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RESEARCH ARTICLE

BRIEF INTERVENTION (BODY SCAN MEDITATION) REDUCES DEPRESSION IN ALCOHOL DEPENDENCE PATIENTS.

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Abstract

Background: Significant effect of mindfulness based stress reduction (MBSR) therapy has been demonstrated on depression. Although MBSR are effective and highly valued, but all the patients do not shows interest due to extensive time and cost involvement. Brief interventions (e.g., body scans) may be used by individuals, at a lower cost and with little training to reduce the depression.
Aim: To study the effect of body scan meditation in reducing depression in alcohol dependence patients.
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 control group, did not receive body scan meditation. However, both the groups received pharmacological treatment as usual. After the intervention, subjects in both of the groups were revaluated.
Results: Patients in experimental group had significantly less severe dependence on alcohol and showed significant reduction in depression after one week intervention of body scan meditation.
Conclusion: There is significant reduction in depressive symptoms after receiving one week of mindfulness based body scan meditation therapy in alcohol dependence patients.

Introduction:-

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).

Relapse is a multi-factor phenomenon and most likely to result from a combination of factors. Various factors involved in relapse includes the individual characteristics of the patient, the drug and environmental re-inforcers, Predictive factors for relapse in alcoholism include treatment drop-out, anxiety and depressive symptoms (Soyka, Hasemann, Scharfenberg, Lohnert, Bottlender ,2003).

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Alcohol is a depressant that acts as an inhibitor, reducing anxiety in low doses, but resulting in death in extreme doses (ABO, 2009) and it is the second largest cause of hospitalisations and drug-related deaths in western societies (Australian Institute of Health and Welfare, 2004). Alcohol use disorders (abuse/dependence) have also been associated with depression, anxiety and cognitive problems (Samokhvalov, Popova, Room, Ramonas& Rehm, 2010). Numerous studies have found alcohol abuse is associated with psychological variables such as anxiety and depression (Suh, Ruffins, Robins,Albanese&Khantzian, 2008).There have been a number of causal explanations attempting to account for the high incidence of co-morbidity between depression, anxiety and alcohol use. One of these is that anxiety or depression promotes the pathological use of alcohol (Kushner, Abrams & Borchardt,2000).

Rational for the study:-
Both depression and substance use disorders represent major global public health concerns and are often co-occurring. Although there are ongoing discoveries regarding the pathophysiology and treatment of each condition, common mechanism and effective treatments for co-occurring depression and substance abuse remain elusive.

Mindfulness training has only recently been evaluated in the treatment of both depression and substance use disorders, suggesting that this approach may target common behavioral and neurobiological processes (Brewer et al., 2010). Mindfulness is defined as "the awareness that emerges through paying attention on purpose, in the present moment, and non-judgmentally to the unfolding of experiences moment by moment" (Kabat-Zinn, 2003). In practicing mindfulness, one becomes aware of the current internal and external experiences, observes them carefully, accepts them, and allows them to be let go of in order to attend to another present moment experience. Typical treatments are roughly 8 weeks in duration, though alternate lengths have been used for targeted uses (Brewer et al., 2011). While these programmes are effective and highly valued, not all patients will be interested in, or have the resources or time to attend such intensive programmes. Brief interventions (e.g., body scans) may be more readily used by individuals in their own environment, at a lower cost and with little training. Body scan technique is a very powerful technique used to re-establish contact with the body is known as body scanning, because minute focus on the body in body scanning is effective for developing both concentration and flexibility of attention simultaneously. It involves lying on your back and moving your mind through the different regions of the body to develop enhanced awareness of moment-to-moment experience.

Thus the aim of the present study is to see the effect of body scan meditation for reducing depression in patient with alcohol dependence.

Materials and Methods:-

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

Inclusion Criteria:-
i) Subjects age range of 18-50 years
ii) Educated up to 5^{th} or above 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 organcity, epilepsy or any other neurological disorder (iii) Patients with hearing/visual impairment or any other physical disability (iv) Patients with mental retardation.

