

ORIGINAL ARTICLES

A Study to assess the Effectiveness of Structured Teaching Programme on Knowledge of Clients Regarding Prevention and Management of Renal calculi at Gandhi Hospital, Secunderabad, Andhra Pradesh

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ABSTRACT

Background: Renal Calculi, or commonly known as Kidney Stones, are hard deposits made of crystals that accumulate in the urinary tract. These crystals are primarily formed when calcium and oxalate combine. These stones usually start in the kidney and find their way out through the urinary system. Renal Calculi is a painful condition 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.

Aims: To assess the knowledge of client regarding Renal calculi.

Material and Methods: An systematic approach with one group pre-test and post-test design (pre- experimental) was adopted in order to evaluate effectiveness of structured teaching programme on prevention and management of renal calculi at Gandhi hospital, Secunderabad, Andhra Pradesh.

Results: Majority of the sample belonged to age group 21 – 35 years (76.10%), male (51.67), having intermediate school education (63.3%), doing business (50%), having family income of Rs 9001 – 12000 (66.7%), Hindu background (68.33%), Non-vegetarian (60%). There was a significant difference between pre-test and post-test knowledge scores ($t(47) = 32.81$, $P < 0.05$; Tabled value = 2.02).

- There was significant association between pre-test and post test knowledge scores and age. mean score in pretest 9.50 and post test: 21.05 (36-50 years).

Conclusion: kidney stones can have significant implications for kidney health, potentially leading to changes in kidney shape through various mechanisms. As

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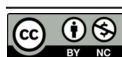
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prevention is better than cure so adequate knowledge and proper care should be taken to reduce Morbidity.

KEYWORDS

• Sample size • Significant • Not significant • Chi square • World health organization • Calcium • Phosphorus • Uric acid

INTRODUCTION

“Human life is the best creation of god and good health is a boon of life”

Man is an integral part of dynamic external and internal environment. Homeostasis refers to the rapid adjustments that the body must make to maintain constancy with in the changing environment. The major organ of homeostasis are the brain, heart, lungs, kidney, liver, gastrointestinal, and the skin. Out of all the organs the kidney maintain homeostasis by three functional pathways. Excretory, regulatory, and endocrine. All these vital functions are liable to suffer when kidney destroyed by the disease process.

Renal calculi is a painful condition that affects 1 – 2% of the general population. Renal calculi 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. Renal calculi is a frequent, painful, costly, and increasingly prevalent condition.

The existence of Renal calculi has been recorded since beginning of civilization, and lithotripsy for the removal of stones is one of the earliest known surgical procedures. In 1901, a stone was discovered in the pelvis of an ancient Egyptian mummy, and was dated to 4,800 BC. Medical text from ancient Mesopotamia, India, China, Persia, Greece and Rome all mentioned calculous disease.

New techniques in lithotripsy began to emerge starting in 1520, but operation remained risky. It was only after Henry Jacob Bigelow popularized the technique of litholopaxy in 1878 that the mortality rate dropped from about 24% down to 2.4%. However, other treatment techniques were developed that continued to produce a high level of mortality, especially among inexperienced urologists. In 1980 Dornier Med Tech introduced extracorporeal shock wave lithotripsy for breaking up stones via acoustical pulses, and this technique has come into widespread use.

Calculus size and location are important determinants for the resultant degree of disease. The most important factor for passage of a calculus through the genitourinary tract is its size. The critical size for spontaneous passage is <5 mm. 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

Now a days there is a rapid increase in the number of people suffering from the renal calculi. About 15% of men and 5% of women develop Renal calculi at some stage. If you have developed Renal calculi in the past you have a 90% chance of formation of new stones in the future. 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.

In the U.S. the prevalence is 7% in men and 3% in women, and 70% of all ureteral calculi occur between the ages of 20 and 50 years.

