METHODOLOGY

Research methodology involves systematic procedures which the research starts from the initial Identification of the problem to its final conclusion. The role of methodology consists of procedures and techniques for conducting a study.

Methodology is a generalized pattern for organizing procedure for gathering validity and reliable data to investigate. It is a crucial aspect of research. methodology studies are indispensable in any scientific discipline and perhaps especially, when a field is relatively new and deals with highly complex, intangible phenomena such as human behavior or welfare as in the case in nursing research.

This chapter deals with the description methodology and different steps, which were undertaken for gathering and organizing data for assessing effectiveness of structured teaching programme on level of knowledge regarding renal calculi and its management among staff nurse.

In this chapter involve research design, population, study setting, sample size and pilot study data collection method and statistical method to analyze data.

RESEARCH APPROACH

The research approach helps to the researcher what to research, whom to research, when, where and how to collect the data and how to analyze and interpret the results.

In the present study A evaluative approach may be considered to evaluate the effectiveness of structured teaching program on level of knowledge regarding renal calculi and its management among staff nurse in selected hospital of KORBA (C.G.)

RESEARCH DESIGN

The term research design refers to the plan of scientific investigation. It helps the research in the selection of subjects, identification of variables, their manipulation and control, observation to be made, type of statistical analysis to interpret the data.

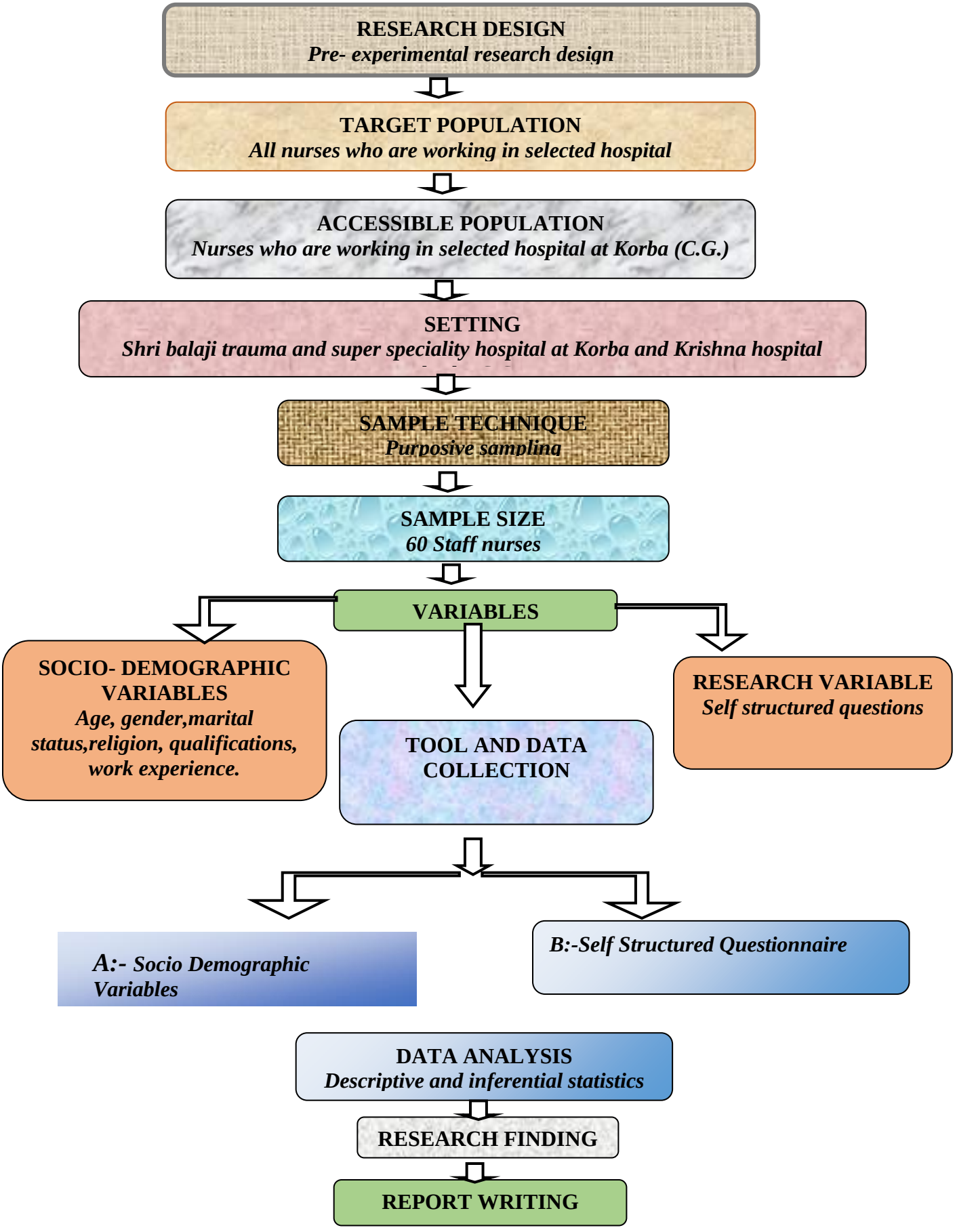

FIG-3.1 SCHAMATIC DIAGRAM OF RESEARCH METHODOLOGY

The overall plan for addressing research questions, including specifications for enhancing the integrity of the study.

The research design adopted for the study is pre experimental; pre- test and post- test with one group.

E	**O1**	**X**	**O2**

Key –

E: Experimental group.

X– structured teaching programme regarding renal calculi and its management.

O1- pre test assessment of renal calculi and its management on day 1.

O2 –post test assessment of renal calculi and its management on day5.

SETTING OF THE STUDY

The physical location and conditions in which data collection takes place in a study.

The present study was conducted in SHRI BALAJI TRAUMA AND SUPER SPECIALITY HOSPITAL KORBA (C.G.) And KRISHNA HOSPITAL KORBA (C.G.). The hospital deals only with staff nurses. It has all departmental staff nurses working in hospital where all the invasive and non- invasive procedures are carried out.

DESCRIPTION OF VARIABLES

Variables are properties or characteristics of person, thing or situation that change or vary.

According to Basavanthappa, B.T.,(2010) A variable is a measurable or potentially measurable component of an object or event that may fluctuate in quantity or quality from one individual object or event of the same general class.

The variables in this study are;

(a) Dependent variable;

The dependent variable is the variable; the researcher is interested in understanding, explaining, and proceeding. Dependent variables in this study are structured teaching programme regarding Renal calculi disease.

(b) Independent variable;

According to Polit and Hungler (1999) the independent variables are knowledge about renal calculi and its management. The independent variables are power point presentation and charts.

(c) Extraneous variable;

The variables which are present in the research environment and interfere with research findings by acting as unwanted independent variable are known as extraneous variable. The extraneous variable in this study are age, gender, educational status, occupation, religion, dietary method.

POPULATION

(Polit and Hungler, 1999) The entire set of individuals (or) objects having the same common characteristics.

In this present study, population consists of sixty staff nurses, who were working at different Ward in selected hospital of KORBA (C.G.), in the time data were collected.

TARGET POPULATION

Polit and beck defines that target population is the population in which the researchers is interested and to which he or she would like to generalize the results of the study.

In present study the target population consists of all the nurses who are working in selected hospital.

SAMPLE

According to Polit, and Beck, (2002) sample is the subject of population selected to participate in research study.

In this study sample refers to the All staff nurses who is working in different ward in the selected hospital.

Criteria for Sample Selection;

Samples are selected based on the following criteria;

Inclusion criteria;

1. staff nurses.

2. Who are working at the hospital.

3. Who are willing to participate.

4. Who are above 21 years of age.

Exclusion criteria;

1. From non-medical and non-paramedical profession.

2. With past history of renal calculi.

SAMPLING TECHNIQUE AND SAMPLE SIZE;

Sampling is the process of selecting a portion of population to represent the entire population. **(Polit and Beck 2011)** Convenience sampling technique was used in this study to select the sample. Sixty staff nurses who fulfilled the inclusion criteria were selected.

DESCRIPTION, INTERPRETATION, VALIDITY AND RELIABILITY OF THE TOOLS

Based on objectives of the study, the following steps were under taken to select and develop data collection tool.

Selection of tool used self structured questionnaire to assess the level of knowledge regarding renal calculi and its management among staff nurse in selected hospital at KORBA C.G.

Steps in construction of tool

Treece and treece emphasized that the instrument selected in research should be as for as possible the vehicle that would best obtain data for drawing conclusion pertinent to the study. The study undertaken was aimed to assess the level of knowledge among staff nurses.

Hence the tool includes of demographic data and self structured questionnaire to assess the level of knowledge regarding renal calculi and its management among staff nurse in selected hospital korba C.G.

In order to establish the validity and reliability of instrument following steps were taken in construction of tool.

- Based on literature from book, journal, published and unpublished research studies and articles.
- Opinion and guidance of the experts in the field of nephrology.
- Investigation and personal experience of expert from concerned field.
- Consultation of peer group.

Data collection instrument

A self-structured questionnaire was as an appropriate method of data collection for the study.

Description of the tools

After reviewing the research and non-research materials, and the seeking the opinion of experts, a preliminary list of 30 questions was prepared. The tool Consist of a Self -structured questionnaire comprising of four section.

Section A The first section of the tool comprises of 6 items on socio-demographic profile i.e. age, gender, marital status, religion, educational status, work experience.

Section B Self Structured Multiple choice Question consist four areas with 30 questions to assess the knowledge regarding renal calculi and its management. Each correct answer scores 1 mark and wrong answer scores 0 mark.

The four area are:-

1. Anatomy and physiology of renal system- 5 questions
2. Causes and risk factors for renal stone-7 questions
3. Symptoms, types and diagnosis of renal stone-10 questions
4. Management of renal stone-8 questions

Criterion measure

Inadequate knowledge 0-30%

Moderately knowledge 31-60%

Adequate knowledge 61-100%

VALIDITY

The structured knowledge questionnaire, along with objectives given to the six experts, in that six, four from the field of nursing, and two from the medical experts. there were 30 questions in the tool. were 100% agreement for 30 questions. As this was found relevant and meaningful, the tool was translated to English. The experts fully agreed with the items and steps.

RELIABILITY

For assessing the reliability of the tool, it was administered to six staff nurses who fulfilled the sampling criteria. Respondents did not find any difficulty in understanding and answering the questions. The reliability coefficient of the tool was calculated using split half method by spearman's brown formula.

