

## Research Article

# A Clinical Study on Effectiveness of Homoeopathic Treatment of Lower Urinary Tract Infection in Females

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### ABSTRACT

LUTI is a common bacterial infection that affects urinary tract mainly Urethra and bladder. This infection affects all ages and both sexes. Despite this, women are usually more susceptible to this infection and has a higher prevalence compared to the men. Poor personal hygiene, pregnancy, menopause, and the close anatomical relationship of the female urethra and the anus are some of the risk factors responsible for high prevalence of UTI. And it has a substantial impact on QOL of females. High recurrence and antibiotic resistance of bacteria's causing UTI is also creating burden on economy worldwide. Most often this infection is usually neglected but it can involve kidney which can be more dangerous. Clinically, Homoeopathy is said to be safe, efficacious, and economic in managing lower urinary tract infection. Thus, this study was undertaken to reassess the effectiveness of homoeopathic treatment in lower urinary tract infection. To re-assess the effectiveness of Homoeopathic medicine in Cases of lower urinary tract infection in females. To evaluate significance of miasmatic prescription in cases of lower urinary tract infection in females. To assess the impact of urinary tract infection on Quality of life of females

Study Design - Prospective observational open label study.

In this study, 30 diagnosed and undiagnosed cases of lower UTI were selected based on inclusion and exclusion criteria. Case taking was done by following principles of organon of medicine in required case taking Proforma and importance was given to chief complaints, Mental and physical generals. Symptom analysis and interpretation was done as per kents evaluation of symptoms with reportorial interpretation. The prescription was based on totality of symptoms, Reportorial totality, and analysis and finally after referring to materia medica. Follow up was evaluated by changes in clinical presentation. Changes in symptom assessment score every 7 days or before whenever needed and final statistical analysis was done. Homoeopathic treatment appeared to be efficacious, safe, and economic in the treatment of acute lower urinary tract infection in females with significant improvement in QOL.

**Keywords:** Homoeopathy, Individualization, Lower urinary tract infection, Females, QOL



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## INTRODUCTION

Urinary tract infection (UTI) is the most common bacterial infection after respiratory tract infection managed in general community practice. Worldwide it remains a major public health problem in terms of morbidity in

persons of all ages and financial cost with an estimated 150 million cases per annum, costing global economy more than six billion US dollars <sup>[1]</sup>. UTI accounts for 1– 3% of consultations. About 50% of women

experience UTI at some point in her life. Acute urethritis and cystitis is the most common presentation, although this is part of a spectrum of severity [2].

Worldwide estimated prevalence is 0.7%. [22] The regional burden of these conditions is estimated to be highest in Asia, with numbers of affected individuals expected to increase most in the developing regions of Africa (30.1–31.1%, 2008–2018), South America (20.5–24.7%) and Asia (19.7–24.4%) [3]. The prevalence of UTI varies from 21.8 to 31.3 % in various parts of India. [4]

Recurrent episodes of UTI have been seen in about 20-30% of women who have had one episode of UTI previously. Relapse is early recurrence (within 2 weeks), rather than re-infection and may indicate the need to evaluate the patient for a sequestered focus. The rate of recurrence ranges from 0.3 to 7.6 infections per patient per year, with an average of 2.6 infections per year. [5]

When the infection occurs in otherwise healthy and has no structural or neurological urinary tract abnormalities, it is an uncomplicated UTI. [4] Lower UTI may be defined as acute uncomplicated UTI, also referred as cystitis, acute cystitis or dysuria frequency syndrome. Frequent sexual intercourse, diaphragm use, the use of a spermicide, not voiding after intercourse and a history of recurrent infection are risk factors for UTIs in women. [6]

The most episodes of UTI are caused by *Escherichia coli* (*E.coli*) and *Enterococcus faecalis* (*E. faecalis*), while *Klebsiella pneumoniae* (*K. pneumoniae*) accounts for remaining infections. [4] frequently implicated bacteria in uncomplicated UTI and catheter-associated UTI are gram negative *Escherichia coli*, and are becoming increasingly resistant to antibiotics. [7]

While there has been some research on the impact of uUTI on everyday activities, with one study reporting that each episode of UTI results in an average of 6.1 symptomatic days and 2.4 restricted activity days, as well as time lost from work [6]

Suffering from a urinary tract infection significantly affected many aspects of quality of life of the women [8], many cases of uncomplicated UTI will resolve

spontaneously, without treatment, but many patients seek treatment for symptoms. [9]

