

A study on the impact on ESR level through Yogic Relaxation Technique *Yoga nidra*

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Contemporary studies show that researchers are keen to know the effect of *Yoga nidra* in various directions; thus it is the right time to go deep into the search of the impact of *Yoga nidra*. The present study aims at finding out the effect of *Yoga nidra* especially on ESR (Erythrocyte Sedimentation Rate) on healthy subjects. The study conducted at the Yoga Arogya Polyclinic of Dev Sanskriti Vishwavidyalaya in collaboration of Brahmavarchas Research Institute, Haridwar. Practice time of *Yoga nidra* was 30 minutes and the duration was 6 months. Eighty students were taken from PG Yoga classes for observing the effect as well as 30 was in control group. The present study shows a significant change on the ESR level of the normal persons as the result of *Yoga nidra* practice. The results are significant at 0.01 level of confidence. At the end it can be concluded that *Yoga nidra* positively decreases the level of ESR in the male and female subjects both.

Keywords: Asana, Pranayama, Shatkarma, Yoga Nidra, ESR

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It is a known fact that our bodies are exposed continually to bacteria, viruses, fungi, and parasites, all of which occur normally and to varying degrees in the skin, the mouth, the respiratory passageways, the intestinal tract, the lining membranes of the eyes, and even the urinary tract. Many of these infectious agents are capable of causing serious abnormal physiologic function or even death if they invade the deeper tissues. In addition, these are exposed intermittently to other highly infectious bacteria and viruses besides those that are normally present and those can cause acute lethal diseases such as pneumonia, streptococcal infection, and typhoid fever¹.

While, ESR is a measurement of how quickly red blood cells fall to the bottom of a test tube. When swelling and inflammation are present, the blood's proteins clump together and become heavier than normal. Thus, when measured, they fall and settle faster at the bottom of the test tube. The erythrocyte sedimentation rate (ESR) determination is a simple and inexpensive laboratory test that is frequently ordered in clinical medicine. The test measures the distance that erythrocytes have fallen after one hour in

a vertical column of anticoagulated blood under the influence of gravity. The basic factors influencing the ESR have been understood since the early part of this century; the amount of fibrinogen in the blood directly correlates with the ESR. Generally, the faster the blood cells fall, the more severe the inflammation. The distance red blood cells travel in one hour in a sample of blood as they settle to the bottom of a test tube. The sedimentation rate is increased in inflammation, infection, cancer, rheumatic diseases, and diseases of the blood and bone marrow. It is also called sedimentation rate².

Now a days *Yoga nidra* is probably best-known technique to induce complete physical mental and emotional relaxation. *Yoga nidra* is a state of consciousness, which is, neither sleep nor awoken, neither is it concentration nor hypnotism. It can be defined, as an altered state of consciousness³.

Yoga nidra is a meditation as well as relaxation practice, first discovered by Sw. Satyananda Saraswati when living with his *Guru* (spiritual master) Swami Shivananda in Rishikesh. From an experience an idea came that sleep is not a state of total unconsciousness. While studying the *Tantric* scriptures and after practicing them a new system of relaxation constructed and that was *Yoga nidra*.

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Sw. Satyananda Saraswati explains *Yoga nidra* as a state of mind between wakefulness and dream. When someone practices *Yoga nidra* he opens the deeper phases of the mind. During the practice of *Yoga nidra* the consciousness is at different levels. Sometimes it is very close to the senses and at others, it is at a very remote distance. It is only possible to understand through the auditory channels. During *Yoga nidra* the consciousness is suspended for a few moments periodically, which means that it alternates between the subconscious and unconscious states⁴.

Yogic Intervention

For the practice of *Yoga nidra* one should lie flat on his back and follow the spoken instruction of Yoga instructor. It is convenient to use *Yoga nidra* tape. During the practice there should be no movement by the practitioner, as well as he should try to remain awake and aware of every given instruction. In *Yoga nidra*, it is not necessary to concentrate. One should just keep the mind moving from point to point and be aware of every experience. *Yoga nidra* means sleep with a trace of awareness. Practice of *Yoga nidra* in this study is the simplest method of relaxation which is being practiced in the flat lying position of *shavasana* and follows the spoken instruction of Yoga instructor. The practice includes the resolve, body part awareness, breath awareness and visualization.

