

Effects of *Qurs-E-Kaknaj* on Lower Urinary Tract Symptoms (LUTS) & Uroflowmetric Parameters

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ABSTRACT

Lower Urinary tract symptom (LUTS) is a common presentation among elderly male patients and required a safe pharmacological composition to improve quality of life in these patients. In this study, *Qurs-e-Kaknaj* was used in 25 patients to compare the changes in LUTS and uroflowmetric parameters before and after use of this drug. *Qurs-e-Kaknaj* produced significant improvement in patients with increased frequency of micturition, suprapubic discomfort and burning micturition but there was no effect on dribbling of urine. Uroflowmetric parameters were also unaffected with the use of *Qurs-e-Kaknaj*.

Keywords: Lower Urinary tract symptom (LUTS), *Qurs-e-Kaknaj* and Uroflowmetric parameters.

INTRODUCTION

Lower urinary tract symptoms (LUTS) include *voiding* or *obstructive symptoms* such as hesitancy, poor and/or intermittent stream, straining, prolonged micturition, feeling of incomplete bladder emptying, dribbling, etc, and *storage* or *irritative symptoms* such as frequency, urgency, urge incontinence, and nocturia. [1]

Various herbal drugs are used in Unani system of medicine in the management of LUTS and other urinary tract disorders without any side-effects. *Qurs-e-Kaknaj* is a pharmacopoeial

compound drug possessing diuretic, anti-inflammatory and litholytic activity. It is commonly used in inflammatory conditions of kidney, urinary bladder and for removal of stones of urinary tract. The study was conducted on market samples purchased from the authorized dealer of Hamdard Laboratories, New Delhi. Hamdard Laboratories reportedly followed Qarabadeen Majeedi for the preparation of the drug.

Composition of each tablet (approx. 0.775 g) is as follows:

S. No	Ingredients	Botanical Names	Parts Used	Quantity (In mg)
1.	Asl-us-Soos	<i>Glycyrrhiza glabra</i>	Root	49.5
2.	Behidana	<i>Cydonia oblonga</i>	Seeds, fruits, mucilage	49.5
3.	Tukhm Khubbazi	<i>Malva sylvestris</i>	Fruit	49.5
4.	Tukhm Khurfa	<i>Portulaca oleracea</i>	whole plant	49.5
5.	Tukhm Khashkhaash	<i>Papaver somniferum</i>	Seeds	58.5
6.	Tukhm Khatmi	<i>Althea officinalis</i>	Seeds	49.5
7.	Habbe-e-Kaknaj	<i>Physalis alkekengi</i>	Fruit	99.0
8.	Kateera	<i>Cochlospermum religiosum</i>	Gum	39.0
9.	Gond Safaid	<i>Acacia Arabica</i>	Gum	198.0
10.	Maghz Kharbooza	<i>Cucumis melo</i>	Pulp, Seeds	69.0
11.	Maghz Kaddu	<i>Cucurbita moschata</i>	Kernel	69.0
12.	Nishasta Gandum	<i>Triticum sativum</i>	Seeds	49.5

Dose: 3 tablets b.i.d with 20 mL of Arq-e-Gauzaban or Sharbat-e-Buzuri. [2]

MATERIAL AND METHODS

This study was carried out at Ajmal Khan Tibbiya College Hospital, A.M.U Aligarh. Patients with lower urinary tract symptoms (LUTS) from OPD and IPD of Jarahat, AKTC were included in the study. The main objectives of our study were to evaluate the uroflowmetric changes and improvement in lower urinary tract symptoms before and after use of Qurs-e-Kaknaj. Written informed consent was taken. Proper history taking, physical examination and digital rectal examination were done. Patients were evaluated by uroflowmetry, haematological and urine analysis.

In our study Qurs-e-Kaknaj was given to 25 patients who had urinary complaints excluding the patients of BPH and stricture of urethra. It was purchased

from market. Patients were advised 2 tablets twice a day for 6 weeks after meal. Patients were advised plenty of water along with.

