

Effect of Surya Namaskar and Maharasana practices on selected physiological, hematological and psychological variables during neck pain, shoulder pain, hip pain and back pain for middle aged women

Dr. S. Prasath, Lecturer, Department of Yoga for Human Excellence, WCSC Vision, SKY Research Centre, Aliyar, Coimbatore, Tamil Nadu, India, **K. Nagarasan**, Research Scholar, Department of Yoga for Human Excellence, WCSC Vision SKY Research Center, Aliyar, Coimbatore, Tamilnadu, India, **S. Chellappa**, Research Scholar, Department of Yoga for Human Excellence, WCSC Vision SKY Research Center, Aliyar, Coimbatore District, Tamil Nadu, India.

Abstract

The science and art of yoga was originated in ancient India when remedial measures are not available to cure diseases in the form of medical treatment. The yogic practices were discovered for the healthy living of human. This practice maintains harmony between physical, life and spiritual energy. Mind harmonizes all these energy and function as immunity to our physical body. The body pain occurs due to short circuit in any one of the circulation of blood, air and heat. This happens due to weak back muscles, inflexibility of muscles, muscular strain and stiffness, muscular insufficiency and tendons. The free flow of life energy is affected due to this. In the middle aged people it is common and in women it is very common because of their sedentary life style, maintaining poor posture in sitting, standing, sleeping or bending the body effectively and correctly because of weak muscles. Yoga techniques helps to overcome such aches or pain by providing systematic exercise that strengthen the back. The main therapy for these cases are strengthening and relaxing the muscles where the pain is felt. Physical exercises and asana like Surya Namaskar and Maharasana make a major contribution by tightening and strengthening flabby abdominal muscles so that they can play their correct role in maintaining proper posture. The present study is that the above yogic practices reduces or control such pains. For this study thirty middle aged women with back pain between the age group of 40 to 45 were selected and they were divided into two groups, one is experimental group and the other is control group and each group with fifteen subjects. The experimental group was intercepted with Surya Namaskar and Maharasana exercises as contemplated by Sri Swamiji Vethathiri Maharishi in the simplified physical exercises. These practices were given to them for a period of 12 weeks on all the seven days of a week and one hour a day. After these practices the pain sustained by the subjects reduced significantly. To find out the effects the measurements of variables such as heart rate, blood pressure, hemoglobin, red blood cells, white blood cells, stress, and anxiety were noted before and after the practices for both the groups.

Key Words: Asana, Surya Namaskar, Maharasana, Relaxation and SKY Simplified Physical Exercises.

Introduction

India is a place where Rishis and Sages developed a disciplined peaceful life and yogic practices are the basis for this. The father of yoga Patanjali formed the Astanga Yoga in his Yoga Sutra which consists of Yama, Niyama, Asana, Pranayama, Prityahara, Tharana, Dhyana and Samathi. These practices were developed with an object that man shall live with peace without any disturbance in his mental or physical body. The people lived in that age thought that man shall not suffer from diseases and discomfort. These intentions emerged as yogic practices which disciplines the physical, mental, life and spiritual forces within us. They felt that peace could be obtained only by disciplining and harmonizing the forces within us. The purpose of life could be achieved only through these practices. The yogic practices underwent various stages of evolution from its origin as and when new life styles come into existence. Various diseases have also been detected when the life style of man changes. Now the people start to feel that the yogic practices have some effect in maintaining the health. These practices including the food habit has a direct effect on the physical, mental and spiritual health and the social well-being of the society. It has a direct impact on molding the character of a person and the society. This practices control or reduces the foreign

bodies which cause diseases. They activate the parts of the physical body and the mental well-being when the said forces are harmonized.

