

RESEARCH ARTICLE

Effect of “Om” chanting on anxiety in bus drivers

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ABSTRACT


Background: Anxiety and stress have been implicated as contributors to many chronic diseases and to decreased quality of life. The job of operating public transit vehicles is among the most stressful and unhealthy of modern occupations. Bus driving is particularly a stressful job, which has high psychological demands. Of many efforts that are underway to find non-pharmacologic therapies to relieve stress and anxiety, yoga is one option and the results of which are promising. Om recitation is an important and very simple yogic practice. The present study was undertaken to study the benefits of Om chanting on anxiety levels in bus drivers. **Aim and Objective:** The objective of the study was to study the effect of Om chanting on anxiety levels in bus drivers. **Materials and Methods:** To assess the anxiety levels, a total of 100 bus drivers were selected for the study and divided into two groups; intervention group and control group. Intervention group practiced Om chanting for a total of 4 weeks of study duration while the control group comprised those who did not practice Om chanting. Hamilton anxiety rating scale was used to evaluate anxiety levels. To assess anxiety levels, both the groups were asked to fill a questionnaire before and after the duration of study of 4 weeks. The results were interpreted by unpaired *t*-test. **Results:** Anxiety levels showed highly significant reduction after the practice of chanting Om for 4 weeks in the intervention group. There is no significant difference in the anxiety scores of controls before the start of study and at the end of 4 weeks. **Conclusion:** A simple practice of chanting Om works as an effective tool to reduce the anxiety levels in bus drivers.

KEY WORDS: Anxiety; Om Chanting; Hamilton Anxiety Rating Scale

INTRODUCTION

Anxiety is one of the major problems that the humanity suffers from. It can lead to many chronic diseases.^[1] And operating public transit vehicles like driving a bus; is a very stressful job leading to anxiety.^[2,3] Anxiety is the deadly silent killer affecting one and all, young or old, and rich or poor.^[4] Although a little anxiety is always good to keep us going on, if excessive and experienced for extended period of time it takes a toll on physical and mental well-being of

an individual. It is characterized by nervousness, fear, and apprehension.^[5] Anxiety is an emotion characterized by feelings of tension, worried thoughts, and physical changes such as increased blood pressure (BP), abdominal pain, and headaches.^[6] Bus driving is one such profession which is associated with anxiety. The main challenge for the bus drivers is not only to drive safely but also maintain the time schedule, and the paradox is that these two tasks are inherently contradictory. To accomplish one, the other may have to be compromised.^[7] Apart from the above challenges mentioned, the other factors which contribute to developing stress in bus drivers are work shift schedule, irregular meal times and poor nutrition, traffic congestion, prolonged period of driving, constant visual and mental alertness, and driving during night hours and in bad weathers conditions too.^[3] The major handicap in shift workers is their erratic schedule and thereby inability to take up regular exercise, good, and sound

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sleep or get on to any other means that can calm down their mind and give them deep rest and rejuvenate.

Yoga is, nowadays, a widely used relaxation practice. It is a psycho-somatic-spiritual discipline for achieving union and harmony between mind, body, and soul.^[8] This union is achieved with different practices such as assuming various postures (asanas), breathing techniques (pranayama), chanting, and meditation. Om recitation is an important yogic practice. Chanting Om is not only easy to practice but it also does not require expert or trainer to assist while performing. The Om has been described in many ancient Indian scriptures, such as Upanisads (Mundaka, Mandukya, Svetasvatara, and Katha), the Bhagavad Gita, and Patanjali's Yoga Sutra.^[9] A simple and cost-effective remedy for anxiety is much needed to reduce various ill effects of anxiety on health. Although there have been many studies done in the past to study the effect of yoga on shift workers, there is very scarce literature available on the study of practicing a simple technique of chanting Om on bus drivers particularly who not only work in shifts also face multiple other challenges making them more likely to develop anxiety. Hence, this systematic study was undertaken to study the specific effect of Om chanting on anxiety levels in bus drivers.

MATERIALS AND METHODS

Design of Study

This study was conducted at a tertiary hospital in a metropolitan city. All the subjects were males of the age 25–40 years. It was an experimental type of study including Om chanting as intervention.

Written Consent and Ethical Clearance

Institutional Ethical Committee Clearance was obtained. Informed written consent was obtained from all the study participants.

Source Population

A total of included 100 male bus drivers were included in the study in the age group of 25–40 years, from Mumbai Central Bus Depot of BEST at Mumbai Central. Written informed consent was taken before recruitment in the study. Hundred bus drivers were selected for the study and randomly divided into two groups: Intervention group and control group.

Intervention group: Fifty bus drivers practiced Om chanting for 4 weeks.

Control group: Fifty bus drivers as controls who did not practice Om chanting.

A practice session of Om chanting was conducted for the intervention group before the start of the study. Then, the

intervention group practiced Om chanting once for 20 min in a day for 6 days/week for 4 weeks of study duration under the supervision of a yoga teacher.

The control group was not involved in chanting Om or any other relaxation techniques.

A daily attendance sheet was maintained for all the subjects in the intervention group for the entire duration of 4 weeks of the study. Participants, if absent for more than 4 days, were considered as dropouts.

The hamilton anxiety rating scale (HAM-A) for anxiety was administered to both the groups before and after the study of 4 weeks. The scale consists of 14 items, each defined by a series of symptoms, and measures both psychic anxiety (mental agitation and psychological distress) and somatic anxiety (physical complaints related to anxiety).^[10] Hamilton anxiety scale is an internationally widely used scale for measuring anxiety levels worldwide.^[11]

Inclusion Criteria

The following criteria were included in the study:

- Bus drivers in the age group of 25–40 years
- No history of any major medical or psychiatric illness
- Not taking any anxiolytic drugs
- Have not done Om chanting or any other yoga practice in the past or present.

