
Efficacy of Yoga on Trigunas in Young Widows: A Randomized Control Trial

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ABSTRACT

Objective: To study the efficacy of yoga on personalities (Gunas) of young widows below 50 years of age. Eighty subjects, who agreed to participate in the study, were randomly allocated to two groups of equal size. Guna (personality) was assessed before and after eight weeks using the self-administered "The Vedic Personality Inventory" to assess Sattva, Rajas, and Tamas. The data analysis showed significant increase ($P = 0.001$) in Sattva Guna in experimental group whereas in control group there were no significant increase. Rajas Guna score was decreased but not statistically significant in both the cases. There were significant reduction in Tamas Guna scores in experimental group ($P < 0.001$) as well as in the control group ($P = 0.032$). This study suggests that yoga can improve Sattva Guna among young widows, thus enhance balanced state of mind in their day to day life.

Key words: Yoga, Guna and Widow

INTRODUCTION

According to statistics, there are over 245 million widows in the world. In India alone, there are some 34 millions and they account for 9 per cent of India's total population. About 40 per cent of these widows are less than 50 years of age. India has the highest prevalence of widowhood in the world. The incidence of widowhood declined during the last few decades but unfortunately the numbers of widows are increasing day by day ^[1].

Entering into widowhood is hazardous, painful and humiliating to a widow specially in a patriarchal society ^[2]. They are missing from the statistics of many developing countries, and rarely mentioned in the multitude of the reports on women's poverty, development, health or human rights published in the last 25 years ^[3]. In developed countries, widowhood is experienced mostly by elderly women, while in developing countries it also affects younger women, many of them still rearing children. In some regions, girls become widows even before reaching adulthood ^[4].

During the Vedic period, it is believed that there is no gender inequality in India and women are respected, free to engage in any occupation and were treated as equal to men. However, it seems to be only in the Vedic scripture and literature. Widows no doubt are marginalized, experience powerlessness, physical abuse, social segregation and in some part of India, being abandoned by

family because of the economic hardships. With the result, widows in India not only suffer with social and economic sanctions but also face many psychological consequences, loneliness and in many cases deprivation causing emotional disturbance and imbalance ^[2].

Indian philosophy endows us with *Guna* theory, a Tri-dimensional Personality Inventory to help understand the mental structure of a person. This theory is based on *Samkhya* Philosophy's concept of *Guna* ^[5]. In the *Bhagavad Gita*, a *Guna* signifies a specific behavior style. *Sattva Guna* is characterized by purity, wisdom, bliss, serenity, love of knowledge, spiritual excellence and other noble and sublime qualities. *Rajas* is symbolize by egoism, activity, restlessness and hankering after mundane things like wealth, power, valor and comforts. *Tamas* is related to qualities such as bias, heedlessness and inertia, perversion in taste, thought and action ^[6]. The philosophy of yoga believes that somatic problems are nothing but a manifestation of an imbalance in the three *Gunas* (*Sattva*, *Rajas*, and *Tamas*) that constitute the body–mind complex of an individual ^[7].

The behavior of a human being is an expression of a combination of the three *Gunas*. *Tamas* (meaning darkness) is the grossest aspect of our personality characterized by excessive sleep, laziness, depression, procrastination, a feeling of helplessness, impulsivity, anger, and arrogance (packed up with vital energy). When we reduce *Tamas* through mastery over the mind, we become dynamic, sensitive, and sharp to move toward *Rajas* (the shining one) characterized by intense activity, ambitiousness, competitiveness, high sense of self importance, desire for sense gratification, little interest in spiritual elevation, dissatisfaction with one's position, envy of others, and a materialistic cleverness ^[8]. With further growth and mastery, one moves into *Sattva* - a dominance which includes the qualities of truthfulness, stability, discipline, sense of control, sharp intelligence, preference for vegetarianism, gravity, dutifulness, detachment, respect for superiors and staunch determination ^[9] and stability in the face of adversity and also conscious action. Thus, we can see that although both *Rajas* and *Tamas* have both positive and negative qualities, they are the manifestation of a violent state of mind in which a person lacks mastery over upsurges of emotions and prone to impulsive behavior ^[10]. Most of the qualities of *Sattva* which are manifestation of a calm state of mind are achievable by different yoga techniques (physical postures, *pranayama* and meditation) meant for mastery over the mind-body complex ^[8].