An informed consent was obtained from patient and their relatives. After taking informed consent, subjects included in the present study were evaluated on semi-structured proforma for socio demo-graphic, clinical variable, the clinical institute withdrawal assessment scale for alcohol, severity of alcohol dependence questionnaire and Hamilton rating scale for depression. 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 again evaluated on Hamilton rating scale for depression after one week of body scan meditation.

Results:-

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 were found (**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 %	χ2/fisher exact test	p
Education	Less than 12thstd	8 (53.4%)	6 (40.0%)	.54	.46
	More than 12thstd	7 (46.6%)	9 (60.0%)		
Residence	Rural	7 (46.6%)	3 (20.0%)	3.69#	.055
	Urban	8 (53.4%)	12(80.0%)		
Marital status	Unmarried	5 (33.4%)	4 (26.6%)	.159#	1.00
	Married	10 (66.6%)	11(73.4%)		
Family type	Nuclear	11 (73.4%)	9 (60.0%)	.603#	.700
	Joint	4 (26.6%)	6 (40.0%)		
Occupation	Student	2 (13.4%)	2 (13.4 %)	.000#	1.00
	Employed	13 (86.6%)	13(86.6%)		
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.%)	4.96#	.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	-.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 have 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**. Figure-1.**

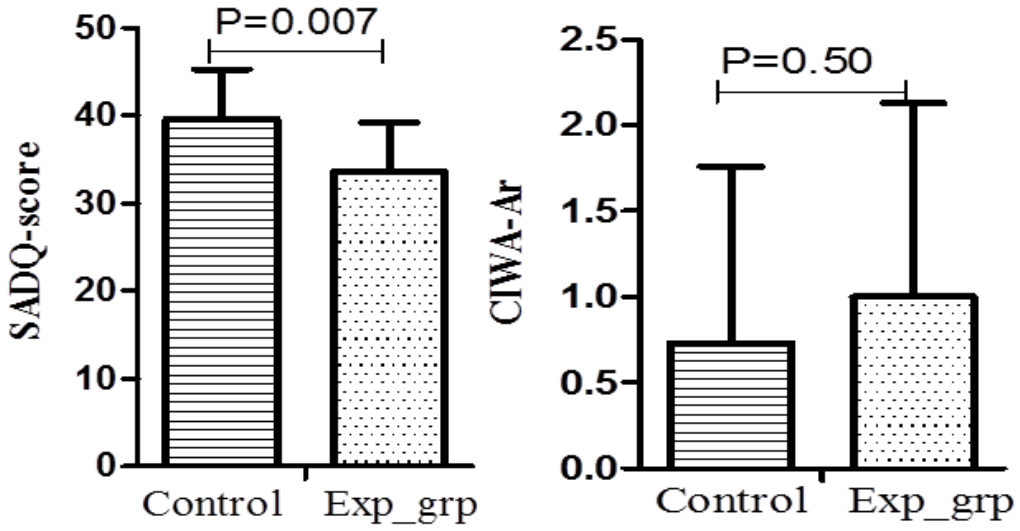

Figure 1:- Comparison of severity of alcohol dependence questionnaire (SADQ) and Clinical Institute Withdrawal Assessment of Alcohol-scale revised (CIWA-Ar) scores between experimental and control group**.**

Body scan meditation reduces depression among alcohol dependence patients:-
Patients in experimental group has significantly lower HDRs score. A comparison of Hamilton rating scale for depression scores within group at pre and post assessment shows significant decrease in post-assessment HDRs score in experimental group (P=0.019) **Figure 2A**. Lower scores of HDRs at post-assessment indicate decrement in depressive symptoms after mindfulness based body scan meditation. However, in control group HDRS score also decreased at post-assessment but remained insignificant (P=0.32).

Further HDR score was similar in between control and experimental group at pre-assessment (P=0.45). However, it was significantly decreased in experimental group at post-assessment as compared to control (P=0.013). **Figure 2B**.

