National Journal of Physiology, Pharmacy and Pharmacology

RESEARCH ARTICLE

Effectiveness of Om chanting on stress and cognition in young adults with type D personality

Swathi C[1], Naveen Aalasyam[1], Roja Rani[2]

[1]Department of Pharmacology, Mamata Medical College, Khammam, Telangana, India, [2]Department of Pharmacology, ESIC Medical College, Sanathnagar, Telangana, India

Correspondence to: Naveen Aalasyam, E-mail: naveenalasyam@gmail.com

Received: August 02, 2021; **Accepted:** August 26, 2021

ABSTRACT

Background: Om is having immense importance in Hindu tradition as well as in all yoga techniques. Every yoga technique begins with pronouncing the Om. The three letters A, U, and M combined together to form the word Om and it orderly represents the past, present, and future. **Aim and Objectives:** The study aimed to provide further evidence for beneficial effects of Om chanting on stress and cognitive functions in young adults with type D personality. **Materials and Methods:** A total of 30 young adults with type D personality will be included in the present study. Participants will be screened for type D personality using DS 14 questionnaire. Om chanting was performed once in a day at 8:00 am daily. Stress levels were assessed using perceived stress scale. Spatial and verbal memory was assessed using spatial and verbal memory test. **Results:** There was significant improvement in the levels of cognitive functions that are spatial memory and verbal memory scores in the participants of intervention group when compared to control group. There was significant decline in the stress scores in the participants in the intervention group when compared with control group. **Conclusion:** The study explains beneficial effects of Om chanting. More works have to be undertaken to recommend implementation of Om chanting in daily lifestyle.

KEY WORDS: Cognition; Memory; Stress; Om Chanting

INTRODUCTION

Om is having immense importance in Hindu tradition as well as in all yoga techniques.[1] Every yoga technique begins with pronouncing the Om. The three letters A, U, and M combined together to form the word Om and it orderly represents the past, present, and future.[2,3] If any individual more negative thoughts and inhibits himself from the society, he will be considered as individual with type D personality.[4,5] Type D personalities are considered to be more prone for cardiovascular disorders that are the reason why this personality has immense importance.[6] There is a strong need for early diagnosis of this personality so that immediate intervention can be started in time. Earlier studies explained that practice of Om chanting has relaxing effect through inactivating the sympathetic nerve and stimulating the vagal activity.[7-9] Om chanting not only relieves stress but also improve the cognitive activities such as learning and memory.[10] As scientific evidence regarding the effects of Om chanting are sparse, there is a need for more studies to support implementation of Om chanting in everyday lifestyle. The aim of this study is to provide further evidence for positive effects of Om chanting on psychological parameters and cognitive functions in young adults with Type D personality.

Access this article online	
Website: www.njppp.com	Quick Response code
DOI: 10.5455/njppp.2021.11.08284202126082021	

MATERIALS AND METHODS

Study Design

This was an experimental study.

Sampling Method

This was convenient sampling.

Study Participants

A total of 30 young adults with type D personality will be included in the study. All formalities were completed from the participants as per the guidelines issued by ICMR. Participants will be screened for type D personality using DS 14 questionnaire.[10] The following criteria will be used for selection of participants.

Inclusion Criteria

The following criteria were included in the study:
1. Male and females within the age group of 18–25
2. Type D personality
3. Not suffering with any major disease
4. Not using any medications
5. Not undergoing any alternative therapy
6. Willing to perform Om chanting regularly.

After recruiting, the participants will be grouped into control (wait list) and intervention groups with 15 participants in each group. After recording baseline values, Om chanting will be performed by the participants for 16 weeks. Post-intervention values will be recorded after 8 weeks and after 16 weeks of intervention in both groups and compared.

Om Chanting

Om chanting was performed once in a day at 8:00 am daily under the supervision of the expert teacher.[11]

Outcome Measures

Assessment of psychological parameters

Stress levels were assessed using perceived stress scale.[12]

Assessment of cognitive functions

Spatial and verbal memory test

Spatial and verbal memory was assessed using spatial and verbal memory test.[11,13]

Ethical Consideration

The study protocol was approved by an institutional human ethical committee. Confidentiality of data was maintained.

Data Analysis

Data were analyzed using SPSS 20.0 version. Demographic data were presented as frequency and percentage. Student *t*-test was used to assess the significance of the difference between the groups.

RESULTS

The results are presented in Tables 1 and 2. Table 1 presents the results of the control group. Table 2 presents the results of intervention group. Spatial memory was not significantly different in pre- and postconditions in the control group. Spatial memory was significantly improved after the intervention in the intervention group. Verbal memory was not significantly different in pre- and postconditions in the control group. Verbal memory was significantly improved after the intervention in the intervention group. Stress score was not significantly different in pre- and postconditions in the control group. Stress score was significantly decreased after the intervention in the intervention group.

