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RESEARCH ARTICLE

CLINICAL STUDY ON THE EFFICACY OF KUSHMANDA SWARAS YOGA IN THE MANAGEMENT OF MOOTRASHMARI (UROLITHIASIS)

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ABSTRACT

Asmari is a most difficult disorder for the sufferings. The disease *mootrashmari* is the most common disease among various urinary disorders and has been described briefly in *Sushruta Samhita* and other Ayurvedic texts. This disease can occur in kidney, ureters and badder with renal colic pain, haematuria or dysurea. According to modern science Urolithiasis or Urinary calculus are typically classify by locate in the urinary system. Such as in the Kidney (Nephrolithiasis), in the bladder (Cystolithiasis) etc. Urinary stone typically live in the body and can be passed through urine stream by the help of diet and appropriate medicines. Here an attempt has been taken to observe and see the efficacy of *Kushmanda swaras yoga* in the management of Urolithiasis. The contents of the proposed medicine having proven diuretic effects with capable of *bhedan* (break) and excrete out the stone through urine.

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INTRODUCTION

Among the various urinary problems described in Ayurvedic texts, *mootrashmari* is the important one where both the medicinal and the surgical treatments are advised. In *Ayurveda* there is vividly elaboration on urinary stones as *ashmari*. This disease is dreadful (considered it as "*Yama*") and hence considered one of the '*astamahagadhas*' by *Maharshi Sushruta*[1] *Ashmari* is a disease in which there is formation of stone, resulting in to severe pain as given by enemy. Almost all *Samhitas* describe *Ashmari*, either as a type of *mootraghata*[2] (as per *Charak* or as a separate disease (as per *Sushruta*)[3] but the details on *Mootrashmari*, it's etiological factors, classifications, symptomatology, pathology, complications & its management was first elaborated by *Acharya Sushruta*. In *Sushruta Samhita* it is explained that, the formation of *mootrashmari* is due to the drying up of *Kapha* because of the action of *Vata* and *Pitta.* He stated that in *Asamshodhanasheela* persons, one who does not follows *Shodhana* (purification) treatment and who is *Apathyakaari* (uses unwholesome items), *Shleshma dosha* gets aggravated, and saturates the urine in system. This saturated urine (*Shleshma Yukta Mootra*) is the material (cementing substance) which causes urinary stone formation. Through urine different stone forming *Doshas* – like *Vata, Pitta* & *Kapha* come from the system and along with the cementing substances they form urinary stone of particular *Dosha* involved.

Prevalence rate[4]: Prevalence rate of Urolithiasis varies according to geographical distribution, sex and age and are more commonly seen in subjects residing in countries with dry and hot climate. About 12% of people suffer from kidney stone once in their life time. The worldwide prevalence, incidence and composition of calculi varies and have changed in the last several decades, with prevalence ranging from 7% to 13% in North America, 5%–9% in Europe, and 1%–5% in Asia.[5] In India and Malaysia, the incidence was lower than 40/100000 in 1960s, but three decades later, it grew dramatically to 930/100 000 and 442.7/100 000, respectively[6,7,8.] *Ayurveda* mentioned medicinal management (*Auoshdhi chikitsa*)[9]like various *Ghrita, Kshara, Kashaya, Swarasa, Kshira* and *Uttar basti* as the first line of treatment for *Ashmari*. Surgical treatment (*Shalya chikitsa – Chedana karma*) is specified when the medical treatment fails to control the disease[10] The line of treatment is not only to eliminate or to remove the same but also meanwhile avoid the recurrence by *prakruthivighatana* principles[11]

Aims and Objectives

- To evaluate the efficacy of *Kushmanda swaras yoga* in the management of *mootrashmari (urolithiasis)*.
- Complete study of the disease *mootrashmari (urolithiasis)* according to both Ayurvedic and modern view.
- To find out an effective, economic and simplified management of the disease urolithiasis.

MATERIALS AND METHODS

Conceptual study: – A detail review of the available literatures on the drug and disease was conducted from classical texts of Ayurveda, such as- *Samhitas, Nighantus, Bhaishjya ratnavali* and other treatises. Data was also collected from various scientific books in the field of medicine, Modern Medical Science, past research works and online as well as published papers in the journals etc.

