

Case Series (Siddha Medicine)

Management of low back pain with a combination of static and dynamic *Yogasanas* and Siddha Medicine- A Case Series

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Abstract

Background: Siddha philosophical concepts reveal that the disruptions in the flow of life force (*Prana*) are the cause of dysfunctions in a particular part of the body. As per this fact, chronic low back pain is due to the disruptions in the flow of life force in and around the spine. **Objective:** was to evaluate whether the regular practice of a specific set of static and dynamic *Yogasanas* along with Siddha Medicine would reduce chronic low back pain by regulating the flow of *Prana*.

Material & Methods: The clinical trial was undertaken in Santhigiri Siddha Medical College & Hospital, Pothencode, Thiruvananthapuram, Kerala, with a sample size of 10 patients. As per the inclusion, exclusion criteria, after obtaining consent to participate and to follow yoga therapies this study was carried out. The degree of illness and prognosis is quantitatively assessed with the *Revised Oswestry Disability Questionnaire (Revised ODI)* and pain is assessed by *Visual Analog Scale (VAS)*. **Results:** The clinical outcome of ODI score revealed marked improvement in range of movements. Out of 10 patients, 8 patients showed good improvement (Minimal Disability) and 2 patients had moderate pain relief (Moderate Disability). Pain assessment by VAS and the score plot also revealed remarkable pain relief.

Conclusion: The outcome of this case series suggests that a combination of static and dynamic *Yogasanas* with suitable internal medicines of Siddha system gives a marked improvement in chronic low back pain.

Keywords: *Prana, Low back pain, Static and Dynamic Yogasanas, Siddha Medicine*

Introduction

Siddha system of medicine, an epitome of Dravidian culture, focuses not only combating dreadful illness but also has established adequate knowledge to attain perfection by means of preventing various health hazards through regular practice of “*Ashtanga Yogam*” (eight steps to attain perfection).¹ Thirumanthiram contributed by Thirumoolar is a classical treatise of Siddha literature that deals elaborately about the rules, regulations, practices and benefits of regular practice of “*Ashtanga Yogam*”.² It is not maintaining mere Postures / *Mudras*, but practices which regulate *Prana* flow, thereby bringing harmony to mind and body. The spiritual well-being is the fundamental quality for comprehensive health status to be attained through regular practice of *Yogasanas*.

As per the basic principles of Siddha, the *Prana* (life force) flows through 72,000 channels in the human body.³ The channels are the structural units which carry the life force throughout the body and the life force (*Prana*) is the functional unit. They together are responsible for the existence of life in a human body. The reduction in flow of *Prana* shall restrict

the functional ability of particular part of the body. This condition can be successfully treated by regulating the flow of *Prana* to the particular part of the body in a systematic approach. The authors selected the way of combining static and dynamic *Yogasanas* with some internal medicines to increase the flow of *Prana* in a regulated manner.

Yoga is the science of right living and such is to be incorporated in our daily life. It works on all aspects of life of a person, such as physical, psychological, social and spiritual. The science of Siddha emphasises vital energy channels (*Naadi*) *Idakali*, *Pingalai* and *Suzhimunai* facilitates a rhythmic flow of *Prana* in a particular direction. When there is an imbalance experienced, in the flow of *Prana* the physical body no longer works in harmony with the mind and henceforth, the soul. In this study we have tried a novel method of uplifting yoga practices for regulating *Prana* flow as therapeutic measures, which gave amazing results.

Yogasanas are classified as static and dynamic based on kinetics of postures. Static *Asanas* are subtle and has a powerful effect on increasing the flow of *Prana*.⁴ In this procedure, body often remains in a

static pose for more than one minute, concentrating on breathing. Hence, the flow of *Prana* is consistently increased in a particular direction.

