



EFFECT OF YOGA ON DEPRESSION AND QUALITY OF LIFE IN DRUG ABUSERS

Naorem Jiteswori Devi¹, Thongam Benji Singh², Subramanya P.^{3*}

¹Ph.D. Scholar, Division of Yoga and Humanities, S-VYASA, Bangalore, Karnataka, India.

²Department of Distance Education, S-VYASA, Bangalore, Karnataka, India.

^{3*}Assistant professor, Department of Distance Education, S-VYASA, Bangalore, Karnataka, India.

ABSTRACT

Background: Drug abuse including alcohol may lead to health problems, social problems, morbidity, injuries, unprotected sex, violence, deaths, motor vehicle accidents, homicides, suicides, physical dependence or psychological addiction.

Objectives: To study the efficacy of yoga on Quality of life of drug abusers and to study the efficacy of Yoga on measures of depression of drug abusers. **Methods and**

Materials: 66 drug abused males with the mean age of 32.50±9.86 years participated in the randomized control trial pre and post study. BDI-II and WHOQOL-BREF were used to assess depression score and quality of life before and after. **Statistical analysis:** Shapiro - Wilk, Wilcoxon signed rank test and Mann Whitney test were used for analyzing the data with the help of SPSS 16. **Results:** There was significant reduction after yoga intervention in depression scores (BDI-II) (p=0.000) and significant increase in Quality of life Domain 1, 2 and 3 (p=0.000, p=0.043, p=0.015). There was no significant increase in QOL Domain 4 (p=0.089). Regarding wait list control group, after the intervention programme, there was significant reduction in depression score, (p=0.040) and no significant increase in QOLBREF score in all four domains.

Conclusion: Thus this study has shown that *Yoga* practice can help in reducing depression symptoms and increased quality of life in drug abuser.

KEYWORDS: Yoga Therapy, Alcohol Abusers, Drug abusers, Depression, Quality of Life.

INTRODUCTION

Substance abuse refers to the harmful or hazardous use of psychoactive substances, including alcohol and illicit drugs. Psychoactive substance use can lead to dependence syndrome - a cluster of behavioral, cognitive, and physiological phenomena that develop after repeated substance use and that typically include a strong desire to take the drug, difficulties in controlling its use, persisting in its use despite harmful consequences, a higher priority given to drug use than to other activities and obligations, increased tolerance, and sometimes a physical withdrawal state.^[1]

Depending on the actual compound, drug abuse including alcohol may lead to health problems, social problems, morbidity, injuries, unprotected sex, violence, deaths, motor vehicle accidents, homicides, suicides, physical dependence or psychological addiction.^[2] There is a high rate of suicide in alcoholics and other drug abusers. The reasons believed to cause the increased risk of suicide include the long-term

abuse of alcohol and other 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. Suicide is also very common in adolescent alcohol abusers, with 1 in 4 suicides in adolescents being related to alcohol abuse.^[3]

Severe anxiety and depression are commonly induced by sustained alcohol abuse which in most cases abates with prolonged abstinence. Even moderate alcohol sustained use may increase anxiety and depression levels in some individuals. In most cases these drug induced psychiatric disorders fade away with prolonged abstinence.^[4] Drug abuse makes central nervous system (CNS) effects, which produce changes in mood, levels of awareness or perceptions and sensations. Most of these drugs also alter systems other than the CNS. Some of these are often thought of being abused. Some drugs appear to be more likely to lead to

uncontrolled use than others.^[5] A study which was done in Manipur^[6] concluded that prevalence of tobacco and alcohol use was high among students. Familial use of substances was associated with the behavior of adolescents. Friends were the key proximal determinant.

According to yogic science, psychological problems arise due to the unbalance speed of mind. Yoga is the science to control the mind. The disturbance in the mind is the real cause of the problem. Many studies conclude that yoga improves mental health. A study shows that mindfulness meditation improve psychological well being and reduce psychological symptoms of stress related problems, illness and anxiety.^[7] Another study was done on brief lifestyle intervention, based on yoga, on anxiety level in normal and diseased subjects.^[8] The intervention consisted of *Asana*, *Pranayama*, relaxation techniques, group support, lecture and film on philosophy of yoga, place of yoga in daily life, meditation, stress management and nutrition. It was concluded that lifestyle modification based on yoga and stress management leads to remarkable reduction in anxiety score within a period of ten days. Yogic breathing (*Pranayama*) relieves post traumatic stress disorder (PTSD) and depression.^[9] *Yoga* has been used as a tool for stress management that can assist in alleviating depression and anxiety disorders.

