

Effect of "Ashvini Mudra" on Stress urinary incontinence in menopausal women a clinical trial

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Article History

Received: 15.10.2025

Revised: 12.11.2025

Accepted: 19.11.2025

Published: 13.12.2025

Abstract: Urinary incontinence is that condition in which the patient losses of bladder control. Stress incontinence happens when movement or activity puts pressure on the bladder, causing urine to leak. Movements include coughing, laughing, sneezing, running or heavy lifting. Stress incontinence is not related to mental stress. Stress incontinence is not the same as urgency incontinence and overactive bladder (OAB). Those conditions cause the bladder muscle to spasm. This leads to a sudden need to urinate quickly. Stress incontinence is much more common in women as compare in men. If patient has stress incontinence, they may feel ashamed. They might limit their work and social life because they don't want to be with others. They also might not do physical or fun activities. Ashwini mudra is described in ancient Indian Yoga text as an exercise that may cause pelvic floor muscle contraction thus; it may help improve Stress urinary incontinence (SUI) in women. The prevalence gradually increases with age with a broad peak at middle age, which steadily increases after age of 65. The type of incontinence may differ by age; some studies suggest a higher prevalence of stress incontinence in women younger than 60 years and urge incontinence in older women. Hence the present study was carried out to know the effect of Ashwini Mudra on stress urinary incontinence (SUI). ICD-10 code N39. 3 for Stress incontinence (female / male) is a medical classification as listed by world health organization (WHO) under the range - Diseases of the genitourinary system.

Keywords: overactive bladder, Stress urinary incontinence, genitourinary system.

INTRODUCTION

Aim

The aim of this study is to find out the effect of *Ashwini Mudra* on stress urinary incontinence (SUI) in menopausal women over a period of 30 days.

Statement of the Problem

"Effect of *Ashwini Mudra* on reduction stress urinary incontinence (SUI) in menopausal women"

Objectives of the Research

1. To analyze the effect of *Ashwini Mudra* on reduction of stress urinary incontinence (SUI) in menopausal women
2. To analyze establish relationship between the *Yoga* and changes in psychology
3. To extend the individual experience & improvement to general public

Hypothesis of Research

Ashwini Mudra plays significant reduction of stress urinary incontinence (SUI) in menopausal women.

Null Hypothesis of Research

No significant reduction in stress urinary incontinence in menopausal women by *Ashwini Mudra*.

Scope of the study

- a. This study is conducted on menopausal women.
- b. Further the study can be extended to prevention urinary incontinence in other population as well.

c. To draw inferences which can be beneficial to large population?

Limitations of the study

- a. The study is restricted to in menopausal women.
- b. The study is totally depend upon the statistical analysis of the variables and data collected
- c. Study conducted is of short-term duration
- d. No stipend or any type of monetary benefits were given to the participants
- e. Sample size was less. Other parameters should be considered.
- f. For more significant result long duration studies can be conducted.

MATERIAL AND METHODS

The study of the assessment of Questioner for female urinary incontinence diagnosis Scale before and after 30 days of practicing *Ashwini Mudra* by stress urinary incontinence (SUI) in menopausal patients was conducted through physically.

SELECTION OF SUBJECTS:

Thirty patients among two groups of Stress urinary incontinence in menopausal women in the age group of 40-60 years were selected for the clinical trial. The diagnosis of Stress urinary incontinence patients done according to the WHO criteria. The scope and

objectives of the present study was explained to all the subjects.

METHODOLOGY:

In this case study had been conducted to understand effect of *Ashwini Mudra* on stress urinary incontinence (SUI) in menopausal women. Thirty patients with stress urinary incontinence were divided into two separate groups. Group I (n1 = 15) patients belonged to the *Ashwini Mudra* group were put through *Ashwini Mudra* for 30 days. Group II (n2 = 15) patients, were retained on routine work and diet.

The basal parameters the questionnaire for female Urinary incontinence diagnosis (QUID) tests were analyzed. The questionnaire for female Urinary incontinence diagnosis (QUID) tests Scale was completed by each subject. The study focused on menopausal women.

