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Impact of 4 weeks Yoga training on Anxiety level and Guna in Substance Abuser

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ABSTRACT
The objective of the study was to evaluate the effect of yoga on anxiety and guna of substance abusers. 28 drug abused men, from a de-addiction centers, with the mean of age29.04±8.36years participated in the randomized control trial study for 4weeks yoga intervention. VPI and STAI-Y were used to assess guna (Satwa, Rajas and Tamas) and anxiety of the subjects. Pair t test were used to compare within the group. Result showed significant increment in Sattvaguna scores (p=0.000) and decrement in Tamasguna scores (p=0.000) after 4 weeks yoga intervention. However no significant improvement was observed in Rajas gunascores. State and trait anxiety were significantly decreased (P=0.000) after the intervention. Thus this study has shown that yoga practice as an adjunct therapy can help in improving Sattva guna and reducing anxiety level in substance abuser.
Keywords: *Yoga, substance abuser,Guna, Anxiety.*

Introduction

According to World Health Organisation, Substance abuse denotes to the harmful or hazardous use of psychoactive substances(1) which leads to morbidity, injuries, violence, accidents, homicides, suicides etc.(2). There is a high rate of suicide in drug abusers. The reasons believed to cause the increased risk of suicide include the long-term abuse of drugs causing physiological distortion of brain chemistry as well as the social isolation. Another factor is the acute intoxicating effects of the drugs may make suicide more likely to occur(3). Severe psychological problems which commonly induced by sustained alcohol abuse can bereduced with prolonged abstinence(4). Drug abuse makes central nervous system (CNS) effects, which produce changes in mood, levels of awareness or perceptions and sensations (5). A study which was done in Manipur (6) concluded that prevalence of to tobacco and alcohol use was high among students. Familial use of substances was associated with the behavior of adolescents.

Yoga is considered to be the means for physical, mental and spiritual growth of an entity. Evidence revealed that yoga has been emerging as a powerful tool to achieve good state of health both at physical and mental levels (7). Several studies have supported that yoga improved mental health. A study (8) showed that mindfulness meditation improve psychological well being and reduced

stress related problems, illness and anxiety. Another study [9] on brief lifestyle yoga intervention found that yoga remarkably reduced anxiety score within a period of ten days. Yogic breathing (pranayama) improvedpost traumatic stress disorder (PTSD) and depression [10]. Some of the studies have documented that yoga improved self-esteem in healthy volunteers [11] and in cancer patients [12]. Another study showed that after 6 months of yoga, sleep quality had improved, whereas depression, sleep disturbances, and daytime dysfunction had decreased significantly [13]. Similarly it was reported that long-term yoga practice is associated with significant psycho-biological differences, including better sleep quality [14] as well as a modulatory action on the levels of cortisol [15].Yoga has been used as a tool for stress management that can assist in alleviating mental and physical health.

OBJECTIVES

To study the efficacy of yoga on anxiety and guna of drug abusers.

METHODS AND MATERIALS

Subjects: 28 drug abused male with the mean of age29.04±8.36years participated in the study.

Inclusion criteria:

Drug abuse 18 – 60 years old.

Exclusion criteria:

Complicated medical condition.

Source of Subjects:

Study participants were obtained fromNewlife drug de-addiction centreImphal, Manipur.

Food and other restrictions

The participants were served both vegetarian and non-vegetarian food at the de-addiction centers. Alcohol, tobacco and other intoxicating drugs are strictly prohibited by the rules of the de-addiction centre.

Ethical Considerations:

Signed informed consent of all subjects was obtained after explaining the study in detail.

Design

28 drug abused patients had undergone yoga intervention program for 4 week. Assessments were made before and after the 4 weeks program.

Assessments

Assessments were made before and after the 4 weeks of intervention. The following Psychological variables were assessed:

State-Trait Anxiety Inventory (STAI-Y)

It is a self-administered analysis of reported anxiety symptoms. The first subscale measures state anxiety, the second measures trait anxiety. The range of scores is 20-80, a higher score indicating greater anxiety [16]. Concurrent validity between the STAI and Anxiety Scale Questionnaire (ASQ) and Manifest Anxiety Scales (MAS) has positive correlation of scores (.73 and .85) [17]. Test-retest correlations were calculated to be .54 for the State section and .86 for the trait section [16].