Whereas dynamic *Asanas* involve energetic movements which improves circulation, tones up muscles and increases the range of movements (ROM) pertaining to a joint. Eg: *Katichakrasana* (fig 6). In this procedure, initially the flow of *Prana* is forcibly increased and diverted from healthy parts of the body to the weak parts of the body. The pose and counter pose alternatively regulates the quantum of the flow of *Prana* and gradually tones up the weak parts.

Pain in the low back may occur due to various conditions affecting the lumbo sacral vertebrae, inter-vertebral discs, ligaments and muscles attached to the lumbo sacral vertebrae, infections, injuries, spasms of the low back muscles or any pathology related to the internal organs of the pelvis and abdomen.⁵ Functionally the low back helps to bear the weight of the upper body, keeping erect posture of the body and in facilitating movements such as bending, extending, and rotating the waist. Therefore any affected conditions as mentioned above can be reflected as a low back pain, which may get severe on stressful physical activities and can be relieved at rest. Patients generally complaint of restricted range of movements of the low back and pain on all activities involving lumbo-sacral spine. This was quantitatively measured with revised ODI and pain was assessed by VAS (Visual Analog Scale).

The objective of the study is to bring out a concrete set of static and dynamic *Yogasanas* along with supportive Siddha medicines for unspecified low back pain. Participants were advised to follow the same set of *Yogasanas* for 3 months, and the results were recorded.

Methodology

The study is a case series involving 10 participants with a range of 25 to 55 years of age and satisfying the inclusion criteria after obtaining consent from the participants. This study was conducted in the in-patient department of Santhigiri Siddha Medical College & Hospital, Thiruvananthapuram, Kerala, among patients with chronic non-specific low back pain. Patients were screened initially according to inclusion and exclusion criteria.

Selection Criteria

Participants were primarily screened and ruled out for complicated low back pathologies that may

require utmost medical attention or surgical intervention. After through history taking about the low back pain, patients with low back issues such as,

- Fracture of spine⁶
- H/o of spinal surgery/ spinal trauma
- Pott's spine
- Recent surgeries of abdomen or pelvis
- Inter-vertebral disc prolapse
- Congenital deformities such as scoliosis, kyphosis, lordosis, Hypoplasia of vertebrae and
- Pregnant women were excluded from the study.

Hence patients having a chronic non-specific low back pain and nerve irritation due to degenerative changes, abnormal lumbar postures and occupational lumbar strain were included in the clinical trial after careful assessment and primary screening.

Intervention

After screening, 10 patients were selected and admitted to the in-patient ward of Santhigiri Siddha Medical College & Hospital, Thiruvananthapuram for a period of 10 days. Patients were informed about the course of treatment that they were going to part of and informed consent was obtained from all the participants.

On the day of admission, patients were assessed with *Revised Oswestry Functional Disability Index (Revised ODI)*⁷ and *VAS* at the baseline of this clinical trial. Revised ODI is an extremely important tool for researchers to measure pain intensity and functional disability through a questionnaire of 10 sections, each section scoring 5 points as maximum. The test is considered as gold standard tool in assessing outcome in low back pain patients (table 1: interpretation of ODI score).⁸

The Visual Analog Scale (VAS) is a validated, subjective measure for acute and chronic pain. Scores are recorded by marking a handwritten mark on a 10 cm line that represents a continuum from “no pain” to “worst pain”. The Participants were treated with following internal medicines and external therapies to reduce pain by relaxing and toning up muscles of low back.

1. *Amukkara Chooranam* - 2 gm
Parangipattai Pathangam - 50 mg
Annabedhi Chenduram - 100mg twice a day with milk
2. *Poorna Chandrodayam* pills - once a day with honey
3. *Vathakesari Thylam* - external application

Table 1: Clinical Outcome of ODI Score

0 to 20%	Minimal disability	Requires no treatment, apart from advice on sitting, posture, lifting objects physical fitness and diet. Some patients may have a mild on prolonged sitting
21% to 40%	Moderate disability	Patient finds difficulty in standing, sitting, bending, lifting etc Travel and social life are more difficult Condition can be managed by conservative methods
41% to 60%	Severe disability	Pain is a constant issue and it affects travel, social life, sexual activity and sleep
61% to 80%	Crippled	Back pain impinges on all activities both at home and work. Positive intervention is necessary.
81 to 100%	-	The patient may be bed bound or exaggerating the symptoms. Careful physical and mental examination may reveal the true picture

