

Part I

The Psycho Physiological Effects of Sūrya Namaskāra According to Various Ancient texts.

Part II

A Study of the Role of “Combined Yoga technique In Children’s Memory.”

Dissertation submitted by

VIKAS RAWAT

Under the Guidance of

Dr. RAMACHANDRA G. BHAT.

Dr. GEETHA APPACHU

Dr. H.R. NAGENDRA

PART I - LITERARY RESEARCH

THE PSYCHO PHYSIOLOGICAL EFFECTS OF SŪRYA NAMASKĀRA ACCORDING TO VARIOUS ANCIENT TEXTS.

ABSTRACT.

Sūrynamaskāra (an ancient Indian yoga) is the art of solar vitalization. "Sūrynamaskāra" is Sanskrit word, which means obeisance or prostrations (Namaskāra) to the sun (Sūrya). It is a complete meditative technique in itself as it includes Asanas, Pranayama, Mantras and Mudras. Sūryanamaskāra is yogic practice, consist of twelve yoga postures. These postures generate prānā, the subtle energy, which activates the psychic body. In yogic physiology the body consists of physical, pranic, mental, intuitive and spiritual components. The more subtle aspects are the more powerful. Mind drives the body. The mind and the body are inseparable. They are intimate and in the final analysis depend on each other for their existence. At the same time, the power of the mind is unimaginable. Yogic techniques aim at developing flexibility in the body and mind.

SUMMARY AND CONCLUSIONS

SUMMARY

Sūryanamaskāra is yogic practice, consist of twelve yoga postures. The twelve postures create the physical matrix around which the form of the practice is woven. These postures generate prānā, the subtle energy, which activates the psychic body. In yogic physiology the body consists of physical, pranic, mental, intuitive and spiritual components. The mind and the body are inseparable. They are intimate and in the final analysis depend on each other for their existence. At the same time, the power of the mind is unimaginable. Yogic techniques aim at developing flexibility in the body and mind. The physical stimulation from each āsana enhances prāṇa śakti, allowing us to better focus and concentrate our mental and physical energies at the Chakra location.

CONCLUSION

In conclusion, sūryanamaskāra is a complete meditative technique in itself as it includes āsana, prāṇāyama mudrā and mantra. It is a practice for the strength of the body, senses, and the mind, and for the elimination of diseases and also for inner happiness and ultimate liberation from trans-migratory existence. Therefore, to become healthy and happy one should practice the sūryanamaskāra in accordance with scriptural injunctions.

BIBLIOGRAPHIES

1. Atmabindu. (2004). Suryanamaskara - Teach yourself the Sun Salute. Srishti Publishers and distributors, New Delhi.
2. Gore M. (2008). Anatomy and Physiology of Yogic Practices. New age books. New Delhi.
3. H David Coulter. (2004). Anatomy of Hatha Yoga. Motilal Bandarsidass Publishers Private Limited. Delhi.
4. Jois K.P. (2002). Yoga Mala. North Point Press, New York.
5. Nagarathna R, Nagendra H R. (2007). Integrated Approach Of Yoga Therapy for Positive Health. Swami Vivekananda Yoga Prakashana. Bangalore.
6. Niranjananda, S. Swami. (2002). Yoga Darshan Vision of the Yoga Upanishads, Munger: Yoga Publication Trust.
7. Panth. A, Suryanamaskara- An ancient Indian exercise. Mumbai Sangam Books. (1975)
8. Sarswati S. S. (2007). Surya Namaskara – A technique of Solar Vitalization. Yoga Publication Trust, Munger.
9. S Dutta Ray. (1998). Yogic Exercises Physiologic and Psychic processes. Jaypee Brothers Medical Publishers (P) LTD. Delhi.Trust, Chennai.

