Effect of “Om” Chanting on Depression Among College Students - A Pilot Study

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INTRODUCTION

Depression is a common illness worldwide, affecting more than 264 million people. At its worst, depression can lead to suicide, around 800,000 people die due to suicide every year and it is the second leading cause of death among age 15-29-year-old. A report on National Mental Health survey, found that the prevalence of depression amongst adolescents aged 13-17 years was 0.8%. Most mental disorders have their initial onset during young adulthood and depression is one of the most common health problems for university. There is considerable evidence that rates of depression and suicide are higher in medical students.
Studies from other parts of the world have shown a high prevalence of depression among medical students.\textsuperscript{5,6} Studies in India found that around 50\% to 60\% of the 1\textsuperscript{st} year medical students had depressive symptoms.\textsuperscript{7,8} Depression in this early life stage can lead to negative consequences in adult life through its impact on career prospects and social relationships. Hence, treatment resources should target the young adult sector of the population.\textsuperscript{9} There are effective treatments available for moderate and severe depression such as behavioral activation, cognitive behavioral therapy (CBT) and interpersonal psychotherapy (IPT), or antidepressant medication.\textsuperscript{10} Neuro-physiological studies showed that the experience of vibration sensation around the ears during ‘Om’ chanting is transmitted through the auricular branch of the vagus nerve and stimulates the vagal nerve and deactivates the limbic system, and it is speculated that the internalized attention produced with the chanting of Om may be responsible for the EEG alpha rhythm, reduced blood pressure, heart rate and Galvanic skin conductivity indicating parasympathetic nervous system predominance(10). Chanting meditation is a method of practice, to keep the mind focused on one point by repeating a simple phrase or Sutra. “Om” or “Aum” is one of the sacred mono-syllable, it is the combination of three letters, namely, A, U, and M. “A” represents the physical plane. “U” represents the mental and astral plane, the world of intelligent spirits, and all heavens. “M” represents the whole deep-sleep state, which is unknown even in our wakeful state.\textsuperscript{11} Classical Yoga texts recommend contemplation on the sound Om reduces mental activity. Studies shown that OM meditation can be a useful method to reduce psychological stress and to maintain psychological wellbeing.\textsuperscript{12,14} Studies on effect of chanting OM among medical students impacting their depression status is lacking in India. The present study is an attempt to assess the effect of Om chanting 108 times per day for 3 weeks on depression in freshly inducted first year Yoga and Naturopathy naïve medical college students.

**METHODOLOGY**

**Study Design:** One-Group Pretest-Posttest Design in which a pretest measure is done followed by a treatment and a posttest for a single group.\textsuperscript{15}

**Participants:** First year students studying Bachelor of Naturopathy and Yogic Sciences (BNYS), not yet practiced “OM” chanting, were included for the study. Ninety-nine students volunteered for the study of which, seven students were considered not eligible due to their previous medical illness for yoga practices. Sufficient information about the study was provided through information sheet and their written informed consent were taken.

**Intervention:** The participants were assembled in a common yoga room between 5:00pm to 5:30pm and seated in padmasana or vajrasana for chanting Om simultaneously for 108 times for 21 days. On an average each round of Om chanting lasted for 10 seconds. An attendance of 70\% was considered eligible for inclusion of data for analysis. Throughout the practice, the subjects were instructed to be constantly be aware of the reverberations of the Om chanting.

**Assessment:** An 18-item self-administered Goldberg depression scale with each item rated on a 0–5 point Likert scale was used for assessment. The total score can therefore range from 0 (complete absence of depressive symptoms) to 90 (most severe depression). The scores are as follows 0 to 9- Depression unlikely, 10 to 17- Possibly minor depression, 18 to 21- On the verge of depression, 22 to 35- Minor to moderate depression, 36 to 53- Moderate to severe depression, 54 & above- Severe depression. We administered this scale for screening and assessing the severity of depression at the start and end of the 21-day intervention.\textsuperscript{16,17}

**Ethics:** The study was reviewed and approved by the Institutional Ethical Committee, Ref No: JSS/INYS-IEC/CBE/009/2017-18.