The reliability of the tool was found to be 0.88 which was statistically significant. This indicates that tool was reliable and it was utilized for research.

PILOT STUDY

(Polit and Hungler, 2008) A pilot study is small scale version done in preparation for main study.

A pilot study was conducted at AKSHAY HOSPITAL KORBA (C.G.). on date 12.7.2020 among staff nurses. The study was conducted among six samples. After receiving written permission from concerned authority, informed written consent was obtained from samples after explaining the purpose of study. the samples were selected by non-probability convenience sample technique.

The test was first divided in two equivalent half and correlation of half three odd numbers sample kept in X and three even number sample were kept in Y And were by calculated using karl- pearson's correlation coefficient formula.

No modification were done after the pilot study at any level.

The following correction were made after pilot study in the area of renal stone

- Item number 16 states the statement as "consume excess salt can lead renal stone" this statement was changed to "types of food can lead to renal stone".
- Item number 21 states the statement as related to management of renal stone under the diagnostic criteria that statement changed related to management of renal calculi.

DATA COLLECTION METHOD

Polit and hungler (1999) Date collection is the gathering of information needed to address a research study.

After receiving from the concerned authority, the data collection for this study was done from 12.08.2020 to 15.8.2020 at SHRI BALAJI TRAUMA AND SUPER SPECIALITY HOSPITAL KORBA (C.G.). Initially the researcher got written permission from the concerned authority after explaining the procedure and purpose of the study. By using non probability convenient sampling technique sixty samples were selected. The researcher introduced herself to the samples and explains the purpose of the study. Informed written consent was obtained from the samples. Pretest test was admitted to each staff nurse on various day followed by teaching programme.

Power point presentation were used to facilitate understanding of the teaching. The teaching was carried out in their ward Duration of the teaching was 50 to 60 minutes. The post test done on 7th day. Method of instruction adopted was lecture cum discussion. Compare to pre test score the post test score was higher.

PLAN FOR DATA ANALYSIS

Analysis of quantitative data deals with information collected during research study, which can be quantified and statistical calculations can be computed. Collection data was organized, tabulated, and analyzed by using descriptive statistics (mean, standard deviation, mean score%) and inferential statistics (paired t test, chi-square test).

SUMMARY

This chapter dealt with the methodology undertaken the present study it include research approach, research design, setting of the study, variables, population, sample, sampling techniques, description and interpretation of tool, pilot study, data collection procedure and plan for data analysis.

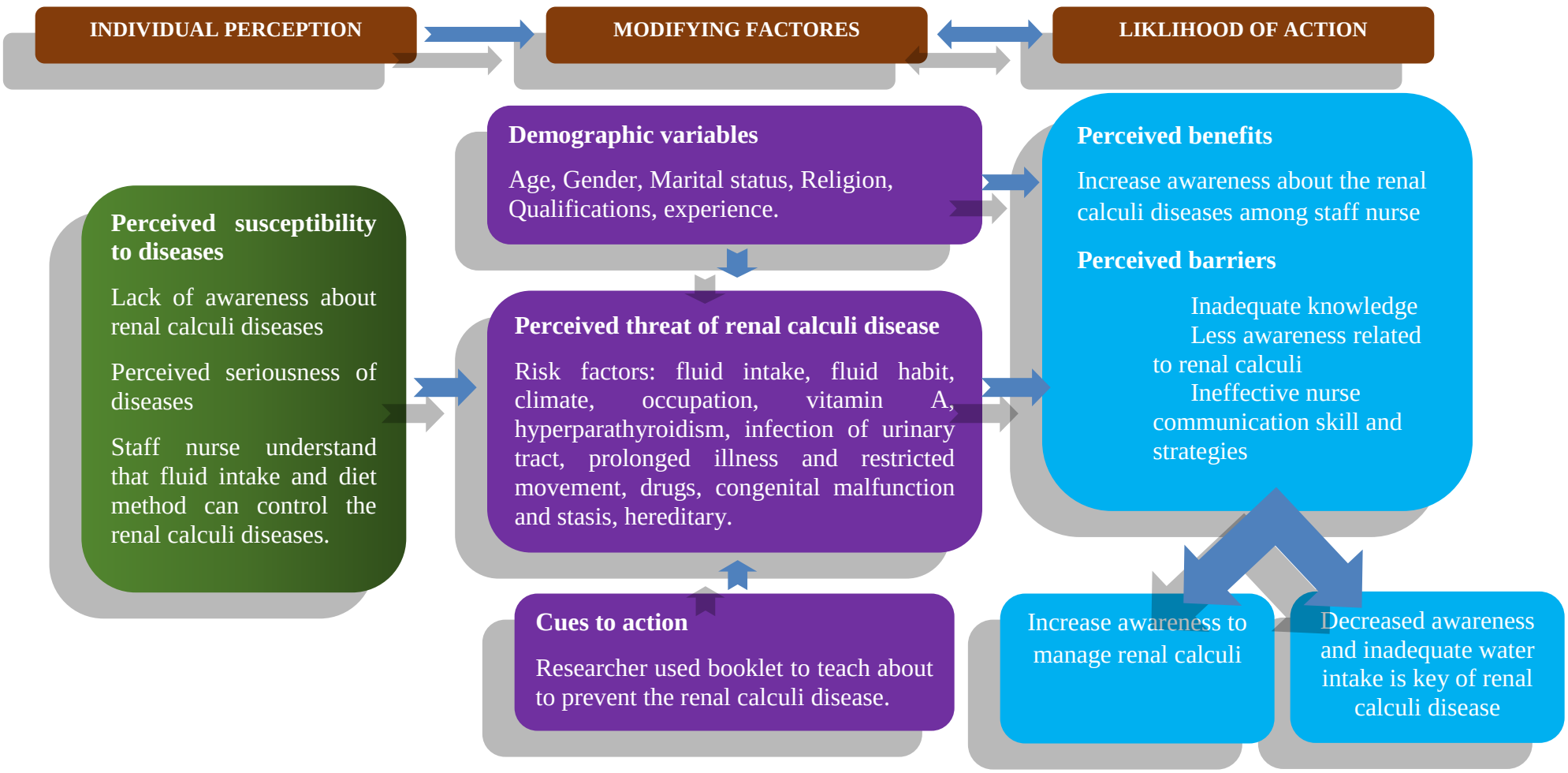

FIG1.1: CONCEPTUAL FRAMEWORK BASED ON ROSENSTOKE'S AND BECKERS HEALTH BELIEF MODEL

CHAPTER – IV

DATA ANALYSIS AND INTERPRETATION

Analysis and interpretation of data is the most important phase of the research process, which involve the computation of the certain measure along with searching for the patterns of relationship that exist among data groups.Data collection is followed by the analysis and interpretation of the data in accordance with the study objectives.

According to polit and hungler(2010) the term analysis refers to a process of organizing and synthesizing of data in such a way that research question can be answered and hypothesis testedStatistic procedure enable the researcher to reduce, summarize, organize, evaluate, interpret and communicate numeric information.

The chapter deals with the descriptive and inferential analysis of data collected from the sixtysamples to assess the effectiveness of structured teaching progaramme on level of knowledgeregarding renal calculi and its management among staff nurses in selected hospital Korba (C.G.).

The data collected was organized, tabulated, analyzed and interpreted according to the objective of the study which are –

5. To assess The Pretest level of Knowledge Regarding Renal Calculi And Its Management among the staff nurses.
6. To Evaluate The Effectiveness Of structured TeachingProgramme On Renal Calculi And Its Management Among Staff Nurses.
7. To assess The post testlevel of Knowledge Regarding Renal Calculi And Its Management among the staff nurses.
8. To Find The Association between Pre Test level of Knowledge regarding Renal Calculi And Its Management With Their socio-demographic Variables.

ORGANIZATION AND PRESENTATION OF DATA

The data and findings have been organized and presented under the following section-

SECTION A:Distribution of subjects according to socio-demographic variables byusingfrequency and percentage.

SECTION B: Analysis to assess the Pretest and post test Level of knowledge regarding renal calculi and its management among staff nurse.

SECTIONC:Determine to improve the knowledge score

SECTION D :Association between pre test and post test knowledge regarding renal calculi and its management among staff nurses and Analysis to compare (T test) pretest and posttest knowledge among staff nurses.

SECTION E: Association between the mean post-test knowledge regarding renal calculi among staff nurses with their socio-demographic variables.

Table no. 4.1:- Frequency and percent distribution of subjects.

N=60

S. No.	Socio-demographic Variables	Frequency (f)	Percentage (%)
1.	**Age (in years)**		
	21-30 year	28	47%
	31-40 year	22	37%
	More than 40 year	10	16%
2.	**Gender**		
	Male	09	15%
	Female	51	85%
3.	**Marital Status**		
	Married	25	42%
	Unmarried	35	58%
4.	**Religion**		
	Hindu	33	55%
	Muslim	07	12%
	Christian	18	30%
	Sikh	02	03%
5.	**Qualification**		
	ANM	12	20%
	GNM nursing	42	42%
	B.Sc. nursing	23	38%
6.	**Work experience**		
	1 month to 1 year	18	30%
	1 year to 2 year	29	48%
	More than 2 year	13	22%

Table – 4.1:- Shows the socio-demographic information of staff nurses who are participated in the present study on "A study to assess the effectiveness of structured Teaching Programme on level of knowledge regarding Renal Calculi and its management among the staff nurses in selected Hospital at Korba (C.G.)."

