Original Research Paper

Brief Body Scan Meditation Intervention on Positive and Negative Affect among Alcohol Dependence Patients

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ABSTRACT

Background: Although effect of mindfulness based stress reduction (MBSR) are effective and highly valued, but all the patients will not be interested due to extensive time and cost. Brief interventions (e.g., body scans) may be used by individuals, at a lower cost and with little training. *Aim:* To study the effect of body scan meditation on negative and positive affect in patients with alcohol dependence. *Method:* The present study was conducted on patients with alcohol dependence in Central Institute of Psychiatry, Ranchi. The study samples were collected from 30 in-patients with alcohol dependence syndrome (ADS) using a self-rating scale. After that the subjects who were randomly assigned to receiving body scan meditation underwent 45 minutes guided meditation and 15 minutes discussion for one week. Subjects assigned to other group did not receive body scan meditation. However, both the groups received pharmacological treatment as usual. After the intervention, subjects in both the groups were revaluated. *Results:* Patients in experimental group had significantly less severe dependence on alcohol and did not show significant reduction in negative affect and increment in positive affect after one week intervention of body scan meditation. *Conclusion:* There is no significant reduction in negative and increment in positive affect after receiving one week of body scan meditation intervention in alcohol dependence patients.

Keywords: *Alcohol Dependence, Body Scan Mediation, Negative Affect, Positive Affect.*

Relapse prevention is a major challenge in the treatment of alcoholism. About 50% of detoxified alcohol users relapse within 3 months (Miller and Hester, 1986).There is evidence that approximately 90% of alcohol dependents are likely to experience at least one relapse over the 4-year period following treatment (Tempesta, Janiri ,Bignamini, Chabac, Potgieter 2000).

Predictive factors for relapse in alcoholism includes negative and positive affect (Soyka, Hasemann, Scharfenberg, Lohnert, Bottlender, 2003). Negative affect (NA) can be highly

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potent trigger for relapse among those in recovery for alcoholism. Watson, Clark and Tellegen (1988) define NA as "a general dimension of subjective distress and unpleasurable engagement that include anger, contempt, disgust, guilt, fear, and nervousness. Positive affect (PA) is a dimension reflecting one's level of pleasurable engagement with the environment. High PA is composed of terms reflecting one's enthusiasm, energy level, mental alertness, interest, joy, and determination, whereas low PA include lethargy and fatigue (Watson & Tellegen, 1985).

Laboratory research demonstrates that the urge to drink increases, when individuals experience NA (Cooney, Litt, Morse, Baue& Gaupp, 1997). Increases in NA have been associated with relapse among alcohol users as well. Witkiewitz et al 2009, has found that higher NA was related to heavier and more frequent drinking post-treatment, who had received alcohol treatment therapy. Much research has attempted to identify factors and intervention that can improve the coping ability of those in recovery to manage negative affect.

The lack of empirically supported treatments, and the minimal utilization of available treatments indicates that brief innovative treatments to those individuals with alcohol and drug use disorders are highly desired (Marlatt & Witkiewitz, 2002). Mutual support groups, such as alcoholics anonymous (AA) and narcotics anonymous (NA), are the most commonly available treatments in many developed countries worldwide (Room, 1998). However, these approaches may not be clinically effective for alcohol abusers (Marlatt, 1983; Marlatt & Witkiewitz, 2002).Mindfulness based psychotherapy to substance use have received considerable attention in the research literature now a days.

Mindfulness based body scan technique is a key component of mindfulness meditation, that involve being directed to focus attention on the present moment through observing the breath and bodily sensations and aware about their thoughts, feeling and accepting them without judgments. The procedure of MBSR employs in brief body scan (Kabat-Zinn, 1990), which is lasting from 5 to 30 minutes.

Rational for study:
There is only few, research assessing the efficacy of brief mindfulness based programs and/or its specific techniques in clinical population. A few have studied immediate effects of 10 minute guided body scan meditation. However, these do not fulfill the criteria of mindfulness meditation based technique as they did not encourage focused awareness, which is important in mindfulness based intervention (Zgierska et al., 2008).

