

# Effectiveness of Om chanting on perceived stress, negative affectivity, and social inhibition in individuals with pre-hypertension



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## ABSTRACT

**Background:** Akara, Ukara, Makara (OUM) chanting regulates emotions and removes negative emotions by inactivating the processing in the amygdala. At the same time, the prefrontal complex was inhibited followed by chanting OUM. Further, there was an increase in the oxygenation levels followed by chanting OUM. Hence, OUM chanting has multiple benefits and offers improvement in the quality of life. Though there are multiple benefits followed by chanting OUM, the scientific evidence for the same is comparatively less. Hence, there is a need for more studies in this area. **Aims and Objectives:** The present study aimed to find out the variations in the perceived stress, negative affectivity, and social inhibition in pre-hypertensive individuals and also to observe the effectiveness of Om chanting on perceived stress, negative affectivity, and social inhibition in pre-hypertensive individuals. **Materials and Methods:** The present study was conducted at the St Peter's Medical College Hospital and Research Institute, Hosur, Tamil Nadu, India. A total of 50 young adults with pre-hypertension were recruited in the study after obtaining written informed consent. Age- and gender-matched 50 healthy participants were recruited after obtaining the voluntary, informed consent. Diamond digital sphygmomanometer was used to record the blood pressure. All the parameters were recorded at 9 am for the convenience of the participants and also to avoid diurnal variation. The perceived stress scale was used to assess the stress levels. Negative affectivity and social inhibition were recorded using a type D (DS-14) questionnaire. Cases practiced the OUM chanting for 6 weeks after they were trained by an expert yoga therapist. **Results:** Perceived stress scores were significantly decreased followed by the OUM chanting. There was a significant decrease in the scores of negative affectivity of cases after the intervention when compared with control group participants. There was a significant decrease in the scores of social inhibition of cases after the intervention when compared with control group participants. **Conclusion:** Perceived stress, negative affectivity, and social inhibition were significantly higher in the pre-hypertensive individuals. The study results provide further evidence that practicing OUM chanting causes stress relief and also decreases the negative emotions that is negative affectivity and social inhibition in pre-hypertensive individuals.

**Key words:** OUM chanting; Negative emotions; Pre-hypertension; Young adults

## INTRODUCTION

Meditation and chanting of mantras have been practiced in Indian tradition from age old.<sup>1</sup> There were multiple health benefits reported by these practices. Akara, Ukara, Makara (OUM) is sacred and composed of three syllables, that

is, A, U, and M. AUM represents the universe. It is called pranavam and is very auspicious. The letter A represents Brahma, U represents the Vishnu and M represents lord Shiva. It was reported that reciting these syllables causes calming effects and rejuvenates the mind and body.<sup>2</sup> Earlier studies reported that reciting OUM offers relaxation which

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was reflected in the EEG recording with an increase in the power of theta wave.<sup>3</sup> There was a significant reduction in the sympathetic activity followed by chanting OUM. A significant decrease in the heart rate was observed followed by a loud chanting of OUM.<sup>4</sup> Chanting OUM causes a reduction in the negative affective states in individuals who practice chanting of OUM on a regular basis. In fact, such practices had to be followed on a long-term basis to achieve maximum benefits.<sup>5</sup> When the OUM chanting was practiced by women with hypertension, there was a significant decrease in the scores of depression, anxiety, and stress levels.<sup>6</sup> OUM chanting regulates emotions and removes negative emotions by inactivating the processing in the amygdala.<sup>7</sup> At the same time the prefrontal complex was inhibited followed by chanting OUM.<sup>8</sup> Further, there was an increase in the oxygenation levels followed by chanting OUM. Hence, OUM chanting has multiple benefits and offers improvement in the quality of life. Though there are multiple benefits followed by chanting OUM, the scientific evidence for the same is comparatively less. Hence, there is a need for more studies in this area.

### Aims and objectives

The present study aimed to find out the variations in the perceived stress, negative affectivity, and social inhibition in pre-hypertensive individuals and also to observe the effectiveness of Om chanting on perceived stress, negative affectivity, and social inhibition in pre-hypertensive individuals.

## MATERIALS AND METHODS

The present study was conducted at the St Peter's Medical College Hospital and Research Institute, Hosur, Tamil Nadu, India. The present study was a case-control study conducted from July 2023 to November 2023. The study was approved by the institutional human ethical committee before the commencement of the study (IHEC/1-3-2023). A total of 50 young adults with pre-hypertension were recruited in the study after obtaining written informed consent. Age- and gender-matched 50 healthy participants were recruited after obtaining voluntary, informed consent. Willing, young adults within the age group of 18–24 years, with pre-hypertension were recruited as cases. Willing healthy, young adults within the age group of 18–24 were recruited as controls. Unwilling participants, participants under any medications, and having any complications were excluded from the study. A diamond digital sphygmomanometer was used to record the blood pressure.<sup>9</sup> All the parameters were recorded at 9am for the convenience of the participants and also to avoid diurnal variation. Perceived stress scale was used to assess the stress levels.<sup>10</sup> Negative affectivity and social inhibition

were recorded using a type D (DS-14) questionnaire.<sup>11</sup> OUM chanting was the intervention in the present study. Cases practiced the OUM chanting for 6 weeks after they were trained by an expert yoga therapist. Once in a day and weekly five sessions were followed by the participants. OUM chanting was performed in the research laboratory of the institute everyday morning under the supervision of the expert. Controls were not allowed to chant during the study. However, after the study, they were given a chance to participate in the chanting sessions.