Incidence/Prevalence in USA

- 1-4/1000 annual incidence
- 5-12% lifetime incidence
- Higher incidence in the “stone belt” (southeastern USA)
- Recurrence rate: 50% in five years
- Predominant age: 20 -40 years
- Predominant sex: Male: Female (& approx; 3:1), except for struvite (infection) stones which are more common in females

WHO (2006) report annual incidence: 1500 – 2000 cases per million in the Industrialized world. In almost all reports on stone composition there is a Striking predominance of calcium oxalate stones with or without calcium phosphate (70-80%). The remaining 20-30% of the stones are composed of magnesium ammonium phosphate, uric acid, ammonium urate and cystine. Recurrent stone formation is a common problem with all these types of calculi and recurrent prevention thus is an important part of the medical care with the calculi disease.

National nutrition survey report (2004)

- 12% have stone in their life.
- 12% men will suffer from kidney stone by age of 70.
- 5% of women will suffer from kidney stone by age of 70.
- 50% of women have recurrence within 5 to 10 years.
- Highest incidence of kidney stone in 30 to 50 of age group.
- 7-10 of every hospital admission of renal stones.

In India approximately 5-7 million suffer from stone disease and at least 1/1000 of Indian population needs hospitalization due to kidney disease.

50 patients aged between 20 and 60 years admitted to the Sri Sathya Sai Institute of Higher Medical Sciences Hospital, Ananthapur during January 2009.

In Gandhi Hospital, Secunderabad annually 20% of cases with renal calculi. April 2011, 40 cases with renal calculi.

The annual incidence of stone formation in the industrialized world is generally considered to be 1500-2000 cases per million.

It has been estimated that 7 to 10 of every 1,000 hospital admissions are due to renal calculi.

The fundamental cause for all stones is supersaturation of urine with respect to the stone component. Calcium stones are the most common in both adults and children and are associated with several metabolic disorders. The therapy to prevent stones rests on lowering supersaturation using both diet and medication. Effective treatment decreases

stone recurrence and the need for procedures for stone removal.

Purpose of the study

The purpose of the study is to plan and validate the structured teaching programme on prevention and management of Renal calculi for the patients who are suffering from Renal Calculi that will help them to gain in their knowledge regarding prevention and management of Renal calculi.

Statement of the problem

A study to assess the effectiveness of structured teaching programme on knowledge of clients regarding prevention and management of Renal calculi at Gandhi Hospital, Secunderabad, Andhra Pradesh.

OBJECTIVES OF THE STUDY

- To assess the knowledge of the client regarding prevention and management of Renal calculi before structured teaching programme.
- To develop and implement a structured teaching programme regarding prevention and management of Renal calculi.
- To evaluate the effectiveness of structured teaching programme on knowledge of clients regarding prevention and management of Renal calculi.
- To associate the knowledge of client regarding prevention and management of Renal calculi with selected demographic variables.

Research hypothesis

There will be significant difference between pre test and post test levels of knowledge on prevention and management of Renal calculi after structured teaching programme.

Assumptions

- Clients may have inadequate knowledge regarding prevention and management of Renal Calculi.
- Client selected for this will report honestly to the questionnaire.

Limitation

- The study is limited to clients with Renal calculi at Gandhi Hospital.

- The study is limited to who are willing to participate in the study.
- Client who can read and write in English or Telugu.

METHODOLOGY

In the present study the investigator aims at to study Effectiveness of Structured Teaching Programme on Knowledge Regarding prevention and management of Renal calculi At Gandhi hospital, Secunderabad, Andhra Pradesh.

Research Approach

In order to achieve the objectives of the study an systematic approach was found to be appropriate and selected for the study.

Research Design

The research design adopted for the present study was the pre experimental design “**One group pre test and post test design**”.

Group O_1 X O_2

Where ‘ O_1 ’ was pretest which included assessing the knowledge of clients with Renal calculi. ‘X’ was the treatment where structured teaching programme was given to the group and ‘ O_2 ’ was post test which included assessing the level of knowledge on prevention and management of Renal calculi.

Variables

Independent variable

In the present study the investigator has identified the structured teaching programme on prevention and management of Renal calculi as the independent variable which influence the dependent variable.

Dependent variable

In the present study the dependent variable was knowledge on prevention and management of Renal calculi.