Clinical study

- **Study Type -** Randomized open clinical study.
- **Sample size -** 40 nos
- **Place of Study** – P.G Department of Shalya Tantra, VYDSAM, Khurja (U.P.).
- **Selection of Patients:** The patients were selected randomly from the OPD and IPD of Shalya Tantra department, VYDSAM, Khurja (U.P.) for the study. Patients were diagnosed on the basis of clinical features, physical examination, lab investigation findings and radiological evidences.
- **Study Design –** Single group.
- **Proforma –** A special proforma for *Mootrasmari* (Urolithiasis) was prepared by incorporating chief complains, associated symptoms, other history, *Dasha Vidha Pariksha* and routine physical examination etc. Special scoring pattern was adopted for the assessment of the results using Ayurvedic and Modern parameters. The proforma was filled off for each patient before and after treatment carefully.

Selection Criteria

Inclusion criteria

- Patient willing for trial and gave informed written consent.
- Patients who were not interested to undergo for surgery and those who were unfit for surgical intervention.
- *Age* – 18 to 60 years
- *Sex* – Both Male and Female
- Complaints of *Mootrashmari (Urolithiasis)* like

Subjective parameters

- Pain in flanks - (*Shoola* -Renal colic *pain* - Pain in the renal angle and loin region may radiating towards groin)
- Blood in urine (Hematuria)
- Interrupted stream of urine
- Urgency of urine
- Frequency of urine
- Burning micturition
- Nausea
- Vomiting
- Fever

Objective parameters

- Radiographic / USG evidence of the stone
- Multiple calculi having size ≤12 mm each in any part of urinary system (kidney, ureters, bladder and urethera)
- Stone in kidneys, ureter, bladder and urethra having size ≤12 mm each.
- Patients who had undergone previously for any surgical and non surgical interventions and have again developed stones in any part of urinary system size ≤12 mm each

Exclusion Criteria

- Age – < 18 and >60 years
- UTI (pyelonephritis, hydronephrosis)
- Patients with obstructive uropathy
- Patients with known metabolic/endocrinal disorder favoring calculus formation
- Patients who require the surgical intervention immediately.
- Patients with impaired renal function or any severe complication
- Patients with evidence of malignancy
- Patients with other systemic diseases like DM, HTN, TB etc.
- Patients on prolonged (≥ 6 weeks) medication with corticosteroids, antidepressants, anticholinergics etc or any other drug that may have an influence on the outcome of study
- Stone size more than 12 mm
- History of reaction to trial medicine

Drug

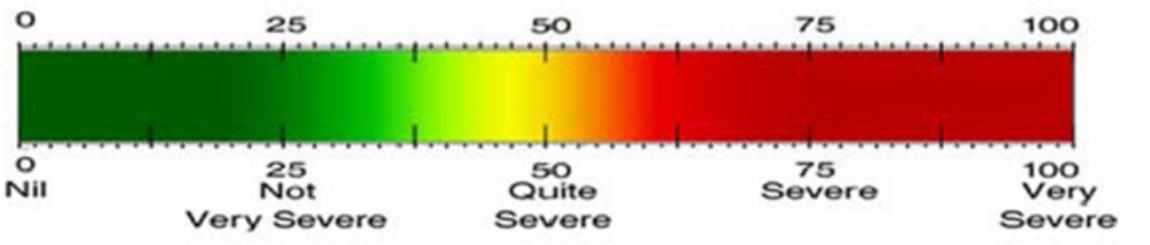
- **Trial drug -** *Kushmanda swaras yoga* **(**B.R. Mutraghata chikitsa 35/3)
- **Ingredients** – *Kushmanda phal (Benincasa hispida) swaras, Yavakshar. Puran Guda (old jaggery)*
- **Dose -** 25 ml twice daily empty stomach
- **Duration of Treatment –** Six weeks
- **Follow up–** In 15th, 30th, 45th and 60th day
- **Diet and Advice –** Patients were advised to take plenty of water. Strict recommended schedules on *Pathyapathya* were prescribed to all.
- **Laboratory Investigations:**
- **Routine Blood examination -** CBC, FBS, PPBS. Blood Urea and Serum Creatinine
- **Urine analysis (routine and microscopic examination)**
- **Ultra Sonographical study –** KUB
- **Radiological study -** Plain X-RAY KUB, IVP (in selected cases)

Assessment –On the basis of the clinical improvement reported by the patient's assessment was done and results were noted.