SECTION A

Analysis to assess the socio-demographic profile of the subject

Table 4.2

Distribution of subjects According to Age

N = 60

AGE	FREQUENCY(f)	PERCENTAGE (%)
21-30 yr	28	47
31-40yr	22	37
Above 40yr	10	16
Total	**60**	**100**

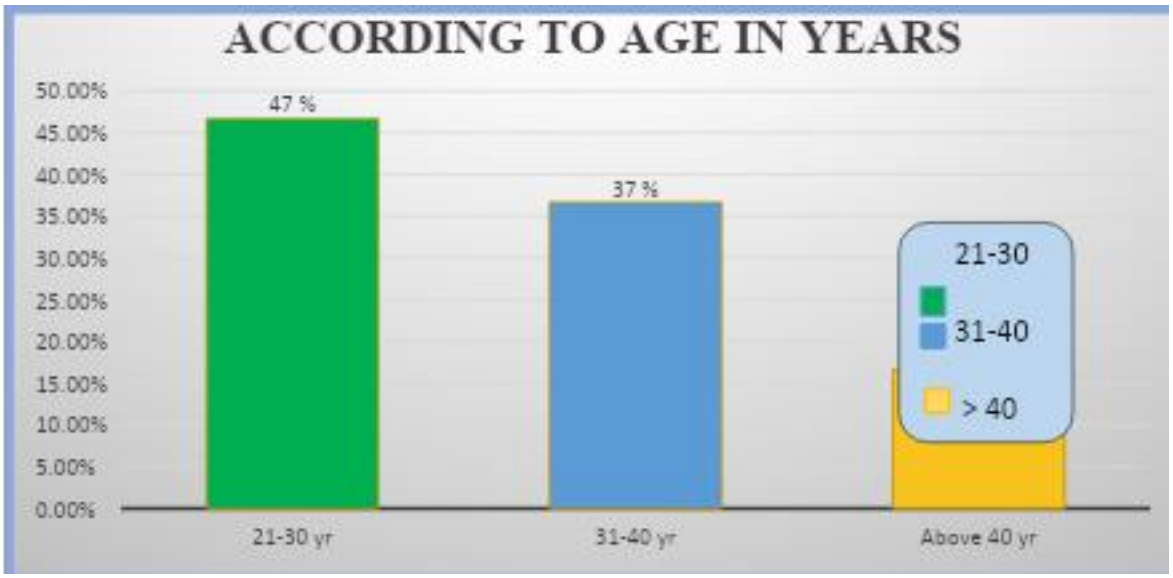

Figure 4.1 Column diagram representing the percentage distribution of subjects according to Age in years.

Table 4.2 (Fig 4.1) shows that majority of nurses 28(47%) belonged to the age of 21-30 years, 22(37 %) in the age of 31-40 years and 10(16%) in the age of above 40 years.

Table No. 4.3

Distribution of Subjects According to Gender

N = 60

GENDER	FREQUENCY (F)	PERCENTAGE (%)
Male	09	15
Female	51	85
TOTAL	**60**	**100**

FIGURE 4.2Pie diagram representing the percentage distribution of subjects according to marital status

Table 4.3 (fig 4.2) depicts that 9(15%) are Male nurse and 51(85%) are Female nurse.

Table No. 4.4

Distribution of Subjects According to Marital status

N = 60

MARITAL STATUS	FREQUENCY (F)	PERCENTAGE (%)
Married	25	42
Unmarried	35	58
Total	**60**	**100**

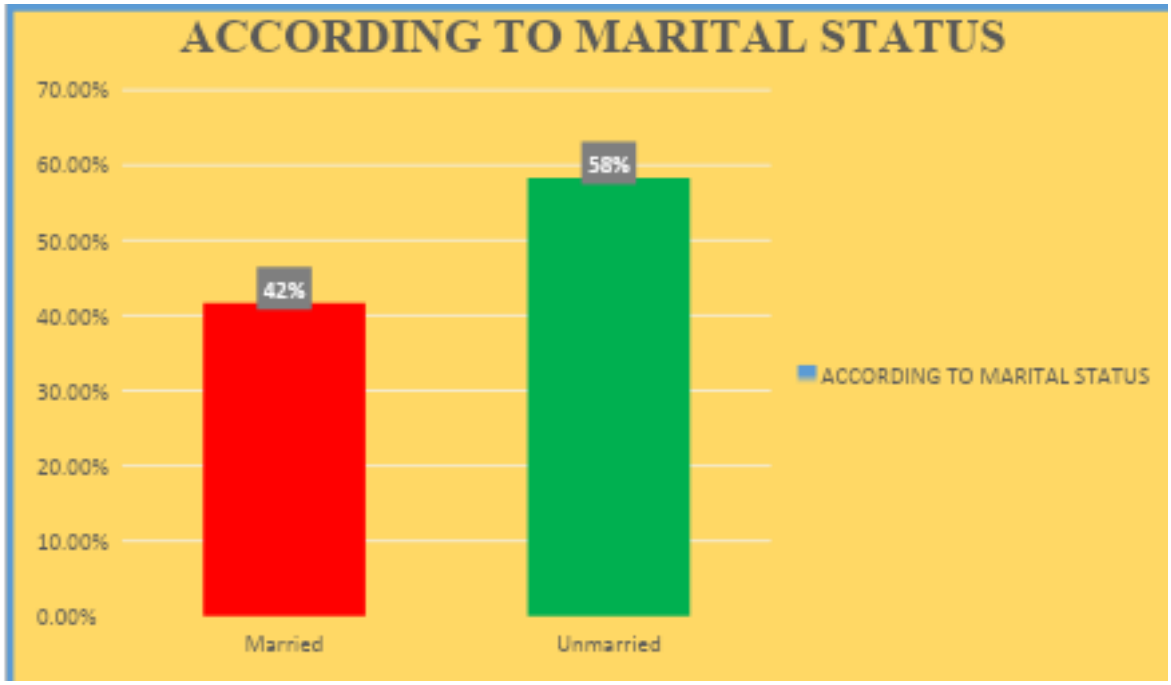

FIGURE 4.3 Cylindricaldiagram representing the percentage distribution of subjects According to Marital status

Table 4.4 (fig 4.3) depicts that 25(42%) were married and 35(58%) were unmarried.

Table no. 4.5

Distribution of subjects According to Religions

N = 60

RELIGION	FREQUENCY(f)	PERCENTAGE (%)
Hindu	33	55
Muslim	07	12
Christian	18	30
Sikh	02	03
TOTAL	**60**	**100**

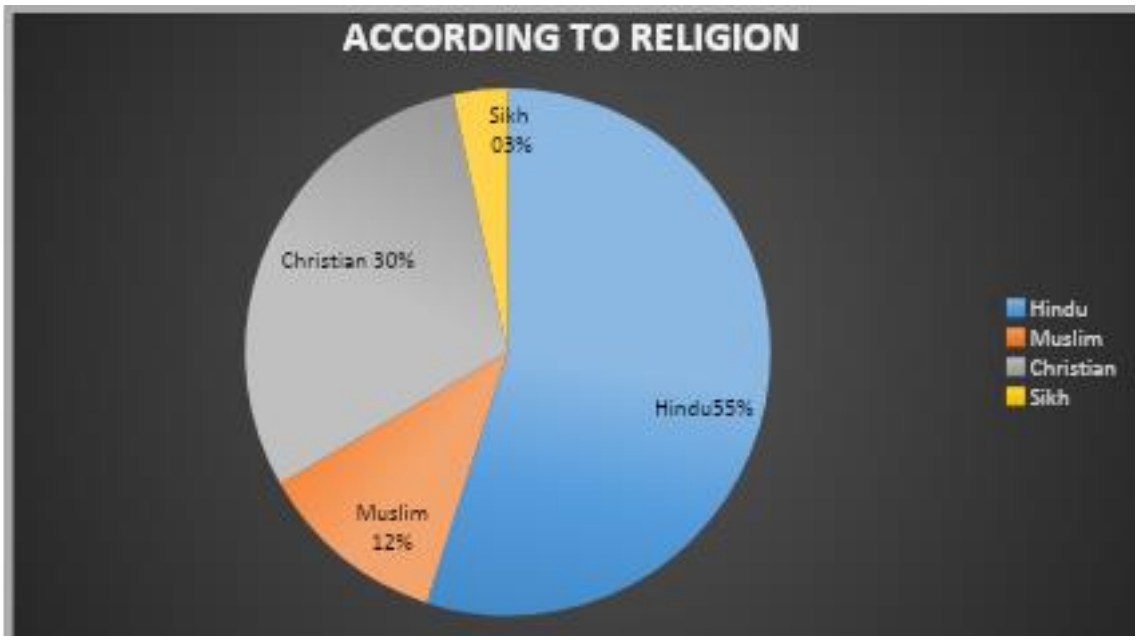

Figure 4.4Pie diagram representing the percentage distribution of subjects according to religion

Table 4.5(fig 4.4) depicts that 33(55%) were Hindu, 7(12%) Muslim, 18(30%) were Christian and 2(03%) wereSikh.

Table no. 4.6

Distribution of subjects According to their Qualifications

N = 60

EDUCATION	FREQUENCY(F)	PERCENTAGE(%)
ANM	12	20
GNM nursing	25	42
B Sc nursing	23	38
TOTAL	**60**	**100**

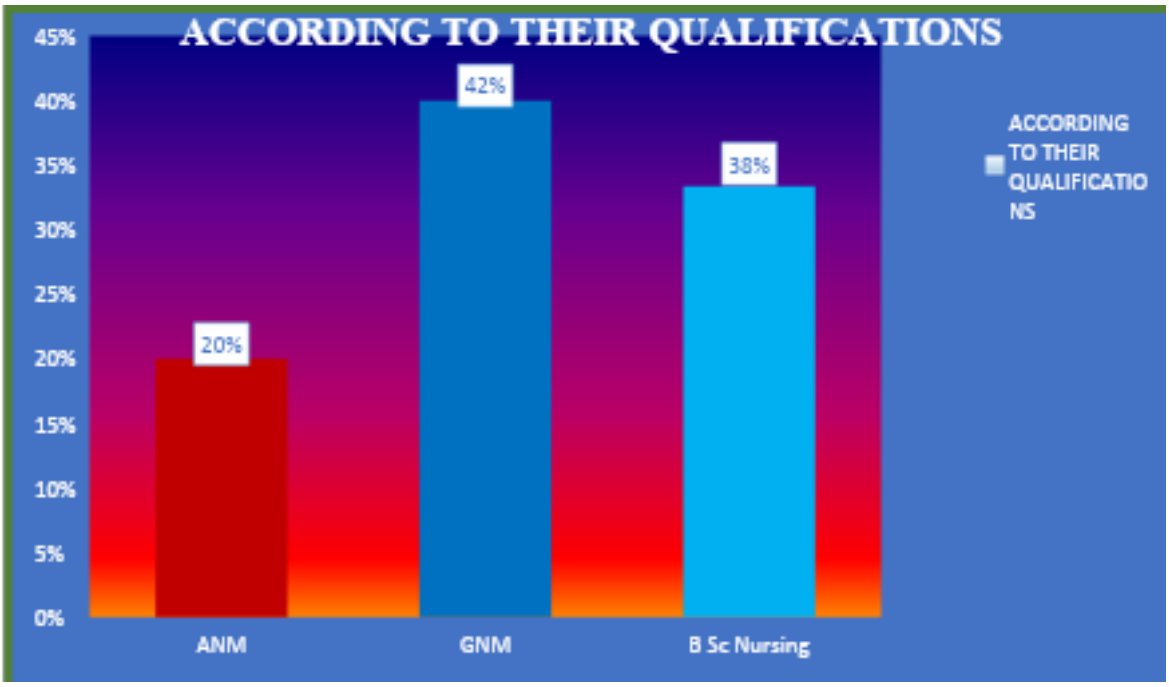

FIGURE 4.5Conicaldiagram representing the percentage distribution of subjects according to educational status

Table 4.6 (fig 4.5) depicts that 12(20%) were ANM nurse, 25(42%) were GNM nursing, 23(38%) were B Sc nursing.

