

Standardization method for teaching yoga meditation and asanas: a case study

Abstract

Yoga is a codex of exercises for the body and mind originated in India. It has a series of benefits for health. However, it is challenging to find a standardized system of meditation and asanas, with a simple application so that it is readily applicable to a large population, as well as easy scientific reproducibility. Aiming to test a reproducible 8-week Yoga learning model, two healthy male subjects, one with 51 and the other with 54 years old, underwent eight sessions of meditation and carefully selected asanas for secure execution. Evaluations occurred before the first session and one day after the last session. The measured variables were blood pressure, heart rate, and global stretch. Both subjects presented improvements in the investigated variables. The proposed model is appropriate for the scientific study of Yoga.

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Introduction

Yoga has its origin in India. It aims to promote awareness of body and mind through exercises practiced with focal attention.¹⁻⁴ In recent years, yoga has become increasingly popular in Western cultures.⁵⁻⁸ Among the many different methods of yoga, the vast majority of schools use the triad base of meditation (dhyana), postures (asanas) and breathing (pranayama).⁹⁻¹²

Yoga increases muscle strength, flexibility, range of motion, energy and sleep quality.^{13,14} Yoga also improves hormone levels, immune response, thermoregulation, cardiovascular health, coronary artery disease, hypertension, respiratory functions, bronchial asthma, diabetes.¹⁵⁻²⁴ Several studies and systematic reviews have demonstrated the effects of yoga on the improvement of mood disorders, such as depression^{17,25,26} and anxiety.²⁷⁻³⁴ The practice of yoga is associated with a reduced number of episodes of major depression, and lower risk of dysthymia, which is a milder form of depression.^{11,14,25,27,29,33,35-38} The meta-analyses and systematic reviews indicate that both yoga and meditative therapies are equally effective against conventional antidepressants in the treatment of depression and anxiety.^{39,40} Stress and insomnia.^{18,19} Other data suggest that these practices are also associated with changes in response to stress and anxiety.⁴¹⁻⁴³ Besides, the positive effects of yoga have been proven to increase the sense of well being and satisfaction with life.^{13,44}

Some people may find yoga practice more attractive than pharmacological therapies because it allows practitioners to participate in therapy actively. Yoga can also be an ally in periods of significant anxiety or depression, which enables the individual to self-manage. Also, the practice of yoga may be perceived as something that does not 'artificially' affect biochemical processes in the same way as pharmaceutical interventions.

Yoga is a comprehensive practice where there are different types of meditation and more than 500 asanas or postures. This enormous amount of asanas is excellent for varying exercises for practitioners or dosing the activity level based on experience, age or level of physical condition. On the other hand, it is tough to obtain a scientific standardization to study the effects of the practice once the possibilities are vast and may be difficult to reproduce. In this way, the present work had as objective to test an easy teaching method of meditation and asanas for better reproducibility and application in any group even without previous experience with yoga.

Methodology

Two male subjects, one of 51 the other 54, male, healthy, medication free, bachelor degree holders, free from neurological or psychiatric problems, participated in this case study. Before the first Yoga session, participants had their blood pressure (mmHg) measured with a sphygmomanometer and heart rate measured by the wrist pulse in beats per minute (bpm). Also, they had their global stretch measured using the third finger soil test. This test is performed in standing position. The subject flexes the trunk with the knees extended. The distance between the third finger and the floor in centimeters is measured with a measuring tape. The smaller the distance between the finger and ground the better.

Both participants went through 8 training sessions, 1 per week, 30minutes for meditation and 30 minutes for asanas. In these sessions, they learned the foundations of Progressive Self-focal Meditation and increased the asanas' difficulty progressively. They underwent the same assessment 24hours after the eighth Yoga session.

Progressive Self-focal Meditation (PSM)

Week 1 and 2 Diaphragmatic Breathing is a deep and slow, predominantly abdominal breathing exercise, avoiding chest movements. Week 3 and 4 Progressive muscle relaxation participants will be instructed to contract small muscle groups, observe muscle contraction, and then induce relaxation of the body. This procedure will be performed gradually so that the body achieves complete relaxation at the end of the exercise.

Week 5 and 6 – Shalom – Two cards are used for this meditation exercise. One with the word SHALOM written and another with the following instructions: "Watch the card for a few seconds. Close your eyes and visualize the word SHALOM on your screen mental "At the same time, do the diaphragmatic breathing as follows: inhale, focus on the" sha "(at this moment without any sound), exhale and, with your lips closed, vocalize" lom", producing a buzzing and vibration which spreads from the throat to the nose, ears, forehead, and the entire area of the skull. Exhale should last twice as long as inspiration."

Weeks 7 and 8 Meditation on the flow of thoughts this meditation consists of focusing the flow of thoughts without analysis, judgment, or engaging with them. In the case of persistent thinking blocking the flow, participants will be invited to use the "Shalom" mantra to return to their spontaneous flow of thoughts.