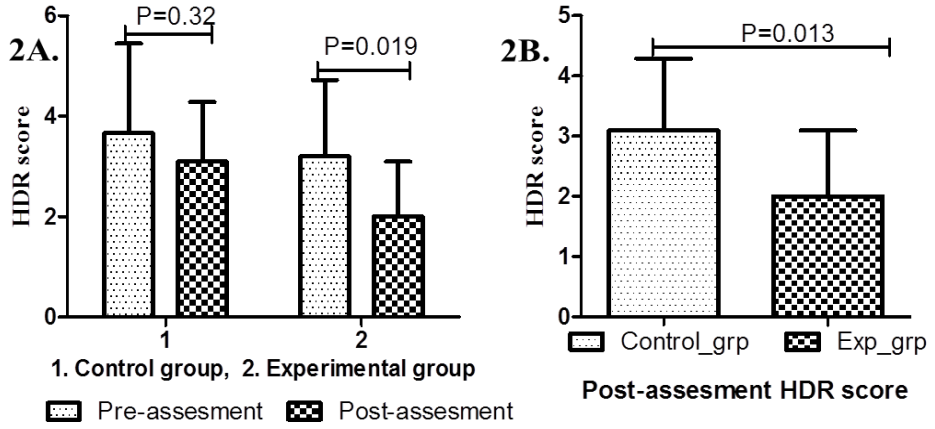

Figure 2B:- Hamilton rating scale for depression scores in control and experimental group in pre and Post assessment.

Correlations of changes HDRs with socio-demographic variables:-

HDRs score positively correlated with patient age and age of onset after one week of mindfulness based body scan therapy with age, duration of illness, age of onset, family size and family income and depression has significantly correlated positively with age and age of onset.

Table 3:- Correlations of changes among scores of clinical scales and socio-demographic variables following body scan meditation in alcohol dependence**.**

Variables	age	Duration of illness	Age of onset	Family size	Family income	SADQ
HDRS	.73*	45	.72**	-.25	-.11	.36

** Indicate 0.01,level of significance *indicate 0.05, level of significance

Discussion:-

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

The present study reveals that majority of the patients 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 patients 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 patients 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 2). 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 patients 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 behaviour 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 uses, chronic illness and acute illness, which was found to be consistent with our results (Chen, Mathews &Boyce, 2002).

The present study found significant difference between experimental group (33.60±5.64) and control group (39.60±5.68) in severity of alcohol dependence. Severity of alcohol dependence was less among patients of experimental group compared to control group. This finding may be explained by the presence of family history in control group compared to experimental group. This is one of the major limitations of the present study that the patients in experimental group were less severe. The present study found significant decrement ($p<0.05$) in scores of Hamilton depression rating scale scores from pre-test (3.10±1.19) to post-test (2.00±1.10; $p=0.013$), after one week of body scan meditation in experimental group (Figure 2B). Previous researches also show findings similar to our study in which mood symptoms significantly decreased after mindfulness-based therapy when compared to participants who did not have receive any mindfulness training (Hofmann et al.,2010).These results suggest that mindfulness-based body scan meditation is a promising intervention for treating anxiety and mood problems in clinical populations.

The present study has also found that certain socio-demographic and clinical factors have shown a positive and negative correlation with alcohol dependence, which has impact on patient's lives. In this study, a significant positive correlation was found between age and depression (.73*) (Table 3). This indicates that with increasing age depressive symptoms would also increase. This finding consistent with other researches done previously which have shown that the prevalence of depressive symptoms increases with age (Kennedy, 1996), because people experience loneliness and depression in old age, either as a result of living alone or due to lack of close family ties and reduced connections with their culture of origin, which results in an inability to actively participate in the community activities. With advancing age, it is inevitable that people lose connection with their friendship networks and that they find it more difficult to initiate new friendships and to belong to new networks.

Conclusions:-

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 in groups in severity of alcohol dependence questionnaire. iii) Body scan meditation has showed significant reduction in the symptoms of depression after on week of intervention. iv) Depression was found positively correlated with age and age of onset.

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 efficacy of intervention could not be assessed after discharge from the hospital. The self-ratings were used to assess the outcome measures and no objective method was used. The long term effects of body scan meditation could not be assessed. Thus, it cannot be commented whether the beneficial effects of Body Scan Meditation are maintained.

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 interest: None
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