Statistical Analysis

Observations were noted in case report form, all the data were tabulated and evaluated statistically by using paired t-test, Pearson's correlation-coefficient and Z-test for proportion.

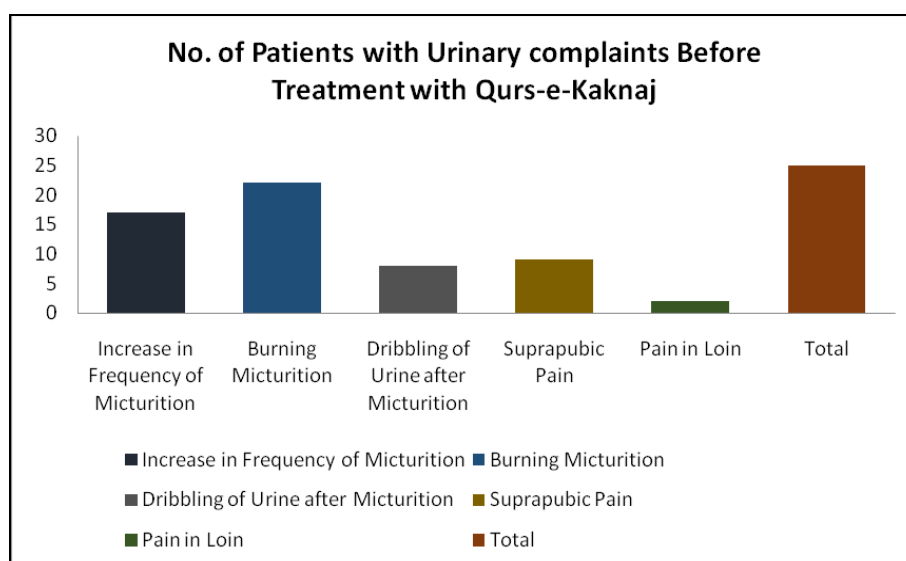
OBSERVATIONS AND RESULTS

Before treatment majority of the patients 22 (88.0%) had the complaint of burning micturition, 17 patients (68.0%) with increase in frequency of micturition, 8 patients (32.0%) had dribbling of urine, 9 patients had suprapubic pain and only 2 patients were suffering from pain in loin as shown in table 1 and graph 1 (a).

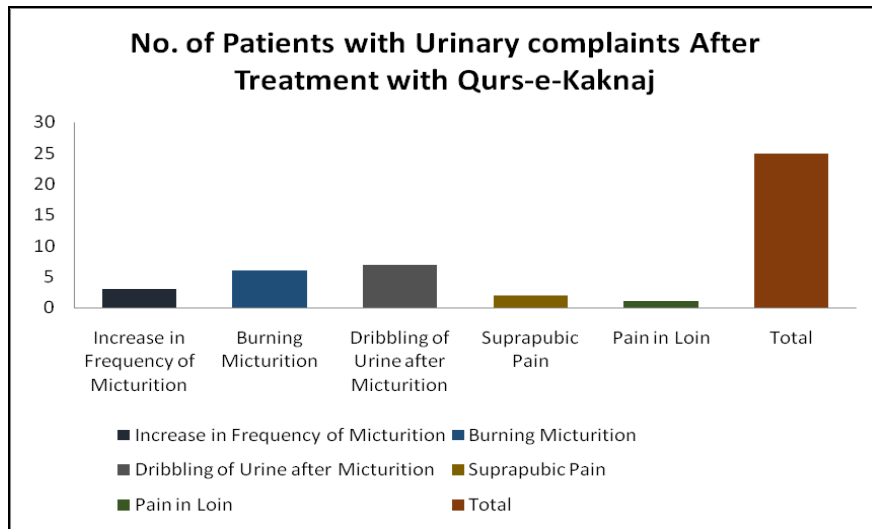
Table 1. Effect of Qurs-e-Kaknaj on Urinary Symptoms