Extraneous variables

The extraneous variables identified are sex, age, education and occupation.

Setting of the Study

The setting selected for the present study was conducted in Gandhi Hospital, Secunderabad in Andhra Pradesh.

Population

The population for the present study was clients with Renal calculi, at Gandhi hospital, Secunderabad, Andhra Pradesh.

Sampling Technique

In the present study the investigator has selected Convenience sampling, also called accidental sampling uses participants who are easily accessible to the research and who meet the criteria of the study. Convenience sampling technique was adopted for this study.

Sample

In the present study the samples were 60 clients admitted to the male and female urology and medical wards at Gandhi hospital, Secunderabad, Andhra Pradesh.

Sample Size

The sample size for the present study comprises 60 Renal Calculi clients in Gandhi hospital, Secunderabad Andhra Pradesh.

Sample criteria:

Inclusion criteria:

- Who can speak and read English or Telugu.
- Clients with renal calculi of both sex.

Exclusion Criteria

- Client who are not present at the time of study.
- Client who are non cooperative.

Method of Data collection

For the present study “Questioning” have chosen as a method of data collection and adopted to assess the Renal calculi clients knowledge.

DEVELOPMENT OF THE TOOL

Description of the Tool

In order to assess the knowledge of clients with Renal calculi regarding, structured questionnaire developed.

Preparation of knowledge questionnaire: Knowledge questionnaire consisted of 30 items regarding prevention and management of Renal calculi.

Questionnaire items were from the below given area:

- General information about kidney.
- Regarding causes of Renal calculi.
- Regarding prevention and management of Renal calculi.

There were two tools used for the study, which are follows.

Part 1: Demographic Variables, which include age, sex, religion, educational background, occupational status, and socioeconomic status, dietary pattern.

Part 2: consists of 30 questions to assess the knowledge of renal calculi clients regarding prevention and management of renal calculi.

Part 2 consist of two sections :

1. **Section A:** Deals with knowledge regarding general information of kidney and causes of renal calculi.
2. **Section B:** Deals with knowledge regarding prevention and management of Renal calculi.

Scoring:

Content	No of question	Maximum score
*Knowledge questionnaire	30	30
Grand total maximum score		30

*Each correct answer secures 1 mark.

Knowledge level	Score secured by participant	Percentage (%)
Below Average	0-10	33-34
Average	11-20	34.4-66.67
Above Average	21-30	>66.67

Validity of the tool

The investigator submitted the tools for content validity to experts in the field of nursing and urology after suggestions tool is modified.

Reliability of the tool

Reliability of questionnaire was tested by test and retest method to the sample of 10 clients with Renal calculi. the subjects first score was compared with the second with the help of Karl Pearson co-efficient correlation. Avalue of $r = 1$ was obtained indicating the tool to be highly reliable.

Pilot study

A pilot study is a small preliminary investigation, which has the same general character on the main study. The purpose of the pilot study is to assess the feasibility, applicability and practibility of the tool and to plan for statistically analysis of data.

The pilot study was conducted at Gandhi hospital, secunderabad from 22.03.12 to 27.03.12. Written permission was obtained from the authority before conducting the pilot study. Based on the predetermined criteria set by the investigator through convenient sampling, pilot study was conducted on ten renal calculi patients after taking written content from them. The subjects were informed about the purpose of the study and requested to complete the questionnaire.

After obtaining data from renal calculi patients related to renal calculi, structured teaching was given to them. Visual aids were used to facilitate understanding. The time spent for teaching was 50 – 60 minutes. Pamphlets on renal calculi and its management were distributed to the subjects. On 7th day of the structured teaching programme was done, post test was given by administering the same pretest questionnaire. Statistical analysis of the pilot study reveals that there was significant difference between pretest knowledge and posttest knowledge of renal calculi patients on prevention and management of Renal calculi. Time taken for pretest was 15 – 22 minutes and for post test were 13 – 20 minutes.

Data collection procedure

The investigator obtained the written permission from medical super indent of Gandhi hospital to collect data. The HOD's, nursing superintendent and in charges are informed about details of study and obtained permission.