10. Sarvananda S, Isavasya Upanishad. Sri Ramakrishana Math Printing Press.
11. Sarswati S. S. (2007). A Systematic course in the Ancient Tantric Techniques of Yoga and Kriya. Yoga Publication Trust, Munger.
12. Suryanamaskara - An Instruction Booklet. (2004). Vivekananda Kendra Prakashana
13. Swami Anandananda. (1972). Health and Yogasana. Sanskriti Prakashan. Jaipur.
14. Svämé Gambhéränanda. (1988). Muëòka Upaniñad with commentary of Ädi Çaikaräcärya, Advaita Ashrama Mayavati, Himalayas,
15. Svämé Gambhéränanda. (1980). Taittiréya Upaniñad with commentary of Ädi Çaikaräcärya, dvaita Ashrama Mayavati, Himalayas, 1980.
16. Swami Niranjanananda Saraswati. (2002). Prana Pranayama Prana Vidya. Yoga. Publication Trust, Munger, Bihar, India. 2nd edition 2002.
17. Swami Nityänanda. (1983). Symbolism In Hinduism, ,Central Chinmaya Mission Trust,
18. Swämé Prabhänanda. (1978). Mäëòükya Upaniñad, Ramakrishna Mission Institute of Culture, Gol Park, Kolkata India,
19. Swami Satyananda Saraswati. (2007). A systematic course in the Ancient Tantric Techniques of Yoga and Kriya.
20. Svämé viñëu devänandä, Meditation and Mantras, Om latus Publishing company New York New York 10011,1981.

PART II

A Study of the Role of “Combined Yoga technique In Children’s Memory.”

ABSTRACT

OBJECTIVES: This work put forth the following objectives: To study the effect of Combined Yoga Practice on Memory; to analyse significant difference between the memory scores of the group before yoga practice and after; to analyse significant difference between the academic performance of this yoga group before yoga practice and after; and to study the differences in memory scores of the yoga group with the Non yoga (control group) group.

METHODS: In this stratified randomized control study 60 children satisfied the inclusion and exclusion criteria. 30 consenting boys were in Yoga group and 30 were in Non Yoga (control group).

The data of the subjects in the two groups were analyzed to find out the effectiveness of regular sessions of combined yoga practice in improving

memory.

The Yoga group experienced combined yoga practices comprising of Surya namaskara, Gayatri mantra chanting and Nadisuddhi Pranayama in scheduled and supervised sessions every day. The control group managed their normal routine activities. Wechsler Memory Scale and the percentage academic records of marks scored in school examinations was assessed before and after 25 days as Pre and Post assessments. Pre assessment data of the Yoga group and Non Yoga group (Control group) were checked for normal distribution by using Shapiro-Wilk test. The data shows a slight deviation from normality (Shapiro-Wilk test), so non-parametric testing was adopted. Pre-post comparisons of the 1st day and 25th day of the Yoga group and Non Yoga group (Control group) were done using Mann-Whitney test. The two groups show no significant difference in Pre assessment: (Mann-Whitney test). There is a significant difference in the Post assessment (Mann-Whitney test). Thus, the mean of the yoga group is significantly greater than that of the Non Yoga (Control group).

The academic records of the participants of the Yoga group and Non Yoga group (Control group) was subject to t-test to analyze the significant change in the academic percentage of marks from Pre testing condition to Post testing condition.

RESULT: The findings are discussed with reference to the hypothesis Regular practice of Surya namaskara, Gayatri mantra chanting and Nadisuddhi Pranayama as a combined practice improves memory. This hypothesis was proved by the yoga group.

The combined yoga practice was able to influence the participants in their performance on the memory test and also their academic records.

Key words: Combined Yoga Practices, Memory.

DISCUSSION AND CONCLUSION

The present study evaluated the changes after Combined yoga practice and normal routine activity in school going children through their academic records and the Wechsler Memory Scale test at the beginning and at the end of 25 days. For this study the design was two groups pre-post comparison. Independent Wilcoxon test and for between group comparisons repeat measures Mann-Whitney test was tabulated. There was a significant change in

academic scores in both yoga group and Non yoga (Control) group, but the percentage of change was high in yoga group when compared with the non yoga control group. Both groups show a significant pre-post improvement: $p < 0.001$ for both groups (Wilcoxon test). in memory as assessed by Wechsler memory scale after 25 days of combined yoga practice.

The objectives was, To study the effect of a combined yoga Practice on memory, to analyse significant difference between the memory scores of the group before yoga practice and after, to analyse significant difference between the academic performance of this yoga group before yoga practice and after and to study the differences in memory scores of the yoga group Non yoga (control group) with another group. Tools used for this study was WMS and Academic records of the students from school examinations. WMS consists of seven subtests.

The data of the subjects in the two groups (30 school students in each group) were analyzed to find out the effects of combined yoga practice of Sūryanamaskāra, Gayātri Mantra chanting, and Nāḍīśuddhi Prāëyāma on school student's memory.

