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EVALUATION OF GOMUKHASANA AND SHASHANKASANA IN THE MANAGEMENT OF GRUDHRASI WITH SPECIAL REFERENCE TO SCIATICA

[1]Dr. Patwardhan Ravindra[1], Dr. Manish Arora*[2] and Dr. Saurabh Sontakke[3]

[1]Professor, Department of Swasthavritta (Social and Preventive Medicine), Bharati Vidyapeeth Deemed University College of Ayurved, Pune. Maharashtra, India.

[2]Assistant Professor, Department of Swasthavritta (Social and Preventive Medicine), Bharati Vidyapeeth Deemed University College of Ayurved, Pune, Maharashtra, India.

[3]Department of Swasthavritta (Social and Preventive Medicine), Bharati Vidyapeeth Deemed University College of Ayurved, Pune. Maharashtra, India.

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***Corresponding Author**
Dr. Manish Arora
Assistant Professor, Department of Swasthavritta (Social and Preventive Medicine), Bharati Vidyapeeth Deemed University College of Ayurved, Pune, Maharashtra, India.

ABSTRACT

Grudhrasi is one of the panic conditions in today's society. In Grudhrasi intense shooting pain characteristically radiates from Sphika (gluteal region) to Pada (foot). On the basis of symptoms of Grudhrasi; it can be equated with the disease sciatica in modern science. It occurs due to spinal nerve irritation and is characterized by pain in the path of sciatic nerve. Low back pain and radiating pain is a significant threat to working population. In reference to sciatica treatment; modern science has only symptomatic management with analgesic like non-steroidal anti-inflammatory drugs. In some cases, if nerve compression is more; surgical procedures like laminectomy, discectomy are indicated but these surgical procedures are expensive with their limitations. Yoga therapy is a holistic system of therapy in which yogic practices are used to prevent and treat not only the ailments of the body but also of the mind. Gomukhasana and Shashankasana create exercise of lowerback, pelvic and lower extremities muscles hence stimulating the nervous system and improving movements. Shashankasana and Gomukhasana are easy to practice and they relax not only superficial but also the deep muscles which also have a major role in lower back pain.

KEYWORDS: Shashankasana, Gomukhasana, Grudhrasi.

INTRODUCTION

Ayurveda is the age-old systems of medical practice with a complete holistic approach towards the preventive, curative & spiritual line of treatment. The biggest health concerns today in the world is the changing lifestyle, like high stressful conditions, sedentary lifestyle, wrong food habits, lack of exercise etc. leading to various lifestyle-related disorders.

Pain is a cardinal symptom in most of the Vatavyadhis. Grudhrasi is a Ruja Pradhan Vatavyadhi. In Grudhrasi intense shooting pain characteristically radiates from Sphika (gluteal region) to Pada (foot).[1,2,3] On the basis of symptoms of Grudhrasi; it can be equated with the disease sciatica in modern science. It occurs due to spinal nerve irritation and is characterized by pain in the distribution of the sciatic nerve. Sciatica refers to the feeling of symptoms traveling down the lower extremities which results from pressure on a nerve, usually as the nerve courses through the lumbar spine or as it leaves the lumbar spine. It is more of a symptom than a diagnosis.[4] Low back pain and radiating pain due to lumbar disc prolapse are the major cause of morbidity throughout the world. Hence this is a significant threat to working population. It disturbs daily routine and overall life of the patients because of the continuous and stretching type of pain.

In reference to sciatica treatment; modern science has only symptomatic management with analgesic like non-steroidal anti-inflammatory drugs. In some cases, if nerve compression is more; surgical procedures like laminectomy, discectomy are indicated but these surgical procedures are expensive with their limitations. The surgical process affects the skeleton, nerves and muscles, mainly in the lumbo-sacral region. If Sciatica is not treated in time, it may lead to serious complications like retention or incontinence of urine and stools and paralysis of lower limbs. Hence People suffering from Grudhrasi generally approach a doctor to find a safe, effective and alternative solution for this chronic ailment.