Table No. 4.7

Distribution of subjects According to Work Experience

N = 60

WORK EXPERINCE	FREQUENCY (F)	PERCENTAGE (%)
1 month to 1 year	18	30
1 year to 2 year	29	48
More than 2 year	13	22
TOTAL	**60**	**100**

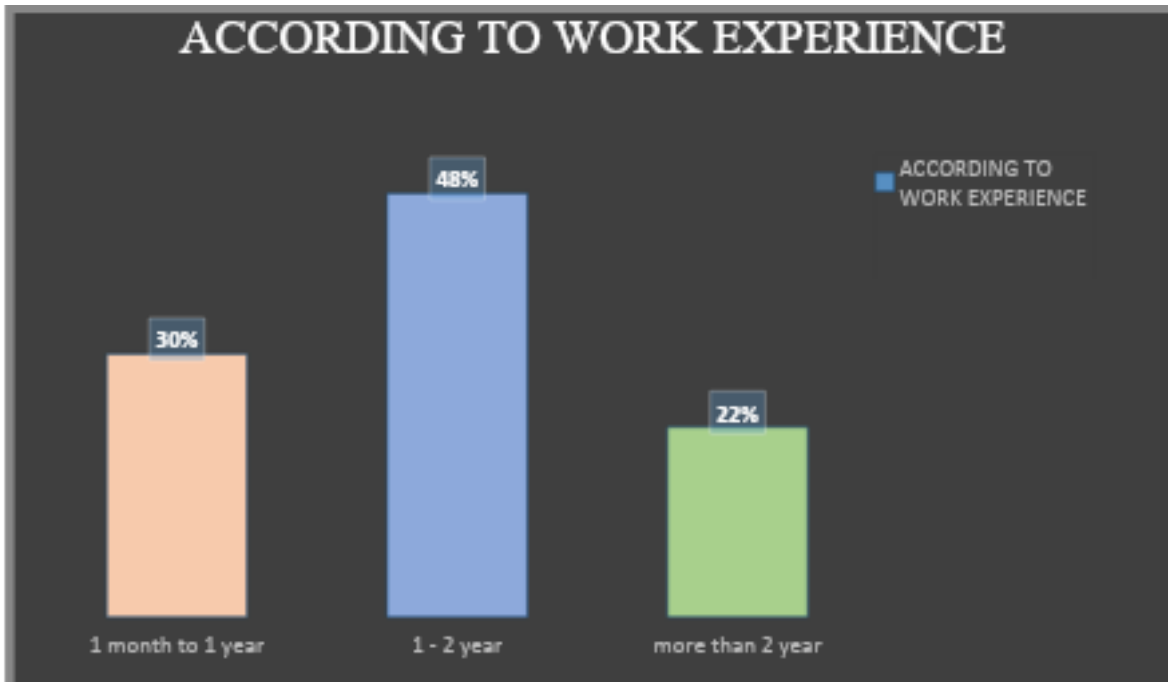

FIGURE 4.6Conicaldiagram representing the percentage distribution of subjects according to work experience.

Table 4.7(fig 4.6) depicts that 18(30%) had 1 month to 1 year experience, 29(48%) had 1 year to 2 year experience and 13(22%) had more than 2 year experience.

SECTION –B

Analysis to assess thePretest and post testLevel of knowledge regarding renal calculi and its management among staff nurses.

Table no 4.8

Analysis to assess thePretest and post test level of knowledge regarding renal calculi and its management

N=60

SCORING	PRE TEST		POST TEST	
	F	%	F	%
Average	4	6.66	0	0
Good	55	91.66	32	53.33
Excellent	1	1.66	28	46.66
TOTAL	60	100	60	100

Diagram 4.7 Column diagram representing the percentage distribution of subject according to knowledge regarding renal calculi and its management.

Table no 4.8 fig 4.7 indicates that in pretest majority of nurses 1(1.66%) had Excellent knowledge and 55(91.66%) nurses had good knowledge and 4 (6.66%)nurses had Average knowledge about renal calculi and its management.

In post test majority of nurses 28(46.66%) had Excellent knowledge, 32(53.33%) nurses had Good knowledge and no one nurse had poor knowledge regarding renal calculi and its management.

SECTION – C

Table no. 4.9

Determine to improve the knowledge score

N=60

Knowledge score	Mean	SD	Mean percentage	Knowledge gain in percentage
Pre test	14.98	2.71	24.96%	10.79
Post test	21.45	2.34	35.75%	

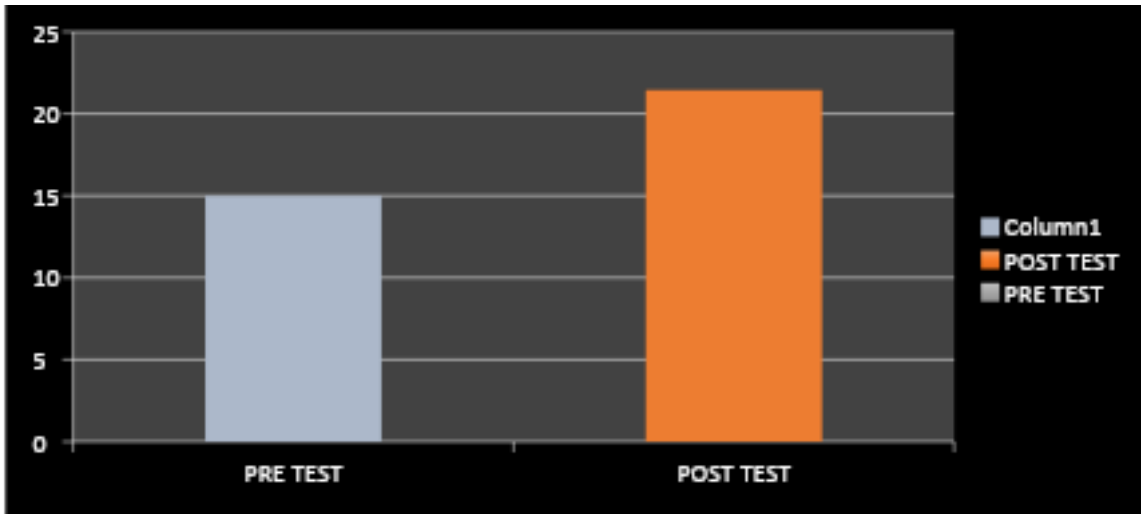

Diagram 4.8 Cylindrical diagram representing the percentage distribution of improve post test knowledge score regarding renal calculi and its management.

Table no. 4.9, fig no. 4.8 indicate the of mean pretest knowledge score of staff nurses regarding renal calculi and its management was (14.98), mean percentage was 24.96% and standard deviation was the 2.71, the analysis of mean post test knowledge score was 21.45, mean percentage was 35.75% and standard deviation was 2.34, knowledge gain in percentage was 10.79%. thus there is striking difference between mean pre test and post test knowledge score among staff nurses.

SECTION -D

Table no. 4.10

Association between pre test and post test knowledge regarding renal calculi and its management among staff nurses and Analysis to compare(T test) pretest and posttest knowledge among staff nurses.

N = 60

s.n.	groups	Mean	SD	df	r	't' test value	Table value	Significance
1.	Pretest	14.98	2.71	58	0.14	1.57	1.29	0.1
2.	Post test	21.45	2.34					

Table no. 4.10depicts that there is significant difference in pre test knowledge and post test knowledge among staff nurse as the calculated T test value 1.57 which is greater than critical value 1.29 at 0.1 level of significance.

Hence the hypothesis 1 is accepted there will be significant difference in pre test knowledge and post test knowledge among staff nurse regarding renal calculi and its management.

SECTION –E

Table No. 4.11

Association between the mean post-test knowledge regarding renal calculi among staff nurses with their socio-demographic variables.

This section deals with the details of association of the post test level of knowledge regarding renal calculi among staff nurses with their selected demographic variables it was associated by Chi square test.The cross-tabulation analysis was employed effectively and result of Chi square analysis was observed

Socio demographic Variable		Knowledge				Chi Square	Df	Table value	Inferences
		Avg.	Good	Excellent	total				
Age	21-30	0	28	0	28	36.53	4	9.49	P<0.05 Significant
	31-40	0	22	0	22				
	>40 yr	4	5	1	10				
Gender	Male	3	5	1	9	16.77	2	5.99	P<0.05 Not significant
	Female	1	50	0	51				
Marital Status	Married	0	22	1	23	4.26	2	5.99	P<0.05 Not significant
	Unmarried	4	32	0	36				
Religion	Hindu	2	31	0	33	3.20	6	12.59	P<0.05 Not significant
	Muslim	1	6	0	7				
	Christian	1	16	1	18				

	Sikh	0	2	0	2				
Qualification	ANM	3	9	0	9	12.88	4	9.49	P<0.05 Significant
	GNM	0	27	1	28				
	B. Sc. N.	1	19	0	19				
Work experience	1month to 1 year	3	15	0	18	4.04	2	5.99	P<0.05 Not significant
	1year to 2 year	0	29	0	29				
	Above 2 year	1	11	1	13				

Table 4.11Depicts that analysis to find out Association between the pre-test knowledge score regarding renal calculi among staff nurses with their socio-demographic variables.