### Statistical analysis

Data were analyzed by the SPSS 20.0 version. Student t-test was applied to observe the significance of the difference between the groups. A probability value of <0.05 was considered significant.

## RESULTS

Results are presented in Tables 1-3. Table 1 presents the demographic data of the participants. Age and height were not significantly different between cases and controls. Table 2 presents perceived stress, negative affectivity, and social inhibition in cases and controls before OUM chanting practice for 6 weeks. Perceived stress score was significantly higher in the cases when compared with controls. The negative affectivity score was significantly high in the cases when compared with the control group. Social inhibition score was significantly high in the cases when compared with the control group. Table 3 presents the perceived stress, negative affectivity, and social inhibition in cases and controls after OUM chanting practice for 6 weeks. Perceived stress scores were significantly decreased followed by the OUM chanting. There was a significant decrease in the scores of negative affectivity of cases after the intervention

**Table 1: Demographic parameters of the participants of cases and controls**

Parameter	Cases (n=50)	Controls (n=50)	P-value
Age	19±2	19±1	1.000
Height	167±7	170±10	0.0854
Weight	62±6	65±8	0.0364

Data were expressed as mean and standard deviation.  $P < 0.05$  was significant

**Table 2: Perceived stress and negative affectivity and social inhibition in cases and controls before OUM chanting practice for 6 weeks**

Parameter	Cases (n=50)	Controls (n=50)	P-value
Perceived stress	28±8	16±4	0.0001
Negative affectivity	7±3	4±1	0.0001
Social inhibition	7±3	3±2	0.0001

Data were expressed as mean and standard deviation.  $P < 0.05$  was significant

**Table 3: Perceived stress and negative affectivity and social inhibition in cases and controls after OUM chanting practice for 6 weeks**

Parameter	Cases (n=50)	Controls (n=50)	P-value
Perceived stress	20±3	17±4	0.0001
Negative affectivity	5±2	4±1	0.0021
Social inhibition	5±1	3±2	0.0001

Data were expressed as mean and standard deviation.  $P < 0.05$  was significant

when compared with control group participants. There was a significant decrease in the scores of social inhibition of cases after the intervention when compared with control group participants. Significant decreases in stress, negative affectivity, and social inhibition were observed in cases before and after the practice sessions (Table 4).

## DISCUSSION

The present study was undertaken to observe the levels of perceived stress and negative emotions such as negative affectivity and social inhibition in pre-hypertensive individuals in comparison to healthy participants. Further, to observe the effectiveness of chanting OUM on these parameters in the pre-hypertensives. Perceived stress, negative affectivity, and social inhibition were significantly high in the pre-hypertensive individuals. Practicing OUM chanting for 6 weeks significantly decreased the scores of stress, social inhibition, and negative affectivity. Unable to express one's ideas in a group is called social inhibition. Thinking always negatively accounts for negative affectivity. The individuals with both these features are called type-D personalities.

It was reported that OUM chanting alters emotional status by influencing neural processing.<sup>12</sup> Another study reported that even chanting OUM for a short duration also promotes relaxation and offers calming effects by increasing the activity of the parasympathetic system.<sup>13</sup> Another study presented that OUM chanting can be used in the management of major depression disorder.<sup>14</sup> It was explained that OUM chanting alters the breathing frequencies by altering the autonomic activity.<sup>15</sup> Chanting OUM was reported to inactivate the limbic system and hence proposed to be used in the management of depression and epilepsy.<sup>16</sup> Chanting OUM was reported to relieve depression, anxiety, and stress and regulate autonomic activity in hypertensive patients.<sup>17</sup> Practicing OUM chanting for 12 weeks helped patients with asthma and also improved their quality of life.<sup>18</sup> EEG studies revealed that followed by the OUM chanting, the theta power is increasing and that is the basis for the relaxation

**Table 4: Perceived stress and negative affectivity and social inhibition in cases before and after OUM chanting practice for 6 weeks**

Parameter	Before	After	P-value
Perceived stress	28±8	20±3	<0.0001
Negative affectivity	7±3	5±2	0.0002
Social inhibition	7±3	5±1	<0.0001

Data were expressed as mean and SD.  $P < 0.05$  was significant

effect offered by OUM chanting.<sup>19</sup> It was reported that there was a significant improvement in pulmonary functions in healthy individuals after practicing OUM chanting.<sup>20</sup> Hence, it is suggested that practicing OUM chanting on a regular basis has multiple health benefits. The present study results support the earlier studies as we have observed a significant decrease in the scores of stress, negative affectivity, and social inhibition in the participants after practicing OUM chanting. Further, detailed studies are required with a higher sample size to support the implementation of OUM chanting in the management of pre-hypertension.

### Limitations of the study

The sample size of study is low so result cannot be generalized.

## CONCLUSION

Perceived stress, negative affectivity, and social inhibition were significantly higher in the pre-hypertensive individuals. The study results provide further evidence that practicing OUM chanting causes stress relief and decreases the negative emotions that are negative affectivity and social inhibition in pre-hypertensive individuals. Further, detailed studies are required with a higher sample size to support the implementation of OUM chanting in the management of pre-hypertension.

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**Authors' Contribution:**

**DC, RP, AB-** Design of the study, review of literature, analysis, and preparing the manuscript; **DC, KT-** Data collection, preparing the manuscript; **AB-** Analysis and preparing the manuscript.

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