

# Ayurvedic Management of *Mootraghata* (Benign Prostate Hyperplasia) – A Systemic Review

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## ABSTRACT

Lower urinary tract symptoms (LUTSs) are quite common in aging males and these affect the quality of life of an individual. From out of various etiologies of LUTS, benign prostate hyperplasia (BPH) has a high prevalence itself. Similarly, in ancient times, Acharya's described various types of *Mootraghata* with their various etiological factors. *Ayurveda* clinicians and postgraduate institutes are being conducted researches or clinical trials with various modalities in the management of *Mootraghata*. Many of the researches done on *Mootraghata* remain in the library in the form of gray literature. Evidence-based medicine is the key to conscientious, explicit, and judicious use of currently available medicines for the best result of individual patient care. The research that was published in research journals can be summarized to know the treatment modalities in the management of BPH. In the review, the clinical studies/trials from the year January 2001 to 2021 are included in the study. For that purpose, the data mining was done through search engines, that is, Google Scholar, Ayush Research Portal, Dhara, AYU, Ayu-Care, J-Gate, J-Aim, Google, PubMed, Sci-Hub, and Shodhganga. In this review total, 50 studies have been collected from the available online search engine, out of 50 studies, 30 studies are having clinical intervention while 20 are review articles. Based on this review, the presented review article provides information on BPH and its treatment by herbal medicine, prognosis, and limitations of conservative treatment, and uses of parameters to the assessment of BPH.

**Keywords:** *Ayurveda*, Benign prostate hyperplasia, Lower urinary tract symptom, *Mootraghata*  
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## INTRODUCTION

*Mootraghata* itself has commonly used terminology as a symptom of various diseases or result of various etiologies advocated in ancient *Ayurvedic* literature.<sup>[1]</sup> In this review article, *Mootraghata* correlated to lower urinary tract symptom (LUTS) in modern science caused by benign prostate hyperplasia (BPH).

Research activities in *Ayurveda* have gained momentum in the few last years, this article includes the clinical studies and/or therapeutic intervention in the *Mootraghata* with special reference in BPH.

*Mootraghata* is described by all the *Acharyas* in *Ayurveda* works of literature. Acharya Sushruta mentioned 12 types of *Mootraghata* in *Uttara Tantra*.<sup>[2]</sup> Out of 12 types of *Mootraghata*, *Vatatheela* can be correlated with BPH. BPH is the most common disease of the prostate in old age males.<sup>[3]</sup> BPH has a high prevalence as a causative factor of LUTS.<sup>[4]</sup> Methodically entire thesis work done in various research institutes is not practically accessible, so thesis data/unpublished data or gray literature from the PG institutes is not included in the compressive review work in this paper. Data mining was done through search engines from the various search engines [Table 1] between January 2021 and June 2021. Around 50 research works were conducted and published over digital platforms till June 2021.

## MATERIALS AND METHODS

Keywords for the available online data are procured – *Mootraghata*, *Mutraghata*, *Vatasthila*, *Asthila*, BPH, and *Mootravikara* from the available search engine Ayush Research Portal, Dhara, PubMed, Scopus, J-Gate, Google Scholar, Google, Research Gate, Shodhganga, Ayu, Ayu-Care, JAIM, ASL, Science Direct, and Elsevier. An available research article with the help of keywords *Mootraghata*, *Mutraghata*, *Vatasthila*, *Asthila*, BPH, and *Mootravikara* has shown in Table 2.

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[Table 2.1] Total 71 articles published online, but this available online data scattered on various platforms. For procured scattered data various search engine mined by the help of different keywords.

## OBSERVATION AND DISCUSSION

Across the available studies from the search engine, good numbers of research work are being carried out on *Mootraghata* or BPH. As it is a disease with high prevalence of old age, *Mootraghata* taking concern of clinician and has enormous scope of researches. A total of 51 non duplication citation research works are published on digital platform by various clinician and researchers. As this article only included clinical studies, via help of online prisma flow chart data presentation: total no. of article included in this review article study as shown in Flow chart 1

Researchers conducted in various alternative medicines including Chinese herbal medicine, in which bulk of research works are conducted in *Ayurveda* medicine system [Table 3].