Review of Literature

Various studies have been done in different part of world for observing the effect of *Yoga nidra*. MJ Cooper in an important study at the University of Tel Aviv (Israel) says that *Yoga nidra* significantly lowered levels of serum cholesterol in cardiac patients⁵. One of the researches done states that, the future role of *Yoga nidra* in coronary care and management regimes appears to be a major one. The value of the practice of yogic relaxation in prevention of cardiovascular disease has been fairly well recognized and accepted⁶.

An American pilot, with a 6 yrs history of high blood pressure, underwent various treatments without results, following a six weeks program of Yoga and relaxation, his blood pressure was normalized, and he regained full flight status. The researchers also pointed out, that relaxation also has an advantage over medicine in that it had no side effects, something which can be hazardous for a fighter pilot⁷. On the basis of a study investigator states that the technique of *Yoga nidra* has preventive, promotive and curative value. It prevents stress and stress related disorders by

inducing deep physical, emotional and mental relaxation, by training the mind to remain calm and quiet and by rooting out the repressed desires and thoughts from the deeper realms of the mind. As a promotive science, *Yoga nidra* awakens the inherent creativity and promotes the learning and memory abilities of the practitioner.

Researches also indicate that *Yoga nidra* can be used as a therapeutic technique to cure psychological disorders like anxiety, hostility, insomnia, etc. and psychosomatic diseases like asthma, coronary heart disease, cancer, hypertension, etc. In our present modern lifestyle, where psychological and psychosomatic problems are on the rise, the technique of *yoga nidra* may serve as a real boon for mankind⁸.

The findings after a six months study on the higher class students shows that practice of *Yoga nidra* reduces the stress and anxiety as well as improves the General Well Being of the practitioners⁹. The researcher observed in another study that *Yoga nidra* positively affects the blood pressure and other psychological co-relates in hypertensive patients¹⁰. A study of the improvement of Physical and Mental Health through *Yoga nidra*; states after a six months study that there is a significant change on the Alpha EEG and GSR level of the subjects¹¹.

One of the study states that practice of *Yoga nidra* is a tool of total relaxation. They observed a significant change in pulse rate, respiration rate, blood pressure and G S R to the subjects, after a six months study. They further states that *Yoga nidra* is able to improve the immunity of the practitioner¹². *Yoga nidra* can be considered as a highly effective practice for the practitioner as *Yoga nidra* significantly increases the level of hemoglobin of the students at higher classes and there is also an increase in TLC level. Thus, *Yoga nidra* is a complete relaxation process of the body and mind, it increases the immunity of a person, and hence the change in the Hemoglobin and TLC are positive. It can be stated that sleep is good for us but present research shows that practicing *Yoga nidra* can not only help us fight off infection but lower stress level as well¹³. A significant change has been observed in the stress level in one of the study. Result shows that *Yoga nidra* positively decrease the stress level of the male and female subjects both. Several other studies prove that, *Yoga nidra* equally influences anxiety level significantly¹⁴.

Material and methods

Eighty samples (40 males, 40 females) of ranged 20-30 yrs from Dev Sanskriti Vishwavidyalaya of PG

Yoga classes selected for the practice of *yoga nidra* assigned to the experimental group. One of the groups of 30 students (15males, 15 females) of same age group and same class also considered as control group.

Both the group experimental and control group were from PG Yoga classes; so all had been practicing the set of *Asanas*, *Pranayamas* and *Shatkarmas* regularly (except Sunday and holidays). For the experimental group it was the only difference that they were practicing *Yoga nidra* for half an hour daily (except Sunday and holidays) additionally. Although there is an enormous body of literature concerning the ESR, an elevated value remains a nonspecific finding. Before starting the practice of *Yoga nidra* both the group went under through the most satisfactory method of performing the test introduced¹⁵.

