



## Assess the Effectiveness of the Nurse-Directed Interventions on Lifestyle Modifications Regarding Prevention on Recurrence of Renal Calculi

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### ABSTRACT

Kidney stones are one of the most common health problems and one of the ancient known disorders worldwide. All across the world, a sizable number of people are impacted by this condition. 12% of the world's population will get renal calculi at some point in their lifetime. The prevention of renal stone recurrence remains to be a serious problem in human health. The prevention of stone recurrence requires a better understanding of the mechanisms involved in stone formation. Despite satisfactory outcomes after the intervention, the recurrence of renal calculi is dismally high. The study's objectives were to Assess the health status of the patients with a history of renal calculi, Develop and implement nurse-directed intervention and evaluate the effectiveness of nurse-directed interventions on lifestyle modifications regarding the prevention on the recurrence of renal calculi, Find out the association of pre-test knowledge and practices scores with their socio-demographic data. A quasi-experimental design was used. 55 patients were selected by using the non-probability convenience sampling technique was used. Socio-demographic variables and clinical parameters Questionnaires, self-structured knowledge questionnaires, and preventive measures checklist were used. Item-wise knowledge scores of samples regarding Renal calculi show the maximum knowledge gained in the domain of (37%) anatomy and physiology of the kidney, and the least knowledge scores gained in the domain of diagnostic measures for renal calculi (13%). The Mean and standard deviation of knowledge pre-test scores were, (12.71±2.587), and post-test scores (19.05±1.726), and the Practise pre-test scores were, (25.09±3.807) and post-test scores (34.13±2.674). There was a significant association between knowledge scores and practice scores in the socio-demographic variables of the sample. In the knowledge and practice scores with Clinical parameters variables of selected samples at a p-value less than 0.05. The findings showed that the nurse-directed intervention was significantly effective in lifestyle modifications regarding the prevention on the recurrence of renal calculi patients.

**Keywords:** Renal calculi recurrence, Nurse directed intervention, lifestyle modification

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### INTRODUCTION

In Western countries, it is believed that 5-6% of women and 10-12% of men have renal calculi.[2,3] A mineral concretion that regularly forms inside the kidneys is known as kidney stone disease. About 12% of the world's population is affected by this cumulative urological illness of human health. It has been linked to a higher risk of kidney failure in its final stages. Kidney stones have a variety of causes. Kidney stones are mainly lodged in the kidney. [4] Urinary stones have been a problem for mankind for generations, since 4000 B.C.[5] It is also the most common urinary tract condition. The prevention of recurrent kidney stones continues to be a critical issue for human health.[6] A greater awareness of the mechanisms involved in stone formation is necessary for the avoidance of stone recurrence.[7]. Most people in this day and age have sedentary lifestyles, which harm kidney health as well as general health. Therefore, it is essential to begin taking precautions early in life to reduce the chance of kidney stones. Even though the danger cannot be totally eliminated, a few small but significant changes can be made to reduce the likelihood of kidney stones. Any kidney stone prevention program's ultimate success will depend on the patient's willingness to stick with a protracted course of treatment that involves some level of dietary adjustments, medications, personal sacrifice, and lifestyle change without any obvious immediate or noticeable benefits. Although less frequently, patients taking therapy may still develop stones.[8] The intervention had good results, however,

the rate of renal calculi recurrence is alarmingly high. According to a recent systematic analysis, South Asia has a significantly greater prevalence rate of renal calculi than the northern region. In this study, we aimed to explore the prevention of renal calculi recurrence in patients treated in a hospital located in Vadodara.

## MATERIAL AND METHOD

A Quantitative evaluative research approach with Quasi-experimental (one group) with pre and post-test design was used. A total of 55 renal calculi patients who had already been diagnosed and treated at Parul Sevashram Hospital, Vadodara was selected using the non-Probability Purposive Sampling technique. Socio-Demographic Data & Clinical Parameters questionnaires, Self-Structured Knowledge Questionnaires, and Preventive Measures Checklist research tools were used for Data Collection. For that first Eligibility Assessment (Using Inclusion & Exclusion Criteria) done after that Informed Consent was taken from samples. Nurse-directed interventions on lifestyle modifications regarding the prevention of the recurrence of renal calculi were implemented. Pamphlet and Booklet are Provided to 55 Patients diagnosed with Renal Calculi. After 7 days Assessing the Effectiveness of the Nurse Directed Interventions on Lifestyle Modifications Regarding the Prevention on Recurrence of Renal Calculi Patients were observed the by same research tools. Data obtained from samples were analyzed and interpreted by using descriptive (frequency, percentage, mean, standard deviations) and inferential statistics (paired 't'-test and chi-square test).