Yoga therapy is a holistic system of therapy in which yogic practices are used to prevent and treat not only the ailments of the body but also of the mind & practiced more than 5,000 years, yoga is one of the oldest forms of healing therapy. Yoga therapy is the adaptation of yoga practices for people with health challenges. Yoga therapies prescribe specific regimens, postures, breathing exercise and relaxation technique to suit individual needs. Yoga therapy tailors these to the health need of the individual. It helps to promote all-round positive health

as well as assisting particular medical conditions. The therapy is particularly appropriate for many chronic conditions that persist despite conventional medical and surgical treatment. According to 'Yoga Shastra' practice of asana removes pain. Shashankasana and Gomukhasana are some of the important asana described in the ancient text which is effective in relieving pain. Gomukhasana is mentioned in Gheranda Samhita and Hatha yoga pradipika whereas Shashankasana is mentioned in the various text.[5,6,7] Their importance is also mentioned in texts of many scholars of yoga.

Gomukhasana and Shashankasana create exercise of lower back, pelvic and lower extremities muscles hence stimulating the nervous system and improving movements.

Shashankasana and Gomukhasana are easy to practice and they relax not only superficial but also the deep muscles which also have a major role in lower back pain.

Among the asana which works on lower back muscles, Shashankasana and Gomukhasana are easy to practice and their combined effect is not well studied. Hence an attempt is made to study the combined effect of Shashankasana and Gomukhasana in Grudhrasi.

AIM

Evaluation of the effect of Shashankasana and gomukhasana in the management of Grudhrasi.

METHODOLOGY

A present clinical study was carried on the diagnosed cases of Grudhrasi (sciatica). A total number of 45 patients were included in the study which was selected from BVMF Ayurveda Hospital OPD & IPD. The patients were further divided into three groups of 15 patients each, Who were then treated by Shashankasana & Gomukhasana. Observations were recorded grade wise and results were drawn out using a statistical test.

Procedure

All the patients were trained to follow therapy every day around 6-7 a.m. in morning and around 6-7 p.m. in evening for a duration of 21 days. The total study period was 45 days including post-treatment follow up.

- Group A was treated with Shashankasana.
- Group B was treated with Gomukhasana.

- Group C was treated with Shashankasana and Gomukhasana both.

The procedure of Asana

Total time for the procedure is 10-15mins. (Relaxation + Asana)

Division of which is as follow.

- Stretching exercise for 2-3 mins
- Omkara chanting for 1-2 mins.
- Procedure time for one Asana is 8-10mins. (Approximately 10 rounds of each asana for Group A & B. Approximately 5 rounds of each asana for Group c)
- The stepwise procedure of asana according to literature was carried out.

Selection Criteria

A diagnosed case of Grudhrasi (sciatica) of either sex between the age group of 30 to 60 years, irrespective of socioeconomic status was included. Patients have confirmed the diagnosis by using SLR test. Patients with chronicity of fewer than three years and without any deformity were included.

Exclusion Criteria

Patients suffering from traumatic paraplegia, neoplastic origin, TB spine etc. Avascular necrosis, handicapped, severe and acute orthopedic conditions were excluded from the study. Patients contraindicated for Gomukhasana & Shashankasana were excluded. Pregnant women were also excluded from the present study.

Assessment Criteria

Various features of Grudhrasi described in *Ayurveda* were considered and graded to analyze the results statistically as follows. Also, important modern parameters were considered in the assessment of therapy. They are as follows:

1. Ruk (Pain):	Grade
• No pain	0
• Painful walks without limping	1
• Painful walks with limping but without support	2
• Painful, can walk only with support	3
• Painful, unable to walk	4
• Severe pain needs medications	5

2. **Stambha (Stiffness)** **Grade**

- No stiffness 0
- Mild stiffness 1
- Moderate stiffness 2
- Severe stiffness 3

3. Toda (Pricking Sensation): Grade

- No pricking sensation 0
- Mild pricking sensation 1
- Moderate pricking sensation 2
- Severe pricking sensation 3

4. Straight leg raise test: Grade

- More than 90° 0
- 71°-90° 1
- 51°-70° 2
- 31°-50° 3
- up to 30° 4

5. Functional Disability -Walking distance**: Grade**

- Pain does not prevent me walking any distance. [0 points]
- Pain prevents me walking more than 1 mile. [1 point]
- Pain prevents me walking more than 0.5 miles. [2 points]
- Pain prevents me walking more than 0.25 miles. [3 points]
- I can only walk using a stick or crutches. [4 points]
- I am in bed most of the time and have to crawl to the toilet. [5 points]

RESULTS

The present clinical study was conducted on 45 patients of Grudhrasi, who were treated into three groups viz Shashankasana (group A), Gomukhasana (group B) and Shashankasana & Gomukhasana (group C); each group comprising of 15 patients. The patients were assessed before treatment for the severity of their symptoms, immediately after the completion of the course the patients were again assessed.

