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# A Clinical Study on the efficacy of *Bimbimoola Vati* in *Shayyamutra* (Enuresis) with reference to Nocturnal Enuresis

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## ABSTRACT

**Background:** The ancient scholars have described this obstinate health problem of children as *Shayyamutra*. *Shayyamutra* is considered as a shameful problem in our society and it is most under diagnosed condition by the paediatrician, as it is known as self-limiting in nature. This disease is rampant in today's society and become threatening as a burden of shame and guilt to the child. It is also a cause for inflicting stress upon the parents too. **Objectives:** To evaluate the efficacy of *Bimbimoola Vati* in *Shayyamutra* and to study the etio-pathogenesis of enuresis in Ayurved and modern views. **Methods:** Group A (n=40) treated with *Bimbimoola Vati* along with *Madhu* While Group B (n=40) treated with Wheat flour *Vati* along with *Madhu* for 45 days. **Conclusion:** The drug *Bimbimoola Vati* have shown highly significant result in most of symptoms of *Shayyamutra*. (p<0.001). No any specific adverse drug reactions were found in both the groups.

**Key words:** *Shayyamutra*, *Enuresis*, *Bimbimoola Vati*, *Bedwetting*.

## INTRODUCTION

The events leave a lasting impression on the tender mind of children and later become the cause of behavioural or psychosomatic diseases. Among these, Bedwetting is one of the obstinate problems. Due to this problem a lot of concealment and profound repercussions occur in family life, since a child's psychosomatic health and mothers pride involved with this problem. It affects small to middle age group of children mainly but adolescents are also found among sufferers, it affects all races and children from

all geographical areas. Children are most among the sufferers of bedwetting may because of starting of development of personality and ego since the age of 3 years<sup>[1]</sup> which culminates as negativism against parents when they force them to control the bladder.

A separate branch of clinical specialization is attributed to child healthcare known as *Kaumarbhrutya*. *Kaumarbhrutya* emerged as an independent medical specialty right from the dawn of civilization. This revolutionary development was the result of increasing awareness among the health professionals that, the problems of children differ considerably from those of adults and from the point of view of medical therapeutics, "a child cannot be considered as miniature adult". Though paediatrics as a science has evolved much since then, this basic observation still remains valid.

The ancient scholars have described this obstinate health problem of children as *Shayyamutra*.<sup>[2]</sup> This disease is rampant in today's society and become threatening as a burden of shame and guilt to the child. It is also a cause for inflicting stress upon the

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parents too. When the child wants to sleep dry and parents want to come out of related stress due to bedwetting, an active treatment is needed to be instituted at the earliest possible time and age.

### Epidemiology

The prevalence at age 5 years is 7% for males and 3% for females. At age 10, it is 3% for males and 2% for females and at age 18 years, it is 1% for males and extremely rare for female.<sup>[3,4]</sup> General population studies carried out in India show that 2.5% in the age group of 0 to 10 years have enuresis. The prevalence of nocturnal enuresis has been difficult to estimate because of variations in its definition and in social standards.<sup>[5,6]</sup>

The drug selected for study *Bimbimool* (root of *Coccinia indica*) specially indicated for *Shayyamutra* by Govinddas Sen in his text *Bhaisajya Ratnavali*; this drug in different form (syrup) and dosages format has been evaluated by previous research scholar and was found effective.<sup>[7]</sup> Fluid intake may enhance bedwetting, so instead of syrup preparation *Vati* (tablet) preparation was selected in the present study.

## AIM AND OBJECTIVES

### Aim

To evaluate the efficacy of *Bimbimoola Vati* in *Shayyamutra*

### Objective

1. To study the disease *Shayyamutra* both in Ayurved and modern aspect.
2. To study the etio-pathogenesis of enuresis in Ayurved and modern views.
3. To see the complication or side effect if any. *shayyamutra*

## MATERIAL AND METHODS

The total study was completed in three main parts Conceptual, Clinical, Discussion and Conclusion.

### Ethical Clearance

The proposed clinical study was presented in form of synopsis in front of institutional ethics committee and

send to the M.U.H.S. Nashik. The clinical trial was started after the approval from chairperson of ethics committee of M.U.H.S Nashik.

### Sample size

Total 80 patients suffering from *Shayyamutra* were selected by clinical examination in the OPD of *Kaumarbhritya*.

A general examination was carried out in all patients presenting with *Shayyamutra*, and then as per the below mentioned criteria random selection of the patients was made.

### Inclusion Criteria

1. Subjects irrespective to sex.
2. Subjects age group 6 to 11 years.
3. Cardinal features of *Shayyamutra* without day time incontinence.
4. Repeated voiding of urine in bed or clothes at least 2-3 times in a week.