## RESULT

The Distribution considering the frequency and percentage of samples of socio-demographic variables, that the results show that 27 samples (49.1%) were largely between the ages of 18 to 40, with only 02 samples (3.6%) being older than 70. In relation to gender, the majority of samples were male 32(58.2%), preceded by females 23(41.8%), with no transgender samples 00(0.0%). Regarding marital status, the greatest number of samples was 33 (60.6%) married. According to education status, a maximum of 28 samples (50.9%) only had primary or secondary education, and just 04 samples (7.3%) had completed their postgraduate degrees. Regarding occupation, the majority of samples 21 (38.2%) were private employees, and just 04 (7.3%) were government workers, as well as 02 (3.6%) students enlist as per the result Concerning the majority of samples 23 (41.8%), had monthly incomes between 10,001 and 30,000 rupees and just 02 (3.6%) had monthly incomes over 51,000 rupees. In terms of the total number of family members, 25 samples (45.5%) had 5 to 8 family members. Despite the fact here that the sample group comprised the majority of the population, 19 of them (34.5%) lived in rural areas, and only 08 (14.5%) in urban areas. Regarding the environmental surroundings, a total of 49 (89.1%) had clean surroundings, while only 06 (10.9%) had messy surroundings. According to lifestyle habits, the majority of samples (58.2%) had no habits, while a total of 12 samples (21.8%) had alcohol consumption habits Regarding eating habits, a total of 34 samples (61.7%) are vegetarians and 21 individuals (38.2%) are non-vegetarians. As reported by the water resource facility, the vast majority of samples 19(34.5%) drink tap (corporation) water, and 08(14.5%) used well water. As per the results, a total 51 of (92.7%) have no previous information about renal calculi and their preventive measures and only 04(7.3%) have previous information about renal calculi and their preventive measures. 4 samples in total had prior knowledge from book 01(1.8%), from hospital 02(3.6%), and from colleagues 01(1.8%). Only 08 (14.5%) of the healthcare professionals in a sample family have it, whereas a total of 47 (85.5%) do not.

The frequency and percentage of clinical parameters of a total of 55 samples. In view of Previous medical history, 16(29.1%) samples had no Previous history of calculi (renal calculi), in spite of that total of 39(70.9%) had a previous history of renal calculi. From the total of 39 samples who have previously been diagnosed with calculi (renal calculi), 13(23.6%) sample's time of diagnosis with calculi (renal calculi) was more than 24 months (>2 years), and 06(10.9%) was diagnosed 6 months ago (1/2 year) Attributable to those 14(25.5%) samples left untreated and also 14(25.5%) samples had a previous method of treatment was medical management, 08(14.5%) needed surgical management, and only 03(5.5%) samples used home remedial management treatment as previous method of treatment. In relation to the current medical/surgical history of a total of 55 samples, the majority of 43(78.2%) sample's location of stones was kidney, 03(5.5%) had the location of stones was at the urinary tract, only 01(1.8%) samples had at the gall-bladder. In view of this size of the stone, a total of 21(38.2%) samples had a stone size of 1 cm or larger, and only 05(9.1%) samples had a stone size between 6.00 mm to 7.00 mm. According to that type of stone, the majority 31(56.4%) samples had calcium-type stones, and only 02(3.6%) samples had cystine and struvite stones respectively. Sample's family history of renal calculi In that view total of 27(49.1%) samples had a family history of renal calculi and 28 (50.9%) samples had no family history of renal calculi.

Table-1: The preceding table depicts the Scores from the sample's pre- and post-tests are distributed often in frequency and percentages of knowledge scores. It characterizes the sample population's-test scores, where the majority of samples 51 (7.3%) had Average knowledge scores, while 4 (7.3%) had Poor scores,

and 00 (or 0.0%) had good scores. Following the Post-test scores, the majority of samples 44 (80.0%) had good knowledge scores, 11 (20.0%) had Average knowledge scores, and 00 (0.0%) had Poor knowledge scores.

Table-2: The above table illustrates the Pre-test and Post-test scores' frequency and percentage distribution of the practice scores. In Pre-test scores, the majority of samples 36(66.5%) followed poor practices, 16(29.1%) samples followed sub-optimal, and only 03(5.5%) samples followed the optimal level of practices. As followed by the post-test the majority of samples 28(50.9%) were categorized as an optimal level, 27(49.1%) were categorized as a sub-optimal level and 00(0.0%) were categorized as poor practices.