Thus this study aims to assess the efficacy of mindfulness meditation based body scan in alcohol dependent patients.

MATERIALS AND METHODS

The study was conducted on 30 male participants with the diagnosis of mental and behavioral disorder due to use of alcohol dependence (ICD-10, DCR) in the inpatient ward of de-addiction centre, Central institute of psychiatry, Ranchi and meeting the inclusion and exclusion criteria of the study were chosen purposefully.

Inclusion criteria: i) Subjects age range of 18-50 years (ii) Educated above 5th standard (iii) Only male patients (iv). Willing to give informed consent.

Exclusion criteria: i) Co-morbid psychiatric disorder except anxiety and depression (ii) Patients with a history of organicity, epilepsy or any other neurological disorder (iii) Patient's with hearing/visual impairment or any other physical disability (iv) Patient's with mental retardation. An informed consent was obtained. After taking informed consent, subjects included in the present study were evaluated on semi-structured proforma for socio-demographic, clinical variable, the Clinical institute withdrawal assessment scale for alcohol, severity of alcohol dependence questionnaire, positive and negative affect subscales of (PANAS).The subjects assigned to receiving body scan meditation underwent 45 minutes guided meditation and 15 minutes discussion in each session after detoxification phase was completed. The other group did not receive any body scan meditation, however both the group received pharmacological treatment as prescribed by treating team. The subject receiving body scan meditation and the subject not receiving body scan meditation were revaluated on (PANAS)after one week of body scan meditation.

RESULTS

1.   Comparisons of Socio-demographic variables between experimental and control group: Patients in both the group were similar in terms of the education, residence, marital status, family type, past history of psychiatric illness, treatment history in the past and family history of psychiatric illness between experimental and control group. It is seen that majority of the patients in the experimental group were urban (53.4%), married (66.6%), lived in nuclear family (73.4%), with education more than 12th standard (53.4%), absence of family history of psychiatric illness (73.3%), absence of past history of psychiatric illness (73.4%) and absent of treatment history in the past (73.4%). However, there is no statistically significant difference between experimental and control group across any socio-demographic variables (**Table-1**)

Table 1.Comparisons of Socio-demographic variables between experimental and control group of patients:

Socio-demographic variables		Experimental Group N=15 n %	Control Group N=15 n %	$x2$/fisher exact test	df	p
Education	<12[th]std	8 (53.4%)	6(40.0%)	.54	1	.46
	>12[th]std	7 (46.6%)	9(60.0%)			

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Socio-demographic variables		Experimental Group N=15 n %	Control Group N=15 n %	$x2$/fisher exact test	df	p
Residence	Rural	8 (53.4%)	3(20.0%)	3.69#		.055
	Urban	7 (46.6%)	12(80.%)			
Marital status	Unmarried	5 (33.4%)	4(26.6%)	.15#		1.00
	Married	10 (66.6%)	11(73.%)			
Family type	Nuclear	11 (73.4%)	9(60.0%)	.60#		.700
	Joint	4 (26.6%)	6(40.0%)			
Occupation	Student	2 (13.4%)	2(13.4%)	.000#		1.00
	Employed	13 (86.6%)	13(86.%)			
Past history of psychiatric illness	Present	4 (26.6%)	10(66.%)	4.96#		.066
	Absent	11 (73.4%)	5(33.%)			
Treatment history in the past	Present	4 (26.6%)	10(66.%)	4.963#		.066
	Absent	11 (73.4%)	5(33.%)			
Family history of psychiatric illness	Present	4 (26.6%)	6(40.%)	.603#		.700
	Absent	11 (73.4%)	9(60.%)			

#=fisher exact test

Clinical variables were similar in experimental and control group: Patients in both of the group were similar in terms of age, age of onset, duration of illness, family size and family income between two groups using t-test. The average age of the experimental group was 35.86±7.83 years, age of onset was 17.26± 6.17 years; family income was 5356.7±1261.36 INR per month. When the experimental group was compared to control group there were no statistically significant difference between experimental group and control group across any clinical variables (Table-2).