All the alternative medicines including Chinese herbal medicine have completed many researches on BPH. Out of

various alternative medicines, *Ayurveda* has major no. 30 clinical researches done on *Mootraghata*. In this article, a study conducted only on *Ayurveda* remedies or by *Ayurveda* principle has been included.

Table 4, evidence-based medicine, is a disciplined approach comprised a method of science, technologies, and biostatistics such as meta-analysis, risk analysis, benefits analysis, and prognosis analysis to give the best and safe treatment to patients. As per Table 4, many of the research trials were conducted to examine

various modalities and interventions for better and safe herbal or herbomineral, or *Ayurveda* medicines. In this article, only clinical studies are discussed, out of clinical studies. Twelve studies have a comparative study between two or three groups to examine better effect between two interventions. A total of 12 clinical studies – single-arm study conducted on various drugs with different sample sizes. A total of six single case reports were conducted as a pilot or for the examination of therapeutic effects and safety of drugs.

In pharmacology, different routes of administration of drugs also have different effects on the mode of action of drugs. In *Ayurveda* too, various forms of drugs with various routes are described by ancient *Acharyas*. Orally administration of drugs has systemic effect, where *BastiChikitsa* has local as well as systemic effect.<sup>[5]</sup> From the available clinical studies total, 19 researches have conducted over orally medications and nine on orally and *basti*, both to rule out combined effect of both intervention simultaneously [Table 5].

Table 6 shows single case reports of *Mootraghata* (BPH) with different intervention and drugs modality. Single case study initially opens up the drug safety, adverse drug reaction (ADR) effects, and effects on the disease. Single case report on various modes of administration by various forms of drugs opens up safe uses of various drugs in same disease.

Table 7 shows various studies on *Mootraghata* (BPH). Single group studies adopted different modes of route and different formulations of drugs for one disease. A total of 12 single-arm studies available on digital platform to treat BPH condition by ayurvedic medicine or formulation. Large sample of patients opens up better understanding of disease, drugs action, ADR effects, and prognosis.

Table 8 shows comparative studies between two and three groups with different formulations and modalities. Comparative

**Table 1:** Research articles on various online search engines

Search engines	No. of articles
Google Scholar	3
Google	2
Ayush research portal	8
J-Gate	11
DHARA	6
AYU	9
Ayu-Care	1
PubMed	3
Shodhganga	3
Sci-Hub	2
Elsevier	2

**Table 2:** Available research articles on BPH according to keywords

<i>Mootraghata</i>	24
<i>Mutraghata</i>	12
<i>Vatatheela</i>	8
<i>Asthila</i>	6
Ayurveda management of BPH	19
<i>Mootravikara</i>	2

BPH: Benign prostate hyperplasia

**Table 2.1:** Available research article by keywords on each given search engines

	Google Scholar	Google	Ayush Research Portal	J-Gate	Dhara	AYU	Ayu-Care	PubMed	Shodhganga	Sci-Hub	Elsevier	JAIM
<i>Mootraghata</i>	13	8	4	10	3	5	1	3	2	1	00	5
<i>Mutraghata</i>	7	6	3	1	2	9	00	2	4	00	00	1
<i>Vatatheela</i>	3	3	1	1	1	1	00	1	1	00	00	1
<i>Astheela</i>	00	1	1	00	00	1	00	00	00	00	00	00
BPH	3	6	3	1	6	5	1	7	12	1	6	2
<i>Mootravikara</i>	1	2	1	00	00	00	00	00	1	00	00	00

BPH: Benign prostate hyperplasia, method: Online data search

**Table 3:** Researches on BPH in various alternative medicines (AYUSH)

Alternative medicine	Number of research studies
<i>Ayurveda</i>	50
Unani	2
<i>Siddha</i>	2
Homeopathy	5
Traditional Chinese medicine (TCM)	7

BPH: Benign prostate hyperplasia

**Table 4:** Types of researches on *Mootraghata* (BPH)

Types of research	Total no.
Review	
Conceptual	17
Disease	
Therapeutically	
Clinical studies – single arm	12
Single case report	6
Comparative clinical studies	12
Pilot study	1
Retrospective study	1

studies open up to elect better treatment with minimal side effects. A total of 12 studies are completed and published, showed that the comparison between different groups with different treatments had different effects on the same disease.