The data collection have done in Male and female urology ward at Gandhi hospital, Secunderabad, Andhra Pradesh. The data was collected from 60 renal calculi patients who were admitted in the hospital and met the study criteria. Subjects were asked to participate in the study after self-introduction by the investigator. The patients were informed the purpose of the study and the consent was taken from them. Pre test was administered to each patient on various day followed by teaching programme. Charts, pamphlets and

booklet were used to facilitate understanding of the teaching. The teaching was carried out in their ward of the patients and the duration of the teaching was 50 – 60 minutes. The confidentiality of the responses will be assured.

Plan for data analysis

After collecting data it can be analyzed by using descriptive and inferential statistics i.e., mean, standard deviation, standard error and paired “t” test and χ^2 test for obtained scores in pre and post test. The analysis and interpretation of the data can be presented in 3 parts

Part-I: Deal with frequency percentage distribution of demographic characteristics of clients with Renal calculi.

Part-II: Deals with analysis of knowledge scores obtained by the clients with Renal calculi before and after structured teaching programme on prevention and management of Renal calculi by percentage mean, standard deviation, standard error, paired “t” test and chi-square test.

Part-III: Deals with the Association between knowledge of clients with Renal calculi with

selected variables by using chi-square test and interpreting the results.

ANALYSIS AND INTERPRETATION

The data is presented under the following headings

Part-I: Deal with frequency and percentage distribution of demographic characteristics of clients with Renal Calculi.

Part-II: Deals with analysis of knowledge scores obtained by the clients with Renal Calculi before and after structured teaching programme on prevention and management of Renal Calculi by percentage mean, standard deviation, standard error, paired “t” test and chi-square test

Part-III: Deals with the association between knowledge of clients with Renal Calculi regarding prevention and management of Renal Calculi with selected variables by using chi-square test and interpreting the results.

Frequency and Percentage Distribution of Clients Knowledge Score Related to Prevention and Management of Renal Calculi in Pre-Test & Post-Test

Table 1: Knowledge Score

	Test											
	Pre test						Post test					
	Wrong		Correct		Total		Wrong		Correct		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
Q1	31	51.7	29	48.3	60	100.0	20	33.3	40	66.7	60	100.0
Q2	36	60.0	24	40.0	60	100.0	10	16.7	50	83.3	60	100.0
Q3	37	61.7	23	38.3	60	100.0	8	13.3	52	86.7	60	100.0
Q4	41	68.3	19	31.7	60	100.0	13	21.7	47	78.3	60	100.0
Q5	47	78.3	13	21.7	60	100.0	20	33.3	40	66.7	60	100.0
Q6	42	70.0	18	30.0	60	100.0	15	25.0	45	75.0	60	100.0
Q7	45	75.0	15	25.0	60	100.0	24	40.0	36	60.0	60	100.0
Q8	45	75.0	15	25.0	60	100.0	22	36.7	38	63.3	60	100.0
Q9	44	73.3	16	26.7	60	100.0	22	36.7	38	63.3	60	100.0
Q10	39	65.0	21	35.0	60	100.0	20	33.3	40	66.7	60	100.0
Q11	47	78.3	13	21.7	60	100.0	23	38.3	37	61.7	60	100.0
Q12	43	71.7	17	28.3	60	100.0	24	40.0	36	60.0	60	100.0
Q13	48	80.0	12	20.0	60	100.0	27	45.0	33	55.0	60	100.0