Table 2. Comparison of clinical variables (continuous) between experimental and control group:

Clinical variables	Experimental Group (N=15) Mean ± S.D.	Control Group (N=15) Mean ± S.D.	t	df	p
Age of the patient (in years)	35.86± 7.83	35.47± 7.67	.14	28	.89
Age of onset (in years)	17.26± 6.17	18.40± 7.44	-.45	28	.65
Duration of illness (in years)	10.20±7.09	11.40±5.60	-.51	28	.61
Family size	6.60±3.57	5.86±2.05	.68	28	.49
Family income in (rupees) per month	5073.3±66135.64	5356.7±1261.36	0.077	28	.94

Alcohol dependence score: In the study, we have found that severity of alcohol dependence questionnaire (SADQ) score was significantly higher in control group as compared to experimental group, which indicate that more severe symptoms of dependence has been found in control group. The clinical Institute Withdrawal Assessment of Alcohol scale revised (CIWA-Ar) scores was low in control and experimental group, suggesting severe alcohol dependence among patients. **Table-3**.

Table: 3. Comparison of severity of alcohol dependence questionnaire (SADQ) and Clinical Institute Withdrawal Assessment of Alcohol scale revised (CIWA-Ar) scores

Variables	Experimental Group (N=15) Mean ± S.D.	Control Group (N=15) Mean ± S.D.	t	df	p
SADQ	33.60±5.64	39.60±5.68	-2.91	28	.007**
CIWA-Ar	1.00± 1.13	.73± 1.03	.67	28	.50

between experimental and control group.

Body scan meditation is not effective for positive and negative affect among alcohol dependence patients: A comparison of PANAS score within experimental group at pre-assessment and post-assessment did not show decrement in negative affect and increment in positive affect after one week of mindfulness based body scan meditation (**Table4**).

Also, comparison of positive and negative affect scores between experimental and control group at pre and post-assessment after one week of mindfulness based body scan meditation did not show decrement in negative affect and improvement in positive affect (**Table 5**).

Table-4. Comparison of score of positive and negative affect subscales of (PANAS) scale of alcohol dependence group between baseline (pre assessment) and after one week treatment of body scan meditation (post assessment).

	Experimental Group	Pre-assessment N=15	Post-assessment N=15	t	df	p
PANAS	Positive	27.27 ±9.92	32.26±8.075	-2.12	14	.052
	Negative	22.60 ±6.61	21.40 ±7.02	.538	14	.599

Table-5. Comparison of pre and post assessment scores on positive and negative affect scale between experimental and control group.

PANAS +ve	Phase of assessment	Experimental Group (N=15)	Control Group (N=15)	t	df	p
	Pre-assessment	27.26±9.92	28.53±8.22	-.38	28	.71
	Post – assessment	32.26± 8.07	30.20±6.72	.76	28	.45
PANAS-ve	Pre-assessment	22.60±6.61	21.40±7.02	-.91	28	.37
	Post – assessment	25.26±9.25	24.20±7.41	-1.06	28	.29

DISCUSSION

The present study, aimed with assessing the effectiveness of body scan meditation (technique adopted from Kabat,Zinn,1990 mindfulness based stress reduction) on affect among patients with mental and behavioral disorder due to use of alcohol dependence syndrome. .

The present study reveals that majority of the patient group were urban (53.4%) (**Table 1**).This finding is consistent with the previous research findings. Most of the previous researches report that the prevalence rate of alcohol consumption was (42.2%) in rural males as compared to urban (55.5%). The higher rate of alcohol dependence in participants from urban area may be due to the life style and better socio-economic status in urban area resulting in easy availability and accessibility (Singh, Mohan & Padda, 2000).

With respect to employment status in our study (86.6%) were employed (**Table 1**). Previous research findings also revealed similar result. One study has reported 83.3% employment in alcohol dependence (Chandra & Khess, 2003).Employed people have easier access to alcohol and other substances of abuse compared to students and unemployed.

If we see in terms of marital status most of the patients were married (73.4%) (Table 1).In our study this finding is consistent with the previous research findings. According to Singh et al. (2000), 81.7% of regular alcohol users were married, whereas only 10.8% of regular alcohol users were unmarried. The high incidence of regular alcohol users among married person may be that alcohol use serves as a measure ventilation of tensions, anxiety and increased responsibility that married persons were facing in their day to day married life (Prajapati, Girdharbhai & Rathod, 2013).

