

## ANALYSIS OF THE CHANGES ON DEPRESSION LEVEL IN RESPONSE TO DIFFERENT MEDITATION TECHNIQUES AMONG MIDDLE AGED MEN

*C. Muthukrishnan, Ph.d -Scholar, Center for Yoga Studies, Annamalai University  
Dr. G. Kumaran (Research Guide), Associate Professor, Department of Physical Education, Annamalai University*

### ABSTRACT

*The present study is undertaken primarily to analyze the effects of mindfulness and mantra meditation on depression level among middle aged man. To achieve the purpose of the study, the investigator chosen sixty middle aged men as participants in the age group of 45 to 50 years. The selected subjects (N=60) were classified into three groups of twenty each (n = 20) at random. Group-I underwent mindfulness meditation, group-II underwent mantra meditation and group-III acted as control. The data on depression was collected prior to and immediately after 12 weeks of meditation from the experimental and control groups. The data collected from the experimental and control groups on depression was statistically analyzed by paired 't' test. Further, percentage of changes was calculated. In addition analysis of covariance (ANCOVA) was applied to find out the significant difference between groups. Whenever the adjusted 'F' ratio value was found to be significant, the Scheffe'S test was applied. The middle aged men's depression level was decreased greatly due to regular practices (12 weeks) of mindfulness and mantra meditation.*

**Key Words:** *Mindfulness and mantra meditation, Depression and Middle aged men*

### INTRODUCTION

Aging is a complicated process and extremely individualized, with the onset or absence of illness representing only one element in quality of life in middle age. While aerobic fitness is partly determined by genetics, and to that extent, the luck of the universe, much of a person's fitness, especially by middle age, depends on physical activity. So, exercising during midlife, especially if we haven't been, can pay enormous later-life benefits. Someone in midlife who moves from the least fit to the second-to-the-least-fit category of fitness gets more benefit," in terms of staving off chronic diseases, than someone who moves to the highest fitness grouping from the second-highest. It's good to stay active throughout life but adopting healthy choices in adulthood has significant benefits, based on a recent study that links increased physical activity in middle age to reduced risk of death.

There have been multiple studies that have combined the many aspects of *Yoga* into general *Yoga* sessions in order to investigate its effects on depression. Although no significant direct improvement was found in global or physical self-esteem, *Yoga* practices may provide a source of distraction from daily life and enhancement of self-esteem, helping

to focus on the simplicity of movement and forget about work responsibility and demands, and thus reduce anxiety, depression and thus reduce anxiety as well as depression (Daley & MacArthur, 2009).

Although there are a number of reports on the effect of mindfulness and mantra meditation on pulmonary functions, very few studies have been undertaken on the effect of mindfulness and mantra meditation on psychological variables. Most studies have several limitations like lack of adequate controls, small sample size, inconsistencies in baseline and different methodologies, etc. and therefore large trials with improved methodologies are required to confirm these findings. Hence, this study was performed to evaluate whether programmed mindfulness and mantra meditation are effective in altering psychological profiles among middle aged man. As there are few studies on Yoga meditation is concern, the investigator selected mindfulness and mantra meditation as independent variable in order to determine its possible beneficial effect on depression level of middle aged men.

## **METHODOLOGY**

### **Subjects and Variables**

To achieve the purpose of the study, the investigator chosen sixty middle aged men as participants in the age group of 45 to 50 years. The selected subjects (N=60) were classified into three groups of twenty each ( $n = 20$ ) at random. Group-I underwent mindfulness meditation, group-II underwent mantra meditation and group-III acted as control. The data on depression was collected by using Geriatric Depression Scale (Yesavage et al., 1982) prior to and immediately after 12 weeks of training from the experimental and control groups.

### **Training Protocol**

Subject were divided in to three groups namely mindfulness and mantra meditation and control group. Twenty subjects had undergone mindfulness meditation and the remaining twenty subjects had undergone mantra meditation six days in a week for 12 weeks. Subjects had undergone training every day an hour (6 am to 7 am).