In all cases of proven UTI, antibiotics are recommended. [2] UTIs are one of the major causes of antibiotic usage and antibiotic resistance.. Therefore, it has been necessitated to explore the role of alternative/complementary therapies including Homoeopathy in the management of UTIs [10]. Homoeopathy is an important system of alternative therapeutics and popular medicine in the world, especially in the Indian subcontinent. Approximately 200 million people take homoeopathic medicines on a daily basis across the world and almost 10% of the population in India use Homoeopathy. Homoeopathic treatment has been found to be very efficacious and cost-effective. [10]

This dissertation study is intended to re assess the effectiveness of homoeopathic medicines in management of Lower urinary tract infection (LUTI) and extent of improvement in the related symptoms of the patient and also improving quality of life Good numbers of studies have been conducted to evaluate the effectiveness of homoeopathy in cases of lower UTI. But only few studies on improvement in quality of life of patients. Positive outcome resulting from this study could add one more evidence for the use of non-toxic, harmless, cost-effective means of improving the patients having LUTI, and improvement in quality of life of patients also Conversely, if the results demonstrate a negative outcome, then it will pave the way for further exploration in the management of LUTI with homoeopathic medicines.

#### **Materials and methods**

**Study design:** Prospective, observational, open label study.

**Study period:** 18 Months

**Study site:** Government Homoeopathic Medical College & Hospital (GHMC&H), Bhopal, Madhya Pradesh, India.

**Study setting:** Outpatient Department (OPD), Indoor Patient Department (IPD) and attached units of the institute.

**Defining the population:** Target population is largely from Bhopal and others districts of MP.

**Sample size:** n = 30,

**Sample selection:** On the basis of inclusion

and exclusion criteria(s).

**Inclusion criteria:**

Diagnosed cases of urinary tract infection in females of age group between 18 to 60 years will be selected, irrespective of socio-economic conditions.

Females of reproductive and menopausal age were considered for this study.

Follow up criteria are mainly based on clinical history, presentation, and examination findings.

Subjects agree to give voluntary, written consent for participating in the study.

Subjects agree to comply with the protocol.

**Exclusion Criteria:**

Females who have associated with serious conditions like Myocardial infarction, Renal failure, Hepatic failure, malignancies and metabolic disorder like Diabetes mellitus

Any significant disease or disorder, which in the opinion of the investigator, may either put the subject at risk because of participation in the study, or may influence the results of the study.

Taking treatment for any other chronic diseases

Subject does not agree to give consent for participating in the study.

Patients unlikely to comply with the trial protocol.

Pregnant and lactating mothers.

Catheter induced UTI.

Complicated cases of UTI such as pyelonephritis, urethral stricture, sepsis.

**Case taking** – as per case taking Proforma

**Source of procuring medicine-** Pharmacy of Govt. homoeopathic medical college and hospital Bhopal M.P.

**Selection of medicine-** was based on individualization after proper Analysis, Evaluation and Miasmatic analysis of the case as per homoeopathic principles. Totality was constituted based on methods of evaluation and Repertorisation with the help of Synthesis Repertory 9.0 by F. Schroyens.

**Potency & Doses-** Potency, dose and repetition was done following strict homoeopathic principles. Each dose contains four medicated globules in one grain of sugar of milk.

**Follow up.** - Cases were followed up properly on regular basis in every 7 days or as per need

of the patient, and results were assessed based on reduction in clinical symptoms & changes in SA score. (**Appendix A** with C.R.F.)

**Methods of Tests /procedures-** Detailed and thorough case taking of each case having urinary tract infection.

Relevant clinical examinations and lab investigations

Repertorisation was done using synthesis repertory after the evaluation and grading of symptoms by Kent’s method.

Inclusion and exclusion criteria were fulfilled in selection of each and every case.

Analysis, evaluation and Repertorisation of the totality of symptoms using Synthesis repertory taking help of Computer-aided (Digital) Repertory.

Final Selection of medicine after susceptibility, miasmatic inference and consultation with Homoeopathic Materia Medica.

On the basis of susceptibility potency, dose and repetition was done following strict Homoeopathic principles.

General management which includes plenty of fluid intakes and personal and perineal hygiene and proper rest and life style modifications.

Laboratory investigations would be done -. Urine routine and microscopic examination Proper recording of detailed investigation finding along with measurement if Applicable.

Timely review of Homoeopathic prescription based on response of patient.

