

“Effect of Yogic Lifestyle on ESR, RBC and Blood Pressure among College going Girl Students”

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Abstract

Background: There are many influencing factors for diseases. Various diseases arise due to imbalance of blood pressure. ESR, R.B.C. Due to blood infection that increases the level of plasma in the blood due to which ESR. level increases and R.B.C. count is less, which is a major cause of low blood pressure. There are several studies in medical field to find that increasement of ESR is the cause of several diseases. Yogic lifestyle (Asana, Pranayam, Mudra, Bandha, Shatkarma, Meditation and Yogic Diet) is preventive intervention for ESR, RBC, and Blood pressure. **Objectives:** “To study the Effect of Yogic Lifestyle on Erythrocyte sedimentation rate (ESR), Red blood cells (RBC) and Blood Pressure among College going Girl Students. **Methods:** The study was an experimental study with single group pretest- posttest design, which was conducted on 30 girls’ participants with age group of 18-30 years in certificate course of Dev Sanskriti Vishwavidyalaya. all girls were practicing yogic lifestyle (Mantra, Asan, Pranayama, Mudra-Bandha, Shatkarma, Meditation and Yogic Diet) for a period of 3 month. ‘t’ test was used for statistical analysis. **Result:** yogic lifestyle was positively affected the ESR, RBC and Blood Pressure at significant level of 0.01 **Conclusion:** the result suggests that the yogic lifestyle can be effective for ESR, RBC and Blood Pressure among College going Girl Students.

Keyword: Erythrocyte sedimentation rate (ESR), Red blood cells, Blood Pressure, College going Girl Students”

Introduction:

In the present scenario human beings are highly sensitive for physical diseases. There are many influencing factors for diseases. If a person takes precautions against those influencing factor, people can save himself from diseases. If there is no proper functioning of the internal and external organ of the body and poor coordination of adrenal glands of the body. it can be major influencing factor for growing diseases in our body. Due to many biochemical changes in the body indicate the progressive symptoms of the disease. Such as Congenital, Genetic, Lack of Immunity, lack of essential elements and hypo and hyper secretion of hormones or excessive growth of any organs, Repetitive Infections, and inflammation, etc. If we want to free form these symptoms, we mustd one proper test of biochemical parameters such as blood parameter, ESR, proper monitoring of blood pressure. By proper testing of blood parameters and physical parameters we have to aware many types of upcoming diseases can be known. And we can manage disease in initial level before the sever stage of any kind of disease. Because “prevention is better than cure”. Many types of diseases arise due to imbalance of blood pressure. ESR, R.B.C. Due to blood infection that increases the level of plasma in the blood due to which ESR. level increases and R.B.C. count is less, which is a major cause of low blood pressure. There are several studies in medical field to find that

increasement of ESR is the cause of several diseases. Research shows that 70% of people who have an E.S.R. was increased Among them, 29% people have malaria, 48% people have p. vivex infection and in 22 cases p. falciparum infection was found. (Pradhan M and Pradeep Jadhav 2013). In Indian women RBC Count is low as compared to men and found level of Hemoglobin was low 0.7 gm/dl and MCH is also found to be low. MCV was also found to be less than 7. (Deepak Kumar, PS Reddy 2013). Out of 254 patients, 49%, especially women, suffer from Hypotension. Which is a risk factor for cardiovascular diseases. (P. E. Owen, S. P. Lavon's and E.T.O.2000).

Materials and Method

In the present study, 'Pre-test - post-test single group' research design was used. By random sampling method, 30 newly girl students in the age group of 18-30 years of certificate course from Dev Sanskriti Vishwavidyalaya were assign for the study. And before the practicing of yogic lifestyle, their ESR is measured by the Westergren method and RBC count by hemocytometer and Blood pressure was measured by sphygmomanometer, then they were followingyogic lifestyle for3 months. Under the yogic lifestyle, (Yoga practice, Mantra, Asana, Pranayama, Mudra-Bandha, Shatkarma, Meditationand Yogic Diet) after three months practicing the post test was done. "t-test "was used for Statistical analysis.

Ethical consideration

The study protocol was reviewed and approved by the institutional ethics committee of Dev Sanskriti Vishwavidyalaya Haridwar Uttarakhand. Written informed consent was obtained from all participants.

Intervention

The groupof 30 female participants with aged 18-30 were followed in yogic lifestyle for 3 months (Yoga practice, Mantra, Asana, Pranayama, Mudra-Bandha, Shatkarma, Meditation and Yogic Diet).

Outcome measures

The outcome measures were planned to assess the following parameter of the total participants. ESR was measured by the Westergren method and RBC was count by hemocytometer and Blood pressure was measured by sphygmomanometer before and after the three-monthpracticing yogic lifestyle.

