Effect of Beans Therapy on Ureteric Calculi Pain: An Interventional Study

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ABSTRACT

Kidney stones are affidavit of minerals as a gem solidification of natural components, mostly found in the kidney calyces and pelvis. The quantitative research approach with one group pretest and post test design was used in this study with 60 patients with ureteric calculi. The demographic data was collected by structured questionnaire and the intensity of the pain due to ureteric calculi was assessed by Numeric pain rating scale. Beans therapy was given, i.e., the patients were advised to take boiled beans water 5 times a day. The results revealed that in the pretest, 40(66.67%) had moderate pain, 15(25%) had severe pain and 5(8.33%) had mild pain whereas after the administration of beans therapy, 40(66.66%) had mild pain, 19(31.67%) had moderate pain and only one (1.67%) had no pain. The findings show that the mean score of pain intensity among patients with ureteric calculi was 5.38 ± 1.53 and the post-test mean score was 2.85 ± 1.34. The calculated paired ‘t’ test value of t = 26.265 was found to be statistically significant at p<0.001. The study findings revealed that most of the samples were relieved of pain due to ureteric calculi which infers that beans therapy administered to the patients enhanced the removal of small kidney stones which ultimately resulted in the reduction of pain among patients with ureteric calculi.

INTRODUCTION

Urolithiasis is a common problem with an increasing incidence and prevalence worldwide there is a geological fluctuation of Urolithiasis with higher predominance of stone arrangement in territories of hot atmosphere when contrasted with moderate (Alkhunaizi, 2016). Renal stone nephrolithiasis is an upsetting constant condition which is getting basic over the world it has been known to be normal in created and industrialized nations the neighborhood network in the urban health training center in Puducherry grumbled about high occurrence of kidney stone in the network and ascribed it to the hardness of drinking water (Dongre et al., 2017). Urolithiasis is a very complex disease an understanding of the epidemiology particularly the interaction between different factors may help define approach that reduces the risk of calculus formation mineral content may widely vary in tap water depending on the aquifer site calcium and magnesium found in mineral content of freshwater such as calcium and bicarbonate on the urinary calculus incidence (Chávez-Mendoza and Sánchez, 2017). The normal beans prevail among the most delivered and devoured vegetables in Africa, India, Latin American and Mexico basic bean is food with high substance of protein, sugars, diet fiber minerals and
nutrients contain a few bioactive compound beans utilization has been an indispensable piece of the eating routine in Mexico for a huge number of years (Evan, 2010). Roughly 5% of American ladies and 12% of lady 12% of men will have a kidney stone sooner or later in life another measurement is the recorded expansions in the predominance of calcium phosphate in stone stones along the urinary tract can be situated in the kidney, ureters and urinary bladder kidney stones are sorted as either staghorn or nonstaghorn. Non staghorn stones are portrayed as calyceal or pelvic in area while urethral stone are characterized as proximal, middle or distal kidney stones under 5mm in width have a high possibility of being passed while those of 5-7 mm have a 50 percent possibility and those over 7mm (Mitra et al., 2018). An expansion in liquid intake is normal guidance for patients with renal stone a higher admission prompts expanded urinary volume and thus diminished in concentration of stone arrangement on the other hand the expanded urinary volume could diminish pace of urinary volume could diminish the centralization of inhibitors of stone formation (Basiri et al., 2011).

Kidney oxalate can join with calcium inside renal tubules prompting nephrocalcinosis and kidney stone testimony of calcium oxalate inside tubules and the interstitium and the immunological Response that can create reformist loss of renal function (Leslie et al., 2020). Kidney stones are deposition of minerals as a crystal conception of organic compounds, generally in the kidney calyces and pelvis dietary adjustments way of life changes and the utilization of explicit drugs are important to lessen the repeat of renal calculi. Phaseolus Vulgaris is a bean vegetable from a group of pea which is utilized to decrease kidney stones of minerals and nutrients that help in cleaning the kidneys and improving urinary tract function (Wang et al., 2020). The purpose of the study 1. To assess the intensity of pain among patients with ureteric calculi. 2. To assess the effectiveness of beans therapy on pain among patients with ureteric calculi. 3. To associate the intensity of pain among patients with ureteric calculi with the selected demographic variables.