During the treatment period, patients were taught with mild warm up stretching and relaxing movements for three days. Then from 4th day onwards the Static *Asanas*, such as *Vajrasana* (thunder-bolt pose), followed by *Pawanamudrasana* (leg lock pose), *Bhujangasana* (snake pose), *Shalabasana* (grass-hopper pose) and *Shavasana* (corpse pose) respectively were taught under supervision of the physician.⁴ Participants were advised to perform these *Yogasanas* during empty stomach or 2 hrs after meals for three days.

On the 7th day of admission, after ensuring moderate pain relief, and increased range of movements, patients were taught Dynamic *Asanas* such as *Katichakrasana* (Waist Rotating Pose) and *Supta Udarakarshasana* (Sleeping Abdominal Stretch Pose) nearly 20 to 40 counts, which greatly improved muscle tone of the lumbar region and relieved para-spinal spasm.³

On the day of discharge, (11th day) patients were re-assessed with Revised ODI,⁷ VAS and the results were recorded. As discharge advice, patients were prescribed to do the combination of static and dynamic *Yogasanas* as per the order taught, for a period of 3 months. On the review (after 3 months), patients were assessed with Revised ODI, VAS and the results were recorded once again.

Calculation of ODI Score

ODI (Oswestry Functional Disability questionnaire) examines the level of disability in 10 sections of everyday activities of daily living.⁹ The 6 statements are scored from 0 to 5 with the first statement scoring 0 through to the last at 5.

The ODI score (index) is calculated as 32% if the total score is 16/50 and 35.5% if the total score

is 16/45(if certain sections are not applicable). Rounding the percentage to a whole number for convenience is suggested.

Observations & Results

The ODI and VAS score, before treatment, at the time of discharge and on review were compared (Chart 1 & 2). The mean clinical outcome of ODI score (Table 2) revealed marked improvement in range of movements. Out of 10 patients, 8 patients showed good improvement (Minimal Disability) and 2 patients had moderate pain relief and according to VAS assessment, almost all the participants showed marked pain reduction.

Discussion

Though there are a good number of randomised clinical trials conducted for assessing the effect of *Yogasanas* on low back pain, the purpose of this clinical study is to design a standard set of *Yogasanas*, based on the flow of *Prana* as well as to give maximum relief to the patients within short span of time.³ The *Yogasanas* are designed in a standard way as each pose has a counter-pose, assuring controlled regulation of flow of *Prana*.

The order of *Asana* started with static *Asanas* like *Vajrasana*⁴(Thunder Bolt Pose), *Pawanamudrasana* (Leg Lock Pose), *Bhujangasana* (Snake Pose), *Shalabasana* (Grasshopper Pose), *Shavasana* (Corpse Pose) from the day of admission for up to 3 days to establish muscle relaxation and then gradually the patients are taught Dynamic *Asanas* *Katichakrasana* (Waist Rotating Pose), with the counter pose *Supta Udarakarshanasana* (Sleeping abdominal stretch pose), for the remaining seven days.