Results

Graphical presentation of the data exhibits in two Hypothesis:

Hypothesis 1: There is a significant relationship between the practice of *Yoga nidra* and ESR of male subjects. Mean and standard deviation of the experimental and control group for ESR level in male subjects are given in Table 1 and Fig. 1.

Table 1—ESR (Male)				
Mean	sd	t value	significant	level
Experimental	2.87	1.81	5.06	at 0.01
Control	11.43	12.58		

Table 2—ESR (Female)				
Mean	sd	t value	significant	level
Experimental	10.40	11.10	2.82	at 0.01
Control	12.15	13.95		

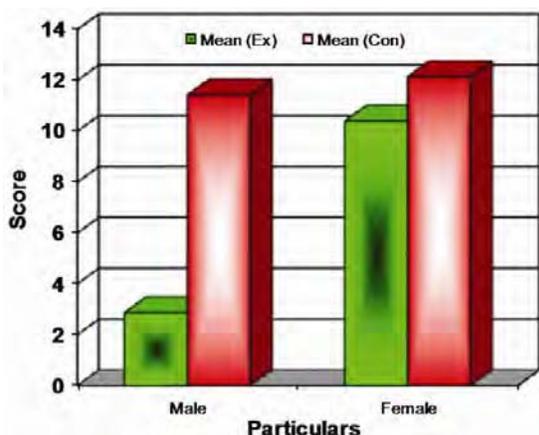


Fig. 1—Graphical presentation of post ESR values

It is observed that there is a positive change in the level of ESR between both the groups. The significant level for observing the t value is 0.01 and it shows the significant change in ESR level as t value is 5.06.

Hypothesis 2: There is a significant relationship between the practice of *Yoga nidra* and ESR of female subjects. Mean and standard deviation of the experimental and control group for ESR level of female are given in Table 2.

It is observed that there is a positive change in the level of ESR between both the groups. The significant level for observing the t value is 0.01 and it shows the significant change in ESR level as t value is 2.82.

Discussion and conclusion

Practice of *Yoga nidra* relaxes the bodily organs, tissues and cells of the physical body, hence the nervous system and neurons relaxes, ultimately it makes one totally free to stress, which can ultimately improve the immunity. Journal of Experimental Medicine, at Sydney's Garvan Institute has made a direct connection between the nervous and immune system¹⁶ reported that stress leads to a build up of a hormone that inhibits the body's ability to fight off bacteria and viruses. Through the body mind relationship we can understand that the relaxation of body relaxes the mind and a stress free situation came to the practitioner. Erythrocyte sedimentation rate decrease is the result of strong immunity; which came due to stress release of physical, mental and emotional states through the practice of *Yoga nidra*. One of the study states that practice of *Yoga nidra* is a tool of total relaxation. It shows a significant change in pulse rate, respiration rate, blood pressure and G S R to the subjects, after a six months study. They further states that *Yoga nidra* is able to improve the immunity of the practitioner¹⁷.

Recent studies have evaluated the ESR as a screening test for infection in specific clinical instances such as infection associated with orthopedic prostheses, pediatric bacterial infection and gynecologic inflammatory disease. The basic factors influencing the ESR have been understood as the amount of fibrinogen in the blood directly correlates with the ESR¹⁸. This is all due to an imbalance in the metabolism. Hence, practice of *Yoga nidra* not only relaxes the body, mind and emotions; it regulates the metabolism also. Through the holistic relaxation of all the internal organs, it improves the digestion as well as absorption and assimilation. When iron is absorbed from the small intestine properly, it immediately

combines in the blood plasma with a beta globulin; which shows a decrease in ESR level as a result of proper absorption. The proper metabolism is one of the regions behind a significant change into ESR level of the subjects.

Suggestions for further researches

It can be said on the basis of this study that practice of *Yoga nidra* decreases the ESR significantly, thus for the further studies researchers can take a big group of healthy subjects as well as for a short duration; another study can be done to observe the effect of *Yoga nidra* with the patients suffering with high ESR level or less immunity.

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