- **General observations -** Various demographic parameters viz Age, Marital status, Religion, etc. along with specific features of *Dashvidha pareeksha viz prakriti, satva, samhanana* etc were analysed in the present trial.
- **Clinical and Statistical Assessment –** The assessment was done on subjective and objective parameters. The obtained results were analyzed with the use of Wilcoxon signed rank method to check the significance of subjective parameters and Paired 't' test for objective parameters.

Scoring Adopted for Assessment

•**Pain in flanks** (Visual analogue scale -VAS) - Instruct the patient to point to the position on the line between the faces to indicate how much pain they are currently feeling. The far left end indicates 'No pain' and the far right end indicates 'Worst pain ever'.



- Grade 0 = No pain
- Grade 1 = Mild pain
- Grade 2= Moderate pain
- Grade 3 = Severe pain

Haematuria

- Grade 0 = No haematuria
- Grade 1 = Smoky colour urine
- Grade 2= Blackish colour urine
- Grade 3 = Bright red colour urine

Interrupted stream of urine

- Grade 0 = No interruption in flow of urine
- Grade 1 = Occasional interruption of stream of urine
- Grade 2= intermittent interruption with pain
- Grade 3 = frequent interruption with pain

Urgency of urine

- Grade 0 = no urgency
- Grade 1 =mild, awareness of urgency but easily tolerated
- Grade 2= moderate, enough urgency/discomfort that it interferes with usual activities/tasks
- Grade 3 = severe, extreme urgency discomfort that abruptly stops all activities/tasks.

Frequency of urine

- Grade 0 = Normal frequency
- Grade 1 = mild increased number of frequencies (6-8 times in 24 hrs)
- Grade 2= increase in number of frequencies (8-10 times in 24hrs)
- Grade 3 = frequency of urine >10 in 24hrs

Burning micturition

- Grade 0 = No burning micturition
- Grade 1 = Occasional burning micturition present but easily bearable
- Grade 2= Regular burning micturition present but easily bearable, medicine not require
- Grade 3 = Regular burning micturition present simply unbearable, , required medication

Nausea/Vomiting

- Grade 0 = Absent
- Grade 1 = Nausea tendency only no vomiting
- Grade 2= Nausea always occasionally Vomiting (≤ 2 vega/day)
- Grade 3 = Severe vomiting (> 2 vega/day)

Fever

- Grade 0 = No fever (98-99^{0}F)
- Grade 1 = Mild (99 – 100^{0}F)
- Grade 2= Moderate (100-101^{0}F)
- Grade 3 = Severe (>101^{0}F)

Size of stone

- Grade 0= Absent
- Grade 1= < 5 mm
- Grade 2= 6 – 9 mm
- Grade 3= 10 – 12 mm

Overall assessment of the treatment

- Cured - Complete reduction (100%) of all the signs and symptoms with absence of stone.
- Maximum improvement - ≥75% of reduction in size of stoneand signs & symptoms
- Moderate improvement - ≥50% to <75% of reduction in size of stone and signs & symptom
- Mild improvement - ≥25 to < 50% of reduction in size of stone and signs & symptoms
- Unsatisfactory improvement - ≤ 25 of reduction in size of stone and signs & symptoms

OBSERVATION

Distribution of patients according to Age

Sl. No	Age groups	No. of patients	Percentage (%)
1	**18 to 30**	**6**	**15**
2	**31 to 40**	**7**	**17.5**
3	**41 to 50**	**12**	**30**
4	**51 to 60**	**15**	**37.5**

Observation – In this study, Out of 40 (100%) cases, maximum 15 (37.5%) of patients were in age group of 51 - 60yrs, followed by 12 (30%), 7 (17.5%), and 6 (15%) in respective age group of 41-50, 31-40 and 18-30 yrs.