DISCUSSION

The aim of this study is to provide further evidence for beneficial effects of Om chanting on stress and cognitive functions in young adults with type D personality. There was significant improvement in the levels of cognitive functions that are spatial memory and verbal memory scores in the participants of intervention group when compared to control group. There was significant decline in the stress scores in the participants in the intervention group when compared with the control group. The importance of management of psychological stress is increasing in recent years. It was reported that along with regular clinical examination it is

Table 1: Pre- and post-intervention scores in control group

Parameter	Pre-intervention (*n*=15)	Post-intervention (*n*=15)	*P*-value
Verbal memory	4±0.129	4±0.258	1.0000
Spatial memory	5±0.113	5±0.340	1.0000
Stress score	18±1.55	17±1.29	0.6238

Data were presented as Mean and SEM

Table 2: Pre- and post-intervention scores in intervention group

Parameter	Pre-intervention (*n*=15)	Post-intervention (*n*=15)	*P*-value
Verbal memory	4.22±0.258	6.26±0.516	0.0014**
Spatial memory	4.64±0.258	6.33±0.516	0.0067**
Stress score	18±1.55	12±0.77	0.0017**

Data were presented as Mean and SEM (**P<0.01)

needed to assess the psychological functions also. When there is more negative emotions, the individual must be diagnosed at the earliest and offer the adequate treatment. Individual with more negative affectivity and social inhibition is called as type D personality. These individuals are more prone to develop the cardiac disorders. Hence, there is a strong need to diagnose these individuals at the earliest to prevent cardiac disorders by offering effective treatment.

Om has immense importance in Indian tradition. Lord Shiva was reported to practice yoga and Om chanting and he is called as Aadi yogi.[14] Chanting Om was reported to activate certain brain areas that are involved in cognitive functions. [15,16] Most important areas are hippocampus and cerebellum. Magnetic resonance imaging studies also confirmed this effect on cognitive functions.[17] Further, the relaxing effect of Om chanting also has prominent supporting studies. [17] It was reported that chanting Om for long-term basis effectively regulates autonomic activity and also inhibits the stress axis.[18,19] Thus the individual feels more relaxed as it inhibits the stress axis. It was also reported that mental health is improved after Om chanting. Further, overall quality life also improved, followed by Om chanting. The present study results support views of earlier studies.

CONCLUSION

The study observed significant positive impact of on both psychological and cognitive aspects of individuals. There is a strong need to conduct more research in this area to implement chanting practice in day-to-day life.

REFERENCES

1. Kumar S, Nagendra HR, Manjunath NK, Naveen KV, Telles S. Meditation on OM: Relevance fron ancient texts and contemporary science. Int J Yoga 2010;3:2-5.
2. Swami S, Yoga J. A Comprehensive Treatise on Mantra-Sastra. Himalayas, India: A Divine Life Society Publication; 2005.
3. Swami C. Mandukya Upanishad. Mumbai: Sachin Publishers; 1984.
4. Denollet J. Interpersonal sensitivity, social inhibition, and Type D personality: How and when are they associated with health? Psychol Bull 2013;139:991-7.
5. Denollet J, Conraads VM. Type D personality and vulnerability to adverse outcomes in heart disease. Cleve Clin J Med 2011;78 Suppl 1:S13-9.
6. Sher L. Type D personality: The heart, stress, and cortisol. QJM 2005;98:323-9.
7. Kraus T, Hosl K, Kiess O, Schanze A, Kornhuber J, Forster C. BOLD fMRI deactivation of limbic and temporal brain structures and mod enhancing effect by transcutaneous vagus nerve stimulation. J Neural Transm 2007;114:1485-93.
8. Nahas Z, Marangell LB, Husain MM, Rush AJ, Sackeim HA, Lisanby SH, *et al*. Two-year outcome of vagus nerve stimulation (VNS) for treatment of major depressive episodes. J Clin Psychiatry 2005;66:1097-104.
9. Jobst BC. Electrical stimulation in epilepsy: Vagus nerve and brain stimulation. Curr Treat Options Neurol 2010;12:443-53.
10. Denollet J. DS14: Standard assessment of negative affectivity, social inhibition, and Type D personality. Psychosom Med 2005; 67:89-97.
11. Manjunath NK, Telles S. Spatial and verbal memory test scores following yoga and fine arts camps for school children. Indian J Physiol Pharmacol 2004;48:353-6.
12. Cohen S, Kamarck T, Mermelstein R. A global measure of perceived stress. J Health Soc Behav 1983;24:385-96.
13. Pravitha P, Sailesh KS, Joy A, Mukkadan JK. Effect of chanting and strotram on perceived stress and cognitive functions in underweight females. Int J Res Ayurveda Pharm 2017;8:104-8.
14. Swami C. Katha Upanisad. Mumbai: Central Chinmayananda Mission; 2002.
15. Kearney PM, Whelton M, Reynolds K, Muntner P, Whelton PK, He J. Global burden of hypertension: Analysis of worldwide data. Lancet 2005,365:217-23.
16. Telles S, Desiraju T. Recording of auditory middle latency evoked potentials during the practice of meditation with the syllable "OM". Indian J Med Res 1993;98:237-9.
17. Harne BP. Higuchi fractal dimension analysis of EEG signal before and after OM chanting to observe overall effect on brain. Int J Elect Comput Eng 2014;4:585-92.
18. Shum DH, McFarland KA, Bain JD. Construct validity of eight tests of attention: Comparison of and closed head injured samples. J Clin Exp Clin Neuropsychol 1990;4:151-62.
19. Ghaligi S, Nagendra HR, Bhatt R. Effect of Vedic chanting on memory and sustained attention. Indian J Tradit Knowl 2006;5:177-80.

How to cite this article: Swathi C, Aalasyam N, Rani R. Effectiveness of Om chanting on stress and cognition in young adults with type D personality. Natl J Physiol Pharm Pharmacol 2021;11(10):1196-1198.

Source of Support: Nil, **Conflicts of Interest:** None declared.