Test												
Pre test							Post test					
Wrong			Correct		Total		Wrong		Correct		Total	
Count	%		Count	%	Count	%	Count	%	Count	%	Count	%
Q14	39	65.0	21	35.0	60	100.0	18	30.0	42	70.0	60	100.0
Q15	47	78.3	13	21.7	60	100.0	27	45.0	33	55.0	60	100.0
Q16	45	75.0	15	25.0	60	100.0	21	35.0	39	65.0	60	100.0
Q17	51	85.0	9	15.0	60	100.0	19	31.7	41	68.3	60	100.0
Q18	47	78.3	13	21.7	60	100.0	17	28.3	43	71.7	60	100.0
Q19	48	80.0	12	20.0	60	100.0	16	26.7	44	73.3	60	100.0
Q20	45	75.0	15	25.0	60	100.0	15	25.0	45	75.0	60	100.0
Q21	38	63.3	22	36.7	60	100.0	9	15.0	51	85.0	60	100.0
Q22	46	76.7	14	23.3	60	100.0	20	33.3	40	66.7	60	100.0
Q23	53	88.3	7	11.7	60	100.0	22	36.7	38	63.3	60	100.0
Q24	43	71.7	17	28.3	60	100.0	17	28.3	43	71.7	60	100.0
Q25	45	75.0	15	25.0	60	100.0	20	33.3	40	66.7	60	100.0
Q26	47	78.3	13	21.7	60	100.0	25	41.7	35	58.3	60	100.0
Q27	41	69.3	19	31.7	60	100.0	19	31.7	41	68.3	60	100.0
Q28	37	61.7	23	38.3	60	100.0	22	36.7	38	63.3	60	100.0
Q29	29	48.3	31	21.7	60	100.0	20	33.3	40	66.7	60	100.0
Q30	0	.0	60	100.0	60	100.0	0	.0	60	100.0	60	100.0

Distribution of Percentage, Mean, Standard Deviation and 'T' Value of Knowledge Scores Of Clients Related to Prevention & Management of Renal Calculi.

Table 2: Statistics

Test	Section I Score	Section Per cent	Sectong II Score	Section II Percent	Overall Score	Knowledge Percent
N	60	60	60	60	60	60
Mean	4.8833	32.1342	4.3500	35.0000	9.2333	32.3333
Std. Error of Mean	.24016	1.70302	.27394	2.00645	.21832	.64513
Median	5.0000	35.2941	4.0000	38.4615	9.0000	33.3333
Mode	5.00	41.18	2.00	15.38	9.00	30.00
Std. Deviation	1.86030	13.19154	2.12192	15.54189	1.69112	4.99717
Variance	3.461	174.017	4.503	241.550	2.860	24.972
Range	9.00	64.71	9.00	69.23	9.00	26.67
Minimum	.00	.00	1.00	76.92	13.00	43.33
Maximum	9.00	67.71	10.00	76.92	13.00	43.33

Test		Section I Score	Section Per cent	Sectong II Score	Section II Percent	Overall Score	Knowledge Percent
	N	60	60	60	60	60	60
Post-test	Mean	11.4500	67.3529	9.3000	71.5385	20.7500	69.1667
	Std. Error of Mean	.25090	1.47590	.23082	1.77552	.33667	1.12224
	Median	12.0000	70.5882	9.0000	69.2308	21.0000	70.0000
	Mode	12.00	70.59	9.00	69.23	22.00	73.33
	Std. Deviation	1.94348	11.43224	1.78791	13.75313	2.60784	8.69281
	Variance	3.777	130.696	3.197	189.149	6.801	75.565
	Range	9.00	52.94	8.00	61.54	11.00	36.67
	Minimum	7.00	41.18	5.00	38.46	15.00	50.00
	Maximum	16.00	94.12	13.00	100.00	26.00	86.67

It is clear from the above table that clients scored higher 43.3% in pre-test & 86.67% in Post-Test and Lowest 16.7% in Pre-Test & 50% in Post-Test.