This study addresses how *Ashwini Mudra* influences the reduction stress urinary incontinence (SUI), thereby also parallel controlling health. This study aimed to compare and measure the effects of *Ashwini Mudra* on stress urinary incontinence in menopausal women by Sitting in any comfortable posture and by inhaling the air deeply, constrict the anal sphincter, and when exhaling, relax the sphincter 5 rounds given for Twice daily. A detailed case history was taken after our patient consented to participate in the study. After initial counseling, resting blood pressure, heart rate measurements, height, and weight were recorded. Assessments were based on a frequency volume chart, a bladder diary for the entire duration of treatment, and the International Consultation on Incontinence Modular Questionnaire-Urinary Incontinence Short Form questionnaire recorded on the first day and last day. The International Consultation on Incontinence Modular Questionnaire-Urinary Incontinence Short Form consists of 3 scored items and an unscored self-diagnostic item, allowing assessment of prevalence, frequency, and perceived cause of urinary incontinence, and its impact on everyday life. Pre-treatment and post treatment measures are summarized.

Ashwini Mudra the "Horse Gesture," is a vital yogic practice described in texts *Hatha Yoga Pradipika*, involving rhythmic contraction and release of the anal sphincter muscles, similar to a horse's hindquarters movement, to stimulate pelvic energy, balance *prana*, and energize the nervous system. It strengthens pelvic floor, aids digestion, and boosts vitality by engaging the root lock (*Mula Bandha*) and upward energy flow. The *Gherand Samhita* (3:64) *Kaivalyadham* version *Srisa Chandra Vasu* translation (3:82) describes it as contracting and relaxing the anal aperture again and again.

INCLUSION CRITERIA:

1. Age between 40-60 years age group suffering from stress urinary incontinence (SUI).
2. Menopausal women are included.

EXCLUSION CRITERIA:

- The study excludes the
1. Patients with serious illness.
 2. Pregnant women, those who have haemorrhoids or anal fissures, those who have recently undergone abdominal or pelvic surgery, those who suffer from inflammatory bowel disease and people with high blood pressure or heart problems
 2. Patients > 60 and < 40 age group.
 4. Patients already doing any kind of yogic exercise
 5. Patients having any neurological (spinal cord injury etc) or psychological disorder (OCD, mentally retarded etc).
 7. Patients who are not willing to participate in the study.

They were kept on a prescribed diet and they performed specific *Ashwini Mudra* for 30 days under the guidance of us. The important parameters before the commencement of the stress urinary incontinence (SUI) incontinence diagnosis (QUID) tests scale before and after were recorded.

15 number of stress urinary incontinence (SUI) subjects in the second group (n2) were kept on a prescribed diet and they not performed any specific mudra for 30 days under the guidance of us. The important parameters before the commencement stress urine incontinence diagnosis (QUID) tests scale and after were recorded. The observations and results are enumerated in the succeeding paragraphs.

PROTOCOL:

All the subjects with in the trial groups were taught *Ashwini mudra*, *Yoga asana* and *bhramary pranayama*. The duration of practice was 30 minutes from 7:30 A.M. to 8.00A.M. It was advised to keep bowel and bladder emptied prior to yogic practice. The duration of asana was 15 minutes approximately, that of *Ashwini mudra* was 12 minutes approximately. The practitioner was to perform *shavasana* in between two asanas to normalize the breathing. Taking mental awareness particularly the parts of the body being activated in an asana is very important. This relaxes the mind during the yoga session. While care was taken regarding individual body make up and limitations they were advised not to strain too much in order to attain the correct posture. The body gets gradually tuned, with regular practice. Following step-by-step process of performing *ashwini mudra* explained to the patients.

Step 1: find a seated position that is comfortable
Begin by settling into a seated position on a yoga mat or cushion. You are free to sit in any cross-legged position that feels natural to you.

Step 2: unwind your body - To relax your body and mind, close your eyes and take a few deep breaths.

Allow any tension or stress in your body to dissipate.

Step 3: pay attention to your breathing - Bring your attention to your breathing and allow it to slow and steady. Deeply inhale and completely exhale.

Step 4: tighten the anal sphincter muscles. - Squeeze the muscles around the anus inward and upward to contract the anal sphincter muscles. Hold the contraction for a few seconds before releasing it.

Step 5: muscle relaxation -Relax the muscles completely after releasing the contraction.

Step 6: repetition of the cycle-For a few minutes, repeat this cycle of contraction and relaxation. Begin with a few cycles and gradually increase the duration as you become more comfortable with the practice.