Distribution of patients according to Dietary habits

Sl. No	Dietary Habits	No. of patients	Percentage (%)
1	**Vegetarian**	**15**	**37.5**
2	**Non - Vegetarian**	**25**	**62.5**

Observation - Out of 40 (100%) cases, Maximum i.e. 25 (62.5%) of the patients were Non-Vegetarian whereas 15 (37.5%) were Vegetarian.

Distribution of patients according to Prakriti

Sl. No	Prakriti (Predominance)	No. Of Patients	Percentage (%)
1	Vata	2	5
2	Pitta	3	7.5
3	Kapha	4	10
4	Vata – Pitta	7	17.5
5	Pitta – Kapha	6	15
6	Kapha – Vata	8	20
7	Tridoshaja	10	25

Observation - Out of 40 (100%) cases, maximum patients i.e. 10 (25%) were of TridoshajaPrakriti followed by 8 (20%), 7 (17.5%), 6 (15%), 4 (10%), 3 (7.5%) and 2 (5%) were in Kapha–Vata, Vata–Pitta, Pitta–Kapha, Kaphaja, Pitaja and VatajaPrakriti respectively.

Showing the incidence of average water intake per day (N = 40)

Sl. No	Average water intake per day	No. of patients	Percentage (%)
1	**< 2 lit**	**21**	**52.5**
2	**2-3 lit**	**15**	**37.5**
3	**>3 lit**	**4**	**10**

Observation -Out of 40 (100%) cases, most of the Patients i.e. 21(52.5%) were taking < 2 lit (average) water intake per day where as 15 (37.5%) were taking average 2-3 lit water intake per day and 4 (10%) were taking average > 3 lit water intake per day.

Showing the incidence of character of pain (N = 40)

Sl. No	Character of pain	No. of patients	Percentage (%)
1	**Constant**	**3**	**7.5**
2	**Intermittent**	**15**	**37.5**
3	**Radiating**	**14**	**35**
4	**Colicky**	**8**	**20**

Observation - Out of 40 (100%) cases, most of the Patients i.e. 15 (37.5%) were of intermittent pain group, followed by 14 (35%), 8 (20%) and 3 (7.5%) were of Radiating, colicky and constant pain group respectively.

Showing the incidence of affected kidney (N = 40)

Sl. No	Affected kidney	No. of patients	Percentage (%)
1	Left kidney	22	55
2	Right kidney	13	32.5
3	Bilateral	5	12.5

Observation - Out of 40 (100%) cases, most of the Patients i.e. 22(55%) were present in left kidney, followed by 13(32.5%) and 5(12.5%) were present in right kidney and bilateral respectively.

Showing the location of the stone (N = 40)

Sl. No	Location of the stone	No. of patients	Percentage (%)
1	Kidney (Nephrolithiasis)	20	50
2	Ureter (Ureterolithiasis)	11	27.5
3	Bladder (Cystolithiasis)	9	22.5

Observation - Out of 40 (100%) cases, most of the Patients i.e. 43.33% were of Kidney (Nephrolithiasis) location of the stone, followed by 36.67% and 20% were of Ureter (Ureterolithiasis) and Bladder (Cystolithiasis) respectively.

Showing the incidence of Presence of Hydronephrosis (N = 40)

Sl. No	Presence of Hydronephrosis	No. of patients	Percentage (%)
1	Absent	28	70
2	Mild	11	27.5
3	Moderate	1	2.5
4	Severe	0	0

Observation - Out of 40 (100%) cases, most of the Patients i.e. 70% were not having Hydronephrosis, followed by 26.67%, 3.33% and 0% were havingmild, moderate and severe type of Hydronephrosis respectively.