### **Experimental Design and Statistical Technique**

The experimental design used in this study was random group design involving 60 subjects, who were divided at random into three groups of twenty subjects each. The data collected from the experimental and control groups on depression was statistically analyzed by paired 't' test. Further, percentage of changes was calculated. The data collected from the

three groups prior to and post experimentation on depression level was statistically analyzed to find out the significant difference if any, by applying the analysis of covariance (ANCOVA). Since three groups were involved, whenever the obtained 'F' ratio value was found to be significant for adjusted post test means, the Scheffe's test was applied as post hoc test to determine the paired mean differences, if any. In all the cases the level of confidence was fixed at 0.05 for significance.

## RESULTS

The result obtained by paired 't' test as well as the percentages of changes on depression level of the chosen experimental and control groups are in table-I.

**Table—I: Paired 'T' Test Results on Depression Level of Experimental and Control Groups**

Group	Test	N	Mean	SD	DM	't' - ratio	%
Mindfulness Meditation Group	Pre	20	21.47	4.17	3.14	14.55*	14.63
	Post		18.33	4.05			
Mantra Meditation Group	Pre	20	21.67	4.05	1.87	14.00*	8.63
	Post		19.80	3.95			
Control Groups (CG)	Pre	20	21.40	4.32	0.53	1.52	2.48
	Post		21.93	3.90			

Table value for df 19 is 2.09(\*significant)

The mindfulness meditation, mantra meditation and control group's pre and post data on depression level vary to a great extent since the mindfulness meditation (14.55), mantra meditation (14.00) group's obtained 't' values are better than table value 2.09.

The depression level was decreased greatly due to regular practices (12 weeks) of mindfulness meditation (14.63%), mantra meditation (8.63%).

By using ANCOVA statistics, the depression level of mindfulness and mantra meditation and control group's are analyzed and put on view in table –II.

**Table-II: ANCOVA Results on Depression Level of Experimental and Control Groups**

Mean	Mindfulness Meditation Group	Mantra Meditation Group	Control Group	S o V	SS	df	Mean squares	'F' ratio
Adjusted Post test	18.24	19.53	21.90	B	103.26	2	51.63	63.74*
				W	45.53	56	0.81	

(Table value for df 2&56 = 3.16) \*Significant(.05 level)

The ANCOVA results showed that the mindfulness meditation, mantra meditation and control group's adjusted (posttest) mean (18.24, 19.53 & 21.90) data on depression level vary to a great extent because the found 'F' value 63.74 is higher than table value 3.16.

The Scheffe's test result on depression level of mindfulness meditation, mantra meditation and control groups are displayed in table-III.

**Table-III: Scheffe's Test on Depression Level of Experimental and Control Groups**

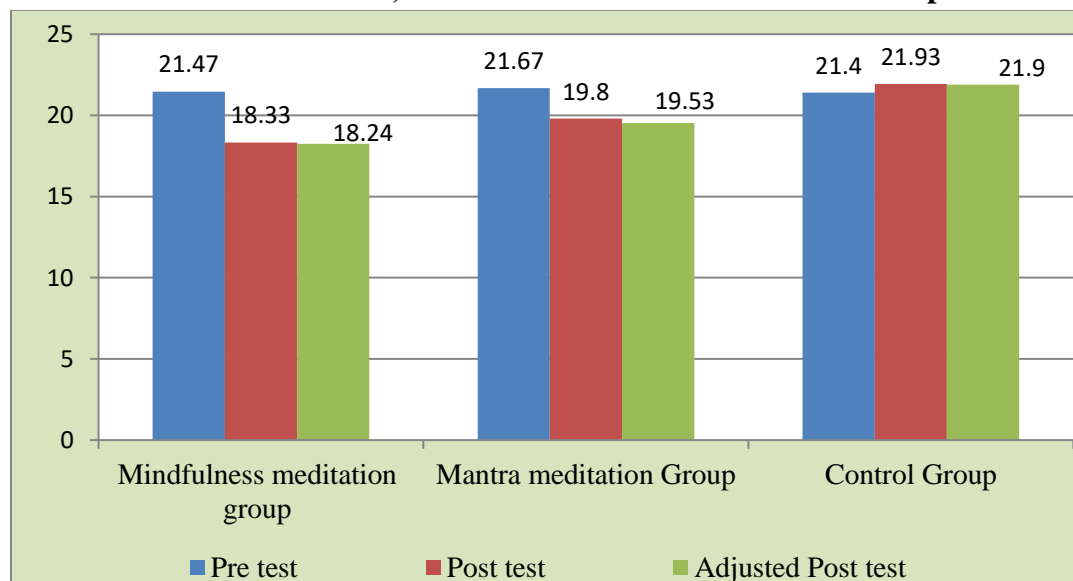
Adjusted Post Test Means			DM	CI
Mindfulness Meditation Group	Mantra Meditation Group	Control Group		
18.24	19.53		1.29*	0.72
18.24		21.90	3.66*	0.72
	19.53	21.90	2.37*	0.72