Although yoga has been recognized around the globe only in the last century, it has been practiced in India over several centuries to promote positive health and spiritual well being. With growing scientific evidence, yoga is emerging as an important behavior-modifying practice to achieve states of health, both at physical and mental levels^[8]. Due to its strong scriptural and experiential knowledge base, yoga has the potential to become an essential baseline modality in all health work, be it for cure or prevention or for promotion of positive health ^[11]. Yoga offers society a conscious process to solve the problems of unhappiness, restlessness, emotional upsurges, hyperactivity etc ^[12].

Many studies are available on the effect of yoga on mental and physical health in different dimensions which have shown the efficacy of yoga on intelligence ^[13], physical stamina ^[14], memory ^[15], concentration ^[16], performance ^[17], stress ^[18], anxiety disorder ^[19] and depressive mood ^[20].

The role of yoga with regard to its effects on *Gunas* in young widows has not been studied thus far. Hence, the present study was designed to find out the effect of a Yoga Module on *Gunas* in young widows through a randomized controlled trial.

OBJECTIVE

The objective was to study the effect of Yoga on personalities (*Guna*) of young widow under 50 years of age.

Materials and Methods

Eighty subjects, who agreed to participate in the study, were randomly allocated into two groups of equal size (40+40). Inclusion criteria included (a) young widows and, (b) age below 50 years. Exclusion criteria: (a) Substance abuse, (b) Concurrent treatment with psychotropic drugs or psychotherapy outside study, (c) Pregnancy and breast-feeding women, (d) Recent bereavement of less than 6 months, (e) Critical health implications, and (f) surgery less than six months.

Design: Randomized control trial (Yoga and wait list control groups). Eighty subjects who consented to participate in the study and who satisfied the inclusion and exclusion criteria were randomly allotted into two groups. Eighty identical small slips of paper were taken. Number 1 was written on 40 slips and on another 40, number 2 was written. All these papers were folded identically and the slips are thoroughly mixed and subjects were told to pick one slip each. Accordingly they were allotted into two groups- yoga=1 and control=2. The numbered envelopes were used to concealed sequence until the intervention was assigned. The yoga group had undergone intervention program for 8 weeks. Participants in the control group had undergone regular daily activities. Assessments were made before and after the 8 weeks of the program in the two groups.

As this was an interventional study, double blinding was not possible. The answer sheets of the questionnaires were coded and analyzed only after the study was completed. The statistician who did the randomization and data analysis and the researcher who carried out assessment were blinded to the treatment status of the subjects.

To prevent contamination, yoga group were told not to share their experience with others until post data were taken. It was ensured that there was no interaction between the two groups.

The experimental group was given Yoga practices for one hour and ten minutes daily (5 am to 6.10 am). The classes were conducted six days a week for eight weeks and attendance was maintained by the teachers. Two well trained yoga teachers had conducted the sessions.

Source of Subjects

Subjects came from Kakching, Manipur. Kakching is a town which is situated in the southeastern part of Manipur. It is the second largest town in Thoubal district and a major commercial hub in Manipur^[21]. According 2011 census, Kakching has a population of 32,138 population out of 2,570,390 of Manipur^[22].

Setting

Community hall - known to all the subjects, where the Yoga intervention was carried out.

Ethical Considerations

Study was done at SVYASA University, Bangalore. The approval from Institutional Ethics Committee was obtained. Signed informed consent of all subjects were obtained after explaining the study in detail.

Assessment

Assessments were made on two groups before and after the 8 weeks of intervention.

The Vedic Personality Inventory (VPI)

It is an inventory to assess three personality constructs (*Gunas*) based on their description in the most ancient Indian scriptures called Vedas. It measures the three *Gunas*—*Sattva*, *Rajas* and *Tamas*. It has 15 items for the *Sattva Guna*, 19 for *Rajoguna* and 22 for *Tamoguna*. VPI has good internal consistency and reliability with Cronbach's alpha ranging from 0.850 for *Sattva*, 0.915 for *Rajas* and 0.699 for *Tamas*. In terms of discriminant validity, all but one facet had significant differences ^[9].