- Reveals that the finding with regards to association to knowledge with age the x^2(36.53) was, df =4 which was the significant at 0.05 level of significant.
- With regards to association to knowledge with gender the x^2(16.77) was, df =2 which was the not significant at 0.05 level of significant.
- With regards to association to knowledge with marital status the x^2(4.26) was, df =2 which was the not significant at 0.05 level of significant.
- With regards to association to knowledge with religion thex^2(3.20) was, df =6 which was the not significant at 0.05 level of significant.
- With regards to association to knowledge with qualification the x^2(12.88) was, df =4 which was the significant at 0.05 level of significant.
- With regards to association to knowledge with work experience the x^2(4.04) was, df =2 which was the not significant at 0.05 level of significant.

CHAPTER –V

DISCUSSION

This chapter deals with the discussion and findings of the study in accordance with the objective of the research. the present study aim of the study was to evaluate the effectiveness of planned of teaching programme on renal calculi and its management among staff nurse at selected hospital of Korba C.G .

The study was Pre-experimental, pre and post test with one group design. In this study the sample collecting method was purposive sampling technique. The study samples consisted of sixty staff nurses who are working in shri Balaji Trauma and Super speciality Hospital Korba C.G. and krishna hospital korba C.G.

The objectives of this study are:

9. To assess The Pretest level of Knowledge Regarding Renal Calculi And Its Management among the staff nurses.
10. To Evaluate The Effectiveness Of structured Teaching Programme On Renal Calculi And Its Management Among Staff Nurses.
11. To assess The post test level of Knowledge Regarding Renal Calculi And Its Management among the staff nurses.
12. To Find The Association between Pre Test level of Knowledge regarding Renal Calculi And Its Management With Their socio-demographic Variables.

The data and findings have been organized and presented under the following section-

SECTION A :- Distribution of subjects according to socio-demographic variables by using frequency and percentage.

SECTION B :- Analysis to assess the Pretest and post test Level of knowledge regarding renal calculi and its management among staff nurse.

SECTION C :- Determine to improve the knowledge score

SECTION D:- Association between pre test and post test knowledge regarding renal calculi and its management among staff nurses and Analysis to compare (T test) pre test and post test knowledge among staff nurses.

SECTION E:- Association between the mean post-test knowledge regarding renal calculi among staff nurses with their socio-demographic variables.

SECTION –A:-Distribution of subjects according to socio-demographic variables by using frequency and percentage.

According to age table 4.2 (Fig 4.1) shows that majority of nurses 28 (46.66%) belonged to the age of 21-30 years, 22 (36.66%) in the age of 31-40 years and 10 (16.66%) in the age of above 40 years. According to gender Table 4.3 (fig 4.2) depicts that 9(15%) are Male nurse and 51(85%) are Female nurse. According to marital status Table 4.4 (fig 4.5) depicts that 25(41.66%) were married and 35(58.33%) were unmarried. According to religious Table 4.5 (fig 4.4) depicts that 33(55%) were Hindu, 7(11.66%) Muslim, 18(30%) were Christian and 2(3.33%) were Sikh. According to qualification Table 4.6 (fig 4.5) depicts that 12(20%) were ANM nurse, 25(41.66%) were GNM nursing, 23(38.33%) were B Sc nursing. According to work experience Table 4.7 (fig 4.6) depicts that 18(30%) had 1 month to 1 year experience, 29(48.33%) had 1 year to 2 year experience and 13(21.66%) had more than 2 year experience.

SECTION B: Analysis to assess the Pretest and post test Level of knowledge regarding renal calculi and its management among staff nurse.

Diagram 4.7 Column diagram representing the percentage distribution of subject according to knowledge regarding renal calculi and its management. Table no 4.8 fig 4.7 indicates that in pretest majority of nurses 1(1.66%) had Excellent knowledge and 55(91.66%) nurses had good knowledge and 4 (6.66%)nurses had Average knowledge about renal calculi and its management.

In post test majority of nurses 28(46.66%) had Excellent knowledge, 32(53.33%) nurses had Good knowledge and no one nurse had poor knowledge regarding renal calculi and its management.

SECTION-C: Determine to improve the knowledge score

Table no. 4.9, fig no. 4.8 indicate the of mean pretest knowledge score of staff nurses regarding renal calculi and its management was (14.98), mean percentage was 24.96% and standard deviation was the 2.71. the analysis of mean post test knowledge score was 21.45, mean percentage was 35.75% and standard deviation was 2.34. knowledge gain in percentage was 10.79%. thus there is striking difference between mean pre test and post test knowledge score among staff nurses.

SECTION –D Association between pre test and post test knowledge regarding renal calculi and its management among staff nurses and Analysis to compare (T test) pretest and posttest knowledge among staff nurses.

Table no. 4.10 depicts that there is significant difference in pre test knowledge and post test knowledge among staff nurse as the calculated T test value 1.57 which is greater than critical value 1.29 at 0.1 level of significance. Hence the hypothesis 1 is accepted there will be significant difference in pre test knowledge and post test knowledge among staff nurse regarding renal calculi and its management.

SECTION –E -Association between the mean post-test knowledge regarding renal calculi among staff nurses with their socio-demographic variables. Table 4.11 Depicts that analysis to find out Association between the pre-test knowledge score regarding renal calculi among staff nurses with their socio-demographic variables.

Reveals that the finding with regards to association to knowledge with age the x^2(36.53) was, df =4 which was the significant at 0.05 level of significant. With regards to association to knowledge with gender the x^2(16.77) was, df =2 which was the not significant at 0.05 level of significant. With regards to association to knowledge with marital status the x^2(4.26) was, df =2 which was the not significant at 0.05 level of significant. With regards to association to knowledge with religion the x^2(3.20) was, df =6 which was the not significant at 0.05 level of significant. With regards to association to knowledge with qualification the x^2(12.88) was, df =4 which was the significant at 0.05 level of significant. With regards to association to knowledge with work experience the x^2(4.04) was, df =2 which was the not significant at 0.05 level of significant.

SUMMARY – This chapter deals with discussion of finding of the study. Its include discussion of the finding under the different section such as distribution of subject according to socio-demographic variables, knowledge of staff nurses regarding renal calculi and its management in that item wise analysis and overall analysis of subjects, association between the pre test and post test knowledge score.

CHAPTER – VI

MAJOR FINDINGS, IMPLICATIONS RECOMMENDATIONS, CONCLUSIONS AND SUMMARY

This chapter is divided into two section in the first section summary of the study findings and conclusions are presented. In the second section the implication in various of nursing practice, nursing education, nursing administration nursing research and recommendation further study present.

SUMMARY OF THE STUDY:

The purpose of the study was to assess the knowledge regarding renal calculi and its management among staff nurse at selected hospital KORBA C.G. The data were analyzed by the wet of descriptive and inferential statistics and interpreted in the terms of objective and hypothesis of the study.

The objectives of this study are:

13. To assess The Pretest level of Knowledge Regarding Renal Calculi And Its Management among the staff nurses.
14. To Evaluate The Effectiveness Of structured Teaching Programme On Renal Calculi And Its Management Among Staff Nurses.
15. To assess The post test level of Knowledge Regarding Renal Calculi And Its Management among the staff nurses.
16. To Find The Association between Pre Test level of Knowledge regarding Renal Calculi And Its Management With Their socio-demographic Variables.

HYPOTHESIS: (level of significance P <0.05)

H_1: There will be significant difference between pretest and post test level of knowledge among staff nurses regarding renal calculi and its management.

H_2: There will be significant association between the post-test on knowledge score regarding renal calculi and its management among staff nurses with their socio-demographic variables.

SECTION –A

The first section of the tool comprises 6 items on socio-demographic variables i.e. age, gender, marital status, religion, educational qualification and experience.

SECTION –B

Self-Structured Multiple choice Question consist four areas with 30 questions to assess the knowledge regarding renal calculi and its management. Each correct answer scores 1 mark and wrong answer scores 0 mark.

The four area are

5. Anatomy and physiology of renal system- 5 items
6. Causes and risk factors for renal stone-7 items
7. Symptoms, types and diagnosis of renal stone-10 items
8. Management of renal stone-8 items

SECTION-C

The structured knowledge questionnaire, along with objectives given to the six experts, in that six,4 from the field of nursing, and 2 from the medical experts. there were 30 questions in the tool. were 100% agreement for 30 questions. As this was found relevant and meaningful, the tool was translated to English. The experts fully agreed with the items and steps.

For assessing the reliability of the tool, it was administered to 06 staff nurse who fulfilled the sampling criteria. Respondents did not find any difficulty in understanding and answering the questions. The reliability coefficient of the tool was calculated using split half method by spearman's brown formula.

The reliability of the tool was found to be 0.88 which was statistically significant. This indicates that tool was reliable and it was utilized for research.

MAJOR FINDING OF THE STUDY

The data and findings have been organized and presented under the following section-

SECTION A: Distribution of subjects according to socio-demographic variables by using frequency and percentage.

SECTION B: Analysis to assess the Pretest and post test Level of knowledge regarding renal calculi and its management among staff nurse.

SECTION C: Determine to improve the knowledge score

SECTION D : Association between pre test and post test knowledge regarding renal calculi and its management among staff nurses and Analysis to compare (T test) pre test and post test knowledge among staff nurses.

SECTION E: Association between the mean post-test knowledge regarding renal calculi among staff nurses with their socio-demographic variables.

SECTION –A:-Distribution of subjects according to socio-demographic variables by using frequency and percentage.

According to age table 4.2 (Fig 4.1) shows that majority of nurses 28 (46.66%) belonged to the age of 21-30 years, 22 (36.66%) in the age of 31-40 years and 10 (16.66%) in the age of above 40 years. According to gender Table 4.3 (fig 4.2) depicts that 9(15%) are Male nurse and 51(85%) are Female nurse. According to marital status Table 4.4 (fig 4.3) depicts that 25(41.66%) were married and 35(58.33%) were unmarried. According to religious Table 4.5 (fig 4.4) depicts that 33(55%) were Hindu, 7(11.66%) Muslim, 18(30%) were Christian and 2(3.33%) were Sikh. According to qualification Table 4.6(fig 4.5) depicts that 12(20%) were ANM nurse, 25(41.66%) were GNM nursing, 23(38.33%) were B Sc nursing. According to work experience Table 4.7 (fig 4.6) depicts that 18(30%) had 1 month to 1 year experience, 29(48.33%) had 1 year to 2 year experience and 13(21.66%) had more than 2 year experience.