Urinary Symptoms	Pre- treatment		Post-treatment		Z & p values
	No. of Patients	Percentage	No. of Patients	Percentage	
Increase in Frequency of Micturition	17	68.0%	3	12.0%	Z=4.0 p<0.001
Burning Micturition	22	88.0%	6	24.0%	Z=4.5 p<0.001
Dribbling of Urine after Micturition	8	32.0%	7	28.0%	Z=0.3 N.S
Suprapubic Pain	9	36.0%	2	8.0%	Z=2.4 p<0.5
Pain in Loin	2	8.0%	1	4.0%	N.S

After treatment with Qurs-e-Kaknaj 14 (out of 17) patients got relieved in increased frequency of micturition, 16 (out of 22) patients relieved in burning micturition, 1 (out of 8) patient got relieved in dribbling of urine, 7 (out of 9) patients relieved in suprapubic pain and 1(out of 2) patient relieved in loin pain as shown in table 1 and graph 1 (b).



Graph 1 (a).



Graph 1 (b).

Before treatment with Qurs-e-Kaknaj in patients with urinary problems, mean voided volume was (458.9 ± 212.6) mL, mean maximum flow rate was (23.6 ± 7.2) mL/s, mean average flow rate was (8.5 ± 3.5) mL/s and mean voiding time was (63.2 ± 39.6) sec as shown in table 2 (a) and graph 2 (a), 2 (b), 2 (c), 2 (d).

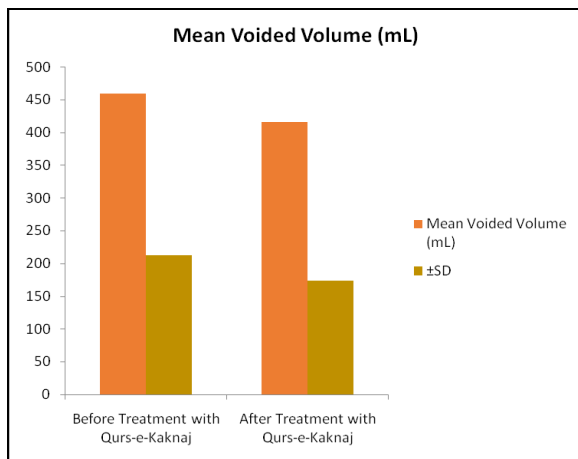
Table 2(a): Uroflowmetry in Patients with Urinary Problems Before Treatment with Qurs-e Kaknaj

No. of Cases	Uroflowmetric Parameters	Voided Volume (mL)	Maximum Flow Rate (mL/s)	Average Flow Rate (mL/s)	Voiding Time (sec)
25	Mean	458.9	23.6	8.5	63.2
	SD	± 212.6	± 7.2	± 3.5	± 39.6

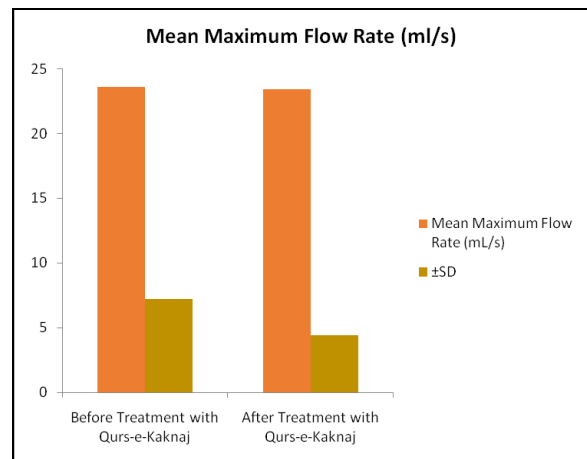
After treatment with Qurs-e-Kaknaj the mean voided volume was (416.0 ± 173.8) mL, mean maximum flow rate was (23.4 ± 4.4) mL/s, mean average flow rate was (8.6 ± 3.1) mL/s and mean voiding time was (50.2 ± 18.0) sec. It is shown in table 2 (b) and graph 2 (a), 2 (b), 2 (c), 2 (d).