All the studies showed the different effects on the subjective parameters and objective parameters discussed in the result column.

**Table 5:** Route of drug administration

Form of used medicine	Total no.
Annamarga (Oral medications)	19
Basti (Therapeutic enema)	2
Annamarga and Basti both (orally and therapeutic enema both)	9

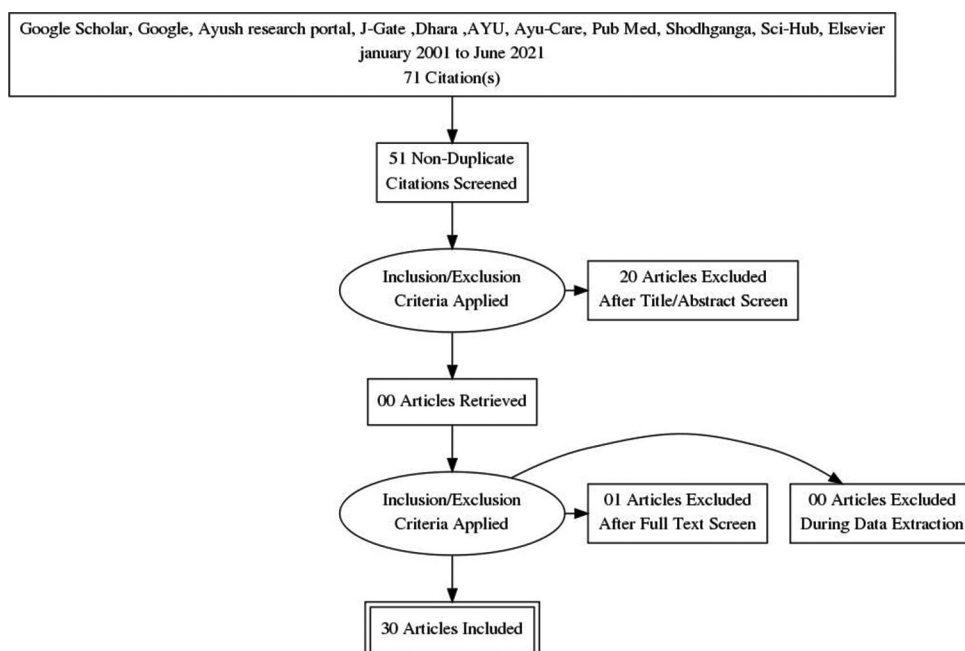
### DISCUSSION

This review work was carried out using a widespread and planned data mining approach through various search engines given above. Evidence-based medicine is a disciplined approach to give the best result as well as patient safety. Based on this review, included reviewed articles showed different methodological approaches (conservative) to treat *Mootraghata* (BPH). According to the WHO,

**Table 6:** Single case reports on BPH

Authors	Methodology	Results
Ashrani and Sumedh <sup>[6]</sup>	<i>Uttarbasti-Ushiradi tail</i> Dose-not mentioned Duration-Repeat interval of 3 days Total duration of Intervention is not mentioned	Therapy showed significant result on symptoms of BPH
Bansode and Shaikh <sup>[7]</sup>	<i>Kwath-Varuna Bark</i> Dose-50 ml Duration-1 month	Bark of <i>Varuna</i> may have anti-Inflammatory, antimicrobial, urinary-renal supportive effect
Talapatra <i>et al.</i> <sup>[8]</sup>	<i>KanchnaarGuggulu</i> 1 g bd <i>Chandarprabhavati</i> 1 g bd <i>Goksuradipill</i> 500 mg bd	Planned treatment showed improvement in subjective and objective assessment
Jaiswal and Yadav <sup>[9]</sup>	<i>VaranadiKashyam</i> 20 ml bd <i>Matrabasti-Dhanyak-Goksurghrut</i> 60 ml Powder-Karkatibeej 5 g bd Duration- <i>Matrabasti</i> for 15 days in month for 2 months Powder 2 times in day for 2 months	Planned treatment may have effective from there virtue property on BPH symptoms
Apaturkar <i>et al.</i> <sup>[10]</sup>	<i>Kwath-Laghupanchmoola</i> 30 ml b/m <i>Avghanasweda</i> Duration 1 month	Study promote the herbal use of medicine in mild to moderate BPH symptoms
Sahu <i>et al.</i> <sup>[11]</sup>	<i>Varunshigrughanvati</i> 500 mg twice in day <i>TrikantakadyaGhrut</i> 12 g with milk Duration not mentioned	Planned treatment effective from their properties on BPH symptoms

