



## Research Article

## STUDIES ON MUTRAVAHA SROTADUSTI W.S.R. TO LOWER URINARY TRACT INFECTION

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**Article info****Article History:**

Received: 29-11-2021

Revised: 04-12-2021

Accepted: 23-12-2021

**KEYWORDS:**

Mutra, Mutravaha Srota, Mutravaha Srotadusti, Lower UTI, Gokshur.

**ABSTRACT**

In Ayurveda, the term *Srota* has several meanings, but it primarily denotes channels or vessels or any hollow space. Although the total macro and micro channels within the human body are actually countless, thirteen important types of channels are described in all major compendiums. One such important channel is *Mutravaha Srota*. All the primary diseases of *Mutra* like *Mutrakricchra*, *Mutraghata*, *Ashmari* or *Prameha* are the consequences of *Mutravaha Srotadusti*. Thus in respect to modern science, *Mutravaha Srotadusti* can be correlated with all types of lower urinary tract infections and the diseases produced as its consequence. **Aims and Objectives:** The present study was carried out to evaluate the concept of *Mutravaha Srota* and *Mutravaha Srotadusti* in terms of lower UTI as well as to evaluate the efficacy of the selected drug *Gokshur* to combat the situation. **Materials & Methods:** In the selected 50 patients of lower UTI with features of *Mutravaha Srotadusti*, based on the inclusion and exclusion criteria, *Gokshur Churna* was administered in stipulated dose (5 gram twice daily with warm water) for 21 days. **Observation:** The subjective parameters of *Mutravaha Srotadusti* are present in maximum number of patients of lower UTI. The result also reveals the significant efficacy of the selected drug i.e., *Gokshur Churna* to combat *Mutravaha Srotadusti* and lower UTI with 'p' value <0.001 in all subjective and objective parameters. **Conclusion:** The literary information which reveals that there are similarities between *Mutravaha Srotadusti* and lower UTI in terms of causative factors, pathogenesis and clinical features, has been clinically verified in the present study. It has also been observed that *Gokshur Churna* is very effective in the management of lower UTI as well as *Mutravaha Srotadusti* which has been verified through clinical data and statistical analysis.

**INTRODUCTION**

Our human body is constituted by *Dosha*, *Dhatu* and *Mala*.<sup>(1)</sup> Among these three factors, *Mala* can be compared with waste product of different physiological process and are capable of vitiating our body.<sup>(2)</sup> *Mala* are of three types- *Purish*, *Mutra* and *Sweda*.<sup>(3)</sup> Among these three, *Mutra* should be considered as urine and its function is said to be 'Vikledakrit' i.e., excretion of waste product.<sup>(4)</sup>

*Mutra* is composed of chiefly two *Mahabhutas*- *Apa* and *Agni*. There are thirteen channels or physiological pathways by which different *Dhatus* and *Malas* act in our body.<sup>(5)</sup> These channels are referred as- *Srotas*. The root of *Mutravaha Srota* are- *Vasti* (urinary bladder) and *Vankshan* (inguinal region).<sup>(6)</sup> Intake of different unwholesome diet and regimen leads to vitiation of *Mutravaha Srotas*. There are several diseases which result from *Mutravaha Srotadusti* like *Mutrakricchra*, *Mutraghat* etc.

**Conceptual Study of Formation of *Mutra***

Ayurveda in principles put a fundamental importance to the digestion of *Ahara* or food and describes the body itself as the product of *Ahara*, similarly it should be considered the concept of urine formation as a product of the food. However, if urine is considered as a product of digested food, then the role

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<https://doi.org/10.47070/ayushdhara.v8i6.827>

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of *Maladhara Kala*, *Pachaka Pitta* and *Samana Vayu* would be great significance. The *Maladhara Kala* performs the actual acts of separation of the *Sara* and *Kitta* portion of the digested food under the influences of *Pachaka Pitta* and *Samana Vayu*. The *Maladhara Kala* is the actual medium of transport while the *Pachaka Pitta* is responsible for digestion of food and the *Samana Vayu* is the controlling force. Even if we agree with the above Ayurvedic concept, its correlation with modern concept would show that the products of food digestion brought about by the interaction of the *Maladhara Kala*, *Pachaka Pitta* and *Samana Vayu* are not real urine. These products can be only considered as the precursor of urine or *Dhatu Rupa Mutra*. This precursor product after being absorbed from the large intestine through the *Maladhara Kala* gets into the general metabolism, when gets filtered by the *Mutravaha Srota* and finally becomes real *Mutra* or *Mala Rupa Mutra* or actual urine which passes into *Vasti* from *Vrikka*.<sup>(7)</sup> In short, the process of formation of *Mutra* has three stages- *Udaka*, *Kleda* & *Mutra*.<sup>(8)</sup> *Udaka* is the end product of digested food absorbed from *Pakvashasya*, *Kleda* is the *Udaka* containing the waste products of the general tissue metabolism added during systemic circulation of *Udaka* in the body and *Mutra* is the actual urine formed by *Mutravaha Srotas* within the kidney.<sup>(9)</sup> The normal amount of *Mutra* is 4 *Anjali*.<sup>(10)</sup>