The findings are discussed with reference to the hypothesis Regular practice of Sūryanamaskāra, Gayātri Mantra, and Nāḍīśuddhi Prāëyāma as a combined practice improves memory. This hypothesis was proved by the yoga group. The mean of the yoga group (95.63 ± 12.00) is significantly higher than that of the control group (87.90 ± 7.94). The combined yoga practice was able to influence the participants in their performance on the memory test.

References

- Bera T K & Rajapukar M V. (1993). Body composition cardiovascular endurance and anaerobic power of yogic practitioner. *Indian J of Physiol Pharmacology* ; 37(3), 225-228.
- Biswajit, M, Nagarathna, R & Nagendra H. R. (2004). A study of three comparative yoga modules on Associative Memory of school children (13-17yrs). A thesis submitted for M Sc (Yoga) to SVYASA University, Bangalore.
- Clifford. T. Morgan. *Introduction to Psychology*. Tata Mc Graw Hill Publishing Company Ltd. Seventh edition.
- James v. Mc Connell. (1980). *Understanding Human Behaviour*, Rinehart &

Winston, USA.

- Manjunath, NK & Telles S. (2004). Spatial and verbal memory test scores following yoga and fine arts camps for school children. *Indian J of Physiol Pharmacology*; 48(3), 353-356.
- Margaret W. Matlin. (1995). *COGNITION*. State University of New York, Geneseo, A Prism Indian Edition.
- Manjunath NK & Telles S. (2001) Improved performance in the Tower of London test following yoga, *Indian J of Physiol Pharmacology*.45(3), 351-354.
- Munn's Introduction to Psychology. Fernald/Fernald fifth edition.
- Mallikarjuna, Nagendra, H. R & Nagarathna R. (2004). A Comparative study of three different Yoga modules on Logical Memory in school children. Thesis submitted for Master Degree in Yogic Sciences to SVYASA University, Bangalore.
- Nagendra, H. R. (1999). *Pranayama*. Bangalore: Vivekananda Kendra Yoga Prakashana.
- Nagendra, H. R. (1999). *Pranic Energisation Technique (PET)*. Bangalore: Vivekananda Kendra Yoga Prakashana.
- Naveen K V, Nagarathna R., Nagendra H R., Telles S. (1997).Yoga breathing through a particular nostril increases spatial memory scores without lateralized effects. *Psychological reports*.81(2), 555-561.
- P Nataraj.(1996) *Psychology for beginners* Srinivasa Publication.
- Rakesh J D. (2006). A Comparative Study Of Suryanamaskara And Physical Exercises On Adolescents, A thesis submitted for M Sc (Yoga) to SVYASA University, Bangalore.
- Sudarshan B O. (2009). *Suryanamaskara On Stress Management- A Randomized Waitlisted Control Study*. A thesis submitted for M Sc (Yoga) to SVYASA University, Bangalore.
- Swami Niranjanananda Saraswati. (2002). *Prana Pranayama Prana Vidya*.

Yoga. Publication Trust, Munger, Bihar, India. 2nd edition 2002.

- Sarswati S. S. (2007). A Systematic course in the Ancient Tantric Techniques of Yoga and Kriya. Yoga Publication Trust, Munger.
- Suryanamaskara - An Instruction Booklet. (2004). Vivekananda Kendra Prakashana
- Swami Anandananda. (1972). Health and Yogasana. Sanskriti Prakashan. Jaipur.
- Nagendra H.R., Swamy N.V.C., Mohan.T. (2003). Pätäejäli's Yoga Sūtra, Swamy Vivekananda Yoga Prakashana,
- Telles. S. Yoga and Memory Vivekananda Kendra Yoga Prakashan Bangalore.
- Telles, S, Raghuraj,P., Nagendra,H.R., & Maharana S. (2007). Immediate effect of three yoga breathing techniques on performance on a letter cancellation task. Perceptual and motor skills, 104(3pt2):1289-96.
- Wechsler, D. (1917). Retention defect in Korsakoff's Psychosis. Psychiat. Bull., 2: 403-451.
- Wechsler, D. (1945). A Standardized memory Scale for Clinical Use. Journal of Psychology; 19: 87-95.
- Williams, J.M. (1990). Memory Assessment Scales (manual). FL: Psychological Assessment Resources, Inc.
- Taimni I K. (1961). The Science of Yoga. The Theosophical Publishing House. Adyar.
- Tharangini. V.(2007). A Comparative Study Of Suryanamaskara And Physical Exercises On Visual Reaction Time In Adolescents, A thesis submitted for M Sc (Yoga) to SVYASA University, Bangalore.