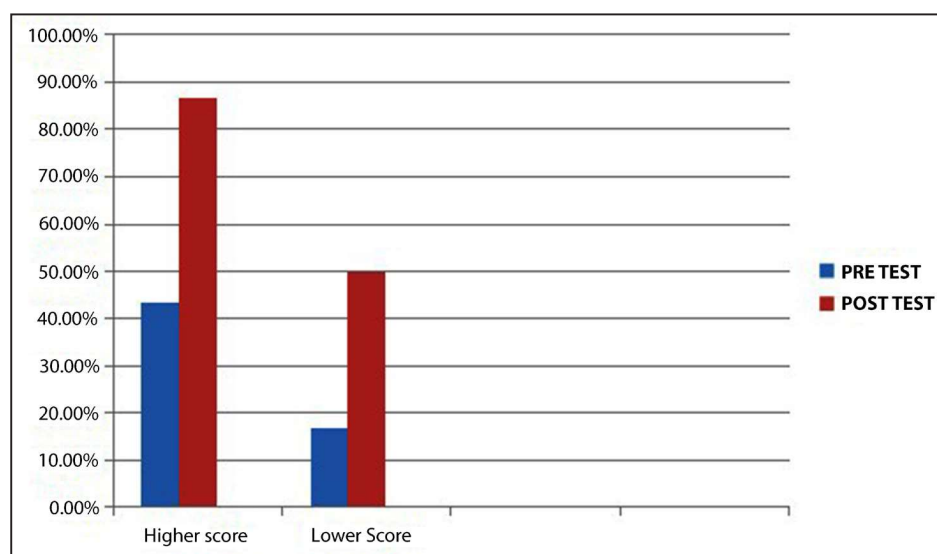


Figure 1: Shows that that clients scored higher 43.3% in pre-test & 86.67% in Post-test and Lowest 16.7% in Pre-Test & 50% in Post-test

Table 3: T-test Knowledge Level

		Knowledge Level			Total
		Below Avg (<= 33.34%)	Avg (33.4-66.67%)	Above Avg (>66.7%)	
Test	Pre-test	Count	38	22	60
		% within test	63.3%	36.7%	100.0%
	Post-test	Count	1	25	60
		% within test	1.7%	41.7	56.7%
Total	Count		39	47	120
	% within test		32.5%	39.2%	28.3%

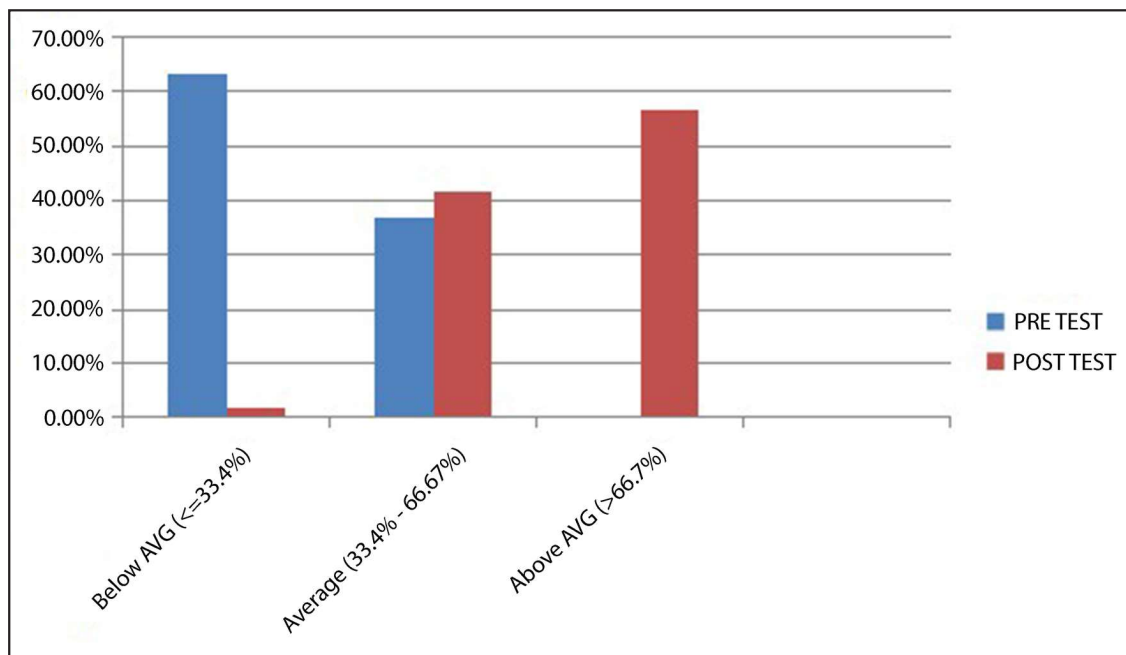


Figure 2: Shows the knowledge regarding prevention and management of Renal Calculi

The above graph depicts that 38 (63.3%) clients had below average knowledge and where as 22 (36.7%) had an average knowledge in Pre-test and in post-test 1 (1.7%) had below average knowledge and 34 (56.7%) had above Average knowledge.

