

Original Research Article

Effect of pre-operative Om listening on patient depression, anxiety, and stress levels
TalariMurali Krishna¹,Bogyam Renuka², Mahesh Gajula³,Vinilraj KJ⁴¹Associate Professor, Department of General surgery, Government Medical College, Anantapur,India²Assistant Professor, Department of Obstetrics and Gynecology, Government Medical College, Anantapur,India³Associate Professor, Department of Forensic Medicine, Government Medical College, Anantapur,India⁴Postgraduate Student, Department of Forensic Medicine, Government Medical College, Anantapur,India

Received: 22-05-2021 / Revised: 23-06-2021 / Accepted: 28-07-2021

Abstract

Background: There are multiple benefits when chant or listen to Om. Om listening and chanting activate brain areas such as the hippocampus and improves the neuro-cognitive parameters. **Objectives:** The present study was undertaken to observe the effect of pre-operative Om listening on patient depression, anxiety, and stress levels. **Methods:** The present study involved 24 preoperative patients in the age group of 30 to 50 years of age from the general surgery and Gynecology departments, Government Medical College, Anantapur,India irrespective of the surgery they are going to undergo. The psychological parameters were assessed using DASS 21 scale. **Results:** The two-tailed P-value is less than 0.0001 for depression score. By conventional criteria, this difference is considered to be extremely statistically significant. The two-tailed P value equals 0.0193 for the anxiety score. By conventional criteria, this difference is considered to be statistically significant. The two-tailed P value equals 0.0011 for the stress score. By conventional criteria, this difference is considered to be very statistically significant. **Conclusion:** There is a significantly decrease in the depression and stress levels but not anxiety levels followed by Om listening. However, there is a decrease in the anxiety scores. The study recommends further detailed studies with multi centers and a higher sample size to recommend the Om listening.

Keywords: Om chanting, Stress, Anxiety, Depression, Patients.

This is an Open Access article that uses a fund-ing model which does not charge readers or their institutions for access and distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>) and the Budapest Open Access Initiative (<http://www.budapestopenaccessinitiative.org/read>), which permit unrestricted use, distribution, and reproduction in any medium, provided original work is properly credited.

Introduction

Depression, anxiety, and stress levels are intervened with each other and they are negative psychological emotions. It was reported that there must be a proper assessment of psychological parameters along with a general physical examination of these surgery patients. Because the psychological parameters influences on treatment outcomes[1].Further, unmanaged psychological parameters will cause a decrease in the quality of life of the patients[2].Hence, managing the psychological status of the patients is most essential[3]. Music interventions were reported to be effective in the management of psychological stress in patients[4].Om has a sacred place in Hinduism and also in yoga. The majority of yogic techniques involve chanting of Om. There are multiple benefits when chant or listen to Om[5]. Om listening and chanting activates brain areas such as the hippocampus and improves the neurocognitive parameters[6].There is enough scientific evidence to support the implementation of Om in the management of psychological disorders like depression, anxiety, and stress[7].Om chanting and listening effects through the brain structures and manage stress and produce relaxation[8,9]. The present study was undertaken to observe theeffect of pre-operative Om listening on patient depression, anxiety, and stress levels.

Materials and methods:**Study design:** Experimental study**Study setting:** Government Medical College and General Hospital, Anantapur,India**Sampling method:** Convenient sampling

Study population: The present study involved 24 preoperative patients within the age group of 30 to 50 years of age from the general surgery and OBG departments irrespective of the surgery they are going to undergo. Both males and females were included in the study. Informed consent was obtained from all the patients before the study. Willing participants were included in the study. Patients with severe complications were excluded from the study.

Om Listening:The patients were subjected to listen to Om using Om chanting box designed by Vivekananda Yoga University, Bengaluru. This is a standardized box for Om listening. The study followed the standard procedure mentioned in the literature[10].

Assessment of depression, anxiety, and stress:The psychological parameters were assessed using DASS 21 scale. This is a standardized and free scale to assess negative psychological emotions like depression, anxiety, and stress[11].

Ethical consideration:The study protocol was approved by an institutional human ethical committee. Informed consent was obtained from all the participants. Confidentiality of data was maintained.

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

Results

The results were presented in Tables 1 to 3. Tables 1 and 2 presents the demographic data of the participants. The two-tailed P-value is less than 0.0001 for depression score. By conventional criteria, this difference is considered to be extremely statistically significant. The two-tailed P value equals 0.0193 for the anxiety score. By conventional criteria, this difference is considered to be statistically significant. The two-tailed P value equals 0.0011 for the stress score. By conventional criteria, this difference is considered to be very statistically significant.

