

Effect of Gayatrimantra chanting on cognitive functions in school children

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Abstract

Background: In Indian tradition chanting of Vedic mantras is a part and parcel of life. The sacred Gayatri mantra was explained in Rig Veda. It was initially explained by Vishwamitra maharshi. As it is concerned about sun, it is also called as Savir mantra. **Methods:** Thirty healthy, willing, hostel students (15 boys and 15 girls) in the age group of 11-14 years were included in the study. After recording the baseline values, all the students were trained in Chanting Gayatri mantra for a week days by Veda pundit before the starting of the study. After a week days, the participants started chanting the mantra once a day, for five days a week, early in the morning at 6am under the supervision of Vedic expert for 10 minutes for 16 weeks. Post intervention values were recorded after 16 weeks. **Results:** Results were presented in tabular form. There was a significant increase in the both spatial and verbal memory scores followed by the chanting of Gayatri mantra. **Conclusion:** The present study provides further evidence for the beneficial effects of chanting Gayatri mantra. We recommend further detailed studies in this area to understand molecular mechanisms involved.

Keywords: Gayatri mantra, Spatial memory, Verbal memory

Introduction

In Indian tradition chanting of Vedic mantras is a part and parcel of life. The sacred Gayatri mantra was explained in Rig Veda. It was initially explained by Vishwamitra maharshi. As it is concerned about sun, it is also called as Savir mantra [1]. In vedas, it was explained that students should perform the chanting of Gayatri mantra before their formal studies. Gayatri mantra was known to improve the intelligence [2]. Research reported that chanting of mantras has positive impact on both physiological and psychological functions of the body [3]. Earlier study reported that chanting Vedic hymns showed improvement in sustained attention in teenaged school students [4].

Vedic chanting activates the hidden powers of the mind and awake these powers [4]. Chanting enhance their ability to focus attention, the spontaneous organization of memory and short term recall. Chanting increases the blood supply to the areas of the brain which are concerned with the memory. Chanting of Om showed a significant decrease in skin resistance

level of the experimental group. It also showed reduction in the heart rate and the rate of breathing. There are several studies where interventions like asana, pranayama, meditation etc, studies on vedic chanting and memory are comparatively less. Hence, the present study was undertaken to provide further scientific evidence for beneficial effect of Gayatri mantra chanting on cognitive functions in elementary school children.

Materials and Methods

Participants- Thirty healthy, willing, hostel students (15 boys and 15 girls) in the age group of 11-14 years were included in the study from a school in Angamaly, Kerala. The approval was obtained from school authorities and consent was taken from the parents of the participants. The participants acted as self-controls.

Design of the study- After recording the baseline values, all the students were trained in Chanting Gayatri mantra for a week day by Veda pundit before the starting of the study. After a week days, the participants started

Manuscript received: 17th February 2018
Reviewed: 27th February 2018
Author Corrected: 6th March 2018
Accepted for Publication: 10th March 2018

chanting the mantra once a day, for five days a week, early in the morning at 6 am under the supervision of Vedic expert for 10 minutes for 16 weeks. Post intervention values were recorded after 16 weeks.

Gayatri mantra- Gayatri mantra was chanted with eyes closed. The participants followed the traditional procedure of chanting it loudly for its best effect to invoke the innate power of effulgence and intellect [4].

Outcome measures- Spatial memory test: The power point presentation consisting of 10 slides was prepared and projected using liquid crystal display (LCD) on the screen. Each slide consists of a simple line diagram which is easy to reproduce. Diagrams which could be verbally described like square, circle, rectangle and pyramid were not included for testing. After showing all the 10 slides, a mathematical problem was projected on the screen and asked to solve the problem. Later the participants were asked to recall all the 10 slides projected and draw on a paper within a minute. The

Results

Results were presented in table no 1. There was a significant increase in the both spatial and verbal memory scores followed by the chanting of Gayatri mantra.

Table-1: Spatial and verbal memory scores before and after intervention

Parameter	Before intervention (n=30)	After intervention (n=30)	P value
Spatial memory	6±3	8±1	0.0010*
Verbal memory	4±2	6±1	0.0001*

*P<0.05 is significant

Discussion

Vedas contain such Mantras which directly help enhance the state of individual. The meaning of Gayatri mantra is “the divine and holy light which pervades all that exists, the significant and adorable sun as I meditate on your supreme and sovereign radiance, may you illuminate and brighten my intellect’ [6]. It was mentioned in Indian tradition that, Gayatri mantra was the mother of all the Vedas and chanting the mantra will remove all sins. In fact reciting the mantra gives equal effect of reciting the four Vedas.

It was reported that chanting Gayatri mantra regularly shall improve learning power, concentration, prosperity, eternal power, peace and improves quality of life. Studies have reported that brain areas such as orbitofrontal, anterior cingulate, parahippocampal gyri, thalami, and hippocampal activity significantly decreased both sides followed by chanting mantras [7]. Other studies demonstrated activation of the medial frontal

gyrus, which is mainly related to mental concentration and visuospatial attention during chanting of mantras. Further, activation of the left lateral middle frontal gyrus, the right angular gyrus, and the right supramarginal gyrus, which are related to visuospatial attention were activated during chanting [8]. Practicing vedic chanting increase the attention by activating the cells in the brain.

Verbal memory test: The power point presentation consisting of 10 slides was prepared and projected using liquid crystal display (LCD) on the screen. Each slide consists of a three letter word like for example ZOL.

After showing all the 10 slides, a mathematical problem was projected on the screen and asked to solve the problem. Later the participants were asked to recall all the 10 slides projected and recollect and present the same on a paper within a minute. The correct answer was given a score as 1 and an incorrect answer was scored as 0. The study used different sets of words on different time periods of data collection [5].

Data analysis: Data was analyzed by using SPSS 20.0. Student t test was used to observe the significance of difference between the groups.

Further it decreases the stress levels and increases the performance of the individual which helps to improve the capability of learning and memory [9]. Decrease in the anxiety and offering calmness of the mind with active cells due to rhythmic Vedic may facilitate memory and sustained attention [10]. Earlier study suggested that chanting improves the memory and attention by influencing both the hemispheres. The study suggested implementation of the Vedic chanting in routine day life style like any other available

interventions like asanas, pranayama, meditation etc [11]. Chanting increases the synchronicity of cardiovascular rhythms when they were recited 6 times a minute.

All these studies indicate that recitation of Gayatri mantra may play a role in improving the memory and concentration. In the present study, we have observed significant improvement in the spatial and verbal memory scores followed by the chanting Gayatri mantra.

Conclusion

The present study provides further evidence for the beneficial effects of chanting Gayatri mantra. We recommend further detailed studies in this area to understand molecular mechanisms involved.

Contribution to existing knowledge: The current study provides further evidence for the improvement in the cognitive functions in students. It provides a base to support inclusion of the chanting in routine day life style.

Funding: Nil, **Conflict of interest:** None initiated, **Perission from IRB:** Yes

Contribution of Authors

Author-1: conception or design of the work, analysis, or interpretation of data for the work, Drafting the manuscript, final approval of the version to be published, agreement to be accountable for all aspects of the work.

Author-2: The acquisition and interpretation of data, revising the manuscript critically final approval of the version to be published, agreement to be accountable for all aspects of the work.

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How to cite this article?

K.A.Manoj Narayanan, N. Venugopalan. Effect of Gayatrimantra chanting on cognitive functions in school children. *Int J Pediatr Res.* 2018;5(3):113-115. doi:10.17511/ijpr.2018.i03.02.

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