Intervention

The intervention was for 8 weeks. Once a week (8 Sundays) there was one hour lecture session and interactive group session. For 6 days in a week, yoga practices are practiced as detailed below.

TABLE 1: YOGA SCHEDULE
(Total duration 1 hour and 10 min)

Name of practice	Duration
Warming up	10 min
Surya Namaskara	15 min
Relaxation Techniques (QRT)- in Savasana	4 min
Asana	20 min
Relaxation techniques (DRT)- in Savasana	6 min
<i>Pranayama</i>	15 min

Note: QRT: Quick Relaxation Technique; DRT: Deep Relaxation Technique.

TABLE 2: THEORY SCHEDULE
(Total duration-1 hour every sunday)

Sundays	Topic	Notes
1 st	Introduction to Yoga	Definition of yoga- Bhagavad Gita, Patanjali, Vasishtha and Swami Vivekananda and Shri Aurobindo.
2 nd	Importance of Yoga practices	Asana, Pranayama, loosening exercise and breathing exercise
3 rd	Four stream of Yoga	Jnana yoga, Raja Yoga, Karma yoga & Bhakti yoga.

4 rd	Panca Kosa	5 sheaths of existence- Anandamaya kosa, vijnanamaya kosa, Manomaya kosa, Pranamaya kosa, Annamaya kosa.
5 th	Concept of disease	Adhija-vyadhi, anadhija-Vyadhi- sara & samana.
6 th	Concept of IAYT	Healing all the 5 layers of existence.
7 th	Yogic Diet	Satvic food.
8 th	Conclusion- Question & answers	Feedback and experiences

Statistical Analysis

Data was analyzed using SPSS version 16.0. A sample size was calculated based on previous study (Yoo, et al 2006)^[23] that showed an effect size of 1.47 with a power of 0.95 and alpha set to 0.05. The sample size was found to be 28. This calculation was done using G power software. The size of the sample that was actually used was 80.

Baseline data for both the groups were assessed for normal distribution using the Shapiro-Wilk test. Independent samples' t-test was done to check the homogeneity of baseline scores of the two groups. As the baseline values of *Sattva* were not normally distributed, the Wilcoxon signed ranks' test was used to compare means within the group. For *Tamas* and *Rajas*, since data were normally distributed, Paired t test was done to compare mean within the group and independent samples' t-test was used to compare the means between the groups.

RESULT AND DISCUSSION

Out of 92 subjects who were willing to participate, only 80 satisfied the inclusion and exclusion criteria; they were selected and randomly allotted to yoga and control groups. The characteristics of the experimental and the control groups shows that the mean age of the experimental group was 41.05 years and that of the control group was 42 years. The mean duration of widowhood of experimental group was 6 years and that of control group was 6.30 years. Majority of the participants were not employed (90% in the experimental group; 97.5 % in the control group); income of majority was below Rs. 3000 (72.5% in the experimental group; 65% in the control group).

There were no significant differences between two groups in baseline values of *Sattva*, *Rajas* and *Tamas* [Table 3].

TABLE 3: BASELINE VALUES BETWEEN YOGA AND CONTROL GROUPS

VP Inventory	Yoga Mean±SD	Control Mean±SD	p value
Sattva	34.86±1.64	35.12±2.11	0.96
Rajas	34.71±1.167	34.52±1.24	0.82
Tamas	30.41±1.42	30.34±1.60	0.75

**p<0.001 and *p<0.05

The data analysis showed significant increase ($P = 0.000$) in *Sattva Guna* (balanced personality trait) in experimental group whereas in control group, there were no significant increase ($P = 0.178$) [Table 4]. *Rajas Guna* (violent personality trait) score was decreased ($P = 0.085$) compared to the pre-test score in experimental group and in control group, it showed a slight increase ($P = 0.161$). However the increases were not statistically significant in both the cases [Table 5]. There were significant reduction in *Tamas Guna* (dull personality trait) scores in experimental group ($P < 0.001$) and control ($P = 0.032$) [Table 6]. In addition, significant differences were observed between the two groups regarding *Tamas Guna* (dull personality trait) post test scores ($p = .02$). The decrement in the experimental group was significantly greater than in the control group [Table 7].