Table 2 (b). Uroflowmetry in Patients with Urinary Problems After Treatment with Qurs-e Kaknaj

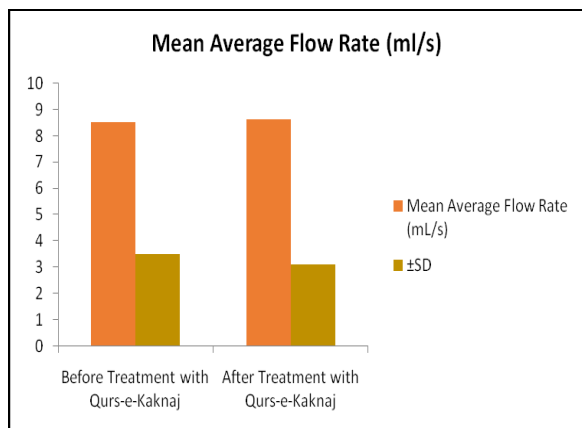
No. of Cases	Uroflowmetric Parameters	Voided Volume (mL)	Maximum Flow Rate (mL/s)	Average Flow Rate (mL/s)	Voiding Time (sec)
25	Mean	416.0	23.4	8.6	50.2
	SD	173.8	± 4.4	± 3.1	± 18.0
t & p values		t=1.1 p=0.28	t=0.19 p=0.84	t=0.12 p=0.90	t=1.9 p=0.06



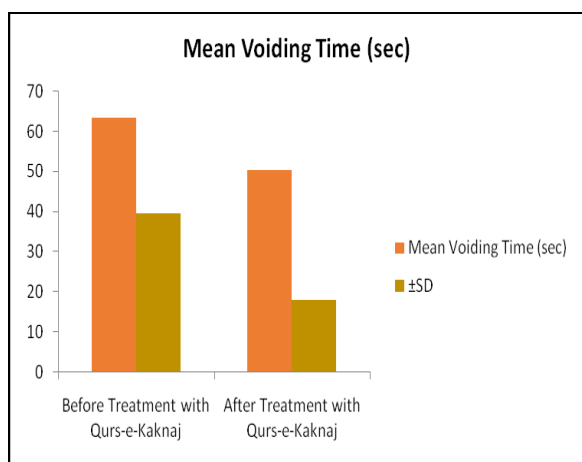
Graph 2 (a).



Graph 2(b).



Graph 2 (c).



Graph 2 (d).

DISCUSSION

In our study Qurs-e-Kaknaj was given randomly to 25 patients who had urinary complaints excluding the patients of BPH and stricture of urethra.

In this study 22 patients (88.0%) out of 25 patients had burning micturition, 16 patients got relieved in burning micturition after treatment with Qurs-e-Kaknaj. There was a significant improvement in burning micturition ($Z= 4.5, p<0.001$).

In our study increased frequency of micturition was present in 17, 14 of these patients were completely relieved after treatment with Qurs-e-Kaknaj. A significant improvement in increased frequency of micturition was observed ($Z= 4.0, p<0.001$). Suprapubic pain was reported to be subsided in 7 patients out of 9 in our study showing a significant improvement ($Z= 2.4, p<0.05$).

These effects may have been due to cumulative effect of ingredients of Qurs-e-Kaknaj.

Glycyrrhiza glabra, *Physalis alkekengi*, *Cucurbita moschata*, *Portulaca oleracea*, *Malva sylvestris* and *Cucumis melo* have been reported to have diuretic [3-11] action and are being used in burning micturition, [3,7,12] strangury, [4,10] sozish-e-kulya, [6] sozish-e-masana, [6] amraz-e-kulya wa masana [9] and urinary discharges. [4]

A number of *in vitro* and animal studies have been done on different ingredients of Qurs-e-Kaknaj to evaluate anti-inflammatory, antimicrobial, antibacterial and anti-oxidant effects.