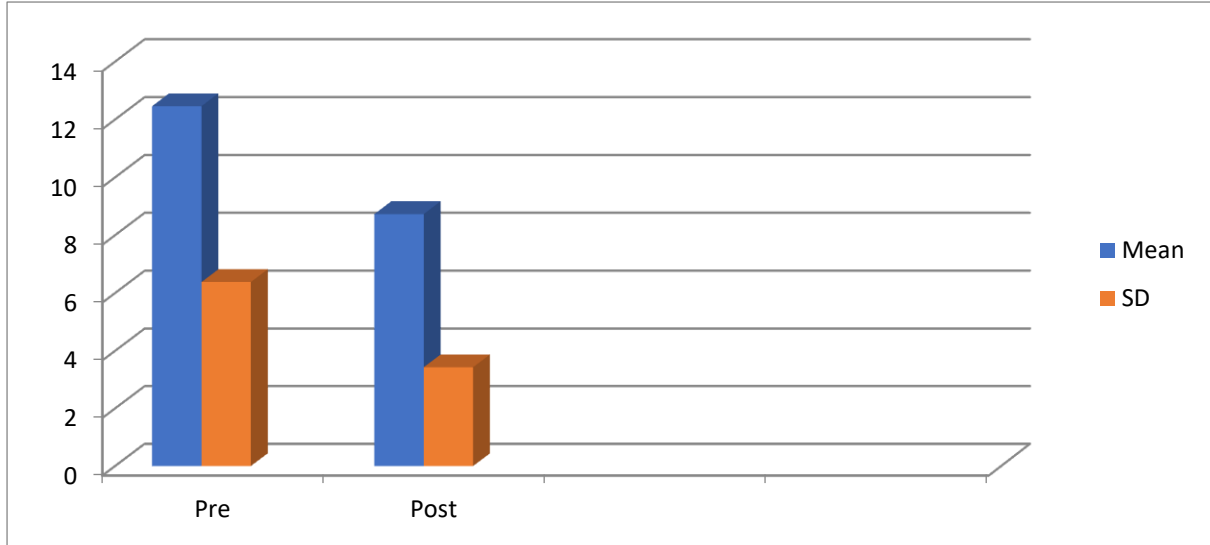
Results

The results were analyzed by 't'- test. P- value <0.001 was considered for level of significance. Table 1 shows the result of ESR; table 2 shows that result of RBC; and table 3 shows that result of Systolic Blood Pressure, table 4 shows result of Diastolic blood pressure.

Table 1 Pre-Post Comparison of ESR

Condition	N	Mean	SD	R	SE _p	df	t- value	Level of significance at 0.01
Pre	30	12.46	6.38	0.59	0.93	29	3.96	2.75
Post	30	8.73	3.43					

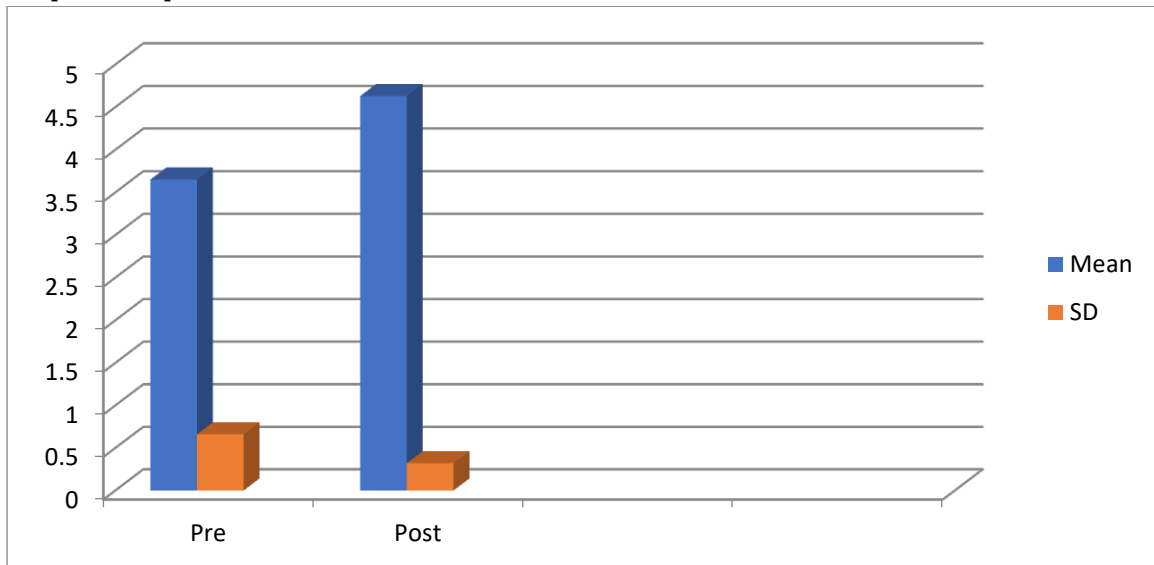
Graphical Representation



RBC's Pre-Post Comparison

Condition	N	Mean	SD	R	SE _D	df	t- value	Level of significance at 0.01
Pre	30	3.65	0.66	0.19	0.122	29	6.72	2.75
Post	30	4.63	0.32					