Reason for the selection of the study

The authors of this study are the lecturer and research scholars worked and working in police department has great interest in reducing or curing the back pain as their duty is painful enough in standing and moving with strain. In the midst of the tireless job they chose to practice yoga and found that the Simplified Kundalini Yoga especially the effects of Maharasana in curing body pain especially back pain. They took Physiological, Psychological and Hematological variables to study the effect of Maharasana, as there was no attempts were made to find out the effect of Maharasana for the middle aged people especially women, this study has been made by these research scholars.

Methodology

The design to conduct the experiment was identified. The hypothesis of the study was tested from the sample of the middle aged group women between the ages of 40 to 45 years. The tests provide a systematic and logical way of answering the research questions. This is the best way to establish cause and effect relationships between the variables. It helps to test hypothesis of casual relationships between the variables. Experimentation is the most scientifically sophisticated process. The procedure in this design is listed below: Testing the group 1. Introducing the intervention, 2. Giving the treatment, 3. Testing again, 4. Noting the gains

Experimental design

For this study thirty middle aged women were selected and they were divided in to two groups' namely experimental group and control group. Each group consists of fifteen subjects. The initial and final tests on the selected variables such as heart rate, blood pressure, hemoglobin, red blood cells, white blood cells, stress, anxiety, were administered for experimental group and control group. The Maharasana exercise was given to the selected subjects on all the seven days of the week for a period of 12 weeks between 5.30pm to 6.30pm daily at the Simplified Kundalini Yoga Centre situated at the campus of the Police Quarters, Coimbatore. The experimental group consisted of fifteen middle aged women between the age group of 40 to 45 who were given the practice of Surya Namaskar, Accue Pressure, Maharasana and Relaxation. The following table shows the training schedule and the duration of the training. The schedule of the yoga practices is as follows:

First Week	Suryanamaskar, SKY Simplified Physical Exercises with maharasana and relaxation.
Second Week	Suryanamaskar, SKY Simplified Physical Exercises maharasana and relaxation.
Third Week	Suryanamaskar, Maharasana and relaxation.
Fourth Week	Suryanamaskar, Maharasana and relaxation.
Fifth Week	Suryanamaskar, Maharasana and relaxation.
Sixth Week	Suryanamaskar, Maharasana and relaxation.
Seventh Week	Suryanamaskar, Maharasana and relaxation.
Eighth Week to Twelfth Week	Suryanamaskar, Maharasana and relaxation.

Back Pain: Pain occurs due to short circuit in any one of the circulation of blood, air and heat. If it is causes on the spine and the nearby tissues the back pain occurs. This happens due to weak back muscles, inflexibility of muscles, muscular strain and stiffness, muscular insufficiency and tendons. The free flow of life energy is affected due to this. In the middle aged people it is common and in women it is very common because of their sedentary life style, maintaining poor posture in sitting, standing, sleeping or bending the body effectively and correctly because of weak muscles. About 80% of middle aged people are suffering from back pain. It comes in many forms, from lower back pain, middle back pain, or upper back pain to low back pain. Diseases like tuberculosis, cancer and osteomyelitis may also affect when the bones of the spine are affected. Similarly slipped discs, fractures and dislocations may cause back ache. But they are in very small proportions. There are other common causes of pain in the spine which can be managed successfully by yoga techniques.

Physiological changes: Back pain is common and affects most people at some point in their life. It usually feels like an ache, tension or stiffness in our back. The pain can be triggered by sitting badly, bending or sitting awkwardly, or lifting incorrectly. Back pain is not generally caused by a serious disease and, in most cases, gets better within 12 weeks. It is most common in the lower back, although it can be felt anywhere along the spine, from neck down to hips. The different types of back pain are: neck pain, whiplash, shoulder pain, frozen shoulder, ankle losing spondylitis, slipped disc, sciatica.

Psychological changes: The state of mind can play an important role during such pain. Living with the pain can make it hard to be cheerful, but research has shown that people who remain positive tend to recover faster than those who get depressed.