TABLE 4: CHANGES IN SATTVA BETWEEN YOGA AND CONTROL GROUP:

Sattva	Pre-test Mean±SD	Post-test Mean±SD	p value
Yoga	34.86±1.64	39.40±2.21	.000
Control	35.12±2.11	35.30±2.26	0.178

** $p < 0.001$ and * $p < 0.05$

TABLE 5: CHANGES IN RAJAS BETWEEN YOGA AND CONTROL GROUP

Rajas	Pre-test Mean±SD	Post-test Mean±SD	p value
Yoga	34.71±1.16	34.19±1.93	0.085
Control	34.52±1.24	34.76±1.19	0.161

** $p < 0.001$ and * $p < 0.05$

TABLE 6: CHANGES IN TAMAS BETWEEN YOGA AND CONTROL GROUP

Tamas	Pre-test Mean±SD	Post-test Mean±SD	p value
Yoga	30.41±1.42	26.39±2.17	0.000
Control	30.34±1.60	29.93±1.72	0.032

** $p < 0.001$ and * $p < 0.05$

TABLE 7: DIFFERENCE IN TAMAS BETWEEN POST YOGA AND CONTROL

	Post Yoga Mean±SD	Post Control Mean±SD	p value
Tamas	30.41±1.42	30.34±1.60	0.02

** $p < 0.001$ and * $p < 0.05$

DISCUSSION

A study conducted by Dasa ^[24] by using *mahamantra* showed that the *mahamantra* group had increased *Sattva guna* and decreased *Tamas* with no significant change in *Rajas Guna* scores on the VPI questionnaire after a month of chanting of *mahamantra*, 20 minutes daily for four weeks. Deshpande *et al* ^[8] measured *Guna* variables in a randomized control trial in normal healthy volunteers in Bangalore city and found significant improvement in both Yoga and exercise groups. There was increase in *Sattva* in both the groups; however, there was a decrease in *Rajas* and *Tamas* in both groups after the intervention in a non-residential set up with daily 1 h classes for eight weeks. Another study was done by Tikhe *et al.* [5] to assess *Guna* (personality traits) in students undergoing Yoga Instructor's Course (YIC). The results showed decrease ($P < 0.01$) in *Tamas Guna*, decrease ($P = 0.819$) in *Rajas Guna*, and increase ($P < 0.01$) in *Sattva Guna* scores. These findings are almost in line with the result of this study.

The behavior of a human being is an expression of a combination of different *Gunas*. When we reduce *Tamas* through mastery over the mind, person become dynamic, sensitive, and sharp to move toward *Rajas* [8]. With further growth and mastery, one moves into *Sattva*—a dominance that includes the qualities of truthfulness, stability, discipline, sense of control, sharp intelligence, preference for vegetarianism, truthfulness, gravity, dutifulness, detachment, respect for superiors, and staunch determination ^[5]. The qualities of *Sattva* as the manifestation of a calm state of mind are attainable by yoga practices ^[25]. The mechanism of efficacy of yoga to reduce *Rajas*, *Tamas* and increase *Sattva* may be identified with by three key principles of yoga: relax the body, slow down the breath, and calm the mind ^[26].

Strength of the study

The strength of this study is that it is one of the very few research interventions on young widows using a yoga module. It is a randomized control trial. The improvement observed after eight weeks intervention showed the efficacy of yoga. Hence, yoga can be recommended for enhancing of *Sattva guna*. It can be a cost effective treatment and bring sense of collectiveness among the young widows through this practice.

Limitation of the study

The study population was taken from the same town with same cultural-socioeconomic background hence generalization of the result should be done with caution. Control group did not undergo any physical activity to compensate for yoga practices.

Suggestion for further research: some of the physiological parameters can be monitored with longer term follow up with control engaged in some physical activity to see the results.

CONCLUSION

This study suggests that yoga intervention program can result in the improvement of *Sattva Guna* (balance personality trait) among young widows, thus enhance balanced state of mind in their day to day life.

ACKNOWLEDGMENTS

Sincere acknowledgments for those who participated in this study and SVYASA University. we are very thankful to Professor T.M. Srinivasan for his valuable support.

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