Graphical Representation

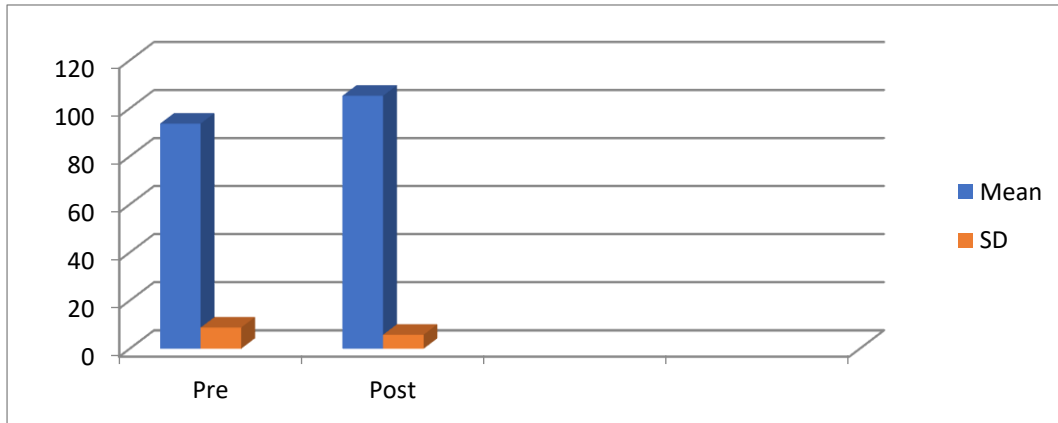


Blood Pressure Pre-Post Comparison

Systolic blood pressure

Condition	N	Mean	SD	R	SE _D	Df	t-value	Level of significance at 0.01
Pre	30	93.66	8.801	0.36	1.574	29	7.40	2.75
Post	30	105.26	5.818					

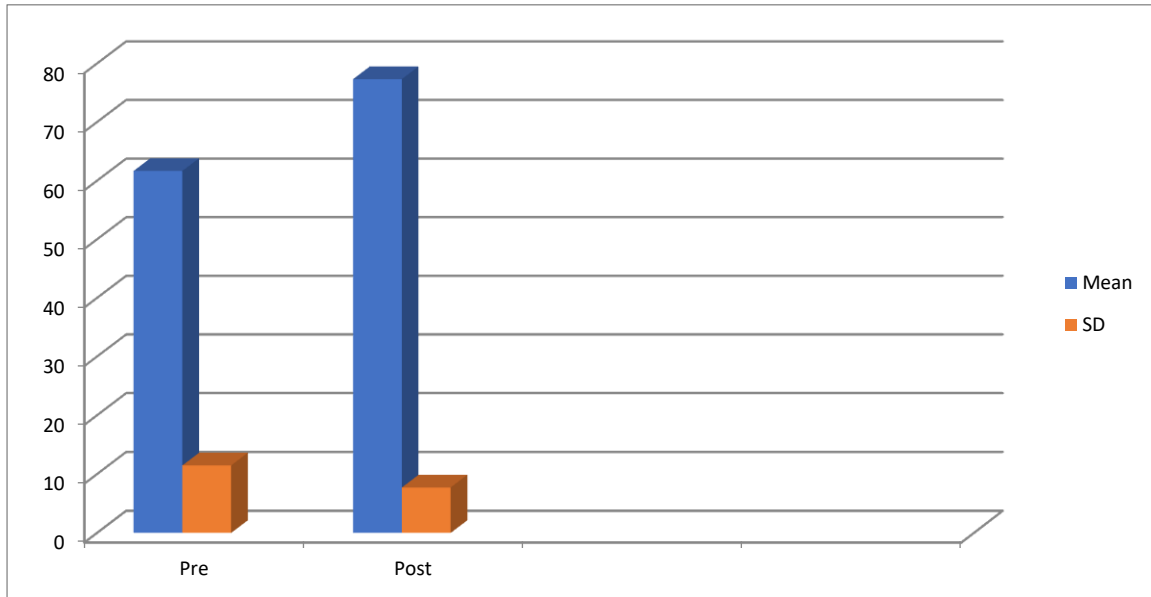
Graphical Representation



Diastolic blood pressure

Condition	N	Mean	SD	R	SE _D	Df	t- value	Level of significance at 0.01
Pre	30	61.66	11.47	0.11	2.38	29	6.54	2.75
Post	30	77.33	7.73					

Graphical Representation



Discussion

In the present study, we analyzed the effect of yogic lifestyle on Erythrocyte sedimentation rate (ESR), Red blood cells (RBC) and blood pressure in collage going girls. And before practicing yogic lifestyle, their ESR was measured by Westergren method and RBC count by hemocytometer and blood pressure by sphygmomanometer, then they were followed yogic lifestyle for 3 months. Under yogic practice (yoga

practice, mantra, asana, pranayama, mudra-bandha, shatkarma, meditation and yogic diet) after three months, very satisfactory results were found.

