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Research Article

## Effect of Kusha Swarasa in the Management of Mootravaha Sroto Dusti Vikara

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### ABSTRACT

Mutravaha Srotas is one among the Abhyantara Srotas, concerned with Utpatti, Visarjana of Mutra and maintaining the Kledata in the body. Causes for kidney function are not specific and might include Obstruction of urination, burning micturition, excessive urination, scanty urination, feeling generally unwell, having a reduced appetite over a period of long duration. Among Trinapanchmula Kusha is the one that promote the urine formation thereby flushing the kidneys and urinary tract while eliminating any excess water retention, and to remove the Mutra from the body. In day today practice it is not up to the mark being Ayurveda Professionals as limited utility of Trinapanchamoola in therapeutic usage were common community uses in the form of grass juice in their routine practice for accurate documentation. Here an effort made to understand the utility of drug Kusha Swarasa in clinical practice for the management of Mootravaha sroto vikara. **Aims and objectives:** To evaluate the effect Kusha of on Mutravaha Srotas. **Materials and methods:** 30 elderly peoples aged between 60 to 75 years are selected by random sampling method and separated as control and study group. Fresh Leaves of the Kusha grass is taken, juice is extracted and given as per the standard dose of Swarasa. It is given in early morning before having the food for 7 days along with Madhu is used as Anupana and 15 days follow up is done. **Observations and result:** Kusha Swarasawas effective in elderly old age peoples. **Discussion and Conclusion:** Kusha Swarasa is significantly effective in treating Mutravaha Sroto Dusti Lakshana of apparently healthy elderly old age peoples.

**Keywords-** Jara, Kusha, Mutravaha Srotas, Srotas.

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### INTRODUCTION

Mutravaha Srotas is one among the Abhyantara Srotas<sup>1</sup>; it plays an important role in the excretion of waste products from Shareera, formation of Urine and maintains the fluid balance in the body to keep healthy<sup>2</sup>. The number of Indians over the age of 60 has increased more in number, accounting for 8.6 per cent of the country's 121-crore population, according to latest official figures<sup>3</sup>. Even though they having the symptoms then also some peoples are not expressing or hesitate to express and always they facing with the problems related to the urinary system. Kusha is the drug included under several Gana by different Acharya.<sup>4</sup> Kusha is having Properties like diuretics and cooling in nature thus also help to provide the relief in the symptoms associated with difficulty in urination and also support the good health of

urinary system<sup>5</sup>. So this is an effort to study the effectiveness of Kusha Swarasa for problems in the old age peoples related to Mutravaha Srotas and making them to avoid further complication in their daily routine activities.

### Aims and objectives of the study

To evaluate the effect of Kusha on Mutravaha Srotas.

### MATERIALS AND METHODS

Institute ethical committee no is SDM/IEC/45/2017-2018

**Source of Data-** All relevant data regarding the Mutravaha Srotodusti Lakshanas of Mutravaha Srotas from classical text books, Vedic texts, recent articles, journals, and different websites.

**Applied Data-** Elderly individual between the ages of 60 to 75 years are selected for the study by the random sampling method.

**Study type** – Open label single arm interventional clinical trial.

**Sampling method** - Random sampling method Pre and post treatment assessment.

**Sample size** – 30 minimum subjects

**Methodology:** Subjects were included with age group between 60 to 75 years and having the Lakshana of excessive (quantity) excretion of urine, complete suppression of urine, frequently passing little quantity of urine, very frequently passing of too much urine, passing thicker or turbid urine, pain during the micturition, USG of bladder suggestive of residual urine less than 100ml, USG of prostate suggestive of increased in volume (20-30cc). Apart from these conditions all other conditions are excluded.

Samples were selected and divided as control and study group. Fresh Leaves of the Kusha grass is taken and washed after that it was kept in water for 10-15 minutes, and then juice (Swarasa) is extracted<sup>6</sup>. The extracted juice is filtered and given as per the standard dose of Swarasa i.e. ½ Pala (24ml)<sup>7</sup> is given with Anupana as Madhu.<sup>8</sup> It is given in early morning Prabhaktha Kala (before having the food) for the duration of 7 days and 15 days follow up is done. Result will be calculated by applying statically method and mean is calculated by using paired T test.