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 rajas guna and 22 for tamasguna. 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 [18].

Intervention

The intervention was for 4 weeks and consisted of one hour and ten minutes of Yoga practices every day. The schedule for 1 week (6 days) is detailed in Table 1 below. Table 2 shows the demographic data.

Table 1: Daily Yoga Practices

Name of practice	Duration
Warming up	10 minutes
Surya Namaskara	15 minutes
Relaxation Techniques(QRT)- in Savasana	4 minutes
Asanas: Set 1: Standing – Ardhakatichakrasana, Ardhachakrasana, Trikonasana, Virabhadrasana 1 and 2, Parsvakonasana Set 2: Sitting – Vakrasana, Ardhamatsyendrasana, paschimottanasana, ustrasana, vajrasana Set 3: Supine – Naukasana,viparittakarani, chakrasana, Setubandhasana. Set 4: Prone – Bhujangasana,Dhanurasana, Salabhasana.	20 minutes Each day only one set of Asanas are practiced
Relaxation techniques(DRT)- in Savasana	6 minutes
Pranayama Nadisudhi Brahmari Ujjay	15 minutes

Table 2: Demographic data

GROUP CHARACTERISTICS	No. of patients in %
AGE:	29.04±8.36
18 – 40	24(85.71%)
41 – 52	4(14.28%)
OCCUPATION:	
Student	6(21.42%)
Employed	16(57.14%)
Unemployed	6(21.42%)
MARITAL STATUS:	
Married	9(32.14%)
Single	16(57.14%)
Divorce	3(10.71%)
FAMILY MONTHLY INCOME:	
Below 3000	20(60.60%)
3000 - 10,000	8(24.24%)
Above 10,000	5(15.15%)
ABUSED SUBSTANCE:	
Alcohol	10(35.71%)
Poly(Heroin, SP and WY)	9(27.27%)
Others	1(3.03%)
QUALIFICATION:	
Matriculation	14(50.00%)
P.U.	7(25.00%)
Graduate	7(25.00%)

Data Analysis

Data was analyzed using statistical package SPSS software (Version 16.0). Pair t test was done to compare within the group.

Results and Discussion

Result showed significant increment in Sattva guna scores (p=0.000) and decrement in Tamasguna scores (p=0.000) after 4 week yoga intervention. However no significant improvement was observed in Rajas guna scores. State and trait anxiety were significantly decreased (P=0.000) after the intervention. Thus this study has shown that yoga practice as an adjunct therapy can help in improving Sattva guna and reducing anxiety level in substance abuser.

Table 3: Pair t test for comparing within the group.

Parameters	Pre(Mean ± SD)	Post(Mean ± SD)	P value
Satwa	34.35±3.59	41.97±7.43	<.001
Rajas	32.34±2.28	31.09±3.36	.181
Tamas	33.28±2.81	26.91±5.85	<.001
STAI-Y-1	47.75±6.38	36.21±6.27	<.001
STYA-Y-2	47.42±6.40	38.83±9.03	<.001

**p<0.001 and *p<0.05

Several studies have highlighted the psychological benefits of integrated yoga practices such as anxiety, neurosis and depressive illness. [19] A study [20] was to evaluate the influence of yoga in relieving symptoms of depression and anxiety in women. Results showed that women who participated in yoga classes showed a significant decrease in state anxiety (p=0.03) and trait anxiety (p<0.001). Participation in a two-month yoga class can lead to significant reduction in perceived levels of anxiety in women who suffer from anxiety disorders. The result of this study was almost in line with our study.

A study conducted by Dasa [21] by using *mahamantra* showed that the *mahamantra* group had increased *Sattvaguna*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* [22] measured G*una* variablesin normal healthy volunteers 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. Another study was done by Tikhe*et al.*[23] 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 qualities of *Sattva* as the manifestation of a calm state of mind are attainable by yoga practices [24]. 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 [25].

Conclusion

Thus this study has shown that four weeks yoga practiceas an adjunct therapy can help in reducing anxiety symptoms and improving sattva guna by reducing Tamas and Rajas gunas in drug abusers. To better evaluate the impact of yoga on prevention and the treatment of anxiety and improving sattva guna, further studies are needed which include long term follow up, larger sample sizes and a controlled group engaged in some physical activity. Some of the physiological and biochemical parameters can be used to see better results.

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