



Beneficial effects of 12-week OM chanting on memory in school children

K L Naidu,¹ P Mohan Rao,² Kumar Sai Sailesh,³ Aswathy Gopinath,⁴ Soumya Mishra,⁵ Swathy Ashok,⁶ Arati Amin,⁷ Udaya Kumar Reddy,⁸ Mukkadan J K^{9*}

¹Department of Ophthalmology, GEMS Hospital, Srikakulam, Andhra Pradesh, India.

²Department of Community Medicine, GEMS Hospital, Srikakulam, Andhra Pradesh, India.

³Assistant professor, Department of Physiology, Little Flower Institute of Medical Sciences and Research, Angamaly, Kerala, India.

⁴PG student, Department of Physiology, Little Flower Institute of Medical Sciences and Research, Angamaly, Kerala, India.

⁵Senior Resident, Department of Physiology, JIPMER, Pondicherry, India

⁶Vice- Chairman, Akshara group of Institutions, Manthani, Karimnagar, Telangana, India.

⁷Associate Professor, Department of Physiology, PK Das Institute of Medical Sciences, Ottapalam, Kerala, India.

⁸President, International Stress Management Association (ISMA^{IND}), Hyderabad, Telangana State, India.

⁹Department of Physiology, Little Flower Medical Research Centre, Angamaly, Kerala, India.

Received: 10-09-2014 / Revised: 25-11-2014 / Accepted: 05-12-2014

ABSTRACT

The present study was aimed to provide scientific evidence for beneficial effect of OM chanting on memory. The present study was conducted at Akshara group of institutions, Manthani, Telangana State, India, after obtaining institutional human ethical committee clearance. A total of 60 healthy and willing female school children aged 12-15 years, were included in the study after obtaining informed consent, following inclusion and exclusion criteria. 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. Intervention group participants, performed OM chanting once in a day for 30 minutes daily, between 6:30 AM to 7:00 AM, for 12 weeks under the supervision of yoga teacher. No significant difference was observed in demographic data of the participants. Spatial and verbal memory scores before intervention (baseline values), are not significantly different between control and intervention groups. Significant improvement in both spatial and verbal memory was observed in intervention group when compared to control group. Our study further supports the beneficial effect of OM chanting on memory. We recommend adopting OM chanting in routine day life style for a better cognition and quality of life.

Key words: OM chanting, Spatial memory, Verbal memory, School children.



INTRODUCTION

Pranayama is a yogic practice where the subject prolongs and controls the breath, which helps to bring the conscious awareness in breathing; to reshape breathing habits and patterns.¹ OM is one of the fundamental symbols used in the yoga tradition. It is Combination of A, U (O) and M, which symbolizes the three states of consciousness i.e., waking state, dream state and deep sleep respectively. Though, the sound of OM represents the primal vibration.² The OM chanting is an important exhalation exercise.³ The Vedic chanting generates frequencies and the sympathetic

overtones generated, which have a vibration pattern of their own and influences autonomic nerves, and influences the two hemispheres of the cerebral cortex.⁴ Earlier studies reported that, OM chanting significantly decreased heart rate and respiratory rate and skin resistance.⁵ Existing literature supports that different yogic practices like *asana*, *pranayama*, and meditation can be used as an intervention to enhance memory and concentration.⁶ However, little literature exists to support effect of OM chanting on memory. Hence, the present study was aimed to provide scientific evidence for beneficial effect of OM chanting on memory.

*Corresponding Author Address: Dr. Mukkadan J K, Department of Physiology, Little Flower Medical Research Centre, Angamaly, Kerala, India.

MATERIALS AND METHODS

Participants: The present study was conducted at Akshara group of institutions, Manthani, Telangana State, India, after obtaining institutional human ethical committee clearance. A total of 60 healthy and wiling female school children aged 12-15 years, were included in the study after obtaining informed consent, following inclusion and exclusion criteria. Unwilling participants and with any diseases were excluded from the study. The selected participants were randomly assigned into two groups.

Group A: (n=30) Control group (Neither OM chanting nor any meditation was performed)

Group B: (n=30) Intervention group (OM chanting was performed once in a day, daily for 12 weeks)

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.³ Intervention group participants performed OM chanting once in a day for 30 minutes daily, between 6:30 AM to 7:00 AM, for 12 weeks under the supervision of yoga teacher.

Outcome measures:

Assessment of memory: Spatial and verbal memory test, described in the literature were used.

The test was conducted in consultation with the psychiatrist of our hospital.^{7,8,9}

Ethical consideration: The study was approved by Institutional Ethics Committee. The study was performed in accordance with the "Ethical Guidelines for Biomedical Research on Human Participants, 2006" by the Indian Council of Medical Research and the Declaration of Helsinki, 2008.

Data analysis: Data was presented as mean \pm SD. Data was analyzed by SPSS 20.0. Tests used are student t test. P value <0.05 was considered as significant.

