

## Beneficial effects of OM chanting on depression, anxiety, stress and cognition in elderly women with hypertension

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### Abstract

**Background:** According to Upanishads, *Om* is the name or symbol of God. It is the combination of three letters, namely, A, U, and M and it is the syllable of the past, the present, and the future. *Om* is the force behind all thoughts and chanting or thinking about *Om* will cause quiet mental state.

**Objective:** The present study was undertaken to assess the effectiveness of *Om* chanting on depression, anxiety, stress and cognition in elderly women with hypertension.

**Materials and Methods:** A total of 40 Elder women (age 50–60 years) with diagnosed hypertension were included in the present study after obtaining written, voluntary, informed consent. Participants with blood pressure values of 120–179/≤109 mmHg were enrolled. After selection of the participants, baseline values were recorded and they were randomly assigned into two groups randomly by random numbers generated by computer. Intervention group participants performed *Om* chanting once in a day at 7:30 daily at Sattva cultural space for six months under the supervision of yoga teacher.

**Results:** Results are presented in Table 1 and 2. Pre intervention depression, anxiety, stress and MMSE scores and blood pressure and pulse rate were not significant between the groups. However, following by six months of *Om* chanting, systolic and diastolic pressure, pulse rate, depression, anxiety, stress decreased significantly. MMSE scores improved significantly followed by *Om* chanting.

**Conclusion:** The practice of *Om* chanting in a traditional way can be used as one of the powerful means in calming down the mind, enhancing memory. We recommend further detailed studies for further supporting traditional *Om* chanting and to recommend it to include in our daily life style.

**Keywords:** *Om* chanting, Stress, Memory, Depression, Anxiety, Hypertension.

Access this article online	
Quick Response Code:	Website: www.innovativepublication.com
	DOI: 10.5958/2394-2126.2016.00056.6

### Introduction

According to Upanishads, *Om* is the name or symbol of God.<sup>1</sup> It is the combination of three letters, namely, A, U, and M and it is the syllable of the past, the present, and the future.<sup>2,3</sup> In *Bhagvad Gita*, it was described that *Om* means the Brahman or consciousness and who remembers it always, he attains the supreme goal.<sup>4</sup> In *patanjali's Yoga Sutras* (PYS), which is one of the classical yoga texts explained *Om* as *Pranava* that is *Iswara*.<sup>5</sup> According to Yoga teachings, *Om* is the force behind all thoughts and chanting or thinking about *Om* will cause quiet mental state.<sup>6</sup> One of the most common diseases in the world is hypertension and persistent hypertension causes

cardiovascular diseases.<sup>7,8</sup> It was reported that chanting of *Om* reduces heart rate, blood pressure and reduces skin resistance.<sup>9,10</sup> Earlier studies 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.<sup>11</sup> Vagal nerve stimulation is one of the most common treatment for depression.<sup>12,13</sup> Earlier studies reported that *Om* chanting deactivates limbic system.<sup>14</sup> Medical treatment of hypertension is not always effective to achieve blood pressure control.<sup>15</sup> The present study was undertaken to assess the effectiveness of *Om* chanting on depression, anxiety, stress and cognition in elderly women with hypertension.

### Materials and Methods

The present study was conducted at Sattva Cultural Space and Research Centre, Angamaly, Kerala, India, after obtaining institutional human ethical committee clearance. A total of 40 Elder women (age 50–60 years) with diagnosed hypertension were included in the present study after obtaining written, voluntary,

informed consent. Participants with blood pressure values of 120–179/≤109 mmHg were enrolled. Women with extreme blood pressure (BP) values, those who already practicing yoga, those with dementia or other neurodegenerative disorder, stroke, major depressive disorder, psychosis, anxiety disorder, severe hearing and visual impairment and unwilling participants were excluded from the study. The participants were requested not to change their medication and life style during the study. After selection of the participants, baseline values were recorded and they were randomly assigned into two groups randomly by random numbers generated by computer. Then the intervention group performed *Om* chanting for six months and post intervention values were recorded and compared.