Table-3: shows different domain-wise analyses of structured knowledge questionnaires in that the maximum knowledge gained in (37%) of the anatomy and physiology of the kidney. Second highest knowledge gain in total two areas first causes and clinical manifestations of renal calculi and second preventive actions (measures) for renal calculi. and least knowledge scores gained in the area of diagnostic measures for renal calculi (13%).

Table-4: The table displays the pre-test and post-test mean and standard deviation knowledge pre-test scores (12.71±2.587) and knowledge post-test scores (19.05±1.726) and that concludes the mean knowledge post-test score was higher as compared to the pre-test scores of knowledge. The calculated 't' value ('t (54)'=20.650, p<0.05) was greater than the table value ('t (54) =2.0049) at 5% level, the H1 was accepted and concluded that There was a significant difference between the pre-test & post-test knowledge scores regarding the prevention of the recurrence of renal calculi.

Table-5 The table shows the pre-test and post-test mean and standard deviation of practice pre-test scores (25.09±3.807) and practice post-test scores (34.13±2.674,) The table shows the Mean and standard deviation of pre-test and post-test and that conclude the mean practice post-test was higher as compared to the pre-test scores of practice The calculated 't' value ('t (54)'= 27.619, p<0.05) was greater than the table value ('t(54)=2.0049) at 5% level, the H1 was accepted and concluded that There was a significant difference between the pre-test & post-test knowledge scores regarding the prevention of the recurrence of renal calculi.

Table-6: Reveals the association between pre-test knowledge scores with socio-demographic variables of selected samples. There was a significant correlation observed between selected socio-demographic variables like Age (p-value.045<sup>s</sup>), Marital status (p-value.006<sup>s</sup>), Occupation (p-value 0.000<sup>s</sup>), and Family income (p-value 0.0052<sup>s</sup>).

Table-7: Reveals the association between pre-test practice scores with socio-demographic variables of selected samples. There was a significant correlation observed between selected socio-demographic variables like educational status (p-value 0.002<sup>s</sup>), Occupation. (p-value 0.014<sup>s</sup>), Family income(p-value.036<sup>s</sup>), lifestyle habits(p-value.031<sup>s</sup>), Food pattern habits (p-value.038<sup>s</sup>), previous information about renal calculi, and their preventive measures (p-value 0.00<sup>s</sup>), sources of information(p-value.000<sup>s</sup>).

Table-8: Reveals the association between pre-test knowledge scores with Clinical parameters variables of selected samples. There was a significant correlation observed between pre-test scores with selected Clinical parameters like Previous medical history [Previous history of calculi {Renal calculi} (p-value .036<sup>s</sup>)], current medical/surgical history [location of the stone (p-value. 039<sup>s</sup>).

Table-9: Reveals the association between pre-test practice scores with Clinical parameters variables of selected samples. There was a significant correlation observed between selected Clinical parameters like the previous medical history of renal calculi (previous method of treatment) (p-value 0.01<sup>s</sup>).

**Table 1: Compression of pre-test and post-test knowledge scores of samples by descriptive analysis (frequency and percentage) (n=55)**

Knowledge Scores	Pre-test		Post-test	
	Frequency	Percentage	Frequency	Percentage
Poor scores	04	7.3%	00	0.0%
Average scores	51	92.7%	11	20.0%
Good scores	00	0.0%	44	80.0%

**Table 2: Compression of pre-test and post-test practice scores of samples by descriptive analysis (frequency and percentage) (n=55)**

Practice Scores	Pre-test		Post-test	
	Frequency	Percentage	Frequency	Percentage
Poor practices	36	66.5%	00	0.0%
Sub-optimal	16	29.1%	27	49.1%
Optimal	03	5.5%	28	50.9%

**Table 3: Item-wise knowledge scores of samples regarding Renal calculi. (n=55)**

Knowledge scores	Maximum possible scores	Mean		Mean%		Gain%	
		Pre-test	Post-test	Pre-test	Post-test	Actual gain	Possible gain
Anatomy and physiology of the kidney	3	1.78	2.89	59%	96%	37%	41%
Cause and clinical manifestations of renal calculi	6	3.71	5.45	61%	90%	29%	39%
Risk factors of renal calculi	5	2.05	2.80	41%	56%	15%	59%
Diagnostic measures for renal calculi	1	0.93	0.80	93%	80%	13%	7%
Preventive actions(measures) for renal calculi	10	4.24	7.11	42%	71%	29%	58%

**Table 4: compression of overall knowledge scores of samples on renal calculi. (n=55)**

Overall knowledge scores	Mean	SD	Mean difference	df	Calculated 't' value	Table 't' value	p Value
Pre-test	12.71	2.587	6.345	54	20.650	2.0049	0.000 <sup>s</sup>
Post-test	19.05	1.726					

\*p≤0.05 level of significance, S-significant NS- Not- significant.