The data was made to differentiate patients according to factors like Age, Sex, Vyayam, Prakriti, Ahar, and Nature of work. Data based on the symptoms were recorded before and after treatment and analyzed using appropriate statistical test.

The results of the study are as follows:

Table no.1 Showing demographic details of the patients.

Criteria		**Group A**	**%**	**Group B**	**%**	**Group C**	**%**
Age (in years)	31 – 35	0	0.00%	1	6.67%	0	0.00%
	36 – 40	1	6.67%	0	0.00%	2	13.33%
	41 – 45	4	26.67%	4	26.67%	3	20.00%
	46 - 50	2	13.33%	4	26.67%	4	26.67%
	51 - 55	5	33.33%	3	20.00%	4	26.67%
	56 - 60	3	20.00%	3	20.00%	2	13.33%
Sex	Male	10	66.67%	9	60.00%	8	53.33%
	Female	5	33.33%	6	40.00%	7	46.67%
Prakruti (constitution)	Vata Pitta	1	6.67%	2	13.33%	2	13.33%
	Pitta Kapha	1	6.67%	1	6.67%	1	6.67%
	Vata Kapha	7	46.67%	5	33.33%	5	33.33%
	Kapha Pitta	0	0.00%	0	0.00%	0	0.00%
	Kapha Vata	4	26.67%	5	33.33%	4	26.67%
	Pitta Vata	2	13.33%	2	13.33%	3	20.00%
Diet	Vegetarian	4	26.67%	6	40.00%	8	53.33%
	Mixed	11	73.33%	9	60.00%	7	46.67%
V*yayam (exercise)*	Regular	2	13.33%	3	20.00%	3	20.00%
	Occasional	5	33.33%	6	40.00%	7	46.67%
	No	8	53.33%	6	40.00%	5	33.33%
Nature Of Work	Standing	1	6.67%	1	6.67%	2	13.33%
	Sedentary	4	26.67%	4	26.67%	3	20.00%
	Travelling	2	13.33%	4	26.67%	4	26.67%
	Walking	5	33.33%	3	20.00%	4	26.67%
	Sitting	3	20.00%	3	20.00%	2	13.33%

In the present study, 33 patients were in the age group of 41-55 years. Out of 45 patients 27 were male and 18 were female. 27 patients consumed mixed diet whereas 18 were vegetarians, 8 patients had a habit of regular exercise whereas 18 patients had a habit of occasional exercise and 19 never did any kind of exercise. Based on nature of work 4 patients had more of standing work, 11 had sedentary, 10 had traveling work, 12 had a walking job and 8 had sitting kind of work.

Overall Results of Asana in three groups

Table No. 2: Showing Statistical details of the Variables.

Variables	Groups	Mean BT	Mean AT	Mean difference	% of Improvement	P Value
Ruka (pain)	Group A	3.06666	1.33333	1.7333	56.52%	1.67E-07
	Group B	3.13333	1.2	1.9333	61.70%	4.22385E-06
	Group C	3	0.8	2.2	73.33%	1.08E-07
Stambh (stiffness)	Group A	1.6	0.53333	1.06667	66.67%	6.66E-06
	Group B	1.66666	0.6	1.06667	64.00%	6.6639E-06
	Group C	1.86666	0.46666	1.4	75.00%	4.05E-08
Toda (pricking sensation)	Group A	0.73333	0.46666	0.26667	36.36%	0.04056
	Group B	0.93333	0.53333	0.4	42.86%	0.008563
	Group C	0.86666	0.33333	0.5333	61.54%	0.001316
SLR (straight leg raise test)	Group A	3.26666	2.06666	1.2	36.73%	7.64E-06
	Group B	3.4	2.33333	1.06667	31.37%	3.2759E-07
	Group C	3.53333	2.13333	1.4	39.62%	6.06E-07
Walking distance	Group A	1.86666	1	0.86667	46.43%	1.4E-05
	Group B	1.66666	0.86666	0.8	48.00%	2.95273E-06
	Group C	2.13333	0.8	1.33333	62.50%	4.61E-08

Effect of group A on Ruka showed 56.62 %, group B 61.70% and group C 73.33% improvement. Effect of group A on Stambh showed 66.67%, group B 64.00% and group C 75.00% improvement. Effect of group A on Toda showed 36.36%, group B 42.86% and group C 61.54% improvement. Effect of group A on SLR showed 36.73%, group B 31.37%, and group C 39.62% improvement. Effect of group A on Ruka showed 46.43%, group B 48.00% and group C 62.50% improvement. All the above results were statistically significant at the level of $p<0.05$

Comparison of Group A, Group B and Group C

As p value>0.05 for comparison of three groups based on different assessment parameters, it was found that there was no statistically significant difference between 3 groups. But considering the percentage of relief in all the groups, Group C showed better results than other groups.

