



## EFFECT OF A MINDFULNESS BASED INTERVENTION ON STRESS AND MINDFULNESS AMONG PRIMARY CAREGIVERS OF PATIENTS WITH ALCOHOL DEPENDENCE SYNDROME: AN EXPERIMENTAL STUDY

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### ABSTRACT

Alcoholism negatively affects the physical, psychological, financial, emotional wellbeing of the individual, family as well as the society. The study was aimed to assess the stress and mindfulness among primary care givers of patients with Alcohol Dependence Syndrome, to evaluate the effect of mindfulness based intervention on stress and mindfulness among primary care givers of patients with Alcohol Dependence Syndrome. A quantitative approach was used with pre experimental design. Thirty six caregivers of patient with alcohol dependence syndrome admitted for de-addiction treatment were enrolled as study subjects by consecutive sampling method. Data was collected by using Perceived Stress Scale and Five Facet Mindfulness Questionnaire. Results revealed that 83.3% of subjects were experiencing moderate stress and 16.7% of subjects were experiencing high stress before the intervention. There was significant reduction in the mean PSS score (MD= 7.5) after mindfulness based intervention. There was significant reduction in the level of stress among the subjects after mindfulness based intervention ( $t=13.74$   $p=0.001$ ). There was significant increase in the mean mindfulness score (MD= -28.2) after mindfulness based intervention. There was significant improvement in the mindfulness among the subjects after mindfulness based intervention ( $t=11.08$   $p=0.001$ ). No significant correlation was found between stress and mindfulness ( $r=-0.001$   $p=0.9$ ). Conclusion: Mindfulness Based Intervention has proved to be an effective stress management strategy that can be used widely among caregivers experiencing chronic stress.

**KEYWORDS** : Stress; Mindfulness; Mindfulness based intervention; caregivers; alcohol dependence syndrome.

### Introduction

Alcohol is the most common substance that impacts the health and well-being of problem drinkers, their family members, and society as a whole.<sup>1</sup> Alcohol dependent individuals are responsible for about 50% of the social, legal and interpersonal alcohol-related problems in society.<sup>1</sup> According to WHO, worldwide alcohol causes 1.8 million deaths (3.2% of total) and 58.3 million (4% of total) of Disability-Adjusted Life Years. The state of Kerala being the most literate state in India is also the home for largest number of alcoholics, cancer patients and children addicted to tobacco.<sup>2</sup> World Health organization states that the amount of alcohol consumption has risen in India between the periods of 2008-2012. Kerala leads the states in terms of alcohol consumption. An average individual over the age of 15 consumed over 8 litres of alcohol per annum in Kerala followed by Maharashtra and Punjab.

A prospective study was conducted on mindfulness-based stress reduction reduces anxiety, depression, and suicidal ideation among 79 veterans at California in 2014. Tools used for the study were Pre-MBSR and post-MBSR questionnaires. Result revealed that significant reductions in anxiety, depression, and suicidal ideation were observed after MBSR training. Mental health functioning scores were improved. Pain intensity and physical health functionality did not show improvements. MBSR program can improve symptoms of anxiety and depression, in addition to reducing suicidal ideations, all of which are of critical importance to the overall health of the patients.<sup>2</sup>

Research on effectiveness of mindfulness based interventions was primarily patient centered, focused mainly on reducing stress among patients suffering from illness like anxiety disorders, depression, somatoform disorders, dementia, cancer, COPD, elderly etc. In India there is no study that has been reported on effect of Mindfulness based intervention on stress of primary caregivers of patients with alcohol dependence syndrome. The present study is trying to assess the effect of mindfulness based intervention on stress and mindfulness among primary care givers of patients with alcoholic dependence syndrome.

### Materials and methods

A quantitative approach was used with pre experimental design. Thirty six caregivers of patient with alcohol dependence syndrome admitted for de-addiction treatment were enrolled as study subjects by consecutive sampling method. Data was collected by

using Perceived Stress Scale and Five Facet Mindfulness Questionnaire. **Socio demographic Performa** is a structured questionnaire with items- age, sex, Relation, Religion, Education, Occupation, Marital status, Age of marriage, Duration of stay, Type of family, No of child, Place of stay, and family income. **Five-Facet Mindfulness Questionnaire (FFMQ)**. It is a standardized self-report, 39 item questionnaire developed by Baer et al (2006) to measure the mindfulness of individual (Annexure). It measures five facets of observing, describing, acting with awareness, non-judging of inner experience and non-reactivity to inner experience on a five point likert scale. **The Perceived Stress Scale (PSS)** It is a standardized 10 item rating scale developed by Sheldon Cohen (1983). It is a measure of the degree to which situations in one's life are appraised as stressful. It is a 5 point likert scale ranging from never, almost never, sometimes, fairly often, and very often. PSS scores are obtained by reversing responses (e.g., 0 = 4, 1 = 3, 2 = 2, 3 = 1 & 4 = 0) to the four positively stated items (items 4, 5, 7, & 8) and then summing across all scale items. Total scores range from 0-40. 0-13 considered as mild stress. 14-26 moderate stress and above 27 indicates high stress.

Ethical clearance and approval were obtained from the Institutional review board ((IRB), of Malankara Orthodox Syrian Church Medical college. Permission to conduct the study in the research setting were obtained from Administrative director, principal, medical superintendent, head of department psychiatry and project director of MMM de-addiction centre. Informed written consent forms were signed by the patient before data collection by assuming and maintaining confidentiality of the data.