Step 7:- put an end to the practice To finish, slowly release the contraction and relax your body. Open your eyes and take a few deep breaths. To make your practice all the more effective and easier, you should wear clothes that are not only comfortable but also of premium quality.

Data Collection

1. we have collected the general data from like Name, Age and QUID scale.
2. Collection of Data of Dependent Variables like incontinence diagnosis (QUID) tests scale score is done with QUID scale questioner of the patients.

Data Analysis

5. Table 1 shows list of Ashwini Mudra intervention Group A.
6. The results presented in Table 2 shows Age distribution in all the patients trial Group A.
7. Table 3 shows list of control Group B.
8. The results presented in Table 4 shows Age distribution in the entire patients Control group Group B.
5. Table 5 common data of all two groups.
6. Table 6: shows effect of Ashwini Mudra Therapy on stress urine incontinence after applying Wilcoxon Signed Ranks Test and Mann-Whitney U Test.

All the values obtained from, Pre and Post measurements of the samples. Mean and Standard Deviation values were evaluated for all measured parameters. The significance of mean difference in the value was analyzed using Wilcoxon Signed Ranks Test and Mann-Whitney U Test. Statistical significance was assigned at $P < 0.05$.

Statistical Analysis

we put the data edited and coded together in a carefully designed table. For statistical analysis Wilcoxon Signed Ranks Test and Mann-Whitney U Test was applied to see significance of difference between comparative Pre and Post comparative data collected.

RESULTS

Result Table and graph

1. Table 1 shows list of Ashwini Mudra intervention Group A.
2. The results presented in Table 2 shows Age distribution in all the patients trial Group A.
3. Table 3 shows list of control Group B.
4. The results presented in Table 4 shows Age distribution in the entire patients Control group Group B.
5. Table 5 common data of all two groups.
6. Table 6: shows effect of Ashwini Mudra Therapy on stress urine incontinence after applying Wilcoxon Signed Ranks Test and Mann-Whitney U Test.

Tabel .1 Trial group A

SRO	NAME OF PATIENT	GENDER	AGE	QUID SCOR BEFORE	QUID SCORE AFTER AM
1	JSG	F	45	3	0
2	ISS	F	47	3	1
3	RRK	F	50	4	0
4	PSG	F	48	4	0
5	PPS	F	50	5	1
6	MRK	F	52	4	1
7	MBT	F	42	1	0
8	SMJ	F	53	5	0
9	RBK	F	55	6	0
10	SGP	F	57	3	0
11	PMR	F	52	2	0
12	SNT	F	60	3	1
13	PGC	F	59	2	0
14	GBS	F	48	3	0
15	KRS	F	49	4	1

Table: 2 Age distribution in all the patients Trial Group A

GROUPED AGE		
	40-45	2
	46-50	6
	51-55	4
	56-60	3
	TOTAL	15

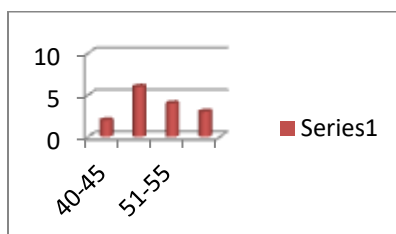


Table 3: Group B

SR.NO	NAME OF PATIENT	GENDER	AGE	QUID SCOR BEFORE	QUID SCORE AFTER
1	BMR	F	57	3	3
2	SRC	F	60	2	4
3	RPK	F	63	1	2
4	DMW	F	64	5	5
5	PSR	F	65	4	4
6	SPM	F	56	3	3
7	GPY	F	44	3	4
8	SJGW	F	45	2	3
9	BMC	F	43	4	3
10	NSS	F	41	1	2
11	PBP	F	51	3	2
12	SRG	F	54	2	2
13	PMH	F	52	3	2
14	GMS	F	56	4	4
15	SNJ	F	58	5	2

Table 4 shows Age distribution in all the patients Group B.

GROUPED AGE		
	40-45	4
	46-50	4
	51-55	3
	56-60	4
	TOTAL	15

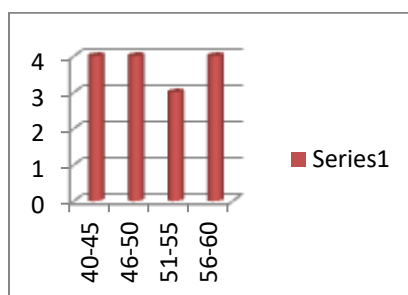


Table 5 common data of all two groups.