**Table 5: compression of overall practice scores of samples on preventive approaches for renal calculi recurrence. (n=55)**

Overall practice scores	Mean	SD	Mean difference	df	Calculated 't' value	Table 't' value	p Value
Pre-test	25.09	3.807	9.036	54	27.619	2.0049	0.000 <sup>s</sup>
Post-test	34.13	2.674					

\*p≤0.05 level of significance, S-significant NS- Not- significant.

**Table 6: Association between pre-test knowledge scores among samples with their socio demographic variables. (n=55)**

Sr. No.	Variables	Characteristic	Knowledge scores			χ <sup>2</sup> value	df	p Value
			Poor	Average	Good			
1.	Age in the years	18-40	3	24	0	8.043	3	.045 <sup>s</sup>
		41-60	0	22	0			
		61-70	0	4	0			
		Above 70	1	1	0			
2.	Gender	Male	1	31		1.952	1	.162 <sup>NS</sup>
		Female	3	20				
		Others (Transgender)						
3.	Marital status	Unmarried	3	6	0	12.368	3	.006 <sup>s</sup>
		Married	0	33	0			
		Divorced	0	5	0			
		Widower's	1	7	0			
4.	Education	No formal education	1	6	0	2.571	3	.463 <sup>NS</sup>
		Primary/secondary education	3	25	0			
		Graduate	0	16	0			
		Post-graduate	0	4	0			
5.	Occupation	Home Maker	1	12	0	28.955	5	.000 <sup>s</sup>
		Student	2	0	0			
		Farmer	1	5	0			
		Self-employee	0	9	0			
		Private employee	0	21	0			
		Government employee	0	4	0			
6.	Family income	Less than 10,000	2	15	0	7.730	3	0.052 <sup>s</sup>
		10,001-30,000	0	23	0			
		30,001-50,000	1	12	0			

7.	Total family members	Above 51,000	1	1	0	3.924	2	.141 <sup>NS</sup>
		Less than 4 members	2	16	0			
		5 to 8 members	0	25	0			
		9 to 12 members	2	10	0			
8.	Area of living	More than 12 members	4	51	0	2.336	3	.506 <sup>NS</sup>
		Rural	1	18	0			
		Semi-urban	1	15	0			
		Urban	0	8	0			
9.	Environmental surrounding	Industrial area	2	10	0	.881	1	.348 <sup>NS</sup>
		Messy	1	5	0			
10.	Lifestyle habits	Clean	3	46	0	1.092	3	.779 <sup>NS</sup>
		No any bad habits	3	29	0			
		Smoking	0	7	7			
		Tobacco chewing	0	4	4			
		Alcohol consumption	1	11	12			
11.	Food pattern habits	Any other bad habits	0	0	0	2.664	1	.103 <sup>NS</sup>
		Non-vegetarian	0	21	0			
12.	Water resource facility	Vegetarian	4	30	0	2.318	3	.509 <sup>NS</sup>
		Well water	1	7	0			
		Tap water (Corporation water)	0	19	0			
		Borwell water	1	9	0			
13.	Any previous information about renal calculi and their preventive measures	Mineral Water	2	16	0	2.010	1	.156 <sup>NS</sup>
		No	3	48	0			
13a.	If yes, then resources	Yes	1	3	0	5.717	3	.126 <sup>NS</sup>
		Book	0	1	0			
		From Hospital	1	1	0			
		From colleagues	0	1	0			
14.	Any healthcare professional members in a family	Not applicable	3	48	0	.379	1	.538 <sup>NS</sup>
		No	3	44	0			
		Yes	1	7	0			