### Results

#### a. Socio demographic characteristics

Less than one third of subjects (30.6%) were aged less than 40 years, 36.1% of the subjects were aged between 41-50 years and 33.3% of caregivers were aged more than 51 years respectively. Majority of the subjects (86.1%) were females and 13.9% of subjects were males respectively. Based on the relationship with the patient with alcohol dependent syndrome, majority of the subjects (63.9%) were the wives of the patient, 22.2% of subjects were their mothers and 14% of subjects were their fathers respectively. Majority of the subjects (63.9%) followed Hindu religion, 27.8% of subjects followed Christian religion and 8.3% of subjects followed Islam religion respectively. Less than half of the subjects (44.4%) were married at the age less than 20 years whereas 55.6% of subject's were married

after 21years. More than half of the subjects (55.6%) were staying with the patient for more than 21 years whereas 44.4% of subjects were staying with their patient for less than 20years respectively. Majority of the subjects (69.4%) belonged to nuclear family, 22.2% of subjects belonged to joint family and 8.3% of subjects were living in broken family respectively. Majority of the subjects (63.9%) were having two children, 2.8% of subjects were not having any child, 16.7% of subjects were having single child, 13.9% of subjects were having three children and 2.8% of subjects were having four children respectively. Majority of the subjects (83.3%) of subjects were staying in rural area and 16.7% of subjects were staying in urban area respectively.

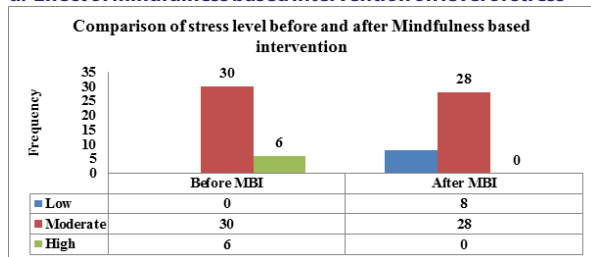
**b. Stress level of subjects at baseline (before intervention)**

Assessment of the stress level using perceived stress scale revealed that majority of the subjects (83.3%) were experiencing moderate level of stress and 16.7% of subjects were having high level of stress in before mindfulness based intervention. Descriptive statistics showed that, the mean PSS stress score of subjects before intervention (at baseline) was 22.80±3.37 with median of 22 and interquartile range of 5.50 respectively.

**c. Level of mindfulness before the intervention (at baseline)**

Five Facet Mindfulness Questionnaire revealed that 27.8% of subjects were having low level of mindfulness, 72.2% of subjects were having high moderate level of mindfulness before intervention, none of the subjects had high level of mindfulness. The mean Mindfulness (FFMQ) score before the intervention (at baseline) was 95.6±8.8 with median of 95.5 and interquartile range of 12.50 respectively.

**d. Effect of mindfulness based intervention on level of stress**



**Figure 7: Frequency distribution of level of stress before and after Mindfulness based intervention (n=36)**

**a. Effect of mindfulness based intervention on mindfulness**

**Table 1: Comparison of mean scores of five facets of mindfulness before and after Mindfulness based intervention (n=36)**

Five Facets of mindfulness (FFMQ)	Before intervention Mean ±SD	After intervention Mean ±SD	Mean difference	Paired 't' test statistics
Observing	24.7±3.37	17.0833±2.08909	7.6	t=12.3 df=35 p=0.001**
Describing	26.36±3.87	19.3611±2.62028	7.0	t=7.519 df=35 p=0.001**
Acting with awareness	18.1944±2.57260	20.2778±2.96273	-2.0	t=-3.539 df=35 P=0.001**
Non judging of inner experience	27.4722±4.37190	21.5278±3.12123	5.9	t=5.848 df=35 P=0.001**
Non reactivity to inner experience	27.0278±4.01772	17.3333±2.75681	9.6	t=11.108 df=35 P=0.001**

**Level of significance p<0.05 level\* <0.001\*\* Paired't test**

**a. Correlation between pre-intervention stress and mindfulness scores of subjects**

No statistically significant correlation was found between pre intervention PSS stress score and mindfulness (FFMQ) scores (r=0.001 p=0.9).

**Discussion**

The findings of the study revealed that 83.3% of subjects were experiencing moderate level of stress and 16.7% of subjects were experiencing high level of stress. Similar findings were reported by Nagesh VA<sup>3</sup> that the mean stress score of wives of alcoholics was 27.38± 2.9. The findings showed that the wives of alcoholics had severe stress level which needs significant attention by family members and healthcare providers.

Present study revealed that, majority of the subjects (72.2%) were having moderate level of mindfulness and less than one third of subjects (27.8%) were having low level of mindfulness, none of the subjects had high level of mindfulness. The mean Mindfulness (FFMQ) score at baseline was 95.6±8.8. Similar study findings were reported by Shapiro et al<sup>2</sup> that the wives of alcoholics had low level of mindfulness with mean mindfulness scores of the 85.6±2.8.

Present study findings revealed that after mindfulness based intervention, none of the subjects experienced high level of stress, majority of the subjects (77.8%) was experiencing moderate level of stress and 22.2% of subjects were experiencing low level of stress. There was a significant difference in the level of stress among subjects after mindfulness based intervention. Similar study conducted by Nyklíček I<sup>1</sup> reported significant lowering of stress level following mindfulness-based stress reduction in a therapeutic community that is measured by reduction in the awakening salivary cortisol levels (p=0.001). The findings revealed that mindfulness-based stress reduction intervention may influence the physiological response to stress thereby lowering the stress.

There was a significant difference in the mean scores of five facets of mindfulness before and after mindfulness based intervention. Similar study was conducted by Nyklíček I et al<sup>1</sup> the effects of mindfulness-based stress reduction intervention on mindfulness, psychological well-being and quality of life revealed that the intervention resulted in significantly stronger reductions of perceived stress (p = 0.016) and vital exhaustion (p = 0.001) and stronger elevations of positive affect (p = 0.006), quality of life (p = .009), as well as mindfulness (p = 0.001).

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