Preventing back pain: Yoga techniques helps to overcome such aches or pain by providing systematic exercise that strengthen the back. The main therapy for these cases are strengthening and relaxing the muscles where the pain is felt. Physical exercises and asana like surya namaskar, maharasana and relaxation make a major contribution by tightening and strengthening flabby abdominal muscles so that they can play their correct role in maintaining proper posture. There is a procedure to sit, stand, lift and lie down. It has an important effect on the health of the backside of the physical body. One must try not to place too much pressure on his back and ensure his back is strong and supple. Regular exercise, such as walking and swimming, is an excellent way of preventing back pain. Activities such as practicing yoga can improve the flexibility and the strength of the back portions muscles.

Surya Namaskar: This is a preparatory exercise to stretch and relax the muscles for doing other physical exercises and asanas. These exercises are done concentrating the body parts and breathing and by doing so with the help of the mind, the mind being the wave uniting the physical strength, life energy and the spiritual energy.

Maharasana: "Maharasana" is one of the most important yogic exercises in the Simplified Kundalini Yoga (SKY) synthesized by Thathuva Jnani Vethathiri Maharishi. This can be learnt and practiced by any one easily. Maharasana exercise is performed while lying on the back, and then lying on the stomach providing movement to the whole body. The entire body, the spinal cord and the nerves arising from it are all activated through this exercise. This exercise was formed on observing the movements of the reptiles since they move fast and steady with the strength of the vertebrae. During the movement of the entire body while doing these exercises the mind is focused on the spinal column and it is strengthened with the help of the magnetic force of the mind. Harmony is developed with the physical energy, life energy and the spiritual energy.

Selection of Variables: To study the effect of Maharasana the following variables were selected, The measurements of the variables were noted before and after the intervention of the yogic Practices.

Physiological Variables: Heart rate, Blood Pressure

Hematological Variables: Red blood cells, White blood cells, Hemoglobin

Psychological Variables: Stress, Anxiety

Statistical Technique: The collected data on the two group's namely experimental group and control group were statistically analyzed using t' test.

Result and Discussions: Result of Heart Rate.

Table-I-“t” ratio for heart rate (score in minutes)

S.No.	Group	Mean		S.D		Obtained value	Table value
		Pre	Post	Pre	Post		
1	Control Group	109.93	113.73	9.07482	6.43	2.861	2.145
2	Exp.Group	114.53	109.00	1031	9.88	11.14	

Significant, at 0.05 level of confidence, df=(14) at 0.05level=2.145

Result of systolic pressure

Table-II “t” ratio for systolic (score in mmhg)

S.No.	Group	Mean		Standard		Obtained value	Table value
		Pre	Post	Pre	Post		
1	Control Group	4.74	4.77	.58	.54		2.145
2	Exp. Group	4.80	4.92	.54	.54	4.532*	

*significant, at 0.05 level of confidence, df=(14) at 0.05 level=2.145

The experimental group was significant at 0.05 level of confidence. The result indicated that the exercise Maharasana had significantly influenced on heart rate due to the influence of 12 weecks training among the middle aged women.

Table-III The “t” ratio for diastolic pressure (score in mmhg)

S.No.	Group	Mean		Standard		Obtained value	Table value
		Pre	Post	Pre	Post		
1	Control Group	11.04	11.66	2.81	1.16	2.510	2.145
2	Exp. Group	13.02	14.66	2.33	3.17	4.532*	

*significant, at 0.05 level of confidence, df=(14) at 0.05 level=2.145

Discussion on findings: The result indicated that Maharasana had influenced significantly on diastolic pressure among the middle aged women.

Table-IV The “t” ratio for hemoglobin (score in mumm)

S.No.	Group	Mean		Standard		Obtained value	Table value
		Pre	Post	Pre	Post		
1	Control Group	71.40	73.53	8.79	8.82	1.38	2.145
2	Exp. Group	68.13	64.00	8.79	8.22	4.05*	

*significant, at 0.05 level of confidence , df=(14) at 0.05 level=2.145

Discussion on findings: The result indicated that Maharasana had influenced significantly on hemoglobin among middle aged women.