Showing the incidence of type of stone (N = 40)

Sl. No	Type of Stone	No. of patients	Percentage (%)
1	Uric acid stones	17	42.5
2	Calcium stones (oxalate, phosphate)	22	55
3	Struvite stones	1	2.5
4	Cystine stones	0	0

Observation - Out of 40 (100%) cases, most of the Patients i.e. 22(55%) were having Calcium stones (oxalate, phosphate), followed by 17 (42.5%), 1 (2.5%) and 0% were having Uric acid stones, Struvite stones and Cystine stones respectively.

Showing the Presence of subjective and objective features

Sl. No	Type of Stone	No. of patients	Percentage (%)
1	Pain in flanks	40	100%
2	Haematuria	26	65%
3	Interrupted stream of urine	40	100%
4	Urgency of urine	40	100%
5	Frequency of urine	40	100%
6	Daha (Burning micturition)	40	100%
7	Nausea/Vomiting	9	22.5%
8	Jvara (Fever)	12	30%
9	Size of stone	40	100%

Observation - In this study, presence of subjective and objective features shows Pain in flanks 40 (100%), Haematuria 26 (65%), Interrupted stream of urine 40 (100%), Urgency of urine 40 (100%), Frequency of urine 40 (100%), Daha (Burning micturition) 40 (100%), Nausea/Vomiting 9 (22.5%) and Jvara (Fever) 12 (30%). Size of stone measured in all patients i.e. 40 (100%).

Showing the Degree of Severity of sign & symptoms before and after treatment

Sign & Symptoms	Gradation	BT	AT 1	AT2	AT3	AT 4
Pain in flanks	**G0**	0	0	1	1	7
	G1	6	10	13	21	33
	G2	34	30	26	18	0
	G3	0	0	0	0	0
Haematuria	**G0**	0	1	2	7	7
	G1	4	8	14	13	19
	G2	22	17	10	6	0
	G3	0	0	0	0	0
Interrupted stream of urine	**G0**	0	0	1	3	8
	G1	3	3	9	20	24
	G2	27	30	25	17	8
	G3	10	7	5	0	0
Urgency of urine	**G0**	0	0	2	4	9
	G1	5	6	13	23	21
	G2	24	26	21	13	10
	G3	11	8	4	0	0
Frequency of urine	**G0**	0	0	0	1	8
	G1	1	3	10	21	16
	G2	18	21	20	18	16
	G3	21	16	10	0	0
Daha (Burning micturition)	**G0**	0	0	0	1	14
	G1	1	4	11	24	12
	G2	20	23	20	15	14
	G3	19	13	9	0	0
Nausea/Vomiting	**G0**	0	0	1	1	2
	G1	2	5	4	6	5
	G2	5	4	4	2	2
	G3	2	0	0	0	0
Jvara (Fever)	**G0**	0	0	0	8	11
	G1	2	4	6	4	1
	G2	10	8	6	0	0
	G3	0	0	0	0	0
Size of stone	**G0**	0	0	0	0	0
	G1	1	1	4	12	27
	G2	16	24	23	27	13
	G3	23	15	13	1	0

Observation - Pain in flanks shows 0, 6, 34, 0 cases of before treatment became 0, 10, 30, 0 after 15days of treatment (AT1), then became 1, 13, 26, 0 after 30days of treatment (AT2), then became 1, 21, 18, 0 after 45days of treatment (AT3) and then became 7, 33, 0, 0 after 60days of treatment (AT4) among respected severity gradations of G_0, G_1, G_2, G_3.

Haematuria shows 0, 4, 22, 0 cases of before treatment became 1, 8, 17, 0 after 15days of treatment (AT1), then became 2, 14, 10, 0 after 30days of treatment (AT2), then became 7, 13, 6, 0 after 45days of treatment (AT3) and then became 7, 19, 0, 0 after 60days of treatment (AT4) among respected severity gradations of G_0, G_1, G_2, G_3.

Interrupted stream of urine shows 0, 3, 27, 10 cases of before treatment became 0, 3, 30, 7 after 15days of treatment (AT1), then became 1, 9, 25, 5 after 30days of treatment (AT2), then became 3, 20, 17, 0 after 45days of treatment (AT3) and then became 8, 24, 8, 0 after 60days of treatment (AT4) among respected severity gradations of G_0, G_1, G_2, G_3.