## OBSERVATIONS AND RESULTS

Total 30 Patients were taken for clinical study, each group having 15 Patients and were randomly allocated in to Study group and Control Group Observations for Present study were done in three Stage.

Generalized observations for each group, specific observations for Study group and control group followed by result related observations for individual group.

**Table 1 Generalized observation**

Observations	Variables	Total No Patients	%
Gender	Male	22	73.3%
	Female	08	26.7%
Age	60-65	11	36.66%
	65-70	15	50.00%
	70-75	04	13.33%
Marital status	Married	29	93.3%
	Unmarried	01	6.7%
Religion	Hindu	30	100%
Occupation	House wife	05	16.66%
	Farmer	19	63.33%
	Business man	01	3.3%
	Labour	05	16.66%
Locality	Rural	08	26.66%
	Urban	22	73.33%
Diet	Veg	09	30.0%
	Mixed	21	70.0%
Habits	Alcohol	16	53.33%
	Cigarette	02	6.66%
	Tobacco	02	6.66%
	No Habits	10	33.33%
Appetite	Good	23	76.66%
	Reduced	07	23.33%
Bowel	Regular	26	86.66%
	Irregular	04	13.33%
Sleep	Sound	23	76.66%
	Disturbed	07	23.3%

**Table 2 Effect of Kusha Swarasa in Subjective parameters of Study group**

Parameter (N=15)	Variables			X <sup>2</sup>	P value	Remarks
	BT MR	AT MR	FU MR			
1. Incomplete Emptying	2.67	1.83	1.50	18.571	0.000	S
2. Increased frequency	3.00	1.70	1.30	27.882	0.000	S
3. Intermittency	2.97	1.70	1.33	26.980	0.000	S
4. Urgency	2.80	2.80	1.53	21.800	0.000	S
5. Weak stream	2.73	1.63	1.63	22.000	0.000	S
6. Straining	2.67	1.83	1.50	18.571	0.000	S
7. Satisfaction level	2.90	1.60	1.50	24.400	0.000	S
8. Suppression of urine	2.80	1.73	1.47	22.400	0.000	S
9. Very force full excretion	2.87	1.77	1.37	24.133	0.000	S

**Table 3 Effect of Kusha Swarasa in Subjective parameters of Control group**

Parameter (N=15)	Variables			X <sup>2</sup>	P value	Remarks
	BT MR	AT MR	FU MR			
1. Incomplete Emptying	2.00	2.00	2.00	0	0	NS
2. Frequency	2.00	2.00	2.00	0	0	NS
3. Intermittency	2.00	2.00	2.00	0	0	NS
4. Urgency	2.00	2.00	2.00	0	0	NS
5. Weak stream	2.00	2.00	2.00	0	0	NS
6. Straining	2.00	2.00	2.00	0	0	NS
7. Satisfaction level	2.00	2.00	2.00	0	0	NS
8. Suppression of urine	2.00	2.00	2.00	0	0	NS
9. Very force full excretion	2.00	2.00	2.00	0	0	NS