BPH: Benign prostate hyperplasia



**Flowchart 1:** PRISMA systemic review flow diagram for online database

**Table 7:** Single-arm study on BPH

<i>Authors</i>	<i>Methodology</i>	<i>Result/Conclusion</i>
Pradeep <i>et al.</i> <sup>[12]</sup>	No. of patients – 30 patients <i>Kashaya-Pataladi Kashaya</i> 30 ml TID day Duration – 30 days	<i>Pataladi Kashya</i> showed reduce in sign and symptom of BPH Mean value of PVRU 108.3 BT–71.3 AT Mean value of volume 39.26–30.56 Considerably significant relief in sign and symptom of BPH
Khanna <i>et al.</i> <sup>[13]</sup>	No. of patients – 30 patients Powder- <i>Mustadikalp</i> -10 mg TDS Duration 1 month	Highly significant score observed – S.D 1.540 and T value 31.99
Akhtar <i>et al.</i> <sup>[14]</sup>	No. of patients – Not mentioned <i>Kanchnara Guggulu</i> -500 mg bd with LWW <i>Varuna kwath</i> 25 g twice in day with LWW Duration -1 month	Urtica Dioica showed significant result over IPSS score
Safarinejad <sup>[15]</sup>	No. of patients-558 <i>Urtica dioica (Varcsikali)</i> -Powder Dose and Duration -not mentioned	<i>Mustadi Kalpa</i> showed significant result on IPSS score in small sample of size
Khanna <i>et al.</i> <sup>[13]</sup>	No. of patients-30 <i>Mustadi Kalpa</i> -10 mg TDS Duration-1 month	Significant effect on IPSS score
Karaddi and Kembhavi <sup>[16]</sup>	No. of patients-30 <i>Goksuradi Kwath</i> 20 ml twice in day Duration 60 days	Significant on IPSS score
Patel <i>et al.</i> <sup>[17]</sup>	No. of patients-15 <i>Basti-Narayan Tail</i> 20 ml and <i>Dashmoola Kwath</i> 60 ml Duration-21 days	Use in early stage of disease can prevent further progression
Kumar <i>et al.</i> <sup>[18]</sup>	No. of patients -30 <i>Trikantakadi Guggulu</i> -500 mg tab two tab twice in day Duration 3 months	Effective in subjective parameters
Tripathy <i>et al.</i> <sup>[19]</sup>	No. of patients -29 <i>Ervarubeej kalka</i> Dose-Not mentioned Duration 45 days	Showned significant result on IPSS score
Kumar <i>et al.</i> <sup>[20]</sup>	No. of patients-20 <i>Varunshigrughan Vati</i> 500 mg BD Duration 3 months	Enhanced quality of micturation and showed mild changes in Prostate volume and size
Panigrahi <sup>[21]</sup>	No. of patients 40 <i>Goksuradi guggulu</i> 500 mg twice in day <i>Sudhshilajeet</i> 500 mg twice in day <i>Dashmoolghrut basti</i> 20 ml once in day	Trail was effective in irritative symptoms of, that is, urgency, frequency, nocturia
Patel <sup>[22]</sup>	No. of patients 50 <i>VarunShigru Guggulu</i> 500 mg trice in day <i>BalaTaila MatraBasti</i> 60 ml once in day Duration 30 days	

PVRU: Post-void residual urine, BPH: Benign prostate hyperplasia, IPSS: International Prostate Symptom Score

80% of the world population depends on herbal medicine for their primary health care, where conservative management is also a primary approach in all diseased conditions. However, conservative management has its limitations. In the review of the above-included articles, mild-to-moderate BPH condition was the main criteria for the study. BPH has two main symptoms, irritative and obstructive, for the assessment of the above symptoms, that is, International Prostate Symptom Score (IPSS), ultrasound finding, and post-void residual urine (PVRU) are common. However, for the obstructive symptoms such as weak stream, hesitancy, dribbling of urine, and residual urine can be better investigate by uroflowmetry or should be investigate by uroflowmetry, Uroflowmetry were used in very few studies as per given in Table 7.