Urgency of urine shows 0, 5, 24, 11 cases of before treatment became 0, 6, 26, 8 after 15days of treatment (AT1), then became 2, 13, 21, 4 after 30days of treatment (AT2), then became 4, 23, 13, 0 after 45days of treatment (AT3) and then became 9, 21, 10, 0 after 60days of treatment (AT4) among respected severity gradations of G_0, G_1, G_2, G_3.

Frequency of urine shows 0, 1, 18, 21 cases of before treatment became 0, 3, 21, 16 after 15days of treatment (AT1), then became 0, 10, 20, 10 after 30days of treatment (AT2), then became 1, 21, 18, 0 after 45days of treatment (AT3) and then became 8, 16, 16, 0 after 60days of treatment (AT4) among respected severity gradations of G_0, G_1, G_2, G_3.

Daha (Burning micturition) shows 0, 1, 20, 19 cases of before treatment became 0, 4, 23, 13 after 15days of treatment (AT1), then became 0, 11, 20, 9 after 30days of treatment (AT2), then became 1, 24, 15, 0 after 45days of treatment (AT3) and then became 14, 12, 14, 0 after 60days of treatment (AT4) among respected severity gradations of G_0, G_1, G_2, G_3.

Nausea/Vomiting shows 0, 2, 5, 2 cases of before treatment became 0, 5, 4, 0 after 15days of treatment (AT1), then became 1, 4, 4, 0 after 30days of treatment (AT2), then became 1, 6, 2, 0 after 45days of treatment (AT3) and then became 2, 5, 2, 0 after 60days of treatment (AT4) among respected severity gradations of G_0, G_1, G_2, G_3.

Jvara (Fever) shows 0, 2, 10, 0 cases of before treatment became 0, 4, 8, 0 after 15days of treatment (AT1), then became 0, 6, 6, 0 after 30days of treatment (AT2), then became 8, 4, 0, 0 after 45days of treatment (AT3) and then became 11, 1, 0, 0 after 60days of treatment (AT4) among respected severity gradations of G_0, G_1, G_2, G_3.

Size of stone shows 0, 1, 16, 23 cases of before treatment became 0, 1, 24, 15 after 15days of treatment (AT1), then became 0, 4, 23, 13 after 30days of treatment (AT2), then became 0, 12, 27, 1 after 45days of treatment (AT3) and then became 0, 27, 13, 0 after 60days of treatment (AT4) among respected severity gradations of G_0, G_1, G_2, G_3.

Showing the Percentage (%) of improvement in each symptom after treatment

Sign & Symptoms		% relief
Pain in flanks	A.T.1	5.41
	A.T.2	12.16
	A.T.3	22.97
	A.T.4	55.41
Haematuria	A.T.1	12.50
	A.T.2	29.17
	A.T.3	47.92
	A.T.4	60.40
Interrupted stream of urine	A.T.1	3.45
	A.T.2	14.94
	A.T.3	37.93
	A.T.4	54.02
Urgency of urine	A.T.1	4.65
	A.T.2	22.09
	A.T.3	43.02
	A.T.4	52.33
Frequency of urine	A.T.1	7.00
	A.T.2	20.00
	A.T.3	43.00
	A.T.4	52.00
Daha (Burning micturition)	A.T.1	9.18
	A.T.2	20.41
	A.T.3	44.90
	A.T.4	59.18
Nausea/Vomiting	A.T.1	27.78
	A.T.2	33.34
	A.T.3	44.45
	A.T.4	50.00
Fever	A.T.1	0.28
	A.T.2	0.47
	A.T.3	1.54
	A.T.4	1.68
Size of stone	A.T.1	8.15
	A.T.2	12.45
	A.T.3	34.33
	A.T.4	48.07