**Analysis:** Paired t test was computed using IBM SPSS-18.

**RESULTS**

The data obtained from ninety-two participants at baseline and all have successfully completed the 21 sessions. The subjects were between 18 to 19 years of age (average 18.2\pm0.47 years), 71 were female. The baseline data showed that 68 subjects (73.9\%) had depression scores ranging from (10 to 53) i.e., from possibly minor depression and moderate to severe depression as assessed using Standard Goldberg’s Score for Depression, and 26.1\% of the participants showed scores that are in depression unlikely category. As hypothesized, following the twenty-one-day intervention, the percentage population under the criteria, possibly minor depression and severe depression decreased from 73.9\% to 51\%. Also, 75\% of the subjects i.e. 3 out of 4 subjects in the severe depression category had showed reduction in depression scores after the intervention. Overall, the percentage of healthy population increased from 26.1\% to 48.9\% following the intervention duration (Table 1). Following the normal
distribution of data, paired sample t test was performed, whether there was a statistically significant mean difference between the depression scores before and after intervention was computed using SPSS-18 software. Among 68 subjects (73.9%) who having possible minor depression to severe depression there was a statistically significant difference in the scores before intervention (M=24.23, SD=13.25) and after intervention (M=15.42, SD=11.96) of OM chanting; t (67) = 6.93, p=0.001, CI-95%=[6.27-11.34]. (Table-2). Further, Cohen’s effect size value (d = .69) suggested a moderate to high practical significance. These results suggest that OM chanting does have an impact on depression scores. Specifically, our results suggest that Om chanting for 108 times for 21 days is beneficial for the reduction of overall depression scores in young adolescents. (Table 1) (Table 2)

**DISCUSSION**

The prevalence of depression among 1st year Medical students were higher as in our finding 73.9% which are consistent with the higher prevalence (60%–65% ) in studies among medical students in India. Thru we didn’t explored the reasons for higher depression prevalence, it could be due to stress of new study environment and greater degree of work load with obligations to succeed, homesickness as most of them might live far from home for the first time, change in their sleeping and eating habits, financial indebtedness, lack of leisure time. Neuro-physiological studies have demonstrated Om chanting promotes parasympathetic predominance through activation of auricular branches of the vagal nerves. Studies have also demonstrated reduction in activation levels of the hyperactive amygdala, left hippocampus, left subgenual cingulate cortex, left and right ventral anterior cingulum, and right thalamus and brainstem regions in depressive patients. Neuro imaging following Om chanting using fMRI suggest significantly reduced outputs from insula, anterior cingulate and orbitofrontal cortices that are involved in emotion processing and self-referential processing which are impaired in major depressive disorders. We speculate that the anti-depressant effect of OM chanting might also be associated with subjective awareness along with vagal dominance. Further studies are warranted to study the implications of OM chanting on sleep quality because sleep has been an established indicator of better states of relaxation. The present study has been conducted only on Yoga naive subjects. These findings indicate a possibility of decreased prevalence of depression in long term practitioners of OM chanting. **Limitations:** The study participants were not assessed for the factors and cause associated with depression, and another limitation is lack of control arm in our study for strengthening the findings.

**CONCLUSION**

The study showed that chanting of OM 108 times for 21 days has a significant impact on Depression scores among medical students. The changes can be hypothesized has due to neurophysiological effects of OM chanting mediated through the auricular branches of the vagal nerves and relaxation effect of OM chanting as found in other studies. OM chanting can be a cost-effective intervention that can be practiced easily for prevention as well as management of depression. Future RCTs is warranted to strengthen the association, to assess the generalizability and feasibility of such intervention in academic settings.

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**CONFLICT OF INTEREST STATEMENT**

We author of this study wish to confirm that there are no known conflicts of interest associated with this publication and there has been no significant financial support for this work that could have influenced its outcome.

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**REFERENCES**


Table 1, Measure of Depression using Goldberg’s Depression Scale before and After intervention

<table>
<thead>
<tr>
<th>Sl.No</th>
<th>Goldberg's Depression Scale</th>
<th>At baseline (%)</th>
<th>After intervention (%)</th>
</tr>
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<tbody>
<tr>
<td>1.</td>
<td>Depression unlikely</td>
<td>24 (26.1%)</td>
<td>45 (48.9%)</td>
</tr>
<tr>
<td>2.</td>
<td>Possibly minor depression</td>
<td>28 (30.4%)</td>
<td>24 (26.1%)</td>
</tr>
<tr>
<td>3.</td>
<td>On the verge of depression</td>
<td>11 (12%)</td>
<td>5 (5.4%)</td>
</tr>
<tr>
<td>4.</td>
<td>Minor to moderate depression</td>
<td>14 (15.2%)</td>
<td>13 (14.1%)</td>
</tr>
<tr>
<td>5.</td>
<td>Moderate to severe depression</td>
<td>11 (12%)</td>
<td>4 (4.3%)</td>
</tr>
<tr>
<td>6.</td>
<td>Severe depression</td>
<td>4 (4.3%)</td>
<td>1 (1.1%)</td>
</tr>
<tr>
<td>7.</td>
<td>Total(n)</td>
<td>92 (100%)</td>
<td>92 (100%)</td>
</tr>
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</table>

Table 2, Paired Samples Test. Participants with depression scores

<table>
<thead>
<tr>
<th>N=68</th>
<th>Mean Goldberg Score</th>
<th>Standard Deviation</th>
<th>t</th>
<th>95% Confidence Interval of the Difference</th>
<th>Sig. (2-tailed)</th>
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</thead>
<tbody>
<tr>
<td>After intervention</td>
<td>15.4265</td>
<td>11.96302</td>
<td></td>
<td></td>
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