SECTION B: Analysis to assess the Pretest and post test Level of knowledge regarding renal calculi and its management among staff nurse.

Diagram 4.7 Column diagram representing the percentage distribution of subject according to knowledge regarding renal calculi and its management. Table no 4.8 fig 4.7 indicates that in pretest majority of nurses 1(1.66%) had Excellent knowledge and 55(91.66%) nurses had good knowledge and 4 (6.66%)nurses had Average knowledge about renal calculi and its management.

In post test majority of nurses 28(46.66%) had Excellent knowledge, 32(53.33%) nurses had Good knowledge and no one nurse had poor knowledge regarding renal calculi and its management.

SECTION-C: Determine to improve the knowledge score

Table no. 4.9, fig no. 4.8 indicate the of mean pretest knowledge score of staff nurses regarding renal calculi and its management was (14.98), mean percentage was 24.96% and standard deviation was the 2.71. the analysis of mean post test knowledge score was 21.45, mean percentage was 35.75% and standard deviation was 2.34. knowledge gain in percentage was 10.79%. thus there is striking difference between mean pre test and post test knowledge score among staff nurses.

SECTION –D Association between pre test and post test knowledge regarding renal calculi and its management among staff nurses and Analysis to compare (T test) pretest and posttest knowledge among staff nurses.

Table no. 4.10 depicts that there is significant difference in pre test knowledge and post test knowledge among staff nurse as the calculated T test value 1.57 which is greater than critical value 1.29 at 0.1 level of significance. Hence the hypothesis 1 is accepted there will be significant difference in pre test knowledge and post test knowledge among staff nurse regarding renal calculi and its management.

SECTION –E -Association between the mean post-test knowledge regarding renal calculi among staff nurses with their socio-demographic variables. Table 4.11 Depicts that analysis to find out Association between the pre-test knowledge score regarding renal calculi among staff nurses with their socio-demographic variables.

Reveals that the finding with regards to association to knowledge with age the x^2(36.53) was, df =4 which was the significant at 0.05 level of significant. With regards to association to knowledge with gender the x^2(16.77) was, df =2 which was the not significant at 0.05 level of significant. With regards to association to knowledge with marital status the x^2(4.26) was, df =2 which was the not significant at 0.05 level of significant. With regards to association to knowledge with religion the x^2(3.20) was, df =6 which was the not significant at 0.05 level of significant. With regards to association to knowledge with qualification the x^2(12.88) was, df =4 which was the significant at 0.05 level of significant. With regards to association to knowledge with work experience the x^2(4.04) was, df =2 which was the not significant at 0.05 level of significant.

CONCLUSION

After detail analysis, this study lead to the following conclusion

H_1 is accepted

H_2 is partially accepted and partially rejected

H_1 : Accepted by the following finding

There will be significant difference between pre test and post test knowledge score among staff nurses to find out the effectiveness of structured teaching programme regarding renal calculi and its management Table no. 4.8, fig no. 4.8 indicate the of mean pretest knowledge score of staff nurses regarding renal calculi and its management was (14.98), mean percentage was 24.96% and standard deviation was the 2.71, the analysis of mean post test knowledge score was 21.45, mean percentage was 35.75% and standard deviation was 2.34, knowledge gain in percentage was 10.79%. thus there is striking difference between mean pre test and post test knowledge score among staff nurses.

H_2 is partially accepted and partially rejected

Staff nurses knowledge with Reveals that the finding with regards to association to knowledge with age the x^2(36.53) gender the x^2(16.77) marital status the x^2(4.26) religion the x^2(3.20) qualification the x^2(12.88) work experience the x^2(4.04) so that partially accepted and partially rejected.

IMPLICATION

The finding of the study has an implication for the nursing profession. The implication have been listed under following headings i.e. nursing practice, nursing education, nursing administration and nursing research.

Implications for nursing practice:

- Nurses working in hospital should be aware about the renal calculi and its management.
- A confident and knowledgeable nurse can act as a motivator for other staff nurses regarding renal calculi and its management.
- Nurses who process excellent communication skill can act as a counselor and can provide psychological support to renal calculi patient and their relatives.
- Health promotion is one of the major roles a nurse has to play; hence its accountability has to be stressed.
- The educative role of the nurse has to be emphasized. Educative teaching may motivate clients to practice self care.
- Nurses have to impose themselves in all the areas of community health practices, so as to help people in leading healthy lifestyle by preventing health problems.

Implication of Nursing Education:

- The present study has got nursing implication in nursing education since today's nursing students are tomorrow's staff nurses, educators, administrators and supervisors.
- Nursing teachers should emphasize the importance of health education and the methods of imparting education in an effective way during students learning period.
- Students should get opportunities to give health education in an appropriate way during their clinical practice.
- Nursing education should emphasize more on preparing prospective nurses to impart health information and assist the community in developing their self care potentials.
- The structred teaching programme prepared and examined by this study for its effectiveness in improving the knowledge of staff nurse regarding renal calculi and its management is the proof by itself.
- As the effectiveness of this teaching plan is well established, this may be used in Staff nurses as well as students' learning.

Implication of nursing administration

- Nurses as administrators should take great interest for calculating short long term policies in an organization or institution.
- The patients who are visiting the hospital should gain some kind of health information according to their needs.

- The nurse administrators should take initiative in organizing in service education programme for nurses and motivate nurses to participate in such activities.
- Nursing administrators will serve as a resource person for other nurses, students, clients and relatives.
- The nurse administrators should see that enough support is provided in terms of manpower, money, and materials for disseminating health information. Periodical educational sessions by health personals should be conducted.
- Health camps can be conducted and referrals should be cared adequately.
- The study findings have shown clearly that the responsibility of nurse administrators in organizing in service education on such topics is of importance.

Nursing research

- There is a great scope for nurses to conduct research in this area to find the effectiveness of various strategies to educate the patients, their care givers, and the public at large.
- Research should be done on preparation on innovative method of teaching, better practice of nursing care and development of good and effective teaching material.
- Research can also focus in specific area of renal calculi's management and on specific area of prevention of recurrence of renal calculi, preparation of power point presentation and chart on renal calculi and its management, survey to find the incidence of renal calculi and related complications, self instructional module on renal calculi and its management. In fact, this study has helped to open avenue to a new area for nursing research.

LIMITATION:

The limitations recognized in the study are:

- The study did not control group. Hence, the result of the study must be generalized with caution as there is internal validity due to history.
- the teaching to the nurses, the doctors and other health team members could not be controlled in between pretest and posttest because of ethical reason.
- The sample being convenient on limits generalization to larger population with similar characteristic.
- The time gap between pre test and post test was 30 days.

RECOMMENDATIONS :

On the basis of the findings of the study, it is recommended that

- A similar study be replicated on a larger sample with a control group.
- A similar study be replicated for patients with specific type of renal calculi.
- A longitudinal follow up study be conducted after three months to determine the effectiveness of this planned teaching programme on renal calculi and its management, in terms of gain in knowledge and change in dietary practices of patients with renal calculi.

SUMMARY:

The chapter deals with the summary major finding implication, limitations, recommendations and conclusion of the study.

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ANNEXURE –I

LETTER SEEKING EXPERT OPINION ON CONTENT AND VALIDITY OF TOOL

From,

Ms. Jyoti
M. Sc. Nursing Final year
Gracious College of Nursing,
Abhanpur,Raipur, (Chhattisgarh)

PRINCIPAL
GRACIOUS COLLEGE OF NURSING
ABHANPUR, RAIPUR (C.G.)

To,

_____

_____

Forwarded through the principal,

Mrs. Arpana Singh
Principal
Gracious College of Nursing,Abhanpur,Raipur, (Chhattisgarh)
Subject: Requisition for expert opinion on content validity of tool.

Respected Madam /Sir,

I Ms. Jyoti, a student of M.Sc. Nursing final year of Medical surgical Nursing at Gracious college of Nursing, have selected a study entitled **"A Study to Assess the Effectiveness of Structured teaching programme on level of Knowledge Regarding Renal Calculi among Staff Nurses at Selected Hospital at Korba Chhattisgarh".** For my partial fulfillment of M.Sc. Nursing Program affiliated to Pt. Deendayal Upadhyay Memorial Health Science and Ayush University of Raipur Chhattisgarh.

With regard to this, I kindly request you to validate my tool, and sign the certificate for validity. Your kind opinion and expert suggestion will be very helpful for my study.

Thanking you,

Date:

Yours faithfully

Time:

Ms. Jyoti
M.Sc.Nursing Final Year student
(Gracious College of nursing
Abhanpur Raipur ,Chhattisgarh)

Enclosures:
Problem statement and objective

Tools for the study

Certification of validation

Self instructional module

ANNEXURE –II

LIST OF EXPERTS

1. Dr. Suresh Kumar Choudhary
   Insurance Medical Officer

   Employees State Insurance Services Raigarh

2. Dr. Shashi Bhushan Sao
   Insurance Medical Officer

   Employees State Insurance Services Raigarh

3. Mr. Shiv Patel
   Associate Professor

   Shri Sathya Sai Sanjeevni Institute Of Nursing And Allied Health Care Science Naya Raipur C.G.

4. Mrs D. Nithya
   Associate Professor

   Shri Sathya Sai Sanjeevni Institute Of Nursing And Allied Health Care Science Naya Raipur C.G.

5. Mrs. Archana Kharsan
   Demonstrator

   Kawardha Government Nursing College Raipur C.G.

6. Mrs. Rachna Nand
   Demonstrator

   Shrishti Institute Of Medical Science And Research Center Korba C.G.