Antibacterial and anti-oxidant activities of *Glycyrrhiza glabra* using *in vitro* models were reported by Varsha et al., [13] antibacterial activities of hydro-methanolic extract from roots of *Glycyrrhiza glabra* was investigated using the disk diffusion method given by Kerby-Bauer disk diffusion susceptibility test. The Zone of Inhibition of *Glycyrrhiza glabra* root extract exhibited strong antibacterial activity for both strain gram (+) and gram (-) bacteria.

In vitro study conducted by Razavi et al., [14] on *Malva sylvestris* showed, that the antibacterial activities of the plant extracts were determined against *Escherichia coli*, *Staphylococcus aureus*, *Enterococcus faecalis*, *Streptococcus agalactiae*, *Erwinia carotovora* and *Staphylococcus aureus* by the disc diffusion method.

Rezaei et al., [15] reported anti-microbial and wound healing potential of *Althaea officinalis* L. hydroalcoholic extract in comparison with ciprofloxacin, gentamicin and penicillin antibiotics on clinical strains as well as pathogenic bacteria such as *Pseudomonas aeruginosa*, *Escherichia coli*, *Staphylococcus aureus* and *Listeria monocytogenes* under *in vitro* conditions using micro broth dilution and disc diffusion methods. They showed that although *Althaea officinalis* L. extract was not effective on gram-negative bacteria but it was efficacious on gram-positive bacteria. The extract was also tested in the form of topical administration on excision wound

model in rats. In the extract-treated wounds, the healing percent was significantly increased in comparison with controls.

The plant *Papaver somniferum* is used for its analgesic alkaloids while its seed is used in nutraceutical or culinary as it contains oils which can be used for various properties. Pharmacologically opium has analgesic and narcotic action mainly due to its major alkaloid content as morphine followed by codeine and thebaine. [16]

It has been reported that peel of *C. moschata* possesses antibacterial compounds and could be potential source for a new class of antibiotics. [17] So the effect of Qurs-e-Kaknaj in urinary complaints may be attributed to diuretic, anti-inflammatory, antibacterial and analgesic effects of different ingredients. After treatment with Qurs-e-Kaknaj there was no significant improvement was reported in dribbling of urine ($Z= 0.3$).

Uroflowmetric parameters were evaluated before and after treatment in patients with urinary problems with Qurs-e-Kaknaj. Mean voided volume before treatment was 458.9 ± 212.6 mL with a mean maximum flow rate of 23.6 ± 7.2 mL/s, mean average flow rate of 8.5 ± 3.5 mL/s and mean voiding time was 63.2 ± 39.6 sec. Mean maximum flow rate and mean average flow rate were almost similar to those of normal cases which were 23.8 ± 7.3 mL/s and 8.7 ± 2.9 mL/s. These data support that Qurs-e-Kaknaj may be used in patients with urinary complaints who were not obstructed. Mean voiding time 63.2 ± 39.6 sec was higher than normal cases in which voiding time was 44.8 ± 17.6 sec. The reason might be more mean voided volume 458.9 ± 212.6 mL than normal cases 384.8 ± 176.3 mL.

After treatment with Qurs-e-Kaknaj the mean voided volume was 416.0 ± 173.8 mL with a mean maximum flow rate of 23.4 ± 4.4 mL/s, mean average flow rate of 8.6 ± 3.1 mL/s and mean voiding time of 50.2 ± 18.0 sec. There was no significant difference in uroflowmetric parameters before and after treatment ($p > 0.05$). Qurs-

e-Kaknaj had no effect on uroflowmetric parameters.