Table 4 Effect of Kusha Swarasa As a post HOC Results in Study Group

VARIABLE	Ranks	n	MR	SR	Z Value	P value	Remarks
INCOMPLETE EMPTYING IN STUDY GROUP							
BT- AT	NR	10	5.50	55.00	-2.859	0.004	S
	PR	0	0	0			
	Ties	5	0	0			
	Total	15	0	0			
AT- 15 <sup>th</sup> DAY	NR	5	3.00	15.00	-2.236	0.025	S
	PR	0	0	0			
	Ties	10	0	0			
	Total	15	0	0			
	PR	0	0	0			
	Ties	15	0	0			
Total	15	0	0				
INCREASED FREQUENCY IN STUDY GROUP							
BT-AT	NR	15	8.00	120.00	-3.450	0.001	S
	PR	0	0	0			
	Ties	0	0	0			
	Total	15	0	0			
AT- 15 <sup>th</sup> DAY	NR	6	3.50	21.00	-2.333	0.020	S
	PR	0	0	0			
	Ties	9	0	0			
	Total	15	0	0			
INTERMITTENCY IN STUDY GROUP							
BT-AT	NR	14	7.50	105.00	-3.373	0.001	S
	PR	0	0	0			
	Ties	1	0	0			
	Total	15	0	0			
AT- 15 <sup>th</sup> DAY	NR	5	3.00	15.00	-2.236	0.025	S
	PR	0	0	0			
	Ties	10	0	0			
	Total	15	0	0			
URGENCY IN STUDY GROUP							
BT-AT	NR	12	6.50	78.00	-3.126	0.002	S
	PR	0	0	0			
	Ties	3	0	0			
	Total	15	0	0			
AT- 15 <sup>th</sup> DAY	NR	3	2.67	8.00	-1.134	0.257	NS
	PR	1	2.00	2.00			
	Ties	11	0	0			
	Total	15	0	0			
WEAK STREAM IN STUDY GROUP							
BT-AT	NR	11	6.00	66.00	-3.025	0.002	S
	PR	0	0	0			
	Ties	4	0	0			
	Total	15	0	0			
AT- 15 <sup>th</sup> DAY	NR	0	0	0	0.000	1.000	NS
	PR	0	0	0			
	Ties	15	0	0			
	Total	15	0	0			
STRAINING IN STUDY GROUP							
BT-AT	NR	10	5.50	55.00	-2.879	0.004	S
	PR	0	0	0			
	Ties	5	0	0			
	Total	15	0	0			
AT- 15 <sup>th</sup> DAY	NR	5	3.00	15.00	-2.236	0.025	S
	PR	0	0	0			

	Ties	10	0	0			
	Total	15	0	0			
SATISFACTION LEVEL IN STUDY GROUP							
BT-AT	NR	14	7.50	105.00	-3.372	0.001	S
	PR	0	0	0			
	Ties	1	0	0			
	Total	15	0	0			
AT- 15 <sup>th</sup> DAY	NR	3	2.50	7.50	-1.000	0.317	S
	PR	1	2.50	2.50			
	Ties	11	0	0			
	Total	15	0	0			
SUPPRESSION OF URINE IN STUDY GROUP							
BT-AT	NR	12	6.50	78.00	-3.357	0.001	S
	PR	0	0	0			
	Ties	3	0	0			
	Total	15	0	0			
AT- 15 <sup>th</sup> DAY	NR	4	2.50	10.00	-2.000	0.046	S
	PR	0	0	0			
	Ties	11	0	0			
	Total	15	0	0			
VERY FORCE FULL EXCRETION IN STUDY GROUP							
BT-AT	NR	13	7.00	91.00	-3.419	0.001	S
	PR	0	0	0			
	Ties	2	0	0			
	Total	15	0	0			
AT- 15 <sup>th</sup> DAY	NR	6	3.50	21.00	-2.449	0.014	S
	PR	0	0	0			
	Ties	9	0	0			
	Total	15	0	0			

In control group for all parameters it was observed that there is no significant result is seen in post HOC results.

**Table 5 Effect of Kusha Swarasa to Compare Between the Groups**

Parameter N=30	Groups	Treatment trials	MR	SR	Mann-Whitney U	Wilcox on w	Z Value	P value	Remarks
1. Incomplete Emptying	SG	BT	14.00	210.00	90.000	210.000	-1.087	0.277	NS
	CG	BT	17.00	255.00					
	SG	AT	8.00	120.00	.000	20.000	-4.871	0.000	S
	CG	AT	23.00	345.00					
	SG	FU	8.00	120.00	.000	120.000	-5.109	0.000	S
	CG	FU	23.00	345.00					
2. Increased Frequency	SG	BT	15.40	231.00	111.000	231.000	-.073	0.942	NS
	CG	BT	15.60	234.00					
	SG	AT	8.20	123.00	3.000	123.000	-4.710	0.000	S
	CG	AT	22.80	342.00					
	SG	FU	8.00	120.00	.000	120.000	-5.089	0.000	S
	CG	FU	23.00	345.00					
3. Intermittency	SG	BT	14.33	215.00	95.000	215.000	-.795	0.427	NS
	CG	BT	16.67	250.00					
	SG	AT	8.17	122.50	2.500	122.500	-4.734	0.000	S
	CG	AT	22.83	342.50					
	SG	FU	8.00	120.00	.000	120.000	-5.064	0.000	S
	CG	FU	23.00	345.00					