### Exclusion Criteria

1. Patients having systemic disorder like TB, DM, DI.
2. Patients with congenital anomalies or with anatomical defect in genitor urinary system and UTI.
3. Neurodevelopmental disorders like MR, CP, Spina bifida and Seizures disorders.
4. Subject with worm infestation.
5. Patients on another treatment for same disease.

### Methods

Group A = 40 cases – Treated with *Bimbimoola Vati + Madhu*

Group B = 40 cases – Treated with Wheat flour *Vati + Madhu*

### Dose and Duration

#### Group A - *Bimbimoola Vati*

- Dose : 06-11 Year - 300-600 mg/day.
- Time : B.D. (Twice a day before meal)

- Route of administration : Oral
- Anupana : Madhu
- Duration : 45 days

**Group B - Wheat flour Vati**

- Dose : 06-11 Year - 300-600 mg/day.
- Time : B.D. (Twice a day before meal)
- Route of administration : Oral
- Anupana : Madhu
- Duration : 45 days

**OBSERVATIONS AND RESULTS**

**A. Basic Demography**

**Age:** Total 25% of patients were from the age 7 years followed by 21.3% from 10 years, 20% from 8 years, 10% each were from 6 and 9-years age group.

**Sex:** In this study maximum patients registered were Males i.e. 67.5% while 32.5% were females.

**Birth History:** Here Birth history means the method by which the patients involved in the study were being born. Almost all the patients i.e. 62.5% had a normal birth history while 23.8% had born by LSCS (lower section caesarean section) and 13.7% were born by instrumental delivery.

**Table 1: Distribution of Patients According to Enuresis condition**

Bedwetting Status	Group-A	Group-B	Total	%
More than once daily	05	06	11	13.7
More than twice a week	11	14	25	31.3
Once daily	11	09	20	25.0
Twice a week	13	11	24	30.0
Total	40	40	80	100

Maximum 31.3% of patients had more than twice a week, 30% patients had twice a week, 25% patients had once daily while 13.7% patients had more than once daily.

**CLINICAL STUDY**

**Table 2: Effect of therapy on Cardinal and Associated Symptoms in Group A**

Symptoms	BT		AT		% Relief	Z	p
	Mean score	Sd	Mean score	Sd			
Bed Wetting	4.184	1.061	1.13	1.663	73.0	5.171	<0.001
Fear	1.00	.69	.26	.47	74.0	4.772	<0.001
Shamefulness	1.53	0.97	0.50	0.83	67.3	4.585	<0.001
Irritability	1.05	0.86	0.26	0.55	75.2	4.114	<0.001
Excessive activity	0.84	0.97	.37	0.63	56.0	3.626	<0.001
Lack of Memory	0.63	0.67	0.29	0.57	54.0	3.027	0.002
Lack of Concentration	0.50	0.60	0.29	0.46	42.0	2.828	0.005

Effect of therapy was assessed based on positive changes of chief complaint i.e. decreased frequency of bed wetting and changes in associated symptoms.

In the cardinal symptom the percentage of relief was obtained 73% which is statistically highly significant. (P<0.001). In the associated symptoms Shamefulness relived by 67.3%, irritability by 75.2%, memory was improved by 54%, excessive activity was diminished by 56%, fear was relieved by 74%, and concentration was improved by 42%.

**Table 3: Effect of therapy on Cardinal and Associated Symptoms in Group B**

Symptoms	BT		AT		% Relief	Z	p
	Mean score	Sd	Mean score	Sd			
Bed Wetting	4.162	0.986	3.675	1.35	11.7	2.871	0.004

Fear	1.16	0.78	1.0	0.78	13.8	1.85	0.06
Shamefulne ss	1.43	1.04	1.27	1.05	11.2	2.44	0.01
Irritability	1.24	1.01	1.11	.99	10.5	2.23	0.02
Excessive activity	0.81	0.90	0.78	0.88	3.7	1.0	0.31
Lack of Memory	0.73	0.73	0.62	0.66	15.1	2.00	0.04
Lack of Concentrati on	0.54	0.69	0.51	0.65	5.6	1.00	0.31

In the cardinal symptoms the percent of relief was observed in 11.7% which is also statistically significant. In the associated symptoms Shamefulness relived by 11.2%, irritability by 10.5%, memory was improved by 15.1%, excessive activity was diminished by 3.7%, fear was relieved by 13.8% and concentration was improved by 5.6%.