\*p≤0.05 level of significance, S-significant NS- Not- significant

**Table-7: Association between pre-test practice scores among samples with their socio-demographic variables. (n=55)**

Sr. No.	Variables	Characteristic	Practice scores			χ <sup>2</sup> value	df	p Value
			Poor practice	Sub-optimal	Optimal			
1.	Age in the years	18-40	17	9	1	2.266	6	.894 <sup>NS</sup>
		41-60	14	6	2			
		61-70	3	1	0			
		Above 70	2	0	0			
2.	Gender	Male	20	9	3	2.283	2	.319 <sup>NS</sup>
		Female	16	7	0			
		Others (Transgender)	0	0	0			
3.	Marital status	Unmarried	5	4	0	4.654	6	.589 <sup>NS</sup>
		Married	20	10	3			
		Divorced	4	1	0			

		Widower's	7	1	0			
4.	Education	No formal education	5	2	0	20.335	6	.002 <sup>S</sup>
		Primary/secondary education	21	7	0			
		Graduate	10	5	1			
		Post-graduate	0	2	2			
5.	Occupation	Home Maker	10	3	0	22.309	10	.014 <sup>S</sup>
		Student	1	1	0			
		Farmer	5	1	0			
		Self-employee	8	1	0			
		Private employee	11	9	1			
		Government employee	1	1	2			
6.	Family income	Less than 10,000	13	4	0	13.495	6	.036 <sup>S</sup>
		10,001-30,000	15	8	0			
		30,001-50,000	7	4	2			
		Above 51,000	1	0	1			
7.	Total family members	Less than 4 members	10	6	2	5.749	4	.219 <sup>NS</sup>
		5 to 8 members	15	9	1			
		9 to 12 members	11	1	0			
		More than 12 members	0	0	0			
8.	Area of living	Rural	13	6	0	4.689	6	.584 <sup>NS</sup>
		Semi-urban	10	5	1			
		Urban	6	2	0			
		Industrial area	7	3	2			
9.	Environmental surrounding	Messy	4	2	0	.411	2	.814 <sup>NS</sup>
		Clean	32	14	3			
10.	Lifestyle habits	No any bad habits	21	11	0	13.919	6	.031 <sup>S</sup>
		Smoking	2	3	2			
		Tobacco chewing	4	0	0			
		Alcohol consumption	9	2	1			
		Any other bad habits	0	0	0			
11.	Food pattern habits	Non-vegetarian	18	3	0	6.543	2	.038 <sup>S</sup>
		Vegetarian	18	13	3			
12.	Water resource facility	Well water	4	4	0	6.504	6	.369 <sup>NS</sup>
		Tap water (Corporation water)	14	5	0			
		Borwell water	5	4	1			
		Mineral Water	13	3	2			
13.	Any previous information about renal calculi and their preventive measures	No	35	15	1	.796	2	.000 <sup>S</sup>
		Yes	1	1	2			
13a	If yes, then resources	Book	0	0	1	36.371	6	.000 <sup>S</sup>
		From Hospital	1	1	0			
		From colleagues	0	0	1			
		Not applicable	35	15	1			
14.	Any healthcare professional members in a family	No	32	13	2	1.421	2	.491 <sup>NS</sup>
		Yes	4	3	1			

\*p≤0.05 level of significance, S-significant NS- Not- significant.

**Table 8: Association between pre-test knowledge score of samples with their clinical parameters. (n=55)**

Sr. No.	Variables	Characteristic	Knowledge scores			$\chi^2$ value	df	p Value
			Poor	Average	Good			
15.	Previous medical history							
1	Previous history of calculi (Renal calculi)	No	3	13	0	4.407	1	.036 <sup>S</sup>
		Yes	1	38	0			
1.1A	If Yes, Specify							
1.1A a	Time of diagnosis with calculi (Renal calculi)?	More than 24 months ago (>2 Years)	0	13	0	5.675	4	.225 <sup>NS</sup>
		24 Months ago(2Years)	1	8	0			
		12 Months ago (1 Year)	0	11	0			
		6 months ago (1/2 Year)	0	6	0			
		Not applicable	3	13	0			
1.1A b	The previous method of treatment	Left untreated	1	13	0	5.086	4	.279 <sup>NS</sup>
		Home remedial management	0	3	0			
		Medical management	0	14	0			
		Surgical management	0	8	0			
		Not applicable	3	13	0			
2	The current medical/surgical history							
2.1	location of the stone	Kidney	1	42	0	8.388	3	.039 <sup>S</sup>
		Urinary tract	1	2	0			
		Gall bladder	0	1	0			
		Any other locations	2	6	0			
2.2	Size of the stone	6.00 mm to 7.00 mm	1	4	0	2.653	3	.448 <sup>NS</sup>
		7.01 mm to 8.00 mm	0	11	0			
		8.01 mm to 9.00 mm	2	16	0			
		1 cm or larger	1	20	0			
2.3	Type of the stone	Calcium stones	1	30	0	2.837	3	.417 <sup>NS</sup>
		Cystine stones	0	2	0			
		Uric acid stones	3	17	0			
		Struvite stones	0	0	0			
		Drug-induced stones	0	1	0			
3.	Any other family member has a history of renal calculi	No	1	27	0	1.159	1	.282 <sup>NS</sup>
		Yes	3	24	0			

\* $p \leq 0.05$  level of significance, S-significant NS- Not- significant.