Chart 1: Comparative ODI score plot

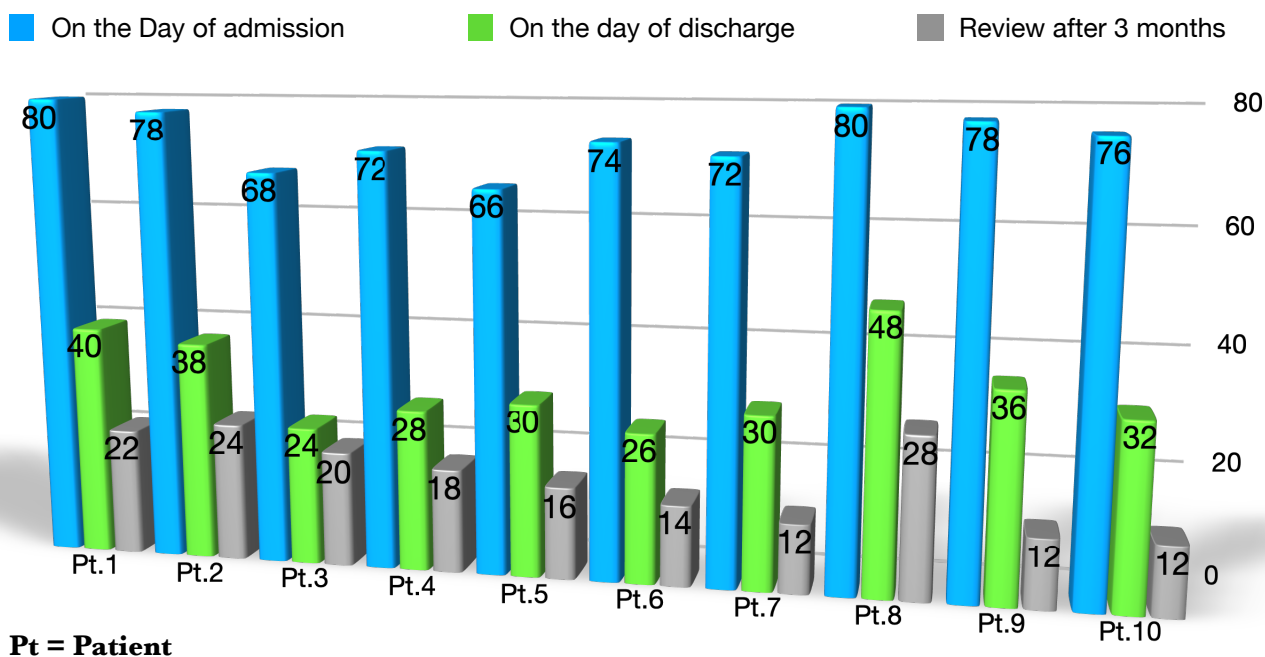


Chart 2: Comparative VAS score plot

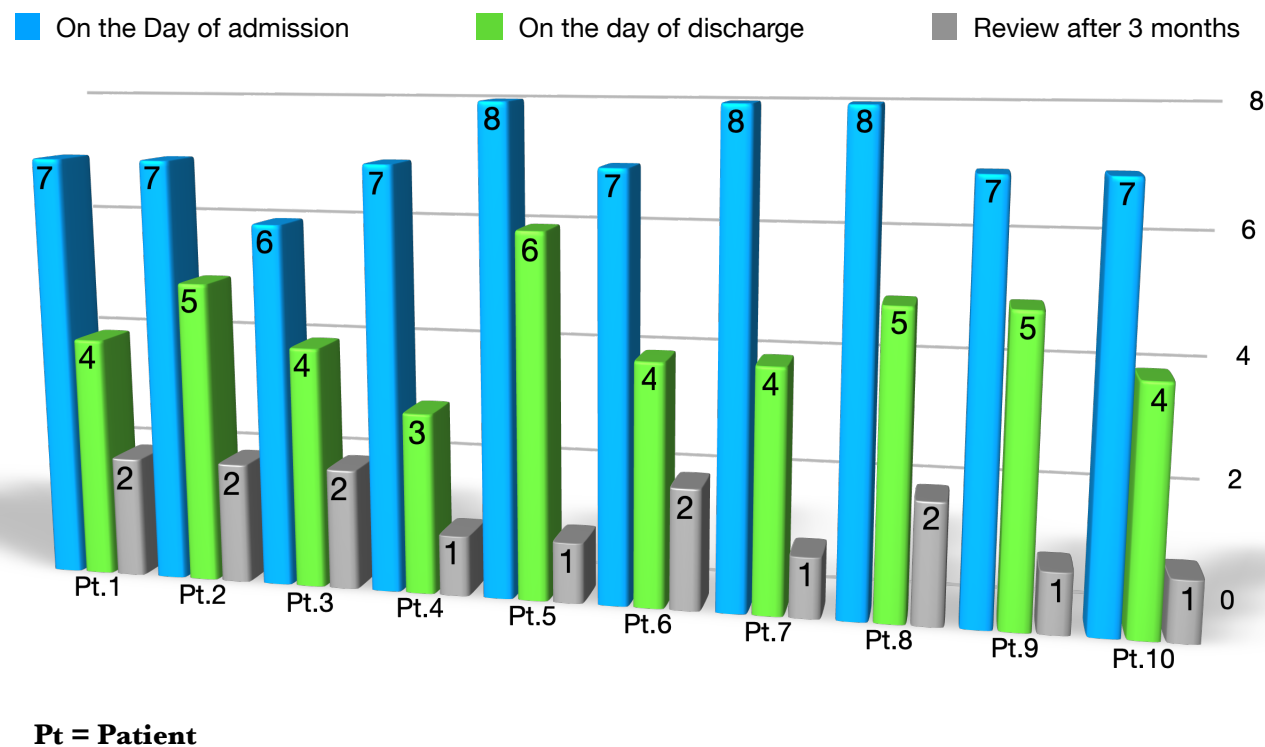


Table 2: Mean Values of ODI

Parameters	At Baseline		At Discharge		At Review	
	Min	Max	Min	Max	Min	Max
ODI Score	80%	66%	24%	48%	28%	12%
Mean ODI Score	74.4%		33.2%		17.8%	

It is based on pose and counterpose, in nature which helps in neutralizing the *Prana* flow in order to achieve a harmonious balance through major channels of *Idakalai*, *Pingalai*, *Suzhimunai* etc. as mentioned in Siddha literature.¹ This activity is carried out from fourth day to tenth day. Then assessment is made with the parameters⁸ (revised Oswestry questionnaire and revised ODI and VAS¹⁰). In which Patients had very good pain relief as well as improvement in muscle tone and flexibility. Finally the patients were asked to make a review after 3 months. Again, the prognosis was assessed on the same parameters. They are quantitatively derived and compared in the table 2 and chart 1 and 2, which reveals marked improvement in the prognosis of the patient. Hence the authors would suggest that regular practice of *Yogasanas* with supportive Siddha medications gives good improvement as well as corrects postural abnormalities of spine.

Conclusion