Yogic lifestyle (Asana, Pranayam, Mudra, Bandha, Shatkarma, Meditation and Yogic Diet) is preventive intervention for ESR, RBC, and Blood pressure. After Pre-Post Comparison of ESR is found highly significant at level of 0.01. Before the yogic intervention, ESR level of the subject was highly increased from normal level, which is an indicator of disease origin in the body, but after followed yogic lifestyle (asana, pranayama, mudra, bandha, shatkarma, meditation and yogic diet) for three months, their ESR level was found to be normal. That is, because of yogic lifestyle, the level of ESR remains normal, which is a sign of good health.

After the yogic intervention subject were followed 3-month yogic lifestyle RBC count was also improve in collage going girl's student.

Similarly, after the yogic intervention There was also an improvement in systolic and diastolic blood pressure. By adopting yogic lifestyle, a person can increase his immunity and can lead a disease-free life.

Conclusion

The present study, we analyzed the effect of yogic lifestyle on ESR, RBC and blood pressure in collage going girls. The overall finding of the study showed that yogic lifestyle (Asana, Pranayam, Mudra, Bandha, Shatkarma, Meditation and Yogic Diet) is very effective intervention to maintain normal level of ESR, RBC and blood pressure for college going girl students.

Conflict of interest statement

The authors declare that no conflict of interest exists.

Acknowledgment

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References

1. Saraswati, Swami Satyananda,(2013) *Asana Pranayama Mudra Bandha*. Munger, Bihar : Yoga Publications Trust
2. Saraswati, Swami Karmananda, (2013), *Yogic Management Of Common Disorders*, Munger,Bihar : Yoga Publications Trust.
3. Rocha, K.K.F., Ribeiro, A.M., Rocha, K.C.F., Souse,Albuquerque,F.S, (2012).Improvement In Physiological And Psychological Parameters After 6 Month Of Yoga Practice ", *Brazilian Journal Of Medical And Biological Research*.
4. Kumar Kamakhya,Pandyapranav,(2012), *A Study On The Impact On ESR Level Through Yogic Relaxation Technique Yoga Nidra*, *Indian Journal Of Traditional Knowledge* Vol. 11 (2), PP. 358-361
5. Kumar Kamakhya,(2008). "A Study On The Impact On Stress And Anxiety Through Yoga Nidra , *Indian J Tradit Knowle*.
6. Malcolm L Brigden M D, (1999), *Clinical Utility Of The Erythrocyte Sedimentation Rate* , *American Family Physician*, *American Academy Of Family Physician* , (60) 1443- 60
7. Erikine- Milliss J & Schonell M, (1981),*Relaxation Therapy In Asthama: A Critical Review*, *Psychosome Med*, 43 (4)
8. Kumar Kamakhya,(2005),*Effect Of Yoga Nidra On Hypertension And Other Psychological Co-Relates; Yog The Science; Yog Publication*,

9. Westergren A, (1921), *Study Of The Suspension Stability Of The Blood In Pulmonary Tuberculosis*, *Acta Med Sand*, 54
10. Malcolm L Brigden MD, (1999), *Clinical Utility Of The Erythrocyte Sedimentation Rate*, *American Family Physician*, *American Academy Of Family Physician*,
11. Gabriel A. Carranque, Enrique F, (2012), "Hematological And Biochemical Modulation In Regular Yoga Practitioners", *Biomedical Research*,
12. Raju, Dr. K Bhaskara, (2017). "Effect Of Yoga And Pranayama On Physiological Parameters In Medical Students", *Scholars Journals Of Applied Medical Sciences*.
13. Bakhru, Dr., H.K, (2017) "Diet Cure For Common Ailments", *Jaico Publishing House, Industrial Area ,G.T.,Road , Shahdara, Delhi*.
14. Pathak, Dr, Satish, (2018). "Yoga as Therapy-Medical View ", *Kaivalyadham, Swami , Lonavla, Dist.Pune*
15. Waugh Anne, Grant Allison, (2009) "Ross And Wilson Anatomy And Physiology In Health And Illness", *Elsevier Churchill Livingstone, London, Newyork*.