Table 6 Effect of Kusha Swarasa to Compare Between the Groups

Parameter N=30	Groups	Treatment trials	MR	SR	Mann-Whitney U	Wilcox on w	Z Value	P value	Remarks
4. Urgency	SG	BT	11.33	170.00	50.000	170.000	-2.781	0.005	S
	CG	BT	19.67	295.00					
	SG	AT	8.17	122.50	2.500	122.500	-4.832	0.000	S
	CG	AT	22.83	342.50					
	SG	FU	8.00	120.00					
	CG	FU	23.00	345.00	.000	120.000	-5.039	0.000	S
5. Weak Stream	SG	BT	14.43	216.50	96.500	216.500	-.696	0.486	NS
	CG	BT	16.57	248.50					
	SG	AT	10.00	150.00	30.000	150.000	-3.979	0.000	S
	CG	AT	21.00	315.00					
	SG	FU	10.00	150.00					
	CG	FU	21.00	315.00	30.000	150.000	-3.979	0.000	S
6. Straining	SG	BT	12.70	190.50	70.500	190.500	-1.816	0.069	NS
	CG	BT	18.30	274.50					
	SG	AT	9.17	137.50	17.500	137.500	-4.108	0.000	S
	CG	AT	21.83	327.50					
	SG	FU	8.50	127.50					
	CG	FU	22.50	337.50	7.500	127.500	-4.764	0.000	S

Table 7 Effect of Kusha Swarasa to Compare Between the Groups

Parameter N=30	Groups	Treatment trials	MR	SR	Mann-Whitney U	Wilcox on w	Z Value	P value	Remarks
7. Satisfaction Level	SG	BT	15.43	231.50	111.500	231.500	-.044	0.965	NS
	CG	BT	15.57	233.50					
	SG	AT	9.70	145.50	25.500	145.500	-3.856	0.000	S
	CG	AT	21.30	319.50					
	SG	FU	9.23	138.50					
	CG	FU	21.77	326.50	18.500	138.500	-4.263	0.000	S
8. Suppression of Urine	SG	BT	14.03	210.50	90.500	210.500	-.974	0.330	NS
	CG	BT	16.97	254.50					
	SG	AT	10.07	151.00	31.000	151.000	-3.608	0.000	S
	CG	AT	20.93	314.00					
	SG	FU	9.00	135.00					
	CG	FU	22.00	330.00	15.000	135.000	-4.505	0.000	S
9. Very Force Full Excretion	SG	BT	16.53	248.00	97.000	217.000	-.698	0.485	NS
	CG	BT	14.47	217.00					
	SG	AT	11.00	165.00	45.000	165.000	-3.045	0.002	S
	CG	AT	20.00	300.00					
	SG	FU	9.00	135.00					
	CG	FU	22.00	330.00	15.000	135.000	-4.535	0.000	S

## DISCUSSION

In healthy individual as age increases problems related to Mutravaha Srotas are also increases. To improve healthy status of apparently elderly individuals is the main essential thing in the present era. Kusha Swarasa has been selected in apparently healthy elderly individuals because of its Mutrala property to benefit the needy subjects. Swarasa is one of the most potent preparations it is given in the diseases of acute nature exclusively to a patient who has a strong digestive power. As per the phytochemical study conducted in that results show the presence of Alkaloids and Carbohydrates in the sample. These exert desired pharmacological effect on body. Kusha Swarasa naturally acts as diuretics, increases the urine output as well as electrolyte concentration. Kusha

Swarasa is active like supplements and helpful to get adequate amounts of essential nutrients to give an extra health boost a preventive buffer to ward off disease. It is evident that Self collected and cultivated drugs are having good potency and result oriented. Kusha Swarasa is effective in urinary tract diseases when administered desired dosage along with appropriate Anupana.

## CONCLUSION

Kusha Swarasa along with Madhu is very effective due to its Mutrala Property, it increase the flow of urine, which causes the body to get rid of excess water. A Single drug is cost effective as it is used in different conditions with different forms which give transformed result accordingly.

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