This clinical trial suggests that the combination of static and dynamic *Yogasanas* based on *Prana* flow ensured safe, cost effective treatment and complete recovery by promoting the perfect integration of the body, mind and soul. The goal of the present study was to put forth a concrete set of *Yogasanas* with basic Siddha principles and to evaluate the efficacy of yoga for chronic low back pain, with a focus on pain and functional disability as treatment outcomes. A bio-psychosocial approach is now considered to be the gold standard for treating chronic pain. Hence, the authors suggest that treating the illness based on regulation of *Prana* flow, would be a novel approach in the medical community and to conduct clinical trials based on scientific flow of *Prana*, with a larger sample size and promote the uproot significance of standard yoga therapies for the future.

Limitations of the Study

Though there are a number of randomised clinical trials (RCT) on the efficacy of *Yogasanas* in treating low back pain, the current trial suggests putting forth the effectiveness of *Yogasanas* in par with regulation of *Pranic* flow based on ancient Siddha literatures. Hence, this article emphasizes the importance of *Yogasanas* with a deeper insight of *Prana* flow and a scientific correlation with the yogic postures in relieving chronic ailments. Though the trial is done with minimal sample size the author's recommend that it would be an eye opener to reveal the scientific background of ancient Siddha literatures and believe that emerging Siddha community would come up with a larger sample size and clinical parameters.

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