OBJECTIVES: To study the efficacy of yoga on Quality of life and depression scores of drug abusers.

METHODS AND MATERIALS

Subjects: 66 drug abused male with the mean of age 32.50 ± 9.86 years participated in the study.

Inclusion criteria

- Drug abuse 18 – 40 years old.

Exclusion criteria

- Complicated medical condition.

Source of Subjects

Study participants were obtained from two de-addiction centers in Imphal, Manipur.

Place of Study

This study is conducted at the following two drug de-addiction centers Newlife drug de-addiction centre, Airport road, Changanggei, opposite ISKON temple, Imphal, Manipur.

Devinelight drug de-addiction centre, Canchipur, Near Manipur University, Imphal, 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

The study was approved by the IRB of S-VYASA University. Signed informed consent of all subjects was obtained after explaining the study in detail.

Design

Randomized control trial (*Yoga* and wait list control groups). The yoga group had undergone *Yoga* intervention program for 4 week. Participants in the control group would undergone day to day regular activities. Assessments were made before and after the 4 weeks program in two groups.

Assessments

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

Beck Depression Inventory (BDI-II)

The Beck Depression Inventory (BDI) is a 21-item, self-report questionnaire that assesses depressive symptoms experienced in the past two weeks. Scores range from 0 to 63, with higher scores indicating higher levels of depressive symptoms.^[10] The BDI-II is positively correlated with the Hamilton Depression Rating Scale with a Pearson r of 0.71, showing good agreement. The test was also shown to have a high one-week test-retest reliability (Pearson $r = 0.93$).^[11]

WHO Quality of Life –BREF

The WHOQOL-BREF instrument comprises 26 items, which measure the following broad domains: physical health, psychological health, social relationships, and environment. Cronbach alpha value for each of the domain scores range from 0.71 to 0.86 which shows good internal consistency.^[12]

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
<i>Surya Namaskara</i>	15 minutes
Relaxation Techniques(QRT)- in <i>Savasana</i>	4 minutes
<i>Asanas:</i> Set 1: Standing – <i>Ardha kati chakrasana, Ardha chakrasana, Trikonasana, Virabhadrasana 1 and 2, Parsvakonasana</i> Set 2: Sitting – <i>Vakrasana, Ardha matsyendrasana, Paschimottanasana, Ustrasana, Vajrasana</i> Set 3: Supine – <i>Naukasana, Viparitta karani, Chakrasana, Setubandhasana.</i> Set 4: Prone – <i>Bhujangasana, Dhanurasana, Salabhasana.</i>	20 minutes Each day only one set of <i>Asanas</i> are practiced
Relaxation techniques(DRT)- in <i>Savasana</i>	6 minutes
<i>Pranayama</i>	15 minutes

Table 2: Demographic data

Group characteristics	Yoga	Control
AGE:	32.30±9.65	32.70±10.13
18 – 40	26(78.78%)	26(78.78%)
41 – 60	7(21.21%)	7(21.21%)
OCCUPATION:		
Student	6(18.18%)	1(3.03%)
Employed	19(57.57%)	30(90.90%)
Unemployed	8(24.24%)	2(6.06%)
MARITAL STATUS:		
Married	17(51.51%)	24(72.72%)
Single	16(48.48%)	9(27.27%)
RELIGION:		
Islam	5(15.15%)	0
Christian	4(12.12%)	4(12.12%)
Hindu	24(72.72%)	29(87.87%)
FAMILY MONTHLY INCOME:		
3,500 - 15,000	20(60.60%)	17(51.51%)
15,000 - 25,000	8(24.24%)	10(30.30%)
25,000 and above	5(15.15%)	7(21.21%)
ABUSED SUBSTANCE:		
Spasmo proxyvon	13(39.39%)	14(42.42%)
Alcohol	10(30.30%)	7(21.21%)
Heroin	9(27.27%)	11(33.33%)
Others	1(3.03%)	1(3.03%)
QUALIFICATION:		
Matriculation	14(42.42%)	18(54.54%)
P.U.	13(39.39%)	9(27.27%)
Graduate	6(18.18%)	6(18.18%)

Data Extraction

Data were extracted using standard procedures for all the variables. Psychological variables were scored as per standard scoring guidelines. Data will be organized and tabulated for statistical analysis.