The present study revealed that most of the patient belonged to nuclear family (73.4%). This is consistent with previous research and may be because of more responsibilities; low bonding in family, which may trigger drinking (Mattoo et al., 2001).

In the present study the mean age of patient with alcohol dependence was 35.86±7.83 years (Table 2).This finding is comparable with the previous studies (Flannery et al., 2001).

In the present study the age of onset in alcohol dependence patient was 17.26±6.17 (Table-1). This is consistent with one previous study in which author found that the mean age of onset of alcohol use in a hospital based population was 18 years (Manjunathan, Saddicha, Sinha & Khess, 2008). In a community-based, cross sectional study done in Kolkata, west Bengal nearly same finding was observed. In that study authors also noted the mean age of the respondents at the initiation of drinking alcohol was 20.8+5.9 years (Ghosh, Samanta & Mukherjee, 2012). By this age alcohol initiation is associated with greater sexual risk-taking (unprotected sexual intercourse, multiple partners, being drunk or high during sexual intercourse, and pregnancy) academic problems; other substance use; and delinquent behavior and also associated with employment problems, other substance abuse, and criminal and violent behavior (Ellickson, Tucker & Klein, 2003). In the present study, a significant number of alcohol dependence patient came from lower socio-economic status (Rs.5356.7± 1261.36 per month) (Table 2).This finding is consistent with previous research findings (Kumar & Khess, 2008) the reason may be instability of employment status due to substance seeking behavior in the alcohol dependence group. Previous studies have shown income to be affected by, both the place of living and due to the illness affecting the socio-economic status of the family. Socioeconomic status is associated with a range of negative health outcomes including higher rates of substance, chronic illness and acute illness, which was found to be consistent with our results (Chen, Mathews &Boyce, 2002). In the present study affective state of the alcohol dependence patient were evaluated by using the positive and negative affect schedule-Hindi version (PANAS-H) which is known to measure both positive as well as negative affect as distinct orthogonal dimensions of mood assessment. It was seen that in the present study, neither group of patients those who received body scan meditation with TAU and TAU alone showed any improvement across time in the domain of positive affect scores from pre-assessment (27.27±9.92) to post-assessment (32.26±8.075) and negative affect score from pre-assessment (22.60±6.61) to post-assessment (21.40±7.02) (**Table 4, 5**). Thus, the results of the present study fail to support the emerging relationship between mindfulness based body scan meditation and affect. This finding can be explained by saying that the patients were finding it difficult to express their emotion/ feelings regarding the frequency of negative and positive feeling, which they feel. Therefore, the findings of the results were insignificant. Also the drawback of the scale was that it was a subjective scale therefore the researches too found it difficult to rate their emotions. Most of the previous researches report that positive affect significantly increased and negative affect significantly decreased after mindfulness-based therapy (Tang et al., 2007). And the reason may be mindfulness involves teaching individuals to cope with NA instead of trying to avoid or escape it and also improves distress tolerance as a process of desensitization to negative affect through exposure, which helps to extinguish automatic avoidance of negative emotions and consequential substance use (Shapiro et al., 2006).

CONCLUSION

The following conclusions may be derived on the basis of the present study, i) There was no significant difference between experimental and control group across any socio-demographic

variables and clinical variables. ii) There is statistically significant difference between experimental and control groups in severity of alcohol dependence questionnaire.iii)Body scan meditation did not show significant decrement in negative affect and increment in positive affect after one week of intervention.

The limitation of the study was found that sample size was small hence result cannot be generalized. Both pre and post assessment was done inside the hospital, and there was no follow-up assessments. In the present study patients were finding difficulty to express their emotion/ feelings regarding the frequency of negative and positive feeling which they feel due to lack of objective rating scale. Due to subjective rating scale researches found it difficult to rate their emotions.

Future studies should focus on the longer follow up to see whether the results obtained are maintained in long term and body scan meditation also can be compared with other psychological therapies to understand the efficacy of different therapeutic modules.

Conflict of Interests: The author declared no conflict of interests.

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