\*Significant

The Scheffe's test proved that, due to mindfulness meditation and mantra meditation the middle aged men's depression level decreased to a great extent, since the mean difference (1.29 & 3.66) are greater to CI (0.72) value. However, mindfulness meditation was better than mantra meditation in decreasing depression level of middle aged men.

The mindfulness meditation, mantra meditation and control group's pre, post and adjusted post test data on depression level are graphically represented in figure-I.

**Figure-I: The Pre, Post and Adjusted Post Test Data on Depression Level of Mindfulness Meditation, Mantra Meditation and Control Groups**



## DISCUSSION

Mindfulness, the process by which one attends to present-moment sensations, thoughts, emotions and experiences in a non-judgmental manner (e.g., Kabat-Zinn et al., 1992; Marlatt and Kristeller, 1999), has been reported to exert beneficial effects on health and well-being, both in non-clinical and clinical samples. Some evidence suggests that emotional regulation, the set of strategies and processes that shape the experience and expression of emotions (Gross, 1998), impact on well-being (Gross & John, 2003) and may play a mediating role between mindfulness and depression. On the one hand, links have been reported between mindfulness and emotional regulation in clinical samples (Desrosiers et al., 2013), in meditators (Tran et al., 2014), and in the general population (Freudenthaler et al., 2017). Recent evidence indicates that worry decreases when dispositional mindfulness increases, and that mindfulness meditation is effective in reducing the negative impact of distressing images in habitual worriers (Verplanken and Fisher, 2014). Furthermore, mindfulness-based interventions appear to reduce worry in individuals with significant anxiety-related distress (Lenze et al., 2014).

Meta-analysis in 2014 on trait anxiety (which is strongly correlated with depressive symptoms), (Knowles & Olatunji, 2020) however, reported transcendental meditation (a mantra-based meditation technique) to be more effective than most active control treatments. (Orme-Johnson & Barnes, 2014) In a recent systematic review of mantra meditation for mental health in the general population, (Lynch et al., 2018) eight of 11 studies reported significant improvements on outcomes of depression. some randomized trials reported no effect of mantra meditation compared to an active control group; (Alexander et al., 1989, Chhatre et al., 2013, Jayadevappa et al., 2007, Schneider et al., 2012) others report small to moderate effect sizes. (Bormann et al., 2006, Bormann et al., 2018, Wolf & Abell, 2003). Mantra meditation mainly led to improvements in mood, followed by improvements in neurovegetative and then cognitive symptoms of depression. These promising results, the untapped potential of traditional aspects of mantra meditation, and the current scarcity of methodologically sound trials make further exploration of mantra-based meditation undoubtedly desirable.

## CONCLUSIONS

The middle aged men's depression level was decreased greatly due to regular practices (12 weeks) of mindfulness meditation (14.63%), mantra meditation (8.63%). However, mindfulness meditation was better than mantra meditation in decreasing depression level of middle aged men. Researches also indicate that mindfulness meditation and mantra meditation practices can be used as a therapeutic technique to cure psychological disorders. In the modern lifestyle, where psychological problems are on the rise, the technique of mindfulness and mantra meditation may serve as a real boon for mankind.