Data Analysis

Data was analyzed using statistical package SPSS software (Version 16.0). Baseline values were not significantly different. As the data was not normally distributed, Wilcoxon

signed ranks' test was used to compare means within the group and the Mann Whitney U test to compare the means between the groups.

Results and discussion

There was significant reduction after yoga intervention in depression scores (BDI-II) (p=0.000) and significantly increased in Quality of life Domain 1, 2 and 3 (p=0.000, p=0.043,

p=0.015). There was no significant increase in QOL Domain 4(p=0.089).

Regarding wait list control group, after the intervention programmed, there was significantly reduction in depression score, (p=0.040) and no significant increase in QOLBREF score in all four domains (p=0.58, p=0.37, p= 0.67, p=0.18) respectively.

Table 3: Wilcoxon signed rank test for Yoga group

Parameters	Pre(Mean ± SD)	Post(Mean ± SD)	P value
BDI II	32.03±10.65	18.57±10.59	0.00
QOL-BREF (Domain 1)	21.75±5.89	25.24±3.81	0.00
QOL-BREF (Domain 2)	19.42±4.61	21.27±3.88	0.043
QOL-BREF (Domain 3)	9.75±2.63	11.15±2.45	0.015
QOL-BREF (Domain 4)	23.87±6.33	25.96±5.74	0.089

**p<0.001 and *p<0.05

Table 4: Wilcoxon signed rank test for control group

Parameters	Pre (Mean ± SD)	Post(Mean ± SD)	P value
BDI	29.39±8.25	27.51±8.10	0.040
QOL-BREF (Domain 1)	21.96±3.76	21.69±3.94	0.58
QOL-BREF (Domain 2)	17.81±3.20	18.12±3.14	0.37
QOL-BREF (Domain 3)	9.21±1.93	9.12±1.93	0.67
QOL-BREF (Domain 4)	23.33±3.70	22.51±3.01	0.18

*p<0.05

Table 5: Mann-Whitney test to show difference of depression scores between yoga and control after the intervention

Parameters	Post yoga	Post control	P value
BDI II	18.57±8.10	29.39±10.65	0.001

**P<0.001

The present study evaluated the effect of Yoga on drug addiction, depression and quality of life levels in drug abuse. The study has shown that there was a significant reduction after yoga practice in depression scores (BDI-II), and increased in quality of life score except in domain 4 (WHOQOL-BREF).

Yoga has been shown to be an adjunct in rehabilitation of drug abusers. Previously reported substance abuse interventions based on yoga are believed to provide benefits on psychological and psychosocial factors. The practice of meditation was reported to decrease the degree of substance (marijuana) abuse, by strengthening the mental resolve and decreasing the anxiety.^[13] A study on mood state and quality of life of female heroin addicts showed that after yoga intervention a significant improvement in mood status and quality of life over time compared with their counterparts in the control group.^[14] Simple yogic-style breathing exercises can reduce cigarette craving acutely in the laboratory^[15]. Another study was done on pilot

treatment program for substance abuse that integrated a comprehensive array of yoga, meditation, spiritual and mind-body techniques. It showed improvements on a number of psychological self-report questionnaires including the Behavior and Symptom Identification Scale and the Quality of Recovery Index. It concluded that application of comprehensive spiritual lifestyle interventions may prove effective in treating substance abuse. This study is consistent with these findings, indicating that practice of the yoga can help in improving quality of life and reducing depression in drug abusers.^[16]

This research was done by using only psychological parameters. There was no long term follow up. For the future research, some of the physiological parameters can be used with long term follow up to see better results.

CONCLUSION

Thus this study has shown that four weeks *Yoga* practice can help in reducing

depression symptoms and increased quality of life in drug abusers. To better evaluate the impact of yoga on prevention and the treatment of depression and the improvement of quality of life, further studies are needed which include long term follow up, larger sample sizes and controlled group should engaged in some physical activity.