Graph 1: Overall symptom's wise relief of therapy

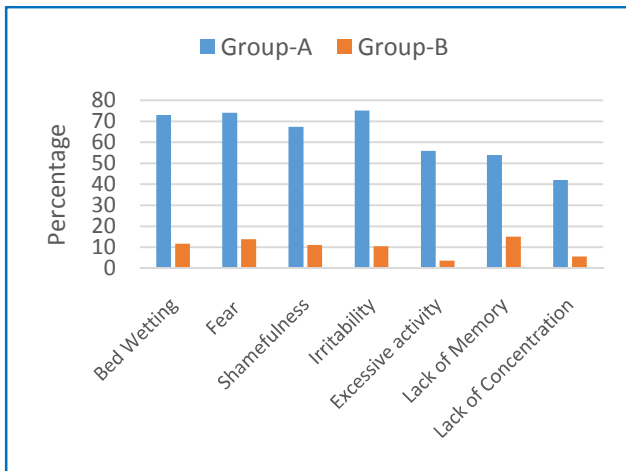


Table 4: Showing patients wise Relief of Therapy

Overall Effect	No. of cases	
	Group-A	Group-B
No change (<25%)	1	31
Mild change (25% – 49.9%)	7	4
Moderate change (50% - 74.9%)	10	2
Good change (75% +)	20	0

DISCUSSION

Shayyamutra is considered as a shameful problem in our society and it is most under diagnosed condition by the paediatrician, as it is known as self limiting in nature. Though enuresis affects adult too, but children are more among the sufferers. It has credited to hamper the child's selfsteem and further long term complication like over activity, underachievement insecurity, clumsiness etc. In Ayurveda no much description is found but only first unambiguous definition of Shayyamutra is given by Aadhmalla in which he has given the clue of etiology that is described as "Kshinpurvakam" and "Dosha Prabhavat". Here again the elucidation of 'Kshinapurvakam' and 'Doshaprabhavaat' is necessary. Here the meaning of Kshina is to grow thin, slender, and weak and be easily tired or fatigued. The rendering of Kshina is a bit baffling here.

Shayyamutra as Kshudra Roga goes to the brain of Govinddas Sen. Acharya Govinddas might have followed Madhukosh writtean by Acharya Vijayrakshita who is the first person.

Discussion on Drug

In the present study the drug was selected from Bhaishajya Ratnavali from the chapter Kshudra Rogachikitsadhikara. As per the classical reference of the text, the Swarasa of Bimbi Mula is recommended. As mentioned in Drug review it is having Tikta Rasa. Naturally children refuse the taste as well as the Swarasa, so based on dilling formula, Vati dosage form was selected. The preparation of Vati is mentioned in the Drug review. Bimbi, Coccinia indica is a climber of cucurbitaceae family and is included by Acharya Charaka in Mulini Gana while in Urdhvabhaghara Gana by Acharya Shusruta. Varieties of plants are available e.g. Coccinia grandis. It has been also classified as per its taste viz. sweet and bitter. Many researches are available proving the drug as a highly effective oral antihyperglycemic and also as antihelminthic. This actions further leads us to provoke its action on the cardinal symptoms of Prameha i.e. Prabhuta and Aavil Mutrata. Thus a probable mode of action of this drug may be assumed

on hypothetical basis as causing by acting as mutrasangrahaniya, or it may have the properties to reduce urine formation or it may arouse the child on having sensation of bladder fullness, and thereby being effective in the present study. Moreover as seen earlier worm infestations has been included in the organic causes of the disease. However the cause was excluded in the present study but if thought upon then may be a clue to the probable mode of action of the drug as it has '*Krimighna*' property (Dravya Guna Vigyan by Acharya P.V. Sharma). However till date no modern parameters are testified to account the mode of action of the drug. Nighantu Ratnakar evaluated its *Mehanashan* and *Dhatu Vardhan* property. As here *Meha* implies disorders of Urination. Also, *Bimbimula* has been described effective in a *Pittaja Nanatmaja Vikara "Bhranti"* in which *Raja Guna* is found to be vitiated. Thus a tendency of the drug to act on *Manas Doshas* is focused. Acharyas have ascribed 6 types of '*Upshaya*', '*Vyadhi Viparit Aushadh*' is among them. On to give an accurate definition of *Kshudra Roga*.

In the present study groups, A have shown highly significant result and Group B shown significant results as placebo group shown significant result suggestive of importance of counseling. The treated group showed very gradual but steady effect. During follow up period of 1 month the recurrence of the complaint was reduced at a significant level. Whereas in the placebo group abrupt remission of the frequency of bed wetting was observed, as soon as the duration of the placebo *Vati* was over, the child started bed wetting within 15 days. That shows the upper hand of the treated group in curing the complaint.

Comparison of *Vati* form with syrup form or with *swarasa* form of drug to see which form is more effective. The study was conducted on small scale sample. Further study along with psycho-neuro-pharmacological study can provide more fruitful conclusions.

## CONCLUSION

Enuresis has to be differentiated from the term 'incontinence' which is used for leakage of urine in a child with structural or neurological disorders. It does not lead to any acute condition for children. In this study the drug *Bimbimoola Vati* have shown highly significant result ( $P < 0.001$ ) as compare to Wheat flour *Vati*. No any specific adverse drug reactions were found in both the groups.

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