Sr.No	TRIAL GROUP		Control Group	
	Before	After	Before	After
1	3	0	3	3
2	3	1	2	4
3	4	0	1	2
4	4	0	5	5
5	5	1	4	4
6	4	1	3	3
7	1	0	3	4
8	5	0	2	3
9	6	0	4	3
10	3	0	1	2
11	2	0	3	2
12	3	1	2	2
13	2	0	3	2
14	3	0	4	4
15	4	1	5	2

Table 6 shows effect of *Ashwini Mudra* Therapy on stress urine incontinence after applying Wilcoxon Signed Ranks Test and Mann-Whitney U Test.

Quid Score		Mean Rank		Wilcoxon Signed Ranks Test	
		Before	After	Z value	p value
Trial Group		16.97	8.00	3.431	0.001
Control Group		14.03	23.00	0.187	0.852
Mann-Whitney U Test	Z value	0.940	4.796		
	p value	0.367	<0.001		

Quid Score before intervention is similar in both, Trial & Control Group (Mann-Whitney U Test $p = 0.367$). There is no change in Quid Score before and after intervention in Control Group (Wilcoxon Signed Ranks Test $p = 0.852$). However, there is significant reduction in Quid Score after intervention in Trial Group (Wilcoxon Signed Ranks Test $p = 0.001$). Comparison of the Quid Score after intervention showed lesser score in Trial Group as compared to Control Group (Mann-Whitney U Test $p < 0.001$). These all comparisons indicated that intervention given in Trial Group significantly reduces Quid Score.

DISCUSSION

From the statistical analysis of the results obtained in the present study and their comparison with other published reports, it was concluded that Aswini Mudra yoga helps in decreasing urinary incontinence level and keep the Stress urinary incontinence in menopausal women in control.

urinary incontinence of menopausal women population between age group of 40-60 years old menopausal women age group of 30 samples were analyzed, which are divided into two groups A, and B. Group A consist of 15 samples, and Group B consist of 15 samples, those are in experimental group Ashwini Mudra was taught them with proper training. Group B consist of 15 samples they were kept on their routine activity.

In present study, 30 days protocol of regular Ashwini Mudra and yoga practices were done. QUID score reduced significantly after post intervention

treatment indicating Ashwini Mudra and yoga reduces stress urinary incontinence in menopausal women.

In the present study there was a significant fall in the QUID score levels in the Ashwini Mudra trial group as compare to group B.

All the patients in the Ashwini Mudra and yoga group develop a sense of wellbeing without any side effect. So they are self-motivated to continue the Ashwini mudra and Yoga practice as a daily routine in their life.

Ashwini Mudra reduces stress urinary incontinence in menopausal women better than control group. Regular practice of it helps in relaxation of the mind. Yoga can be considered as a highly effective practice for reducing stress urinary incontinence on the basis of the present study as Ashwini mudra and yoga reduces the stress levels, protects cardiac health and prevents the risk of various diseases.

Quid Score before intervention is similar in both, Trial & Control Group (Mann-Whitney U Test $p = 0.367$). There is no change in Quid Score before and after intervention in Control Group (Wilcoxon Signed Ranks Test $p = 0.852$). However, there is significant reduction in Quid Score after intervention in Trial Group (Wilcoxon Signed Ranks Test $p = 0.001$). Comparison of the Quid Score after intervention showed lesser score in Trial Group as compared to Control Group (Mann-Whitney U Test $p < 0.001$). These all comparisons indicated that intervention given in Trial Group significantly reduces Quid Score.

In spite of great limitations of the present study, namely, Lack of duration of the treatment over longer periods, the results are encouraging. Based on individual and statistical analysis of the individual we can come to the following conclusion:

1. The Ashwini Mudra practices which have mentioned above can be used effectively to control Stress urine incontinence.
2. Ashwini Mudra group QUID score is significantly lower than control group Score After intervention
3. Longer practices of these yogic techniques will help for the betterment of the total health. After analysis and intervention, the above conclusion was drawn. So Ashwini Mudra and Yoga practices have a role in both Mild and Moderate prevention in stress urinary incontinence. Therefore, Ashwini Mudra and Yoga practices therapy may be considered as a beneficial adjuvant for management of stress urinary incontinence.

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