RESULTS

Table 1 presents demographic data of the participants. No significant difference was observed in demographic data of the participants. Table 2 presents spatial and verbal memory scores before intervention (baseline values), which are not significantly different between control and intervention groups. Table 3 presents spatial and verbal memory scores after the intervention. Significant improvement in both spatial and verbal memory was observed in intervention group when compared to control group.

Table 1: Demographic data of the participants

Parameter	Control group (n=30)	Intervention group (n=30)	P value
Age(years)	13.615 \pm 1.19	13.308 \pm 1.18	0.515174
Height (cm)	144.85 \pm 6.67	145.85 \pm 8.18	0.735674
Weight (kg)	43.538 \pm 3.86	43.462 \pm 4.43	0.96275

Data was presented as Mean \pm SD.

Table 2: Spatial and verbal memory scores of participants before intervention

	Control group (n=30)	Intervention group (n=30)	P value
Spatial memory	5.4615 \pm 1.66	5.6154 \pm 2.60	0.858876
Verbal memory	3.3 \pm 1.77	3.6 \pm 1.78	0.709389

Data was presented as Mean \pm SD. (*P <0.05 is significant, **P <0.01 is significant, ***P <0.001 is significant)

Table 3: Spatial and verbal memory scores of participants after intervention

	Control group (n=30)	Intervention group (n=30)	P value
Spatial memory	5.636 \pm 1.96	7.272 \pm 1.27	0.031037*
Verbal memory	3.9 \pm 1.85	5.7 \pm 1.16	0.008972*

Data was presented as Mean \pm SD. (*P <0.05 is significant, **P <0.01 is significant, ***P <0.001 is significant)

DISCUSSION

It was reported that exceptionally intelligent people use only 7% of real potential of their brain and about 93% of brain potential is still remain unused dormant and unnoticed.¹⁰ OM chanting was

described in the ancient India scripture was an simple and practical method for systematic training toward the realization and resuming the dormant capabilities of the brain.¹⁰ The vibrations produced during OM chanting, changes the energetic structure of mind. Earlier studies reported

significant improvement of memory followed by OM chanting.^{11,12} OM chanting produces calming effect to mind and relaxes the body.¹⁰ It was reported that OM chanting reduces stress and improves concentration and attention.¹² OMKAR recitation improves memory by increasing the efficiency of cells and the concerned organs. We agree with earlier studies as we have observed improvement in both spatial and verbal memory in children followed by OM chanting.

CONCLUSION

Our study further supports the beneficial effect of OM chanting on memory. We recommend adopting OM chanting in routine day life style for a better cognition and quality of life.

ACKNOWLEDGEMENT

Our sincere thanks to all the children and their parents for their support. Sincere thanks to Mr. P. Ashokan, Chairman, Akshara group of institutions for his support and suggestions.

REFERENCES

1. Ankad RB, Herur A, Patil S, Shashikala GV, Chinagudi S. Effect of short-term pranayama and meditation on cardiovascular functions in healthy individuals. *Heart Views* 2011;12:58–62.
2. Kumar S, Nagendra H, Manjunath N, Naveen K, Telles S. Meditation on OM: Relevance from ancient texts and contemporary science. *Int J Yoga* 2010;3:2–5.
3. Saxena T, Saxena M. The effect of various breathing exercises (pranayama) in patients with bronchial asthma of mild to moderate severity. *Int J Yoga* 2009;2:22–5.
4. Harish Johari, *Tools of Tantra* (Inner Traditions, USA), 1986, 23.
5. Telles S, Nagarathna R & Nagendra HR. Autonomic changes while mentally repeating two syllables – One meaningful and the other neutral. *IJPPA* 1998; 42(1): 57-63.
6. Sripad Ghaligi, H R Nagendra, Ramachandra Bhatt. Effect of *Vedic* chanting on memory and sustained attention *Indian Journal of Traditional Knowledge* 2006; 5(2);177-180.
7. Baddeley AD. *Your memory – a user’s guide*. New York: Avery, 1993.
8. Naveen KV, Nagarathna R, Nagendra HR, Telles S. Yoga breathing through a particular nostril increases spatial memory scores without lateralized effects. *Psychol Rep* 1997; 81: 555–561.
9. Meesha Joshi and Shirley Telles. Immediate effects of right and left nostril breathing on verbal and spatial scores. *Indian J Physiol Pharmacol* 2008; 52 (2) : 197–200.
10. Kanchan Joshi. Effect of Nadishodhan Prayayama and Om chanting on Memory Enhancement of College Students. *International Journal of Yoga and Allied Sciences* 2012;1(1): 52-57.
11. Bhole, Gore M.M., & Rajkumar. Effect of low pitched Om recitation (Omkar) on some selected psychophysiological parameters *Yoga Mimamsa* 1993; 31(4): 159-175.
12. Ganguly, S.K. Effect of Om chanting on concentration power & reduction stressful condition. *Yoga Mimamsa* 2005; 36(3):pp-211-215.