Table 4: Chi-Square Test

	Value	of	Asymp. Sig. (2-sided)
Pearson Chi-Square	69.2947	2	.000

It is clear from the above table that clients scored higher knowledge score 36.7% in pre-test & 41.7% in Post-test.

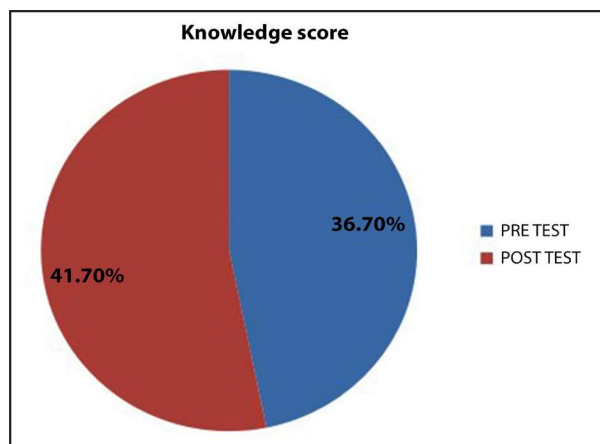


Figure 3: The above pie graph depicts that clients scored higher knowledge score 36.7% in pre-test & 41.7% in Post-test

Implications Limitations and Recommendations

The present study is under taken to assess the knowledge of clients with Renal Calculi regarding prevention and management of Renal Calculi at Gandhi hospital, Hyderabad.

The Objectives of the study were:

- To assess the knowledge of the client regarding prevention and management of Renal calculi before structured teaching programme.
- To develop and implement a structured teaching programme regarding prevention and management of Renal calculi.
- To evaluate the effectiveness of structured teaching programme on knowledge of clients regarding prevention and management of Renal calculi.

To associate the knowledge of client regarding prevention and management of Renal calculi with selected demographic variables.

The population for the present study consists of clients with Renal Calculi at Gandhi Hospital, Hyderabad.

Convenient Sampling technique was used for the selection of Sample. i.e 60. In this method participants based on the researcher's knowledge about the population. Criteria for

sample selection are clients with Renal Calculi and who are able to read and write Telugu or English. Clients of both the sexes (Male and Female between 21 years and 60 years).

A structured questionnaire is prepared to assess the knowledge of clients regarding prevention and management of Renal calculi. The questionnaire is considered as Part-1 and Part-2. Part-2 is again divided into 2 sections, section-A and section-B.

The tools were given for content validity to experts in the field of Nursing and Urology. The questionnaire was tested for reliability by test and retest method. The results were indicated that tools are valid and reliable.

Pilot study is conducted on ten Renal calculi clients in Care Hospital Musheerabad, Hyderabad in the month of March 22, 2012. The pilot study results revealed that study is feasible and tools are appropriate. The main study was conducted in the month of April 2012 Gandhi Hospital. The data is analyzed with the help of descriptive and inferential statistics and findings are interpreted.

Findings of the study

The finding shows that there was significant difference in pre test and post test knowledge score area wise. The obtained t-test value for knowledge scores overall is significant. Area wise t-test value was significant. The clients significantly improved their knowledge on all the areas.

The findings of the study show that the overall performance of the pre-test mean score was 9.2 and post-test overall performance of mean score was 20.7. There was significant difference in the pre-test and post-test knowledge scores. Hence the formulated hypothesis is accepted.

DISCUSSIONS

Clients with Renal calculi on knowledge about prevention and management of Renal calculi is assessed with the help of structured questionnaire. Maximum marks allotted for questionnaire is 30. The clients obtained knowledge scores on questionnaire ranged from 12 to 43 percent. The mean score is 9.2 and standard deviation is 1.62.