Observation—The Percentage (%) of improvement in Pain in flanks shows 5.41 % relief after 1st week of treatment (AT1), 12.16 % relief after 2nd week of treatment (AT2), 22.97 % relief after 3rd week of treatment (AT3), 55.41% relief after 4th week of treatment (AT4). Haematuria shows 12.50% relief after 1st week of treatment (AT1), 29.17% relief after 2nd week of treatment (AT2), 47.92% relief after 3rd week of treatment (AT3), 60.40% relief after 4th week of treatment (AT4). Interrupted stream of urine shows 3.45% relief after 1st week of treatment (AT1), 14.94% relief after 2nd week of treatment (AT2), 37.93% relief after 3rd week of treatment (AT3), 54.02% relief after 4th week of treatment (AT4). Urgency of urine shows 4.65% relief after 1st week of treatment (AT1), 22.09% relief after 2nd week of treatment (AT2), 43.02% relief after 3rd week of treatment (AT3), 52.33% relief after 4th week of treatment (AT4). Frequency of urine shows 7.00% relief after 1st week of treatment (AT1), 20.00% relief after 2nd week of treatment (AT2), 43.00% relief after 3rd week of treatment (AT3), 52.00% relief after 4th week of treatment (AT4). Daha (Burning micturition) shows 9.18% relief after 1st week of treatment (AT1), 20.41% relief after 2nd week of treatment (AT2), 44.90% relief after 3rd week of treatment (AT3), 59.18% relief after 4th week of treatment (AT4). Nausea/Vomiting shows 27.78% relief after 1st week of treatment (AT1), 33.34% relief after 2nd week of treatment (AT2), 44.45% relief after 3rd week of treatment (AT3), 50.00% relief after 4th week of treatment (AT4). Jvara (Fever) shows 0.28% relief after 1st week of treatment (AT1), 0.47% relief after 2nd week of treatment (AT2), 1.54% relief after 3rd week of treatment (AT3), 1.68% relief after 4th week of treatment (AT4). Size of stone shows 8.15% relief after 1st week of treatment (AT1), 12.45% relief after 2nd week of treatment (AT2), 34.33% relief after 3rd week of treatment (AT3), 48.07% relief after 4th week of treatment (AT4).

Showing the Clinical assessment of result after treatment

Sl. No.	**Clinical assessment**	**After treatment**	
		f	**%**
1	**Cured**	**0**	**0 %**
2	**Maximum improvement**	**0**	**0 %**
3	**Moderate improvement**	**6**	**15%**
4	**Mild improvement**	**34**	**85%**
5	**Unsatisfactory**	**0**	**0 %**

Observation–The clinical assessment of result after treatment shows that 6 (15%) patients were get Moderate improvement while 34 (85%) patients were get mild improvement whereas no patients (0%) were there in Maximum / Unsatisfactory improvement.

CONCLUSION

- Disease *Mootrashmari* is well known to human beings since the Vedic period.
- Symptomatology of *Mootrashmari* and urolithiasis are very much similar, however the pathogenesis explained in Ayurveda and modern medicine differs because of different ideological differences.
- Keeping this in consideration, the present work had been planned and implemented under the heading of *"Clinical study on the efficacy of kushmanda swaras yoga in the management of mootrashmari (urolithiasis)".*
- The study has been taken with following aims and objectives.
- To evaluate the efficacy of *kushmanda swaras yoga* in the management of *mootrashmari (urolithiasis)*.
- Complete study of the disease *mootrashmari (urolithiasis)* according to both Ayurvedic and modern view.
- To find out an effective, economic and simplified management of the disease urolithiasis.
- 40 cases of *Mootrashmari (Urolithiasis)* screened from O.P.D., I.P.D. of Shalyatantra, V.Y.D.S. Ayurveda Mahavidyalaya, Khurja were selected for study.
- The Percentage (%) of improvement in individual symptoms shows that the trial drugs have reduced the symptoms i.e. 55.41% relief on Pain in flanks, 60.40% relief on Haematuria, 54.02% relief on Urgency of urine, 52.00% relief on Frequency of urine, 59.18% relief on *Daha* (Burning micturition), 50.00% relief Nausea/Vomiting, 1.68% relief on *Jvara* (Fever) and 48.07% relief on Size of stone.
- Overall assessment of results shows that 6 (15%) patients were get Moderate improvement while 34 (85%) patients were get mild improvement whereas no patients (0%) were there in Maximum / Unsatisfactory improvement.

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