### Conceptual Study of *Mutravaha Srota*

In Ayurveda, the term *Srota* has several meanings, but it primarily denotes channels or vessels or any hollow space.<sup>(11)</sup> As per *Atreya* school of thought, as propounded by *Acharya Charaka*, *Srota* refers to any specific physiological system related with any particular body tissue or other vital elements. But as per *Dhanwantary* school of thought, as propounded by *Acharya Sushruta*, *Srota* refers to specific anatomical structures or anatomical channels. The total number of *Srotas* as per *Acharya Charaka* is thirteen whereas as per *Acharya Sushruta*, total number of *Srotas* are eleven pairs (each *Srota* has one pair).<sup>(12)</sup> As per *Acharya Charaka*, the root of *Mutravaha Srota* are *Vasti* (urinary bladder) and *Vankshan* (inguinal region).<sup>(13)</sup> Whereas, as per *Acharya Sushruta* the root of *Mutravaha Srota* are *Vasti* and *Medhra* (penis).<sup>(14)</sup> So, as per all the major compendiums, *Vasti* or urinary bladder is considered as the chief *Mula* or root of *Mutravaha Srota*. From modern perspective, we know that kidney and its architectures like nephrons, tubules etc. plays the most important role in formation of urine. But in Ayurveda, regarding the description of *Mutravaha Srota*, the role of kidney is not given much importance. In respect to modern science, *Mutravaha Srota* can be correlated

with urinary system and its concerned structures like kidney, ureter, urinary bladder and urethra.

### Conceptual Study of *Mutravaha Srotadusti*

*Acharya Sushruta* has mentioned the numbers of *Mutravaha Srota* are two which clearly indicates to that fact that as per *Acharya Sushruta*, *Srotas* refer to some anatomical structures. This is also evident from the fact that, the term used by *Acharya Sushruta* to denote the vitiation of *Srotas* is '*Srotavidhha*'. The term '*Viddha*' is the adjective form of the noun '*Vedhana*' which means puncture. So, the word *Srotavidhha* implies for puncturing wound (form of mechanical injury) to *Srotas* i.e., channels. But if we consider the term used by *Acharya Charaka* that is '*Srotadusti*' then we can come to a conclusion that this term implies for a gross alteration of normal physiological functions of *Srota*. The central functions of *Srotas* are to transport the respective contents. Although the content of *Srota* may varies accordingly (it may contains *Prana*, *Udaka*, *Anna*, seven types of *Dhatus* or three types of *Mala*) but three types of *Doshas* (mainly *Vata Dosh*) are the main force behind the normal activities of each *Srotas*. As a concept, it is regarded that, the principal effect of *Nidan Sevana* (intake of causative factors of any disease) are three- *Dosha Prakopana* (vitiating of *Dosha*), *Dhatu Pradushana* (affliction of *Dhatus*) and *Khavaigunya* (impairment of hollow space i.e., *Srotas*).<sup>(15)</sup> So, as consequence of this complex phenomenon, whenever any person intakes unwholesome diet and regimen it leads to vitiation of *Doshas*, which in due course get localised at a particular site within the *Srotas* depending on the site of *Khavaigunya*. This phenomenon is known as *Sthanasamshraya* of *Dosha* which ultimately leads to the affliction of respective *Dhatus* and *Malas* of that particular *Srota* by vitiating *Doshas* (known as *Dosha Dushya Sammurchhana*) resulting in to alteration of normal function of that *Srota*, which is known as *Srotadusti*.<sup>(16)</sup> As result of this *Srotadusti*, several abnormal clinical features will appear in the body that ultimately give rise to several diseases. So, each *Srotadusti* has their own distinct features along with the diseases caused due to affliction of that particular *Dhatu* and *Mala* by vitiating *Dosha* are also caused due to *Srotadusti*. In this sense, we can say that, all the primary diseases of *Mutra* like *Mutrakricchra*, *Mutraghata*, *Ashmari* or *Prameha* are the consequences of *Mutravaha Srotadusti*. Among all these diseases which are produced due to *Mutravaha Srotadusti*, *Mutrakricchra* (dysuria) should be regarded as the principal disease, this is evident from the fact that *Acharya Charaka* has advised to follow the line of treatment of *Mutrakricchra* in general in case of management of *Mutravaha Srotadusti*.<sup>(17)</sup> Thus in respect to modern science, *Mutravaha Srotadusti* can