Group A: (n=20) Control group (Only medications and *Om* chanting was not performed)

Group B: (n=20) Intervention group (*Om* chanting performed for six months along with medications)

**Om chanting:** Subjects were asked to sit in sukhasana and to inhalation deeply and then while exhaling should produce sound (chant) *Om* with the ability to continue until further exhalation is not possible.<sup>15</sup> Intervention group participants performed *Om* chanting once in a day at 7:30 daily at Sattva cultural space for six months under the supervision of yoga teacher.

### Outcome measures

**Assessment of cardio-respiratory parameters:** Blood pressure was recorded by using Diamond digital

sphygmomanometers (BPDG024) and pulse rate was recorded by using pulse oximeter (EDAN H100B).<sup>16,17</sup>

**Depression Anxiety Stress Scale (DASS):** DASS is a 42 item questionnaire designed to assess depression, anxiety and stress levels.<sup>18</sup>

**Assessment of cognition:** The Mini Mental State Examination (MMSE) was used. It is an 11-question measure that tests five areas of cognitive function: orientation, registration, attention and calculation, recall, and language. The maximum score is 30. A score of 23 or lower is indicative of cognitive impairment. The MMSE takes only 5-10 minutes to administer and is therefore practical to use repeatedly and routinely.<sup>19,20,21</sup>

### Statistical analysis

The results were expressed in terms of Mean±SD. Data was analyzed by SPSS 20.0. Paired t- test was used to compare the values of the groups. P value<0.05 was considered as significant.

### Results

Results are presented in Table 1 and 2. Pre intervention depression, anxiety, stress and MMSE scores and blood pressure and pulse rate were not significant between the groups. However, following by six months of *Om* chanting, systolic and diastolic pressure, pulse rate, depression, anxiety, stress decreased significantly. MMSE scores improved significantly followed by *Om* chanting.

**Table 1: Comparing the demographic data and pre intervention values of blood pressure, pulse rate, MMSE scores of the participants. (Data was expressed as Mean±SD) \*p value<0.05 is significant, \*\*P value<0.01 is significant, \*\*\*P value<0.001 is significant)**

Parameter	Control group (n=20)	Intervention group (n=20)	P value
Age ( years)	53.44±2.60	54.11±3.72	0.643027
Height(cm)	153.66±6.53	154.11±43.36	0.777340
Weight (kilograms)	70.22±5.97	72.55±5.61	0.386837
Systolic Blood Pressure (mmHg)	150±7.4	153.77±6.79	0.319856
Diastolic Blood Pressure (mmHg)	91.77±4.32	93.33±6.78	0.555468
Pulse rate (beats/per minute)	88.88±6.77	89.44±9.18	0.779185
Depression score	23.6±3.53	25.5±3.1	0.155097
Anxiety score	16.4±2.91	17.3±3.0	0.361551
Stress Score	21.7±4.54	21.0±3.23	0.515174
MMSE score	22.88±2.31	23.22±1.98	0.693800

### Discussion

Yoga *mantras* and prayers have been found beneficial for many physiological and psychological functions of the body.<sup>22</sup> *Om* chanting is an important exhalation exercise,<sup>15</sup> and significantly improves pulmonary functions in healthy subjects.<sup>23</sup> Significant decrease in the heart rate was reported followed by *Om* meditation.<sup>9</sup> Our study supports earlier studies as we have also observed significant decrease in the blood pressure and pulse rate followed by *Om* meditation. This decrease may be due to effect of *Om* meditation on autonomic functions,<sup>24</sup> which causes psycho physiological relaxation. We have observed significant decrease in depression, anxiety and stress scores.

It may be due to relaxation effect of *Om* meditation.<sup>25</sup> Vedic chanting provides good memory and attention.<sup>26</sup> It may be due to stimulation of brain cells by Vedic chanting.<sup>27</sup> Vedic chanting reduces anxiety levels which improves memory and learning.<sup>27,28,29</sup> Our study agrees with earlier studies as we have observed significant increase in MMSE scores followed by *Om* chanting.

### Conclusion

The practice of *Om* chanting in a traditional way can be used as one of the powerful means in calming down the mind, enhancing memory. We recommend further detailed studies for further supporting traditional *Om* chanting and to recommend it to include in our daily life style.

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