CONCLUSION

Qurs-e-Kaknaj produced significant improvement in patients with increased frequency of micturition, suprapubic discomfort and burning micturition but there was no effect on dribbling of urine. Uroflowmetric parameters were also unaffected with the use of Qurs-e-Kaknaj. This drug is well tolerated as no side effect was observed during the study. There is a need of more studies to be done in a large number of patients for the evaluation of efficacy and wide therapeutic potential of Qurs-e-Kaknaj mainly in urinary problems.

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REFERENCES

1. Herbert L. Pathophysiology of Lower Urinary Tract Symptoms in the Aging Male Population. Reviews in Urology. 2005;7(7): 3-11.
2. Qarabaadeen-e-Majeedi. Daftar Jamia Tibbiya Delhi. Ala Printing Press: p-235.
3. The Unani Pharmacopoeia of India. Part-I Volume-I. Department of Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homoeopathy (AYUSH), Ministry of Health & Family Welfare, Government of India .p 9-10.
4. Kirtikar KR , Basu BD, Basu LM. Indian Medicinal Plants. Vol-I .49-Leader Road, Allahabad, India. 1981. Pp-126, 214, 215,242, 296, 300,301, 727, 728.
5. Singh VK, Khan AM. Medicinal plants and folklores, Glimpses in Plant Research. Vol. IX. New Delhi. 1990. P- 17, 80, 95.
6. The Unani Pharmacopoeia of India. Part-I Volume-III. Department of Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homoeopathy (AYUSH), Ministry of Health & Family Welfare, Government of India Red Cross Building, New Delhi - 110001.P- 47-49
7. The Unani Pharmacopoeia of India. Part-I Volume-IV. Department of Ayurveda, Yoga & Naturopathy, Unani, Siddha and

- Homoeopathy (AYUSH), Ministry of Health & Family Welfare, Government of India Red Cross Building, New Delhi - 110001.P-80-82.
8. Standardization of Single Drugs of Unani Medicine. Part-I. CCRUM, New Delhi. 1987: Pp- 166-169, 179-185.
 9. The Unani Pharmacopoeia of India.Part-I Volume-V. Department of Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homoeopathy (AYUSH), Ministry of Health & Family Welfare, Government of India Red Cross Building, New Delhi - 1100010.Pp-40, 41, 99,100.
 10. Chatterjee A, Pakrashi SC.The Treatise on Indian Medicinal Plants.Vol. 4. Publications & Information Directorate. New Delhi, 1995: Pp-190,191.
 11. The Unani Pharmacopoeia of India. Part-I Volume-VI. Department of Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homoeopathy (AYUSH), Ministry of Health & Family Welfare, Government of India Red Cross Building, New Delhi - 110001.Pp-38, 39, 48, 49, 52, 53.
 12. Safiuddin SA.Unani Advia-e-Mufrada. NCPUL, New Delhi.1986: Pp- 69, 144, 145.
 13. Sharma V, Agrawal RC. Pandey S. Phytochemical Screening and Determination of Anti-Bacterial and Anti-Oxidant Potential of *Glycyrrhiza Glabra* Root Extracts, Journal of Environmental Research and Development.2013;7(4A).
 14. Razavi S.M. Zarrini G. Molavi G. et al. Bioactivity of *Malva Sylvestris* L: Medicinal Plant from Iran. Iranian Journal of Basic Medical Sciences.2011;14(6):574-579.
 15. Rezaei M, Dadgar Z,Zadeh AN, et al. Evaluation of the antibacterial activity of the *Althaea officinalis* L.:Leaf Extract and its Wound Healing Potency in the Rat Model of Excision Wound Creation. AJP.2015; 5(2).
 16. Chalise U. The Poppy Plant: Phytochemistry & Pharmacology. Indo Global Journal of Pharmaceutical Sciences. 2015; 5(1): 58-65.
 17. Kamarudin EZ, Ahmed QU, Helaluddin ABM, et al. Studies on Bactericidal Efficacy of Pumpkin (*Cucurbita moschata* Duchesne) Peel. Journal of Coastal Life Medicine 2014; 2(2): 146-153.

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