be correlated with all types of urinary tract infections and the diseases produced as its consequence.

Urinary Tract Infections (UTIs) can be classified under two major categories- 1. Upper UTI (mainly pyelonephritis) & 2. Lower UTI (mainly cystitis and urethritis).<sup>(18)</sup> Acute pyelonephritis is a bacterial infection causing inflammation of the kidneys and is one of the most common diseases of the kidney. Pyelonephritis occurs as a complication of an ascending urinary tract infection (UTI) which spreads from the bladder to the kidneys and their collecting systems.<sup>(19)</sup> Cystitis is the inflammation of urinary bladder results from mainly bacterial infections. Urethritis is the inflammation of urethra which also results from bacterial infections. Many microorganisms can infect the urinary tract, but by far the most common agents are the gram-negative bacilli. Among these gram-negative bacilli, *Escherichia coli* is the most common, other organisms are- *Proteus*, *Klebsiella*, *Enterobacter* etc.<sup>(20)</sup> Gram-positive cocci play a lesser role in UTI. According to Harrison's Principles of Internal Medicine, the urinary tract should be viewed as a single anatomic unit that is united by a continuous column of urine extending from the urethra to the kidney (supporting the concept of *Mutravaha Srota* of Ayurveda).<sup>(21)</sup> In the vast majority of UTIs, bacteria gain access to the bladder via the urethra. Ascent of bacteria from the bladder may follow and is probably the pathway for most renal parenchymal infections.

In the above context, the present study was carried out keeping the following aims and objectives:

1. To evaluate the concept of *Mutravaha Srota* and its constituents.
2. To evaluate the etiopathogenesis of *Mutravaha Srotadusti* with special reference to lower urinary tract infection (cystitis & urethritis).
3. To evaluate the efficacy of Ayurvedic preparation *Gokshur Churna* (powder of *Tribulus terrestris* Linn.) to combat *Mutravaha Srotadusti* as well as lower UTI.

## MATERIALS AND METHODS

The literary information regarding the similarities between *Mutravaha Srotadusti* and lower UTI on the basis of causative factors, pathogenesis and clinical features have been verified through clinical study. The assessment of clinical features of *Mutravaha Srotadusti* and lower UTI (cystitis & urethritis) have been done on the basis of some subjective criteria and objective criteria (microscopic & bio-chemical test). The study has been also carried out to evaluate efficacy of the stipulated Ayurvedic drug i.e., *Gokshur Churna* (powder of fruit of *Tribulus terrestris* Linn.) to combat *Mutravaha Srotadusti* as well as lower UTI. *Gokshur* is a

well-known Ayurvedic herb known for its efficacy over the diseases of *Mutravaha Srota*. It has been mentioned as the best drug for pacifying *Vata Dosha* as well as to alleviate *Mutrakrichhra* by *Acharya Charaka*.<sup>(22)</sup> *Gokshur* is also well known for its anti-microbial property. This preparation was administered in the patients included in the study to observe the improvement of subjective and objective parameters. The subjective and objective parameters were evaluated before and after treatment.

## Selection of the Patient

50 patients were selected from OPD of Raghunath Ayurved Mahavidyala and Hospital, Contai, West Bengal irrespective of their sex, occupation and religion. The patients having clinical features of lower UTI were selected for the study and subsequently the features of *Mutravaha Srotadusti* were evaluated on the basis of subjective and objective parameters. Prior to carry out the study the informed patient consent form was duly signed by the patients.

## Inclusion Criteria

1. Patients above 20 years of age and below 60 years of age.
2. Patients who are willing to include themselves in to the study.
3. Patients having the clinical features of lower UTI.
4. Patients having bacterial growth on urine culture.
5. Patients having presence of bacteria within urine during microscopic examination.
6. Patients having high number of RBC & pus cells in urine during microscopic examination.
7. Patients having the clinical features of *Mutravaha Srotadusti*.
8. Patients not suffering from any other systemic disease and not taking any other medications.