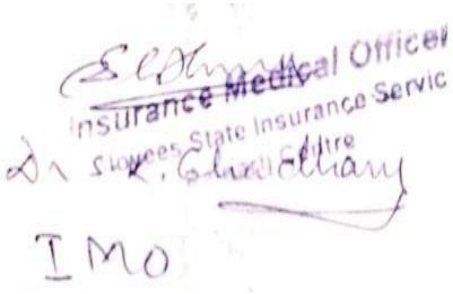
ANNEXURE-III

CERTIFICATE OF CONTENT VALIDITY

This is to certify that the tool developed by **Ms. Jyoti**, M.Sc. Nursing final year student, Gracious college of Nursing Abhanpur Raipur Chhattisgarh (Affiliated to Pt. Deendayal Upadhyay Memorial Health Sciences and Ayush University of Chhattisgarh, is validated by the undersigned and can proceed with this tool and conduct the main study for the dissertation entitled **"A study to assess the effectiveness of Structured Teaching Programme on level of knowledge regarding renal calculi among staff nurses at selected hospital at Korba Chhattisgarh".**

Place: Raigarh

Date: 20/12/2020

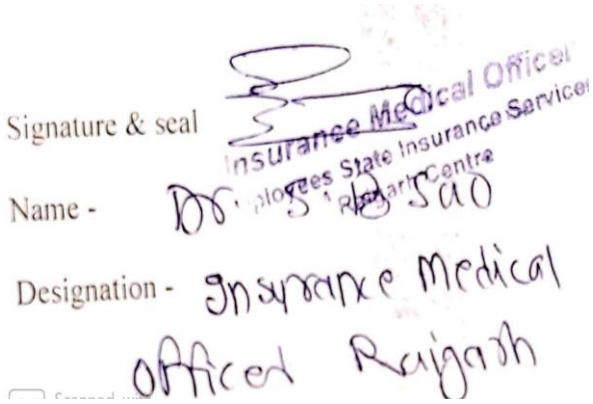


CERTIFICATE OF CONTENT VALIDITY

This is to certify that the tool developed by **Ms. Jyoti**, M.Sc. Nursing final year student, Gracious college of Nursing Abhanpur Raipur Chhattisgarh (Affiliated to Pt. Deendayal Upadhyay Memorial Health Sciences and Ayush University of Chhattisgarh, is validated by the undersigned and can proceed with this tool and conduct the main study for the dissertation entitled **"A study to assess the effectiveness of Structured Teaching Programme on level of knowledge regarding renal calculi among staff nurses at selected hospital at Korba Chhattisgarh".**

Place: Raigarh

Date: 22/12/2020



CERTIFICATE OF CONTENT VALIDITY

This is to certify that the tool developed by **Ms. Jyoti**, M.Sc. Nursing final year student, Gracious college of Nursing Abhanpur Raipur Chhattisgarh (Affiliated to Pt. Deendayal Upadhyay Memorial Health Sciences and Ayush University of Chhattisgarh, is validated by the undersigned and can proceed with this tool and conduct the main study for the dissertation entitled **"A study to assess the effectiveness of Structured Teaching Programme on level of knowledge regarding renal calculi among staff nurses at selected hospital at Korba Chhattisgarh".**

Place: Raipur

Date: 23/10/2020

Signature & seal

Name – Mr. Shiv Patel

Designation- Asst. Prof.

CERTIFICATE OF CONTENT VALIDITY

This is to certify that the tool developed by **Ms. Jyoti**, M.Sc. Nursing final year student, Gracious college of Nursing Abhanpur Raipur Chhattisgarh (Affiliated to Pt. Deendayal Upadhyay Memorial Health Sciences and Ayush University of Chhattisgarh, is validated by the undersigned and can proceed with this tool and conduct the main study for the dissertation entitled **"A study to assess the effectiveness of Structured Teaching Programme on level of knowledge regarding renal calculi among staff nurses at selected hospital at Korba Chhattisgarh".**

Place: Raipur

Date: 22/10/2020

Signature & seal

Name – D NITHIYA

Designation- Asso. PROF.

CERTIFICATE OF CONTENT VALIDITY

This is to certify that the tool developed by **Ms. Jyoti**, M.Sc. Nursing final year student, Gracious college of Nursing Abhanpur Raipur Chhattisgarh (Affiliated to Pt. Deendayal Upadhyay Memorial Health Sciences and Ayush University of Chhattisgarh, is validated by the undersigned and can proceed with this tool and conduct the main study for the dissertation entitled **"A study to assess the effectiveness of Structured Teaching Programme on level of knowledge regarding renal calculi among staff nurses at selected hospital at Korba Chhattisgarh".**

Place: Kawardha

Date: 20/12/2020

Signature & seal
DEMONSTRATOR
MEDICAL SURGICAL NURSING
SMT. SUDHA DEVI MEMORIAL
COLLEGE-KABIRDHAM
Name
Designation- Demonstrator

CERTIFICATE OF CONTENT VALIDITY

This is to certify that the tool developed by **Ms. Jyoti**, M.Sc. Nursing final year student, Gracious college of Nursing Abhanpur Raipur Chhattisgarh (Affiliated to Pt. Deendayal Upadhyay Memorial Health Sciences and Ayush University of Chhattisgarh, is validated by the undersigned and can proceed with this tool and conduct the main study for the dissertation entitled **"A study to assess the effectiveness of Structured Teaching Programme on level of knowledge regarding renal calculi among staff nurses at selected hospital at Korba Chhattisgarh".**

Place: Korba

Date: 24/12/2020

Signature & seal
Name – Rachna Nand
Designation- Demonstrator

ANNEXURE -IV

LETTER SEEKING PERMISSION TO CONDUCT THE PILOT STUDY

From,

Ms. Jyoti
M.Sc. Nursing -II year,
Gracious College of Nursing,
Abhanpur,Raipur, (Chhattisgarh)

PRINCIPAL
GRACIOUS COLLEGE OF NURSING
ABHANPUR, RAIPUR (C.G.)

To,

_____

_____

Forwarded through the principal,

Mrs. Arpana Singh
Principal
Gracious College of Nursing,Abhanpur, Raipur, (Chhattisgarh)

Respected Madam / Sir,

Subject: Gracious College of Nursing -II year M.Sc. Nursing student - conduct of research study - grant of permission - regarding.

I Ms. Jyoti, M.Sc. Nursing -II year student of Gracious College of Nursing, Abhanpur, Raipur, conducting **"A study to assess the effectiveness of Structured teaching programme on level of knowledge regarding renal calculi among staff nurses at selected hospital at Korba Chhattisgarh",** which is to be submitted to the Pt. Deendayal Upadhyay Memorial Health Science & Ayush University, Raipur, (Chhattisgarh) as a requirement for the award of M.Sc. Nursing programme.

All information obtained will be used only for the study purpose and will be kept confidential. The research procedures will not disturb the hospital routine activities. I request you to kindly grant me permission to conduct Pilot study in your hospital.

Thanking you,

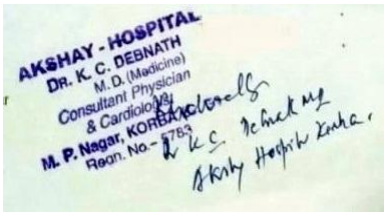
Date:

Yours faithfully
Ms . Jyoti

Place: KORBA

M.Sc. Nursing –II year

(Gracious College of Nursing
Abhanpur,Raipur,Chhattisgrh)



ANNEXURE –V(A)

LETTER SEEKING PERMISSION TO CONDUCT THE MAIN STUDY

From,

Ms. Jyoti
M.Sc. Nursing -II year,
Gracious College of Nursing,
Abhanpur,Raipur, (Chhattisgarh)

PRINCIPAL
GRACIOUS COLLEGE OF NURSING
ABHANPUR, RAIPUR (C.G.)

To,

_____

_____

Forwarded through the principal,

Mrs. Arpana Singh
Principal
Gracious College of Nursing,Abhanpur ,Raipur, (Chhattisgarh)

Respected Madam / Sir,

Sub: Gracious College of Nursing -II year M.Sc. Nursing student - conduct of research study - grant of permission - regarding.

I Ms. Jyoti, M.Sc. Nursing -II year student of Gracious College of Nursing, Abhanpur, Raipur, conducting**"A Study to Assess the Effectiveness of Structured Teaching Programme regarding Knowledge regarding Renal Calculi among Staff Nurse at Selected Hospital of Korba Chhattisgarh",** which is to be submitted to the Pt. Deendayal Upadhyay Memorial Health Science & Ayush University, Raipur, (Chhattisgarh) as a requirement for the award of M.Sc. Nursing Programme.

All information obtained will be used only for the study purpose and will be kept confidential. The research procedures will not disturb the hospital routine activities. I request you to kindly grant me permission to conduct main study in your hospital.

Thanking you

Date:

Yours faithfully

Place: KORBA Ms. Jyoti

M.Sc. Nursing –II year

(Gracious College of Nursing
Abhanpur,Raipur,Chhattisgarh)

KRISHNA HOSPITAL KORBA (C.G.)
Authorized signatory

ANNEXURE –V(B)

LETTER SEEKING PERMISSION TO CONDUCT THE MAIN STUDY

From,

Ms. Jyoti
M.Sc. Nursing -II year,
Gracious College of Nursing,
Abhanpur,Raipur, (Chhattisgarh)

PRINCIPAL
GRACIOUS COLLEGE OF NURSING
ABHANPUR, RAIPUR (C.G.)

To,

_____

_____

Forwarded through the principal,

Mrs. Arpana Singh
Principal
Gracious College of Nursing,Abhanpur ,Raipur, (Chhattisgarh)

Respected Madam / Sir,

Sub: Gracious College of Nursing -II year M.Sc. Nursing student - conduct of research study - grant of permission - regarding.

I Ms. Jyoti, M.Sc. Nursing -II year student of Gracious College of Nursing, Abhanpur, Raipur, conducting **"A Study to Assess the Effectiveness of Structured Teaching Programme regarding Knowledge regarding Renal Calculi among Staff Nurses at Selected Hospital of Korba Chhattisgarh",** which is to be submitted to the Pt. Deendayal Upadhyay Memorial Health Science & Ayush University, Raipur, (Chhattisgarh) as a requirement for the award of M.Sc. Nursing Programme.

All information obtained will be used only for the study purpose and will be kept confidential. The research procedures will not disturb the hospital routine activities. I request you to kindly grant me permission to conduct main study in your hospital.

Thanking you

Date:

Yours faithfully

Place: KORBA Ms. Jyoti

M.Sc. Nursing –II year

College of Nursing

Abhanpur,Raipur,Chhattisgarh)

Dr. Gunsagar Choudhary
Medical Suprintendent
Shri Balaji Trauma & Super Speciality Hospital
Distt. - KORBA (C. G.)

ANNEXURE -VI

ENGLISH EDTIOR'S REPORT

It is great pleasure to me to go through the research work on the topic **"A study to assess the effectiveness of structured teaching programme knowledge regarding renal calculi among staff nurse at selected hospital of Korba Chhattisgarh",** Miss Jyoti, MSc nursing final year student, gracious college of nursing Abhanpur Raipur CG. from the grammatical point of view the work is absolutely correct and up to the mark.