DISCUSSION

Age & Sex

Maximum numbers of patients i.e.73.33% of Grudhrasi are from age group 41-55 years. Muscle irritation and joint dysfunction occur significantly after long-standing history of improper sitting posture and stressful nature of work hence develop mostly after 40 years of age. Also, due to age factor and there is a progressive decrease in hydration of intervertebral

disc that leads to degeneration resulting in disc problem thereby causing Grudhrasi.

It was observed that more numbers of patients were males i.e. 60% against 40% females. The present study reveals that males are more susceptible to Grudhrasi which may be due to significant strenuous activity and inadequate rest patterns in males.

Prakruti

It was found a maximum number of patients were of vata kaphaj i.e. 37.77% and kapha vataj Prakriti i.e. 28.88%. Hence it confirms that People with the involvement of vata and kapha dosha in their prakruti are more susceptible to disorders of vata vyadhi like Grudhrasi.

Vyayam

It was seen that only 17.77% of total patients were doing regular exercise, 40% of total patients had occasional exercise and 42% had no exercise. Hence study shows that person with no exercise is more susceptible to the disease.

Nature of work

26.66% had a walking job, 24.44% had the sedentary pattern and 22.22% had traveling work.

Walking and traveling jobs puts lots of strain on the muscles and joints of hip and lower limbs and hence Grudhrasi is more common in them. Continuous traveling creates pressure & trauma over lumbar spine and decreases the shock absorbing capacity of the spine, hence leading to chances of developing Grudhrasi.

Ruka

Observation for Group A showed 56.52 %, for Group B 61.70% and Group C 73.33% relief in Ruka. Muscle irritation, strain, and joint dysfunction cause pain. Due to sthiratwa and vatasamana guna of asana, aggravated vata subsides and pain reduces.

Stambh

Observation for Group A showed 66.66 % for Group B 64 % and Group C 75% relief in Stambh. When vitiated vata dosha affects the kati, the shoshana of mamsa, snayu, kandara etc takes place because of its khara, kathina and ruksha guna and Person feels shtambha. Gentle stretching of muscles and joints releases muscle tension and increases flexibility thus helps in removal of stiffness.

Toda

Observation for Group A showed 36.36 % for Group B 42.85 % and Group C 61.53 % relief in Toda. The continuous following of asana lead to postural corrections, relaxation of muscles and the normal flow of vata. Thus aggravated vata guna like chala, toda are reduced.

SLR

Observation for Group A showed 36.73 % for Group B 31.37 % and Group C 39.62 % relief in SLR. Effect of asanas reduces pain and stiffness hence improving SLR by 2-3 points.

Walking distance

Observation for Group A showed 46.42 % for Group B 48 % and Group C 62.5 % relief in walking distance. Reduction in pain & stiffness helps in improvement in disease condition and thereby patients were able to walk for more distance after study as compared to the walking distance before the study.

Overall effect

Effect of Group C showed better results as compared to Group A & Group B. Ruka, stambha, toda hampers the ability of muscles and affects the overall function level. By performing the asana superficial muscles relax and after holding the position gradually nervous system relaxes and stimulate reflex responsible for relaxing muscles and also relaxes deep muscles. This relaxation allows flexing of muscles and one can stretch muscle without effort even more. Post-treatment follows up didn't show any recurrence in the lakshanas of Grudhrasi i.e stambh or toda. There was mild recurrence shown in 7-8 patients related to lakshana of ruka.

CONCLUSION

Grudhrasi is a shoola pradhana vataja nanatmaja vyadhi affecting the locomotor system and leaving the person disabled in performing the daily routine activities. Asana has a far-reaching effect on body and mind which are beneficial for the muscles, joints, and different systems of the body. Shashankasana and Gomukhasana are easy to practice and they relax not only superficial but also the deep muscles which also have a major role in lower back pain. Post-treatment follow up didn't show any recurrence in the lakshanas of Grudhrasi i.e stambh or toda. There was mild recurrence shown in 7-8 patients related to lakshana of ruka, which shows that asana is helpful in reducing the recurrence of the disease condition.

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