**Symptom assessment criteria**

BURNING	GRADE	SCORE
Severe	+++	3
Moderate	++	2
Mild	+	1
No burning	0	0

FREQUENCY	GRADE	SCORE
Below 5 in 24/hours	0	0
5-9	+	1
10-14	++	2
15 and above	+++	3

DYSURIA	GRADE	SCORE
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Severe	+++	3
Moderate	++	2
Mild	+	1
No pain	0	0

BOTHERSOMENESS	GRADE	SCORE
Not at all	0	0
A little	+	1
Moderately	++	2
A lot	+++	3

### Statistical analysis

After analyzing the “t” value through Microsoft excel, P (T<=t) two-tail value is **8.85**

### Comparison with the tabled value

Thus the critical ratio-‘t’ follows a distribution with n-1 degree of freedom. The 5% level is 2.045 and 1% level is 2.756 for 29 degree of freedom. Since the calculated value 13.16 is greater than the tabled value at 5% and 1% level, the (p-value is <.00001). Hence the null hypothesis is rejected and *alternate hypothesis is accepted*.

INFERENCE: This study provides an evidence to say that, there is significant reduction in the SA score after the *Homoeopathic treatment*. Hence, we conclude that homoeopathic medicines are effective in the management of lower urinary tract infection.

### Discussion

Lower urinary tract infections (UTIs) in susceptible women remain a common urological condition. With an increasing number of UTIs being caused by antibiotic resistant bacteria there is a need for alternatives to antibiotics. Differentiation between lower and upper UTI is important because renal involvement is associated with more severe complications. Many literatures and studies are found stating acute urinary tract infection can be effectively cured by homoeopathic medicines. As UTIs is associated with an increased morbidity and even mortality. The results of the study will significantly add to our knowledge about the clinical value of homeopathy. Antibiotics are targeted at killing microorganism without any attempt to support and guide the immune system. But, literature available in homoeopathy shows that infective diseases

are very well handled with homeopathic drugs.

The study titled “**A Clinical Study On Effectiveness Of Homoeopathic Treatment Of Lower Urinary Tract Infection In Females**” was done to reassess the effectiveness of homoeopathic medicines upon patients (females) suffering from lower UTI.

The study was conducted on randomly selected females of all religion preferably from Bhopal and surrounding districts of age group 18 to 60 years, fulfilling inclusion and exclusion criteria. Prospective, observational, open label study design was embraced for figuring out the effectiveness of homoeopathic medicines in lower urinary tract infection.

Acc to John AS, Mbotto CI, all individuals are susceptible to UTIs; however the prevalence of infection differs with age, sex and certain predisposing factors. UTI occur most frequently between the ages of 16 and 35 years, and 50% in elderly women [23]

On analysis of entire data acquired from this study population, it was found that the frequency of UTI was found to be highest in the age group of 18-25 years, and lowest equally in the age groups of 41-45 and 51-55 years, the percentage prevalence rate being 30.00%, 07.00%, in the 18-25 years and equal in 41-45 and 51-55 years of age groups respectively.

In previous study of Haider G, Zehra Significant impact of socioeconomic class was seen with UTI as 8(80%) patients belonged to the lower socioeconomic group while 2 (20%) were from the upper socioeconomic group.[75]

In present study the prevalence of LUTI was found to be highest in the middle-class population (73.33%) than that of lower middle class (10.00%) and upper middle class population (16.66%).

To find out the occurrence of urinary tract infection (UTI), a cross sectional study was conducted among 110 female workers of Topaz garment industry, located in Tejgoan industrial area of Dhaka city. Among the total respondents about 54.5% complained about urinary problem, but 18 (16.4%) suffered from laboratory diagnosed UTI. [29]

In this study it has been found that as reviewed in previous studies that there is an association between work place hygiene and environment in case of UTI, here we found (30%) of females are working, some as teacher, as a software engineer, as a salon manager, as a sales executive in Honda and some students were affected and (70%) home makers were affected. So, this study not fully supports the previous study, though the sample size is less.

In present study to diagnose a case, urine routine and microscopic examination has been done before and after treatment which shown the mean of pretreatment pus cells of 30 subjects was 5.1 which was reduced to 3.4 after treatment and the mean percentage reduction in pus cell count of 30 cases was recorded as 46%.

According to Sahoo AR, Nayak C most frequently prescribed homoeopathic medicines are Cantharis, Nux vomica, Sarsaparilla followed by Apis mellifica, Belladonna, Berberis vulgaris, Chimaphila umbellata, Equisetum, Lycopodium, Sepia, Staphysagria. Among the above, Cantharis, Apis.mel, Staphysagria, Sarsaparilla is considered as the top homoeopathic medicines to treat UTIs. [10]

In this study Pulsatilla was found to be the most frequently indicated medicine (13%) out of fifteen prescribed medicines followed by sulphur, lycopodium, sepia, and cantharis each (10%), nux vomica, apis mellifica, arsenicum album, and natrum murr each (7%). and belladonna, sarsaparilla, calcarea carb, merc.sol, capsicum, and kali carb in equal frequency each (3%).