## REFERENCES

- Alexander, C.N. et al., (1989). Transcendental meditation, mindfulness, and longevity: An experimental study with the elderly, *J. Pers. Soc. Psychol.*, 57(6): 950-964,
- Bormann, J.E. et al., (2006). Effects of spiritual mantram repetition on HIV outcomes: A randomized controlled trial, *J. Behav. Med.*, 29(4): 359-376.
- Bormann, J.E. et al., (2018). Individual treatment of posttraumatic stress disorder using mantram repetition: A randomized clinical trial, *Am. J. Psychiatry*, 175(10): 979-988.
- Chhatre, S. et al., (2013). Effects of behavioral stress reduction Transcendental Meditation intervention in persons with HIV, *AIDS Care*, 25(10): 1291-1297.
- Desrosiers A. (2013). Mindfulness and emotion regulation in depression and anxiety: Common and distinct mechanisms of action. *Depress. Anxiety*, 30: 654-661.
- Freudenthaler L., Turba J. D., Tran U. S. (2017). Emotion regulation mediates the associations of mindfulness on symptoms of depression and anxiety in the general population, *Mindfulness*, 8: 1339-1344.
- Gross J. J. (1998). Antecedent- and response-focused emotion regulation: divergent consequences for experience, expression, and physiology, *J. Pers. Soc. Psychol.*, 74 224-237.
- Gross J. J., John O. P. (2003). Individual differences in two emotion regulation processes: implications for affect, relationships, and well-being, *J. Pers. Soc. Psychol.*, 85: 348-362.
- Jayadevappa, R. et al., (2007). Effectiveness of transcendental meditation on functional capacity and quality of life of African Americans with congestive heart failure: A randomized control study, *Ethn. Dis.*, 17(1): 72-77.

- Kabat-Zinn J. et al., (1992). Effectiveness of a meditation-based stress reduction program in the treatment of anxiety disorders, *Am. J. Psychiatry*, 149: 936–943.
- Knowles, K.A. & Olatunji, B.O. (2020). Specificity of trait anxiety in anxiety and depression: Meta-analysis of the State-Trait Anxiety Inventory, *Clin. Psychol. Rev.*, 82.
- Lenze E. J., Hickman S., Hershey T., Wendleton L., Ly K., Dixon D., et al. (2014). Mindfulness-based stress reduction for older adults with worry symptoms and co-occurring cognitive dysfunction, *Int. J. Geriatr. Psychiatry*, 29: 991–1000.
- Lynch, J. et al., (2018). Mantra meditation programme for emergency department staff: A qualitative study, *BMJ Open*, 8(9).
- Marlatt G. A., Kristeller J. L. (1999). “Mindfulness and meditation,” In *Integrating Spirituality into Treatment: Resources for Practitioners*, ed. Miller W. R. (Washington: American Psychological Association), 67–84.
- Orme-Johnson, D.W. and Barnes, V.A. (2014). Effects of the transcendental meditation technique on trait anxiety: A meta-analysis of randomized controlled trials, *J. Altern. Complement. Med.*, 20(5): 330-341.
- Schneider, R.H. et al., (2012). Stress reduction in the secondary prevention of cardiovascular disease: Randomized, controlled trial of transcendental meditation and health education in blacks, *Circ. Cardiovasc. Qual Outcomes.*, 5(6): 750-758.
- Tran U. S., Cebolla A., Glück T. M., Soler J., Garcia-Campayo J., von Moy T. (2014). The serenity of the meditating mind: a cross-cultural psychometric study on a two-factor higher order structure of mindfulness, its effects, and mechanisms related to mental health among experienced meditators, *PLoS One*, 9: e110192.
- Verplanken B., Fisher N. (2014). Habitual worrying and benefits of mindfulness, *Mindfulness*, 5: 566–573.
- Wolf, D.B. & Abell, N. (2003). Examining the Effects of Meditation Techniques on Psychosocial Functioning, *Res. Soc. Work Pract.*, 13(1): 27-42.
- Yesavage, J.A. (1982). Geriatric depression scale, Retrieved on December 11, 2008, from [http://en.wikipedia.org/wiki/Geriatric\\_Depression\\_Scale](http://en.wikipedia.org/wiki/Geriatric_Depression_Scale).