A study based on *Matrabasti* methodology has better results showed on IPSS and PVRU findings. According to all *Acharyas*, *Mootraghta* is caused by dominant *Vata Dosha*,<sup>[34]</sup> and then, (place) of pathological changes, that is, *Basti Pradesh*

is also the place of *Vata Dosha*. *Basti chikistsa* is the pradhan *chikistsa* advocated for *Vatadosha* by all acharyas in all *Samhitas*. Various *Annamarga* (Orally) medicaments are used in various studies. However, in most of the study, *Kanchnaar Guggulu* compound is used commonly and has more effective results in comparison to other oral medications. *Kanchanara Guggulu* is an *Ayurvedic* compound formulation having properties of *Vata-Kapha Dosha Shamak*, *Lekhana* (Scraping), and *Shothahara* (anti-inflammatory).

Content uniformity is the key to the scientific assessment of any research module as well as the availability of research work to citation in the public domain. Based on this review and based on the data mining process, included research work has a different methodology and assessment criteria where many research works are not available in the public domain and saved in institute library in the form of gray literature. Hence, uniform content and availability of data in the public domain may help for further

**Table 8:** Comparative studies on BPH

Authors	Therapeutic groups	Results	
Sengupta et al. <sup>[23]</sup>	Group A-23 patients Drugs-Capsule of <i>M koinigii</i> and <i>Tribulus Teristris</i> Dose Not mentioned Duration-12 weeks	Group B-23 patients Drugs -Tamsulosin Dose-400 mg OD Duration -12 weeks	These findings suggest that the <i>M koenigii</i> - and <i>T terrestris</i> -based formulation significantly lowered IPSS scores in the initial treatment of symptomatic BPH
Vasava et al. <sup>[24]</sup>	Group A-15 patients Drugs: <i>Mahayavanala Kshar</i> Capsule Dose: 500 mg BD Duration: 45 days	Group B-15 patients Drugs: <i>Dhanyak Gokshur Ghrita</i> 10 g BD Duration: 45 days	<i>Dhanyaka Gokshur</i> showed better result in Subjective (IPSS)
Tongale and Ukhalkar <sup>[25]</sup>	Group A-30 patients Drugs: <i>Dashmoola Kwath</i> 25 ml, <i>Sarkara</i> 12 g, 250 mg <i>Shilajit</i> BD Duration: 45 days	Group B-30 patients Drugs: <i>Pashanbehjadi Kwath</i> 40 ml Duration: 45 days	Both the medicine have same effect on the IPSS score
Amarprakash <sup>[26]</sup>	Group A-30 patients Drugs: 1. <i>Ashwagandha Ghana</i> -100 mg 2. <i>Varuna Ghana</i> 100 mg 3. <i>Gokshura Ghana</i> 100 mg 4. <i>Haritaki ghana</i> 100 mg 5. <i>Punarnavaghana</i> 100 mg Duration: 3 weeks	Group B-30 patients Drugs: Tamsulosin Hydrochloride Duration: 3 weeks	Group A showed remarkable result in IPSS score
Kumar et al. <sup>[27]</sup>	Group A-15 patients Drugs: <i>Kanchnaar Guggulu</i> 500 mg 2 tab thrice in day Duration 3 months	Group B-15 patients Drugs: <i>Yoga Basti</i> Dosage: 5 <i>Anuvasan</i> and 3 <i>Niruhbasti</i> Duration 1 month	<i>Kanchnaar Guggulu</i> showed better result in obstructive symptoms, no effects seen over irritative symptoms. <i>Yoga Basti</i> showed better result in both obstructive as well irritative symptom
Bhalodia et al. <sup>[28]</sup>	Group A-10 pts <i>Punarnava</i> and <i>Devdaru Guggulu</i> Dose: 500 mg tid Duration 21 days	Group B-10 pts <i>Dhanyak gokshur Ghee</i> <i>Matrabasti</i> 60 ml Duration: 21 days	Group C-10 pts Combined drugs Duration: 21 days <i>Gokshuradi ghan vati</i> and <i>Gokshurdhanyak Ghee</i> showed effective and safe in BPH