## Exclusion Criteria

1. Patients below 20 years and above 60 years of age.
2. Patients who are not willing to include themselves in to the study.
3. Patients having no clinical sign and symptoms of lower UTI.
4. Patients having no clinical features of *Mutravaha Srotadusti*.
5. Patients having normal urine analysis report.
6. Patients having acute exacerbation of chronic UTI.
7. Patients suffering from other systemic disease and under separate therapeutic medications.

## Subjective Parameters<sup>(23)</sup>

The subjective parameters were selected considering the identical clinical features between *Mutravaha Srotadusti* and lower UTI:

1. *Alpaalpa Mutra* (dysuria)
2. *Ativaddha Mutra* (obstruction in urination)
3. *Abhikshna Mutratwa* (frequency of urine)
4. *Atisrista Mutra* (urgency of urine)
5. *Sashula Mutratyag* (painful micturition)
6. *Vahala Mutra* (turbid urine)
7. *Vasti Adhman* (heaviness in bladder region)

### Objective Parameters

1. Microscopic examination of urine.
2. Urine Culture

### Adoption of Drug

*Gokshur* (*Tribulus terrestris* Linn) is a well-known Ayurvedic drug known for its supreme efficacy to pacify *Vata Dosha* and to alleviate *Mutrakrichhra*. It has *Guru & Snigdha Guna, Madhura Rasa, Shita Virya* and *Madhur Vipaka*.<sup>(24)</sup> It has *Vasti Shodhana* (purification of bladder) property.<sup>(25)</sup> It has been categorized under *Shothahara Mahakashaya & Mutravirechaniya Mahakashaya* by *Acharya Charaka*.<sup>(26)</sup> So, it can reduce the inflammation caused

### STUDY PROTOCOL

**Duration of Study:** Duration of study was 21 days.

### Assessment Criteria

Assessment has been done on the basis of subjective and objective criteria before and after treatment. For the statistical evaluation each of the subjective parameter has been arranged as per gradation as below:

#### *Alpaalpa Mutrata* (Dysuria)

Grade	Features
0	No symptoms
1	Only presence of burning sensation during urination
2	Burning sensation with difficulty during micturition more than 50% of times
3	Continuous burning sensation with difficulty during urination

#### *Ativaddha Mutra* (Obstruction in Urination)

Grade	Features
0	No obstruction
1	Mild obstruction which relieved by voluntary pressure
2	Moderate obstruction which need forceful pressure to be relieved
3	Severe obstruction causing total impairment of urination

#### *Abhikshna Mutratwa* (Frequency of Urine)

Grade	Features
0	Normal frequency of urine
1	Mild (no influence on daily activities or sleep)
2	Moderate (moderate influence on daily activities but no influence on nocturnal sleep)
3	Severe (major influence on daily activities and nocturnal sleep)

by any bacterial infection to urinary tract as well as it can alleviate the obstruction in urination caused by such condition. Use of *Gokshur* in the management of *Mutrakricchra* has been mentioned by almost all major Ayurvedic compendiums like- *Charak Samhita*,<sup>(27)</sup> *Sushrut Samhita*,<sup>(28)</sup> *Ashtanga Hridayam*,<sup>(29)</sup> *Vrinda Madhava*,<sup>(30)</sup> *Vangasen Samhita*,<sup>(31)</sup> *Bhavaprakash*,<sup>(32)</sup> *Sharangadhar Samhita*<sup>(33)</sup> etc. It has known anti-microbial & anti-inflammatory properties. Many scientific studies have showed that, aqueous extract of *Tribulus terrestris* Linn has significant anti-microbial properties against a number of micro organisms.<sup>(34)</sup> Powder of the dried fruit of *Gokshur* was administered in a dose of 5gm, twice daily with warm water after lunch and dinner, for a period of 21 days. After 21 days, effect of the stipulated drug was evaluated.

### *Pathyapathya*

The patients were advised to take plenty of pure water every day and to follow essential guidelines of toilet hygiene. They were advised to avoid *Amla* and *Katu Rasa* as much as possible.