**Table 9: Association between pre-test practice scores of samples with their clinical parameters. (n=55)**

Sr. No.	Variables	Characteristic	Practice scores			$\chi^2$ value	df	p Value
			Poor practice	Sub-optimal	Optimal			
	Previous medical history							
1	Previous history of calculi (Renal calculi)	No	12	4	0	1.675	2	.433 <sup>NS</sup>
		Yes	24	12	3			
1.1A	If Yes, Specify							

1.1A a	Time of diagnosis with calculi (Renal calculi)?	More than 24 months ago (>2 Years)	7	5	1	8.631	8	.374 <sup>NS</sup>
		24 Months ago(2Years)	5	2	2			
		12 Months ago (1 Year)	7	4	0			
		6 months ago (1/2 Year)	5	1	0			
		Not applicable	12	4	0			
1.1A b	The previous method of treatment	Left untreated	11	3	0	27.384	8	.001 <sup>S</sup>
		Home remedial management	0	1	2			
		Medical management	9	5	0			
		Surgical management	4	3	1			
		Not applicable	12	4	0			
2	The current medical/surgical history							
2.1	location of the stone	Kidney	28	12	3	1.556	6	.956 <sup>NS</sup>
		Urinary tract	2	1	0			
		Gall bladder	1	0	0			
		Any other locations	5	3	0			
2.2	Size of the stone	6.00 mm to 7.00 mm	4	1	0	5.560	6	.474 <sup>NS</sup>
		7.01 mm to 8.00 mm	5	6	0			
		8.01 mm to 9.00 mm	13	4	1			
		1 cm or larger	14	5	2			
2.3	Type of the stone	Calcium stones	20	9	2	1.212	6	.976 <sup>NS</sup>
		Cystine stones	1	1	0			
		Uric acid stones	14	5	1			
		Struvite stones	0	0	0			
		Drug-induced stones	1	1	0			
3.	Any other family member has a history of renal calculi	No	19	9	0	3.344	2	.188 <sup>NS</sup>
		Yes	17	7	3			

\* $p \leq 0.05$  level of significance, S-significant NS- Not- significant

## DISCUSSION

The roughly equivalent research conducted by C Thirupathi<sup>1</sup> and Dr. R Shankar Shanmugam, International Journal of Advance Research in Nursing (July-Dec 2020), A pre-experimental design study was done with the aid Nurse-led education program on the prevention of renal calculi among patients admitted in the medical ward, Results showed that patients admitted to the medical ward had a pre-test knowledge score of about preventing renal calculi. Patients at Rajiv Gandhi Government General Hospital in Chennai-03 who are admitted to the medical ward have an average awareness across all domains of preventing renal calculi. They scored as high as they could in the category of Knowledge of causes (80.60%). In the area of preventive measures, they scored (70.67%) or less. The total score for knowledge is 75.6%. in the post-test knowledge score. They scored as high as they could in the category of Knowledge of Marriage (80.83%). They have at least a 70.67% rating in the section on preventative actions. The overall knowledge score is expressed as a percentage (42.48%). score on the knowledge level pre-test Eighty percent of patients receive insufficient knowledge evaluations, twenty percent receive intermediate knowledge ratings, and none receive adequate knowledge ratings. A post-test was provided to patients who were admitted to the medical ward to ascertain their knowledge of renal calculi prevention. In general, none of the patients had knowledge that was insufficient, 28.3% had information that was intermediate, and 71.7% had knowledge that was sufficient.<sup>[9]</sup>

## CONCLUSION

The intention of the current study was to determine in the event nurse-directed interventions on lifestyle changes was beneficial in preventing the recurrence of renal calculi in patients who were diagnosed with and treated for them at Parul Sevashram Hospital, Vadodara. Based on the study's findings, the conclusion that follows has been drawn. The results demonstrated that the nurse-directed intervention was significantly beneficial in modifying patients' lifestyles to prevent the recurrence of renal calculi.

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