MATERIALS AND METHODS

The quantitative research approach with one group pretest and post test design was used in this study with 60 patients with ureteric calculi. The samples of the study were selected by using purposive sampling technique. The study was conducted at Saveetha Medical College and hospital. Inclusive criteria for this study is patients with Ureteric Calculi, people who have no comorbidity and people who are willing to participate. Exclusive Criteria for this study is those who have past history of Ureteric Calculi and those who are not willing to participate in the study. The data collection procedure was done with prior Permission was obtained from the Medical Superintendent of Saveetha Medical College and Hospital. An informed assent was acquired from each individual. Subsequent to furnishing Brief acquaintance and clarification on how with response the Questions to the members, the information was gathered. The demographic data was collected by structured questionnaire and the intensity of the pain due to ureteric calculi was assessed by Numeric pain rating scale. Beans therapy was given, i.e., the patients were advised to take boiled beans water 5 times a day. The data collected was analyzed by descriptive and inferential statistics.

RESULTS AND DISCUSSION

Description of the demographic variables

The demographic variables of the samples are majority of them 19(31.7%) belong to age group of 36-50 years and 51-65 years, 34(56.7%) were male, 22(36.6%) had completed their higher secondary education, 26(43.3%) were self-employed, 40(66.7%) were Hindus, 56(93.3%) were non-vegetarian, 55(91.7%) had no family history of kidney disease and 44(73.3%) used to drink 1 litre of water per day.

Assessment of pretest and post test intensity of pain among patients with ureteric calculi

The Table 1 reveals in the pretest, 40(66.67%) had moderate pain, 15(25%) had severe pain and 5 (8.33%) had mild pain whereas after the administration of beans therapy, 40(66.6%) had mild pain, 19(31.67%) had moderate pain and only one (1.67%) had no pain.

Comparison of effectiveness of beans therapy among patients with ureteric calculi

The Table 2 shows that the mean score of pain intensity among patients with ureteric calculi was 5.38±1.53 and the posttest mean score was 2.85±1.34. The calculated paired ‘t’ test value of t = 26.265 was found to be statistically significant at p=0.001. This clearly infers that beans therapy administered to the patients with ureteric calculi was found to be effective in increasing the urinary volume among the patients which enhances the removal of small kidney stones thereby reducing the level of pain among the patients. The discoveries of study was upheld by the Jalal et al. directed an examination to explore the
Table 1: Frequency and percentage distribution of intensity of pain among patients with ureteric calculi (N=60).

<table>
<thead>
<tr>
<th>Intensity of Pain</th>
<th>Pretest No</th>
<th>Pretest %</th>
<th>Post-test No</th>
<th>Post-test %</th>
</tr>
</thead>
<tbody>
<tr>
<td>No pain (0)</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1.67</td>
</tr>
<tr>
<td>Mild pain (1 – 3)</td>
<td>5</td>
<td>8.33</td>
<td>40</td>
<td>66.66</td>
</tr>
<tr>
<td>Moderate pain (4 – 6)</td>
<td>40</td>
<td>66.67</td>
<td>19</td>
<td>31.67</td>
</tr>
<tr>
<td>Severe pain (7 – 9)</td>
<td>15</td>
<td>25.0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Worst possible pain (10)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 2: Comparison of pretest and post-test intensity of pain scores among patients with ureteric calculi (N=60).

<table>
<thead>
<tr>
<th>Intensity of Pain</th>
<th>Mean</th>
<th>S.D</th>
<th>Paired ‘t’ Test Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest</td>
<td>5.38</td>
<td>1.53</td>
<td>t = 26.265, p = 0.001, S***</td>
</tr>
<tr>
<td>Post Test</td>
<td>2.85</td>
<td>1.34</td>
<td></td>
</tr>
</tbody>
</table>

***p<0.001, S – Significant.

impact of Phaseolus Vulgaris (Beans) on urinary biochemical boundaries among 60 patients with kidney stones. The scientist led a randomized controlled investigation among patients with kidney stones (size <10 mm) in the nephrology unit. Urinary volume, calcium, magnesium, potassium, oxalate, uric corrosive and intensity of hydrogen (pH) were surveyed when the mediation of giving 250g of PV utilization as a concentrate threefold week after week (2.2L to 2.5L every week) for about a month and a half, which was contrasted and control. Taking everything into account, PV is successful administration for the patients with kidney stones as it expands the urinary volume and improves the end of little kidney stones (Jalal et al., 2020).

CONCLUSIONS

The present study assessed the intensity of pain among clients with ureteric calculi. The investigation findings revealed that most of the samples were relieved of pain due to ureteric calculi which infers that beans therapy administered to the patients enhanced the removal of small kidney stones which ultimately resulted in the decline of pain among clients with ureteric calculi.

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Conflict of Interest

The authors declare that they have no conflict of interest for this study.

REFERENCES