*Correspondence

Dr. Bogyam Renuka

Assistant Professor, Department of Obstetrics and Gynecology, Government Medical College, Anantapur,India

E-mail: drenukamadhusudan@gmail.com

Table 1: Frequency distribution of patients undergoing different surgical procedures

S.No	Type of surgery	Number of patients (n=24)
1	Hysterectomy with bilateral Salpingo oophorectomy	10 (41.66)
2	Gastroenterology Procedures	6 (25)
3	Gallbladder Removal.	6 (25)
4	Appendectomy.	2 (8.33)

Data was presented as frequency and percentage

Table 2: Frequency distribution of male and female patients undergoing different surgical procedures

S.No	Type of surgery	Males (n=5)	Females (n=19)
1	Hysterectomy with bilateral Salpingo oophorectomy	0(0)	10 (52.63)
2	Gastroenterology Procedures	1 (20)	5 (26.31)
3	Gallbladder Removal.	3(60)	3 (15.79)
4	Appendectomy.	1(20)	1 (5.23)

Data was presented as frequency and percentage

Table 3: Depression, anxiety and stress levels in male and female patients

Parameter	Before (n=24)	After (n=24)	P value
Depression	19±0.45	16±0.27	<0.0001***
Anxiety	17±1.08	14±0.58	0.0193
Stress	21±0.97	17±0.61	0.0011**

Data was presented as Mean and SEM. (**P<0.01 is significant, ***P<0.001 is significant)

Discussion

The present study was undertaken to observe the effect of pre-operative Om listening on patient depression, anxiety, and stress levels. There was a significant decrease in the depression, stress levels followed by the Om listening. The anxiety levels were decreased but not statistically significant. Om chanting was reported to be beneficial for both physiological and psychological functions[12]. Om listening and chanting both are reported to be effective in activating the brain areas related to cognition. These areas include the hippocampus, cerebellum, basal ganglia, and hypothalamus mainly. There was a significant reduction in the pulse rate and sympathetic activity followed by the Om meditation[13]. It was reported that Om listening affects functions of the autonomic system and balances the activity of the sympathetic and vagus. There will be inhibition of sympathetic activity and reduction in the pulse rate and blood pressure within the normal limits in individuals who practice Om chanting on regular basis[14]. Om listening and chanting was proved to offer a relaxation effect[15]. Vedic letters are very sacred and powerful. However, they must be practiced properly manner under the supervision of a guru. Hence, a present study we have used a standardized box which produces an adequate frequency of sound which gives a healing effect. Earlier studies reported that followed by Om chanting there will be a reduction in anxiety levels[16-18]. The present study results support earlier studies as we have observed similar results.

Conclusion

There is a significantly decrease in the depression and stress levels but not anxiety levels followed by Om listening. However, there is a decrease in the anxiety scores. The study recommends further detailed studies with multi centers and a higher sample size to recommend the Om listening.

References

- Holm JE, Holroyd KA, Hursey KG, Penzien DB. The role of stress in recurrent tension headache. *Headache*. 1986;26:160-167.
- Aamir S., Aisha. Co-morbid anxiety and depression among pulmonary tuberculosis patients. *J. Coll. Physicians Surg. Pak*. 2010; 20:703-704.
- Aggarwal AN. Health-related quality of life: a neglected aspect of pulmonary tuberculosis. *Lung India*. 2010; 27:1-3.
- Bradt J, Dileo C. Music interventions for mechanically ventilated patients. *Cochrane Database Syst Rev*. 2014; 12:CD006902.

- Kumar S, Nagendra H, Manjunath N, Naveen K, Telles S. Meditation on OM: Relevance from ancient texts and contemporary science. *Int J Yoga*. 2010;3:2-5
- Kalyani BG, Venkatasubramanian G, Arasappa R, Rao NP, Kalmady SV, Behere RV et al. Neurohemodynamic correlates of 'OM' chanting: A pilot functional magnetic resonance imaging study. *Int J Yoga*. 2011;4:3-6.
- Wolf DB. Effects of the Hare Krsna Maha Mantra on Stress, Depression, and the Three Gunas. USA: Florida State University, 1999, 558p.
- Deekshitulu PV. Stress management for mantra techniques. *MOJ Yoga PhysTher*. 2017;2:42-3.
- Naveen Aalasyam, SaiSailesh Kumar Goothy, Mukkadan J K. Effectiveness of structured "Om" chanting and listening program on psychological parameters in pre-hypertensive women. *National Journal of Physiology, Pharmacy and Pharmacology*. 2021; 11(10):1
- Lovibond SH, Lovibond PF. Manual for the Depression Anxiety Stress Scales. 2nd ed. Sydney: Psychology Foundation, 1995.
- Bernardi L, Fattorini L, et al. Effect of rosary prayer and yoga mantras on autonomic cardiovascular rhythms: comparative study. *Br Med J*. 2001; 323:22-9.
- Telles S, Nagendra HR. Autonomic changes during 'OM' meditation. *Indian J Physiol Pharmacol*. 1995;39:418-20.
- 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;98:237-239.
- Bhavna P Harne. Higuchi Fractal Dimension Analysis of EEG Signal before and after OM Chanting to Observe Overall Effect on Brain. *International Journal of Electrical and Computer Engineering*. 2014;4(4):585-592.
- Saltz E. Manifest anxiety-have we missed the data. *Psychol Rev*. 1970;77:568-573.
- Wallace RK, Benson H, Wilson AE. A wakeful hypometabolic physiologic state. *Am J Physiol*. 1971;221:795-99.
- Shum DHK, McFarland KA, Bain JD. Construct validity of eight tests of attention: comparison of open and closed head injured samples. *J Clin Exp Clin Neuropsychol*. 1990;4:151-162.
- Sripad Ghaligi, HR Nagendra, Ramachandra Bhatt. Effect of Vedic chanting on memory and sustained attention. *Indian Journal of Traditional Knowledge*. 2006;5(2):177-180.

Conflict of Interest: Nil Source of support: Nil