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Research Article

Effect of heartfulness meditation on perceived stress and cognition in hypertensive patients

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ABSTRACT

The environmental conditions and demands (stressors) those beyond an individual's perceived ability to cope with the stress experienced and this may also further lead to psychological or physical health complications (Wolf OT et al., 2002). In the present scenario researchers have increased their focus the relationship with stress and cognition. Now it is well established that chronic stress has a negative impact on cognition. It has been learnt that stress leads to the cellular changes in hippocampus wherein a part of the limbic system which is very important for memory processes is affected. It is learnt that the most likely cause for hypertension is emotional stress and anxiety. Hypertension may further become the route cause for cardiovascular disorders (Alderson A L et al., 2009). Heartfulness meditation would be one of the meditation techniques when practiced regularly will have magical effects on an individual with sedentary life style full of stress and anxiety (Littleton, A. C et al., 1981). The studies have proved that heartfulness meditation has a positive role in reducing stress and preventing the individuals from greater health complications like anxiety, depression and physical ill health. As it is studied that stress has an effect on cognition also, in the present study we tried to learn the effect of heartfulness meditation on perceived stress and cognition in the patients with hypertension.

Keywords: Aquatic plants; antimicrobial; tannins; phenolic compounds; alkaloids.

INTRODUCTION

The environmental conditions and demands (stressors) those beyond an individual's perceived ability to cope with the stress experienced and this may also further lead to psychological or physical health complications (Wolf OT et al., 2002). In the present scenario researchers have increased their focus the relationship with stress and cognition. Now it is well established that chronic stress has a negative impact on cognition. It has been learnt that stress leads to the cellular changes in hippocampus wherein a part of the limbic system which is very important for memory processes is affected. It is learnt that the most likely cause for

hypertension is emotional stress and anxiety. Hypertension may further become the route cause for cardiovascular disorders (Alderson A L et al., 2009). Heartfulness meditation would be one of the meditation techniques when practiced regularly will have magical effects on an individual with sedentary life style full of stress and anxiety (Littleton, A. C et al., 1981). The studies have proved that heartfulness meditation has a positive role in reducing stress and preventing the individuals from greater health complications like anxiety, depression and physical ill health. As it is studied that stress has an effect on cognition also, in the present study we tried to learn the effect of heartfulness meditation on perceived stress and cognition in the patients with hypertension.

MATERIALS AND METHODS

Study design: Experimental study

Setting: The study was conducted at Heartfulness Meditation and conscious living centre, North Zone, Trivandrum, Kerala, India.

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Table 1: Stress and cognition before and after the intervention

Parameter	Pre-intervention	Post-intervention	P value
Perceived stress score	21±5.5	17±4.78	0.0188*
Serum cortisol	9.98±3.11	7.63±2.74	0.0155*
MMSE	22±2.61	26±3.82	0.0003***

Participants: The study was conducted on 20 stage-2 hypertensive patients aged 45-60 yrs of both sexes, who were on salt reduction and antihypertensive drugs. Participants acted as self-controls. The study protocol was approved by institutional ethical committee of Little Flower Medical Research Centre, Angamaly.

Study design: After recording baseline values, participants were trained for meditation by the expert in heartfulness meditation (Soumya Mishra et al., 2017) for three days. From forth day participants started practicing by their own under the supervision of the expert at 6:30 am in the morning for 35 minutes for 12 weeks. Post values were collected after 12 weeks.

Outcome measures: All the parameters were recorded before and after the intervention.

Assessment of stress: Perceived stress questionnaire: Perception of stress of the participants was assessed by perceived stress scale (Cohen, S. et al., 1983).

Serum cortisol: Serum cortisol levels were assessed by chemiluminescent microparticle immunoassay ABBOTT method (Minu Johny et al., 2017).

Mini mental state Examination: cognitive functions were assessed by using MMSE. It is a standard tool to assess mental status (Folstein MF et al., 1975).

Data analysis: Data was analyzed using SPSS 20.0. Paired t test was applied to observe the significance of difference in the values of pre and post intervention. $P < 0.05$ is considered as significant.

DISCUSSION

Stress, anxiety, depression has become a part of our life wherein human beings are living with this. Most of the health complications in the present scenario are due to the imbalances in life leading to different levels of stress, anxiety and finally depression which in turn may not only deteriorate the living conditions but also impairs cognitive functions. Meditation being one of the remedies to reduce the stress levels, heartfulness is one such effective solution to reduce stress. In the present study we observed a significant decrease in perceived stress and serum cortisol. As an effect of this we found a significant improvement in cognitive functions, supporting the positive effects of heartfulness meditation. It was reported that heart rate decreased significantly followed by practicing heartfulness meditation. Further, the meditation was reported to be beneficial in the management of anxiety, obesity, cardiovascular diseases, renal diseases and metabolic syndrome

(Schriger et al., 2007). The mechanism of action of heartfulness meditation is similar to relaxation methods as this meditation also causes beneficial effects in body and mind (Herbert Benson et al., 1992). Brain is the key area that receives the new information and potentiates the efficacy of adjunct therapies. It modulates brain wave patterns from rapid wave to slow wave pattern (Herbert Benson et al., 1992). Regular practice of heartfulness meditation limits stress induced changes in body and mind. Heartfulness meditation also improves positive feelings and behavior (Raja Amarnath G et al., 2017). Our study results are in agreement with earlier studies as we have observed beneficial effects of heartfulness meditation in the management of stress and cognition.

CONCLUSION

We have observed significant decrease in perceived stress, serum cortisol levels and improved MMSE scores in the participants followed by heartfulness meditation. We recommend further detailed studies in this area to provide more scientific evidence for incorporation of heartfulness meditation in routine day life style.

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