All sincere effort has been made to bring out correct and accurate inference of the study material by the candidate to complete the research.

प्रधानपाठक
पूर्व माध्यमिक शाला मुक्ता
वि.ख.पाली, जिला कोरबा (छ.ग.)

Date: 20/03/2021

Place: Korba signature

ANNEXURE –VII

STATISCIAN REPORT

It is a matter of great pleasure to me to go through the research work on the topic **"A study to assess the effectiveness of Structured teaching programme on level of knowledge regarding renal calculi among staff nurses at selected hospital at Korba Chhattisgarh",** Miss Jyoti, M.Sc. nursing final year student, gracious college of nursing abhanpur Raipur CG. from the statistical point of view the work is absolutely correct and up to the mark.

All sincere effort has been made to bring out correct and accurate inference of the study material by the candidate to complete the research.

Date: 20/02/2021

Place: Durg C.G.

Signature

ANNEXURE-IX

TOOLS FOR DATA COLLECTION

SECTION- I

SOCIO-DEMOGRAPHIC DATA

INSTRUCTION:

Dear, participant this section consists of research related information, which are required for the researcher to carry out the research study. In the given questionnaire you are requested to select one suitable answer and I assure you that whatever information entrusted by you will be kept confidential.

1. **Age :**
   - a) 21 – 30Years [ ]
   - b) 31 – 36Years [ ]
   - c) 37Years above [ ]
2. **Gender**
   - a) Male [ ]
   - b) Female [ ]
3. **Marital Status**
   - a) Married [ ]
   - b) Unmarried [ ]
4. **Religion**
   - a) Hindu [ ]
   - b) Muslim [ ]
   - c) Christian [ ]
   - d) Sikh [ ]
5. **Qualification**
   - a) ANM Staff [ ]
   - b) GNM Staff [ ]
   - c) B.Sc. nursing staff [ ]

6. **Work Experience**

a) 1Month to 1Year [ ]

b) 1Year to 2Year [ ]

c) More than 2Year [ ]

SECTION -B

SELF STRUCTURED KNOWLEDGE QUESTIONS OF RENAL CALCULI

INSTRUCTION:

Here is a list of questions in relation to Urinary stone and its management. Please read the questions carefully and select the correct answer from the responses given.

✓ Put tick mark on correct answer

I. ANATOMY AND PHYSIOLOGY OF KIDNEY

1. **How Much urine is formed in 24 hours?**

a) 500 ml to 700 ml [ ]

b) 800ml to 2000 ml [ ]

c) 2000 ml to 2500 ml [ ]

d) Above 2500 ml [ ]

2. **What is the main function of Kidney?**

a) Digestion of food [ ]

b) Stores waste products [ ]

c) Remove the waste products from the body [ ]

d) All of the above [ ]

3. **Where the Kidney is located -**

a) Posterior wall of the abdomen [ ]

b) Ventral thoracic wall [ ]

c) Thoracic wall [ ]

d) Lower abdomen [ ]

4. What are the two Major Regions of the Kidney?

a) Major and minor calyx [ ]

b) Renal and nephrotic pyramids [ ]

c) Medulla and cortex [ ]

d) Renal capsule and renal pelvis [ ]

5. All the following function of the kidney except?

a) Regulating the blood plasma [ ]

b) Regulating the concentration of waste product in blood [ ]

c) Regulating the digestion of carbohydrate and protein [ ]

d) Regulating the fluid and electrolyte balance [ ]

II. CAUSES AND RISK FACTORS OF RENAL CALCULI

6. Which of the following substances form the Renal calculi?

a) Vitamins [ ]

b) Minerals [ ]

c) Blood clot [ ]

d) fat [ ]

7. Which type of stones associated with the UTI are?

a) Uric acid stone [ ]

b) Calcium stone [ ]

c) Mixed struvite stone [ ]

d) cystine stone [ ]

8. Who are the people more prone to form renal Calculi?

a) People who work in hospital [ ]

b) People who work in high temperature [ ]

c) People who work in factory [ ]

d) people who had kidney stone previously [ ]

9. Why do you need to avoid animal protein if you are diagnosed as having urinary stone?

a) Accumulation of minerals in the urinary pathway [ ]

b) Increase production of urine [ ]

c) Causes stagnation of urine [ ]

d) none of the above [ ]

10. Why do you need to avoid eating betel leaves with lime?

a) Increase the chance of dental crises [ ]

b) It increase the calcium content in body [ ]

c) It increase the chance of mouth ulcer [ ]

d) all of the above [ ]

11. Which of the following is not a recognized risk factor renal calculi formation?

a) Low fluid intake [ ]

b) High calcium diet [ ]

c) High animal protein intake [ ]

d) history of renal calculi [ ]

12. Which of the following medication should not increase the risk of renal calculi formation?

a) Acetazolamide [ ]

b) Calcium [ ]

c) Hydrochlorothiazide [ ]

d) none of the above [ ]

III.TYPES, SYMTOMS AND DIAGNOSIS OF RENAL CALCULI

13. Which type of stone can occur If Raising the urine pH to 7 to above?

a) Struvite stone [ ]

b) Calcium oxalate stone [ ]

c) Uric acid stone [ ]

d) cystine stone [ ]

14. What are the most common type of renal calculi is made up of?

a) Cholesterol [ ]

b) Calcium and oxalate [ ]

c) Calcium and phosphate [ ]

d) all of the above [ ]

15. Where may kidney stone be located If patient says that the pain he is experiencing is intense sharp and wave like that radiate to the scrotum?

a) Renal calyx [ ]

b) Renal papilla [ ]

c) Ureter [ ]

d) bladder [ ]

16. What Are the warning sign of renal calculi?

a) Severe, fluctuating pain in pelvic region [ ]

b) Gradual, mild pain in abdomen [ ]

c) Severe headache [ ]

d) nausea and vomiting [ ]

17. What are the most common types of stone seen in kidney?

a) Calcium stone [ ]

b) Cystine stone [ ]

c) Uric acid stone [ ]

d) cystine stone [ ]

18. When nurse to contact the physician, an IVP to assess for kidney stone which finding below requires the

a) Patient report flank pain that radiates downward [ ]

b) Patient has hematuria [ ]

c) Patient is allergic to shellfish [ ]

d) patient has only pain in lower abdomen [ ]

19. When diagnosis of renal calculi the specimen should?

a) Kept at room temperature [ ]

b) Kept on ice or refrigerated [ ]

c) Sent to the lab every 4 hours [ ]

d) currently used specimen [ ]

20. Which of the following drinks will you avoid if you are diagnosed calcium stone?

a) Watermelon [ ]

b) Barley water [ ]

c) Milk [ ]

d) cocacola and pepsi [ ]

21. Which food will be avoided when patient has uric acid stone?

a) Cabbage, spinach, tomatoes strawberries [ ]

b) Liver, scallops, anchovies, sardines, pork [ ]

c) Beans, potatoes, corn, peas [ ]

d) all of the above [ ]

22. What measure you will take when you suspect stone in the urinary pathway?

a) Take self-medication [ ]

b) Rely on friends / relatives [ ]

c) Seek medical care [ ]

d) take sleep and rest properly [ ]

IV.MANAGEMENT AND PREVENTION OF RENAL STONE

23. What are the effective and most preference treatment to remove renal calculi?

a) Drinking to much water [ ]

b) Eat healthy diet [ ]

c) Doing exercise [ ]

d) seek medical advice [ ]

24. What are the treatment of renal calculi in following?

a) Nephrolitheasis [ ]

b) Radial nephrectomy [ ]

c) Pyelonephritis [ ]

d) cholilethiasis [ ]

25. What nursing intervention is priority for patient with renal stone is having sever pain?

a) Administer pain medication [ ]

b) Encourage fluid intake of 2-4 liters per day [ ]

c) Implement high protein diet [ ]

d) prepare for surgical procedure [ ]

26. What is the mean to prevent recurrence of renal calculi?

a) Drinking little water [ ]

b) Drinking liberal water [ ]

c) Eating healthy food [ ]

d) all of the above [ ]

27. Which sentence are true regarding dietary modification in renal calcium stone except?

a) Acid ash food should be given [ ]

b) Increase calcium intake [ ]

c) Decrease calcium intake [ ]

d) increase nonvegetable diet [ ]

28. Which one of following should need to drink more if had take restricted foodstuff.

a) Commercial drink [ ]

b) Clear water [ ]

c) Tea [ ]

d) soft drink [ ]

29. Which are the following strategies would not prevent nephrolithiasis recurrence in a patient with uric acid stone?

a) Potassium citrate supplementation [ ]

b) Targeting a urine pH less than 5.5 [ ]

c) Low sodium diet [ ]

d) non of this [ ]

30. Which of the following nursing intervention will you include in the patients plan of care?

a) Restrict calcium Intake [ ]

b) Strain urine with every void [ ]

c) Keep patient in supine position to alleviate pain [ ]

d) all of this [ ]

SCORING

0-10: Inadequate knowledge

11-20: Moderately adequate knowledge

21-30: Adequate knowledge

ANSWER KEY

QUESTION NUMBER	CORRECT ANSWER
1.	**B**
2.	**C**
3.	**A**
4.	**A**
5.	**C**
6.	**B**
7.	**A**
8.	**B**
9.	**A**
10.	**B**
11.	**B**
12.	**C**
13.	**A**
14.	**B**
15.	**C**
16.	**A**
17.	**C**

18.	**B**
19.	**A**
20.	**C**
21.	**B**
22.	**C**
23.	**A**
24.	**B**
25.	**A**
26.	**D**
27.	**B**
28.	**B**
29.	**B**
30.	**A**

ANNETURE –X

LIST OF STATISTICAL FORMULA USED IN THIS STUDY

A. mean $\underline{X} = \frac{\sum x}{n}$

B. Mean score percentage $= \frac{Mean}{no.\ of\ score}$ **x 100**

C. Standard deviation (SD) $= \sqrt{\frac{\sum (x_i - \underline{x})^2}{N}}$

D. chi square $(x^2) = \sum \frac{(O_i - E_i)^2}{E_i}$

E. Karl Pearson's coefficient of correlation $= \frac{\sum (x-\underline{x})(y-\underline{y})}{\sqrt{\sum (x-\underline{x})^2 (y-\underline{y})^2}}$