During the study some other remedies are also required during acute exacerbation of symptoms to give relief to the patients associated symptoms those medicines are as follows, out of 30 patients 14 had required other medicines, most frequently used medicine was cantharis (43%), followed by bryonia (14%), and gelsemium, berberis q, nux vomica, sarsaparilla, alumina, cantharis q in equal frequency (7%) respectively.

According to predominant miasm of the study population predominance of the psoric miasm was found to be highest as 56.6% whereas Psoro-sycotic miasm was predominant in

33.33% of the cases and rest of the 10% of the patients was covered by Psoro-syphilitic miasm.

As a definite literature regarding the classification (SA) in to mild, moderate, and severe is missing, so to overcome this lacuna, patients were classified depending on the available studies. This idea has been taken from idea of (DARREN CLAYSON) 30, study.

During the analysis of the treatment outcome it was found that Improvement was seen in 93.33% cases, with No Change in 7.33 percentage cases. A maximum of 60% cases showed moderate improvement, 13.33% showed marked improvement, in 20% cases improvement was mild. No change was found in 6.67% cases. It has been established earlier that UTI markedly affect the quality of life of patients, and to assess the QoL, (SA) questionnaire including bothersomeness due to symptoms was used in this study.

In present study, symptom assessment score (SA) was used to evaluate and grade the reduction in frequency of symptoms of LUTI and bothersomeness before and after homoeopathic treatment. In this study it has been found that mean of SA score before treatment at first visit is 8.03 and mean of SA score at final visit is 4.13, so there is mean reduction of 3.9 is found after homoeopathic treatment.

## CONCLUSION

It can be concluded from this study that after homoeopathic treatment of lower UTI in females there is significant improvement in the symptoms of lower urinary tract infection which was evaluated by SA (Symptom assessment score), with also decrease in bothersomeness of patients, thus causing a substantial positive impact on patients quality of life as well.

This study has been done only on female subjects, of age group 18-60 years and this study also concludes that it is prevalent in reproductive age group females, It is found that the frequency of UTI was found to be highest in the age group of 18-25 years, and lowest equally in the age groups of 41-45 and 51-55 years respectively.

This study also concluded that there is preponderance of LUTI in working women's

which shows that work place toilet hygiene can be the risk for UTI in females.

This study concludes that there are changes in mean of pretreatment pus cell count and post treatment pus cell count after homoeopathic treatment.

In this study Pulsatilla was found to be the most frequently indicated medicine out of fifteen prescribed medicines followed by sulphur, lycopodium, sepia, cantharis, nux vomica, apis mellifica, arsenicum album, natrum murr belladonna, sarsaparilla, calcarea carb, merc.sol, capsicum, and kali carb.

During the analysis of the treatment outcome, it was found that there is significant improvement, in overall health status of patient including reduction in symptoms of LUTI was found

It is been seen that Homoeopathic treatment of lower urinary tract infection is able to annihilate the disease and helps to reduce the intensity and frequency of the episode of LUTI in females. As in conventional treatment antibiotics are the only choice of treatment and most of the bacteria's become resistant to them and so cause recurrence after treatment. There is a better scope in Homoeopathy for the treatment of lower UTI, since the treatment is based on holistic and individualistic approach. Homoeopathic remedies not only annihilate the disease but also prevent the complications associated with it.

However further studies need to be carried out to understand the finer menaces of the disease. As taking into consideration the recurrence and its kidney involvement, a long term study should be conducted to ensure a lasting relief after withdrawal of treatment. Since the number of subjects was small, a larger sample size is required for better generalizations and conclusions. Study would be more scientific, if evaluation is done by some scales of measurement of symptoms of UTI and also if comparison could be made with a control group on conventional treatment. It was all not possible in this study as the time limit of one year was not sufficient.

This study also concluded that, UTI has a significant negative impact on physical,

emotional and psychological well-being of females thus put a considerable impact on patient's quality of life. Like other studies done earlier, correlation between UTI and quality of life was seen. So, it is important to evaluate the patient, impact of UTI on quality of life before making therapeutic decision.

After the completion of this study, it can be asserted that Homoeopathy is safe, simple, less expensive, and useful in treating Lower urinary tract infection.

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