REFERENCES

1. WHO | Substance abuse. World Heal Organ [Internet]. World Health Organization; [cited 2014 Apr 12]; Available from: http://www.who.int/topics/substance_abuse/en/
2. Burke PJ, O'Sullivan J, Vaughan BL. Adolescent substance use: brief interventions by emergency care providers. *Pediatr Emerg Care*. 2005;21:770-6.
3. O'Connor RC, P. Sheehy N. Suicidal Behaviour. *Psychologist*. 2001;14(1):20-4.
4. Evans K, Sullivan JM. Dual Diagnosis: Counseling the Mentally Ill Substance Abuser [Internet]. Guilford Press; 2001 [cited 2014 Apr 12]. Available from: <http://books.google.com/books?id=lvUzR0obihEC&pgis=1>
5. Jaffe J. Drug addiction and drug abuse. In: Goodman LS, Gilman A, editors. *The pharmacological basis of therapeutics*. 5th ed. MacMillan publishers, New York; 1975. p. 284-324.
6. Ningombam S, Hutin Y, Murhekar M V. Prevalence and pattern of substance use among the higher secondary school students of Imphal, Manipur, India. *Natl Med J India* [Internet]. 2011 [cited 2014 Apr 12];24(1):11-5. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/21608351>
7. Carmody J, Baer RA. Relationships between mindfulness practice and levels of mindfulness, medical and psychological symptoms and well-being in a mindfulness-based stress reduction program. *J Behav Med*. 2008;31:23-33.
8. Gupta N, Khara S, Vempati RP, Sharma R, Bijlani RL. Effect of yoga based lifestyle intervention on state and trait anxiety. *Indian J Physiol Pharmacol* [Internet]. 2006 [cited 2014 Apr 12];50(1):41-7. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/16850902>
9. Descilo T, Vedamurtachar A, Gerbarg PL, Nagaraja D, Gangadhar BN, Damodaran B, et al. Effects of a yoga breath intervention alone and in combination with an exposure therapy for post-traumatic stress disorder and depression in survivors of the 2004 South-East Asia tsunami. *Acta Psychiatr Scand*. 2010;121:289-300.
10. Beck AT, Ward CH, Mendelson M, Mock J, Erbaugh J. An inventory for measuring depression. *Arch Gen Psychiatry*. 1961;4:561-71.
11. Beck AT, Steer RA, Brown GK. *Manual for the Beck depression inventory-II*. San Antonio, TX Psychol Corp [Internet]. 1996;1-82. Available from: <http://scholar.google.com/scholar?hl=en&btnG=Search&q=intitle:Manual+for+the+Beck+depression+inventory-II#0>
12. WHOQOL User Manual. world Health Organisation; 1998.
13. Telles S, Naveen K V. Yoga for rehabilitation: an overview. *Indian J Med Sci*. 1997;51:123-7.
14. Zhuang SM, An SH, Zhao Y. Yoga effects on mood and quality of life in Chinese women undergoing heroin detoxification: A randomized controlled trial. *Nurs Res* [Internet]. 2013;62:260-8. Available from: <http://www.scopus.com/inward/record.url?eid=2-s2.0-84879951778&partnerID=40&md5=4149247a99ddb71d07f30cafc766c210>
15. Shahab L, Sarkar BK, West R. The acute effects of yogic breathing exercises on craving and withdrawal symptoms in abstaining smokers. *Psychopharmacology (Berl)* [Internet]. 2013 Feb [cited 2014 Apr 12];225(4):875-82. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/22993051>
16. Khalsa SBS, Khalsa GS, Khalsa HK, Khalsa MK. Evaluation of a residential Kundalini yoga lifestyle pilot program for addiction in India. *J Ethn Subst Abuse*. 2008;7:67-79.

Cite this article as:

Naorem Jiteswori Devi, Thongam Benji Singh, Subramanya P. Effect of Yoga on Depression and Quality of Life in drug Abusers. *Int. J. Ayur. Pharma Research*. 2014; 2 (2): 61-65.

Source of support: Nil, Conflict of interest: None Declared

*Address for correspondence

Pailoor Subramanya

S-VYASA

19, Eknath Bhavan, Gavipuram Circle, Kempe Gowda Nagar, Bengaluru - 560 019, India.

Phone: +919886462201

Email: pailoors@gmail.com