Baslingappa <sup>[29]</sup>	Group A-15 patients Drug: <i>Dashmoola Kwath</i> Dose : 50 ml BD b/m Duration-1 month	Group B-15 patients Drug: <i>Gokshur Kwath</i> Dose: 50 ml bd b/m Duration-1 month	Group A study showed significant effect over IPSS or subjective symptoms
Banothe et al. <sup>[30]</sup>	Group A-12 patients Drugs: <i>Balataila</i> Dosage 60 ml <i>Matrabasti</i> OD Duration: 21 days	Group B-18 patients Drugs: <i>MatraBasti</i> 60 ml OD, <i>Kanchnaar Guggulu</i> 500 mg 2 tab thrice in day Duration 21 days	<i>Matrabasti</i> is effective and tolerable in the patients of BPH
Patel and Sharma <sup>[31]</sup>	Group A-35 patients Drug: <i>Virtarukwath</i> 15 g <i>yavkuta</i> powder Duration 21 days	Group B-31 patients Drug: 15 g <i>Punarnava</i> Duration 21 days	Group A study showed significant effect over IPSS or subjective symptoms
Arya <sup>[32]</sup>	Group A-No. of Pts. 40 Drugs and Dosage- <i>Dashmoola Kwath</i> 25 ml, <i>Shilajeet</i> 250 mg <i>Sharkara</i> 12 g twice daily	Group B No. of pts. 40 Drugs and Dosage: <i>Uttar vasti</i> with <i>Narayan taila</i> 2 ml	Group C No. of pts. 40 Drugs: <i>Dasmoola Kwath</i> , <i>Shilajjet</i> , <i>Sharkara</i> , <i>Uttarvast</i> with <i>Narayantaila</i>
Patel et al. <sup>[33]</sup>	Group A No. of pt. 10 <i>Kanchnaar Guggulu</i> 500 mg thrice in day Duration 21 days	Group B No. of pt. 10 <i>Dhanyak Goksur Ghrut Matra Basti</i> once in day Duration 21 days	Group C No. of pt. 10 Both treatment given together <i>Kanchanara Guggulu</i> orally and <i>Dhanyaka Gokshura Ghrita Matra Basti</i> is effective conservative management for symptomatic relief in BPH of senile age

BPH: Benign prostate hyperplasia, IPSS: International Prostate Symptom Score

meta-analysis of all trials which are completed in all research institutes. Therefore, all trials conducted should be registered and published in the Clinical Trials Registry India (CTRI) domain. It will help for collecting data for analysis in the future study. The basis

of the reviewed article, this article includes and enlightens the scientific process of data mining, methodology, and analysis of included data to present-past research work done on BPH which is available in the digital domain.

## CONCLUSION

Based on this review available data on the domain, *Mootraghata* (BPH) was researched for the various conservative formulations and different routes of administration, from which mere no. of studies done on indicated route, that is, *Bastichikitsa* and other formulations advocated by Acharya Sushruta. Conservative management of BPH showed results on the mild-to-moderate IPSS. *Bastichikitsa* and *Guggulu* orally have a better result on the symptoms of BPH.

This study also stresses the need for the CTRI registration and publication of all the data on the digital domain for the future review study and for the research studies to be carried out on unexplored areas advocated by Acharya Sushruta to treat *Mootraghata* and also validates the effect of various formulations on *Mootraghata*.

## LIMITATIONS

The main limitations of this article are as follows:

- Only available digital data have been included. Only clinical works are included
- Research methodologies adopted in all these studies could not be retrieved.

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