Asanas

Asanas are the postures of Yoga. The asanas used in this work were as follows, described by Taccolini⁴⁵

- a. Ardha (Half) Bhadrasana (Gracious Pose)
- b. Rāja (Royal) Padasana (Standing Pose)
- c. Raja (Royal) Prathanasana (Pray Pose)
- d. Sukha (Happiness or Easy) Vrikshasana (Tree Pose)
- e. Sukha (Happiness or Easy) Janurdhwa (Knee) Shirshasana (Head Pose)
- f. Grivel (Neck) Vartenasana (Spinning Pose)
- g. Bahuvarthenasana (Shoulder Raising Pose)
- h. Raja (Royal) Trikonasana (Triangle Pose)
- i. Raja (Royal) Hastinasana (Elephant Dance Pose)
- j. Vajra (Indra's thunderbolt) Hamsasana (Swam Pose)

- k. Raja (Royal) Dharanasana (Bow Pose)

- l. Ardha (Half) Bhujangasana (Snake Pose)
- m. Uttara (North) Shavasana (Corpse Pose)
- n. Sukha (Happiness or Easy) Bahupadasana (Foot Arm Pose)
- o. Raja (Royal) Bahupadasana (Foot Arm Pose)
- p. Ekapada (One foot) Chalanasana (Churning Pose)

Asanas progressed from the easiest to the most difficult according to Table 1.

Results

Both subjects had a decrease in the value of the observed variables, according to Table 2.

Subject 1 had a better improvement in general stretching, while subject 2 had a better decrease in the heart rate. Blood pressure had a significant and similar decrease for both subjects.

Table 1 Weekly progression of Asanas

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
Ardha Bhadrasana	Ardha Bhadrasana	Ardha Bhadrasana	Ardha Bhadrasana	Ardha Bhadrasana	Ardha Bhadrasana	Ardha Bhadrasana	Ardha Bhadrasana
Healthy Raja Pada	Raja Padasana	Raja prathanasana	Raja prathanasana	Sukha Vrikshasana	Sukha Vrikshasana	Janurdhwa shirshasana	Janurdhwa shirshasana
Griva Vartenasana	Griva Vartenasana	Griva Vartenasana	Griva Vartenasana	Griva Vartenasana	Griva Vartenasana	Griva Vartenasana	Griva Vartenasana
Bahuvarthenasana	Bahuvarthenasana	Bahuvarthenasana	Bahuvarthenasana	Bahuvarthenasana	Bahuvarthenasana	Bahuvarthenasana	Bahuvarthenasana
Raja Trikonasana 1	Raja Trikonasana 1	Raja Trikonasana 1	Raja Trikonasana 2	Raja Trikonasana 2	Raja Trikonasana 2	Raja Trikonasana 3	Raja Trikonasana 3
Healthy Hastina	Hastinasana	Hastinasana	Hastinasana	Hastinasana	Hastinasana	Hastinasana	Hastinasana
Vajra ham sasana	Vajra ham sasana	Vajra ham sasana	Vajra hamasana	Raja dharanasana	Raja dharanasana	Raja dharanasana	Raja dharanasana
Ardha Bhujangasana	Ardha Bhujangasana	Ardha Bhujangasana	Ardha Bhujangasana	Ardha Bhujangasana	Ardha Bhujangasana	Ardha Bhujangasana	Ardha Bhujangasana
Uttara Shavasana	Uttara Shavasana	Uttara Shavasana	Uttara Shavasana	Uttara Shavasana	Uttara Shavasana	Uttara Shavasana	Uttara Shavasana
Sukha bahupadaheals	Sukha bahupadaheals	Sukha bahupadaheals	Sukha bahupadaheals	Sukha bahupadaheals	Sukha bahupadaheals	Raja bahupadasana	Raja bahupadasana
				Chalana sana	Chalanasana	Chalanasana	Chalanasana

Table 2 Comparison between pre and post-treatment evaluation for both subjects for the variables: blood pressure (mmHg), heart rate (bpm) and general stretching (cm)

	Blood pressure (mmHg)		Heart Rate (bpm)		General stretching (cm)	
	Before	After	Before	After	Before	After
Subject 1	142x83	132x83	102	96	15.3	11.2
Subject 2	138x80	131x81	105	91	9.0	7.8

Discussion

This work corroborates with others who showed a decrease in stress^{16,32} and anxiety,^{39,46,40} although our study did not evaluate these characteristics directly. However, the decrease in blood pressure and heart rate are usually linked to the relief of stress and anxiety.

Some other studies have had similar results to those of this paper.^{20,28} Nevertheless, this was only a pilot study, which also serves as a case study, to evaluate the efficiency of the protocol presented.

The results of a case study alone are weak to suggest that Yoga is beneficial in those conditions. On the other hand, other works with larger groups, statistic, and control group obtained the same result.

The 8-week treatment protocol for teaching PSM and a simple sequence of asanas worked well since practitioners were able to learn the postures and meditation in the proposed time, to handle more difficult exercises for both types of techniques, and obtain positive health related results. This work covered meditation (PSM) and postures (asanas). A model for teaching breathing (pranayama)

is required to complete the Yoga most commonly used types of exercises.^{47–66}

Conclusion

The methodology of learning, studying and standardizing meditation and asanas worked well for our small sample. The next step is to do the same with a larger number of participants. While we obtained evidence of improvements in the variables studied, it is not possible to affirm based on our results that Yoga brings improvement to heart rate, blood pressure and stretching. In our next work, with a larger sample and control group, we can affirm the result to be obtained with greater security.

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None.

Conflicts of interest

The author declares that there is no conflicts of interest.

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