

ABSTRACT

BACKGROUND

Recitation of *Mantra* (repetition of sacred words or phrase) has been a universal practice and considered as a method to slow down the thoughts, attain one-pointed concentration and bring about various psycho-physiological changes. However, there were no studies reported to study the various styles of *mantra* recitation on physiological and cognitive variables.

AIMS AND OBJECTIVES

The present study is aimed at assessing the autonomic, respiratory and cognitive functions following *Mantra* recitation.

METHODS

Participants

In this study, there are two parts viz., physiological and cognitive variables. In the study with physiological variables, forty novices male, age group of 20 to 25 years participated in this trial. Likewise there were 35 participants including men and women in the age group of 20 to 45 years.

Design

In design with physiological variables, all participants in the study were assessed on four separate sessions in the laboratory and all of them were assessed before, during and after Loud Chanting (LC), Lips Movement (LM), Silent Chanting (SC) and No Chanting (NC). Similarly, in the study with cognitive variables, all participants were given orientation for chanting of '*Mahāmrutyunjaya Mantra*' (MM) for 10 days. There were six sessions including baseline. All the participants were recorded for their Baseline Recording (BL) on day 1 following an orientation of ten days and a wash out period of seven days and the post recording in every seven days subsequently viz., Loud Chanting (LC), Lips Movement (LM), Silent Chanting (SC), Audio Listening (AL) and Silent Sitting (SS). For the post

assessment, recordings were done after 20 minutes of the intervention as each session lasted for 20 minutes.

Assessments

Physiological Variables

Heart rate variability (frequency and time domain measures)

Heart Rate (bpm)

Respiratory Rate (cpm)

Cognitive Variables

Six letter cancellation test (SLCT),

Wechsler Memory Scale (WMS) and

Mindfulness Attention and Awareness Scale (MAAS).

Intervention

Five varieties of intervention that were introduced in this trial were *Mānasika Japa*, where the subjects were asked to recite the Mahāmṛtyunjaya *Mantra* (MMM) mentally for twenty minutes, *Vaikhāri Japa* (verbal repetition) or loud chanting (LC), Audio listening (AL), and silent sitting (SS) to watch the spontaneous thoughts for twenty minutes. But AL was given only to the participants of cognitive variables only. During the chanting they were asked to sit comfortably with closed eyes and also, they were asked to chant with full of devotion. This particular *Mantra* was given during orientation and various styles of recitation as it is said to be beneficial for mental, emotional and physical health and bestows longevity and immortality.

Results

Results of this study showed that LF was higher ($p < 0.001$) and HF was lower ($p < 0.001$) during LC in frequency domain measures and NN50 was higher ($p < 0.001$) during all the sessions across all the four groups in the statistical measures. But pNN50 was lower during LC ($p < 0.001$) compared to NC. In addition to this, the mean HR was significantly higher during LM and LC ($p < 0.001$).

Likewise, the Mindfulness following *Mantra* recitation was significantly higher during loud chanting (LC) ($p < 0.05$) compared to the silent chanting (SC) and the baseline. Also, the scores of digits backward (DB) was significantly higher in LC ($p < 0.01$), LM ($p < 0.05$), SC ($p < 0.001$) and AL ($p < 0.01$), compared to baseline.

Conclusions

It can be suggested that during the practice of LC and LM, attention is likely to be more with an increase in sympathetic activity in the background of relaxation and due to this increased trend of attention, mindfulness sustains following the practice of LC and short-term memory following SC suggestive of more information processing in amygdale, hippocampus and pre central cortex.