Exclusion Criteria

Subjects who have done Om chanting or any other yoga previously or with history of any psychiatric illness in the past were excluded.

Statistics

Statistical analysis was performed using SPSS software version 20. For comparison of anxiety scores between control and intervention groups, the unpaired *t*-test was used. For comparison of anxiety scores before and after the intervention in the same group, paired *t*-test was used. $P < 0.05$ was considered as significant.

RESULTS

Before the start of the study, the difference in the anxiety levels between the intervention and the control group was analyzed and it was found to be statistically not significant. Similarly, when the anxiety scores in the control group were compared before the start of study with that at the end of the study that is, 4 weeks it was found that there was no significant ($P = 0.118$) difference in the anxiety scores of controls. On the contrary, in the intervention group the anxiety scores showed highly significant ($P < 0.001$) reduction in the scores before

chanting Om and in those after chanting Om for 4 weeks. This hints at a significant improvement in general well-being of the intervention group after following the practice of Om chanting for 4 weeks [Tables 1 and 2].

DISCUSSION

The results of our study showed that there was a significant reduction in the severity of anxiety after 4 weeks of practicing Om chanting. This indicates the importance of Om chanting in our daily life.

Various researches were done worldwide have found similar findings. A study done by Harne recorded electroencephalography (EEG), signal before and after OM chanting. Higuchi fractal analysis (Time domain Analysis) of the recorded EEG showed that the EEG complexity reduced after loud Om meditation and also stated that a feeling of calmness was observed in the subjects.^[12] Another study by Das and Anand on skin responses revealed the psycho-physiological relaxing effect of Om chanting and prayer.^[13] Various other studies have reported that, effective "Om" chanting causes vibration sensation around the ears, which is transmitted through the auricular branch of the Vagus nerve and stimulates Vagal nerve.^[14] Vagal nerve stimulation is one of the most common treatment for depression.^[15,16] One of the studies have reported significant decrease in the heart rate, BP, and pulse rate following Om meditation^[17] while few other studies observed significant decline in depression, anxiety, and stress scores.^[18] They concluded in their study that this decrease may be due to effect of Om meditation on autonomic functions,^[19] which causes psycho-physiological relaxation. There was significant deactivation in the amygdala, anterior cingulate gyrus, hippocampus, insula, orbitofrontal cortex, Para hippocampal gyrus, and thalamus during loud Om chanting in one of the studies during

functional magnetic resonance imaging (fMRI).^[20] Gurjar *et al.* found Om chanting affords steadiness in mind, calm, and peace to the stressed mind on Wavelet analysis of speech signal.^[21] Kumar *et al.* (2014) studied fMRI during listening to Om and compared it with listening to non-meaningful word and also with 1 Hindi word. They found listening to "OM" sound; in contrast to the other sounds, recruits neural systems implicated in emotional empathy.^[22] Arora and Dubey in their study suggested parasympathetic predominance and cortico-hypothalamo-medullary inhibition by Om chanting helps in reduction of stress-induced hypertension. The drop in diastolic BP was comparatively less in their study which could be due to lesser effect of Om chanting on arteriolar resistance.^[23] In a cross-sectional study done by Bagya *et al.*, a significant reduction of perceived stress level was observed among regular yoga practitioners (practicing from minimum 10 months to 40 months duration). These practitioners were practicing yoga daily for 1 h including Om chanting.^[24]

The syllable of "Om" consists of the three phonemes – A, U, and M. The vibrations of Om flow from the belly to brain, and these sound vibrations have a great impact in harmonizing our body.^[25] Om mantra can be chanted out loud or internally. When it is chanted out loud, the sound of the mantra becomes the focus of your attention. Saying the mantra aloud is said to help accustom yourself to the pronunciation of the mantra, as well as calming your mind. Mantras chanted mentally are the most powerful.^[26] However, mental repetition is said to require a great level of focus and attention to keep your mind pointed on your mantra.^[27] It is suggested that it is a good way to begin with loud mantra chanting.

Thus, the reduction in anxiety scores observed in our study after Om chanting can be due to the vibrations produced due to Om chanting which affect vagus nerve shifting the autonomic balance toward the parasympathetic side. Om chanting also affects various parts of the nervous system including amygdala, hippocampus, and thalamus thus bringing about a change in autonomic functions resulting in the calmness of mind.

Although this research evidenced capability of Om chanting in reducing anxiety, the molecular basis and exact cellular mechanism of it cannot be explained in this study. Further studies can be done to correlate the findings with biochemical reactions.

CONCLUSION

There is a highly significant reduction in anxiety levels after chanting Om regularly. Hence, Om chanting is an effective way to reduce the anxiety levels. The practice of Om chanting has no restraint on its time of practice, is less time consuming and does not require guidance once taught; which makes it appealing to most shift workers. Thus, this simple

Table 1: Comparison of HMA scores between intervention group and control group

HAM score mean±SD	Intervention group (n=42)	Control group (n=45)	P-value
Before study	14.83±4.3	14.16±3.62	0.4328 (Non-significant)
After study	12.48±3.26	13.98±3.47	0.04111 (Significant)

Table 2: Comparison of HAM scores before and after study duration in both groups

HAM score mean±SD	Before study	After study	P-value
Intervention group (n=42)	14.83±4.3	12.48±3.26	<0.00001 (Significant)
Control group (n=45)	14.16±3.62	13.98±3.47	0.1189 (Non-significant)

and effective technique of chanting Om can be included in the treatment of anxiety as an adjunct to other modalities of treatment for better results.

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