**Atisrista Mutra (Urgency of Urine)**

Grade	Features
0	No urgency
1	Mild (no influence on daily activities or sleep)
2	Moderate (moderate influence on daily activities but no influence on nocturnal sleep)
3	Severe (major influence on daily activities and nocturnal sleep)

**Sashula Mutratyag (Painful Micturition)**

Grade	Features
0	No symptoms
1	Mild pain during urination
2	pain during urination more than 50% of times
3	Continuous pain during urination

**Vahala Mutra (Turbid Urine)**

Grade	Features
0	No trace
1	Turbidity of urine against dark background
2	Visible turbidity of urine in naked eye
3	Cloudy appearance of urine

**Vasti Adhman (Heaviness in Bladder Region)**

Grade	Features
0	No such feeling of heaviness
1	Occasional heaviness in bladder region but not affected daily activities
2	Continuous heaviness which affected daily activities
3	Unable to do work due to heaviness

**Follow up of Patients**

All the patients were reviewed after 21 days from the date of administration of first dose. Any special information regarding the general health of the patient was recorded accordingly.

**Study Sample**

Total 50 patients of lower UTI with features of *Mutravaha Srotadusti* were included in the study.

**Statistical Analysis**

The information gathered on the basis of observation made about various parameters has been subjected to statistical analysis in terms of Mean, Standard Deviation (SD) and Standard Error (SE). Paired 't' test was carried out at  $P < 0.05$  and  $P < 0.001$ . The obtained results were interpreted as  $-P < 0.05$  is significant &  $P < 0.001$  is highly significant.

**OBSERVATIONS AND RESULTS**

Among the 50 patients total 7 patients were dropped out during study course. Hence complete clinical survey has been done in 43 patients. Distribution of subjective parameters of subjective parameters of *Mutravaha Srotadusti* in 43 patients shows that, *Alpaalpa Mutra* (dysuria) present in 42 number of patients (97%), *Ativaddha Mutra* (obstruction in urination) present in 39 patients (90%), *Abhikshna Mutratwa* (frequency of urine) present in 41 patients (95%), *Atisrista Mutra* (urgency of urine) present in 42 patients (97%), *Sashula Mutratyag* (painful micturition) present in 43 patients (100%), *Vahala Mutra* (turbid urine) present in 38 patients (38%) & *Vasti Adhman* (heaviness in bladder region) present in 36 patients (83%) [table no. 1].

Statistical analysis of subjective and objective parameters (which have quantitative value) of *Mutravaha Srotadusti* in correlation with lower UTI in 43 patients before and after treatment shows that *Gokshur Churna* has significant efficacy on both the subjective and objective parameters with 'p' value  $< 0.001$  and  $< 0.05$ . [table no. 2].

**Table 1: Showing the distribution of subjective parameters of *Mutravaha Srotadusti* among the 43 patients**

S. No.	Subjective Parameters	No. of patients	Percentage
1.	<i>Alpaalpa Mutra</i>	42	97 %
2.	<i>Ativaddha Mutra</i>	39	90 %
3.	<i>Abhikshna Mutratwa</i>	41	95 %
4.	<i>Atisrista Mutra</i>	42	97 %
5.	<i>Sashula Mutratyag</i>	43	100 %
6.	<i>Vahala Mutra</i>	38	88 %
7.	<i>Vasti Adhman</i>	36	83 %

**Table 2: Showing the statistical analysis of subjective and objective parameters in 43 patients of *Mutravaha Srotadusti* in correlation with lower UTI before and after treatment**

Parameters	Mean BT	Mean AT	SD+/-	SE +/-	't' value	'p' value
<i>Alpaalpa Mutra</i>	1.95	0.91	0.53	0.08	12.84	<0.001
<i>Ativaddha Mutra</i>	1.17	0.50	0.38	0.06	11.17	<0.001
<i>Abhikshna Mutratwa</i>	2.04	1.06	0.52	0.07	12.4	<0.001
<i>Atisrista Mutra</i>	1.395	0.47	2.88	0.44	2.1	<0.05
<i>Sashula Mutratyag</i>	2.42	0.65	0.71	0.11	16.08	<0.001
<i>Vahala Mutra</i>	1.40	0.54	0.51	0.076	12.53	<0.001
<i>Vasti Adhman</i>	1.47	0.70	0.53	0.08	9.72	<0.001
RBC in urine	3.53	1.16	1.35	0.20	11.62	<0.001
Pus Cells in urine	6.67	2.21	1.62	0.25	17.85	<0.001

## DISCUSSIONS

Although the chief cause of UTI should be regarded as bacterial invasion into the urinary tract, the predisposing factors which felicitate such invasion should be discussed in comparison with the *Nidan* (causative factors) of *Mutravaha Srotadusti*. An attempt has been made in this way which is summarized in to the following table:

**Table 3: Comparison between *Nidan* of *Mutravaha Srotadusti* and Predisposing Factors of UTI<sup>(35,36)</sup>**

<i>Nidan</i> / Predisposing Factors	<i>Mutravaha Srotadusti</i>	Urinary Tract Infection
Sexual activity	+++	+++
Pregnancy	---	+++
Obstruction in urinary tract	---	+++
Suppression of urge of urine	+++	+++
Old age	---	+++
Weakened immune system	+++	+++
Prolong catheterization / Mechanical injury to urethra	+++	+++

In this context, it should be mentioned that, Sexual activity can be correlated with '*Stri Sevana*', suppression of urge of urine can be compared with '*Mutra Nigraha*', weakened immune system can be compared with '*Kshinasya*' and mechanical injury to urethra can be compared with '*Kshata*' (all mentioned under the *Nidan* of *Mutravaha Srotadusti* by *Acharya Charaka*).

If we compare the *Lakshana* (clinical features) of *Mutravaha Srotadusti* with the symptoms of lower UTI (mainly Cystitis and Urethritis) then we will come to the following findings which are summarized in to the table no. 4:

**Table 4: Comparison between *Lakshana* of *Mutravaha Srotadusti* and symptoms of lower UTI<sup>(37,38)</sup>**

<i>Lakshana</i> / Clinical Feature	<i>Mutravaha Srotadusti</i>	Cystitis	Urethritis
Dysuria	+++	+++	+++
Obstruction in urination	+++	+++	+++
Frequency of urine	+++	+++	+++
Urgency of urine	+++	+++	+++
Painful micturition	+++	+++	+++
Turbidity of urine	+++	+++	+++
Pyuria	+++	++	+++
Heaviness in bladder region	+++	+++	++

In this context, it should be mentioned that, dysuria can be correlated with '*Alpaalpa Mutra*', obstruction in urination with '*Ativaddha Mutra*', frequency of urine with '*Abhikshna Mutratwa*', urgency of urine can be compared with '*Atisrista Mutra*'/'*Abhikshna Mutra*', painful micturition with '*Sashula Mutratyag*', turbidity of urine with '*Vahala Mutra*', pyuria (kind of vitiation of urine) can be correlated with '*Prakupita Mutra*' and heaviness in bladder region with '*Vasti Adhman*'.

So, if we consider the causative factors/predisposing factors and clinical features of both *Mutravaha Srotadusti* and lower UTI, then we will observe various similarities between these two conditions. Table 1 show that, most of the patients who were present with clinical features of lower UTI have subsequently satisfied the subjective criteria of *Mutravaha Srotadusti*. So, from this observation we can say that, *Mutravaha Srotadusti* is identical condition with lower UTI. Table 2 shows the statistical analysis before and after administration of the drug *Gokshur Churna*. This table shows the 'p' value <0.001 in most of the parameters (subjective and objective), which indicates that, the drug taken for the present study is highly efficacious to combat *Mutravaha Srotadusti* as well as its identical condition lower UTI. *Gokshur* by virtue of its *Guru & Snigdha Guna and Madhura Rasa* can pacify vitiation of *Vata Dosha* (mainly *Apan Vayu*) which is the main factor for proper maintenance of normal function of *Mutravaha Srota*. Along with that, due to its *Shothahara* property, it can reduce the swelling/ inflammation within urinary tract and subsequently helps to reduce obstruction within urinary tract. Also by its *Mutra virechaniya* property (acts as diuretics) it can suppress the bacterial colonization within urinary tract and helps them to wash out with increased flow of urine.

#### CONCLUSION

The literary information reveals that there are similarities between *Mutravaha Srotadusti* and lower UTI on the basis of causative factors, pathogenesis and

clinical features, which has been clinically verified in the present study. It has also been observed that *Gokshur* (*Tribulus terrestris* Linn), an Ayurvedic drug well-known for its supreme efficacy to pacify *Vata Dosha* and alleviation of *Mutrakrichhra*, is very effective in the management of lower UTI as well as *Mutravaha Srotadusti* which has been verified through clinical data and statistical analysis.

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**Cite this article as:**

Sukalyan Ray, Kaushik Porel. Studies on Mutravaha Srotadusti w.s.r. to Lower Urinary Tract Infection. AYUSHDHARA, 2021;8(6):3662-3670.

<https://doi.org/10.47070/ayushdhara.v8i6.827>

**Source of support: Nil, Conflict of interest: None Declared**

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