Table V The “t” ratio for red blood test (score in mumm)

S.No.	Group	Mean		Standard		Obtained value	Table value
		Pre	Post	Pre	Post		
1	Control Group	53.5	53.00	4.99	5.00		2.021
2	Exp. Group	51.2	42.00	4.89	4.86	2.93	

*significant, at 0.05 level of confidence , df=(14) at 0.05 level=2.021

Discussion on findings: The result indicated that Maharasana had influenced significantly on red RBC blood test among the middle aged women.

Table V I The “t” ratio for red blood test (score in points)

S.No.	Group	Mean		Standard		Obtained value	Table value
		Pre	Post	Pre	Post		
1	Control Group	14.92	14.096	12.40	12.53	20.1	2.021
2	Exp. Group	13.17	12.86	13.00	12.13	1.19	

*significant, at 0.05 level of confidence, df=(14) at 0.05 level=2.021

Discussion on findings: The result indicated that Maharasana had influenced significantly on anxiety among the middle aged women.

Table V I I The “t” ratio for red blood test (score in points)

S.No.	Group	Mean		Standard		Obtained value	Table value
		Pre	Post	Pre	Post		
1	Control Group	69.06	70.06	6.21	5.61		2.145
2	Exp. Group	71.33	70.60	7.50	8.05	0.306	

*significant, at 0.05 level of confidence, $df=(14)$ at 0.05 level=2.021

Discussion on findings: The result indicated that Maharasana had influenced significantly on stress among the middle aged women.

Conclusion

Within the limitation of the study following conclusion were drawn. In this study, there was no change in the heart rate and blood pressure, but the training was maintaining physiological value of heart rate and blood pressure. Maharasana had significantly influenced and increases the value of white blood cells, red blood cells, hemoglobin blood, in middle aged women during pre and post menstrual cycle. Due to influence of Maharasana practices to the subjects the stress and anxiety were significantly reduced at the end of twelve weeks among the middle age women.

References

1. Fuderburk James, Science Studies Yoga, New York: Himalayan International Institute of Yoga Science and Philosophy. U.S.A. 1977.
2. James Hewit, The Complete Yoga Book. London: Rider and Company, 1983.
3. Mishra, Dr. J.P.N., Yoga for Common Ailments. New Delhi: Health Harmony, 1999.
4. Silva, Mira and Shyyam Mehta, Yoga – The Iyengar Way. London: Dorling Kindersler Ltd., 1990.
5. Nagaratna R. and Dr. Nagaendra H.R., (2004), Yoga for Back Pain, Yog Publication Trust, Ganga Darshan, Munger, Bihar.
6. Swami Karmananda, Dr., Yogic Management of Common Diseases. Bihar, India: Bihar School of Yoga, 1983.
7. Swami Muktananda, Nawa Yogini Tantra Yoga for women. Bihar, India: Bihar School of Yoga 1983.
8. Thathuvagnani Vethathiri Maharishi, Simplified Physical Exercises. Erode, India: Vethathiri Publications, 1977.
9. Udupa K.N., (2007), Stress and its Management by Yoga, published by Motilal Banarasi Das, New Delhi.
10. Vivekananda, Rishi, (2006), Practical Yoga Psychology, Yog Publication Trust, Ganga Darshan, Munger Bihar.
11. Wood Earnest, Yoga. Victoria: Penguin Books Limited, 1962.
12. Yogiraj Vethathiri Maharishi, Yoga for Modern Age. Erode, India: Vethathiri Publications, 1994.
13. Sarno, John E. (1991). *Healing Back Pain: The Mind-Body Connection*. Grand Central Publishing. ISBN 0-446-39230-8
14. Melkote GS. Science of Yoga versus modern medicine in Seminars on Yoga. (CURI MHE) New Delhi. 1975:190-202.

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