The study revealed that On the whole 0 percent clients scored below average (i.e., less than 33.3), 37.5 percent scored average (i.e.,

33.4–66.6) and 62.5 percent scored above average (i.e., more than 66.6). So that they will take better care to prevent from the recurrence of Renal calculi and able to adapt healthy life style.

Nursing implications

A large number of diseases could be prevented with little or no medical intervention if people were adequately informed about the likely complications and encourage to take timely and necessary precautions. The present study findings will be helpful for such future studies.

The findings of the study have implications for nursing practice; nursing education; and research; and nursing administration.

Nursing Education

Education is the key to the development of excellent nursing practice. Education faces tremendous challenges in keeping pace with changes in nursing practice to maintain its high quality. 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.

The structured teaching programme prepared and examined by this study for its effectiveness in improving the knowledge of patients with renal calculi regarding prevention and management of renal calculi is the proof by itself. As the effectiveness of this teaching plan is well established, this may be used in patients as well as students' learning.

Nursing Practice

The present study has several implications for nursing practice. Structured teaching programme on prevention and management of Renal calculi is a practical strategy to make the patients aware of their disease and to reduce the recurrence of the disease and thus reduce complications and also help them to take self-responsibility for their own health.

Health promotion is one of the major roles a nurse has to play; hence its accountability has to be stressed. Patient education is a process

of assisting people to learn and incorporate health related behaviour into every day like. The educative role of the nurse has to be emphasized. Educative teaching may motivate clients to practice self care.

The patients suffering with Renal calculi are under severe psychological stress as well as depression because of their severe pain and their hospitalization. Providing teaching programme helps them better in their adjustment psychologically by instilling confidence in them to prevent the complications.

Nursing administration

Nurses as administrators should take great interest formulating short and 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

Health care environment is facing frame breaking changes. In order to maintain a comparative market share, health services need to maintain quality and cost effectiveness. So, there is need for promoting research based practice and use of evaluation methods to measure and document the effectiveness of care.

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 booklet 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, survey to assist the psychosocial

problems of patients with renal calculi. In fact, this study has helped to open avenue to a new area for nursing research.

The present study gives an idea to other researchers in the field of nursing or any other professionals in future regarding prevention and management of Renal calculi about basic knowledge.

CONCLUSIONS

Following conclusions were drawn on the basis of the findings of the study. After the structured teaching programme there was significant difference in the post-test knowledge scores which shows that exposure to structured teaching would increase the knowledge.

- Majority of the clients have shown a lot of interest to learn about Renal Calculi.
- There was increased awareness and knowledge on prevention and Management of Renal calculi.

Relationship between the knowledge of the clients on prevention and management of Renal calculi and demographic variable such as age, sex, religion, education, economic status and dietary pattern were computed by Mean and paired t-test of significance. Hence findings have shown that effectiveness of teaching was significantly high. The findings of the study shows that structured teaching programme would improve the knowledge of the clients on prevention and management of Renal Calculi.

Limitations

1. The study was limited to the Renal Calculi clients who attend to the IPD of Gandhi Hospital, Hyderabad.
2. The study was limited to Renal Calculi clients.
3. Findings are limited to knowledge and could not be applicable for the practice.
4. Effectiveness of structured teaching was assessed only with help of questionnaire.

Recommendations for future study:

1. A Same study may be conducted to assess the knowledge of clients admitted in other hospitals.
2. A study may be conducted to assess the practices of Renal Calculi clients.

3. An evaluation study may be conducted to identify utilization and effectiveness of self informational modules available in the Gandhi Hospital.
4. A same study may be conducted in clients below the age group of 21 years.

LIST OF ABBREVIATION

n: Sample size

s: Significant

Ns: Not significant

X²: Chi-square

WHO: World health organization

Ca: Calcium

P: Phosphorus

UA: Uric acid

USG: Ultra sonography

STP: Structured teaching programme

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