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# BLOOD OXYGEN LEVEL ASSOCIATED WITH YOGA EXERCISES

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**ABSTRACT:**

The research entitled "blood oxygen level associated with yoga therapy – A study". The study was conducted on 16 subjects at men's from Washim District. These subjects divided into two groups, 12 subjects in experimental group, 4 subjects in control group. The subjects were divided into two groups based on sample random sampling between the age 21 and 26 years .The study was conducted in a period of 6 weeks. Body Mass Index (BMI) and Haemoglobin, were used as parameters. These parameters were measured both at the beginning and at the end of the study, using pre-post experimental test design. The yoga therapy group obtained significance increasing in the Body Mass Index (t= -4.0299, p= 0.0019), Haemoglobin (t=-5.2129, p= 0.0002886). There were no significant changes in the subject of control group the study conducted for longer duration with more no: of subjects may give higher significant results. To get better results, the study may be carried out with controlled Life-style and changes in the diet. From the earlier study we can conclude that Yoga Therapy works well in the management Oxyhaemoglobin deficiency.

**KEYWORDS:**

**BODY MASS INDEX, HAEMOGLOBIN, BLOOD OXYGEN LEVEL, YOGA THERAPY.**

## INTRODUCTION

The term "yoga" and the English word "yoke" are derived from Sanskrit root "yuj" which means union. Yoga is a psycho-somatic-spiritual discipline for achieving union & harmony between our mind, body and soul and the ultimate union of our individual consciousness with the Universal consciousness. We never claim that we are always healthy but only that we are healthy at a particular moment. Health is like a live wire. Now we feel it, the sensation is energizing ,the absence it is a state when the body and mind are dull and slow. Disease exists when there is an imbalance .Good health results from right diet, adequate physical activity and mind, which is stress free. The dramatic changes in our life style, sedentary way of working, wrong dietary habits, lack of physical activity, smoking and alcoholism leading to many psychological and psychosomatic problems. Oxy-haemoglobin deficiency or lack of sufficient oxygen in blood level is one of the cardio-respiratory disorders. Oxygen is very essential for life. Because of some cardiac or respiratory disorder some are not able to get sufficient oxygen for their body cells. By that they are straggling in between life and death. By proper yogic practices, this disorder could be brought under control. Also, many other complications associated with this problem are also kept at lower level and thus one can leady healthy, wealthy life. Yoga therapy is the system that prevents and cures various diseases and disorders through yogic practices .The yogic practices concentrates on purification of the body and mind, and through this integrated holistic approach one can overcome several kinds of afflictions in life . It was co-ordinated and organized into the system by Maharishi Patañjali .Sage Patañjali defines yoga as, systematic practice for purifying one's mind, intellect and body. Yogic practices with their unique characteristics have an important impact on the physical and mental stability .Yoga offers a largely unexplored, widely available resources for the management of stress related ailments like Diabetes Mellitus, Hypertensition. It is an asset for preventive care and focused on preserving health.

## OBJECTIVES OF THE STUDY

1. To find out the effect of yogic exercises on blood oxygen level.

## HYPOTHESES

1. It is hypothesised that yoga exercise significantly inprove the BMI and Haemoglobin levels.

## MATERIALS AND METHODS

The present study was conducted to assess the effect of selected yogic practices on the subjects to improve the system of the body .The age group will be between 21 -26. There were 16 subjects; 12 in experimental group and 4 in controlled group. The yoga therapy was given to experimental group only. Daily sessions of classes were taken in the morning for one hour from 7.00 AM to 8 AM. The Yogic practice includes a series of Asana, Pranayama, and Meditation and followed by the relaxation techniques. Hence a period "t" test was employed in the study to analyze the significance of the results statically. The tests were done for both experimental and control group subjects.

The following parameters were selected for the present study.

**BODY MASS INDEX-**

Body Mass Index (BMI) was calculated using formula Weight/ Height in (Meter$^2$) and used as body parameter for the study.

**HEMOGLOBIN:** Hemoglobin is the iron-containing oxygen-transport metalloproteinase in the red blood cells of all vertebrates. Hemoglobin in the blood carries oxygen from the respiratory organs (lungs or gills) to the rest of the body (i.e. the tissues) where it releases the oxygen to burn nutrients to provide energy to power the functions of the organism, and collects the resultant carbon dioxide to bring it back to the respiratory organs to be dispensed from the organism. It is reported in g/dl.

**PULSE OXIMETER:** Pulse oximetry is a simple, relatively cheap and non-invasive technique to monitor oxygenation. It monitors the percentage of haemoglobin that is oxygen-saturated.

**YOGIC EXERCISES WERE GIVEN TO EXPERIMENTAL GROUP FOR 6 WEEKS:**

Svastikasana, Vajrasana, Tadasana, Trikonasana, Parsvakonasa, Parsvottanasana, Pavanamuktasana, Bhujangasana, Salabhasana, Dhanurasana, Ustrasana, Viparitakarani, Uttanapadasna, Pranayama and relaxation techniques.

**TABLE -1 MEAN, S.D. OF BLOOD OXYGEN LEVEL OF EXPERIMENTAL GROUP**

| S. No. | Parameters | Mean | | S.D. | | t-value | P-value |
|---|---|---|---|---|---|---|---|
| | | Before | After | Before | After | | |
| 1 | B.M.I | 17.0667 | 17.5341 | 1.1203 | 1.3466 | 4.0299* | 0.0019 |
| 2 | Haemoglobin | 14.1333 | 15.1667 | 1.0628 | 0.7126 | 5.2129* | 0.0002 |

* Significant

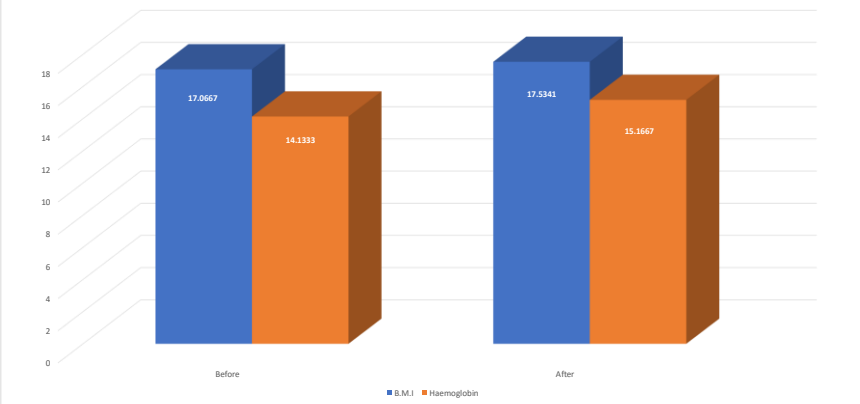


**FIGURE-1 MEANS OF BLOOD OXYGEN LEVEL OF EXPERIMENTAL GROUP**

**TABLE -2 MEAN, S.D. OF BLOOD OXYGEN LEVEL OF CONTROL GROUP**

| S. No. | Parameters | Mean | | S.D. | | t-value | P-value |
|---|---|---|---|---|---|---|---|
| | | Before | After | Before | After | | |
| 1 | B.M.I | 17.295 | 17.0725 | 0.8211 | 0.6636 | 1.4965 | 0.2314 |
| 2 | Haemoglobin | 14.65 | 14.35 | 0.6191 | 0.6608 | 3 | 0.0576 |

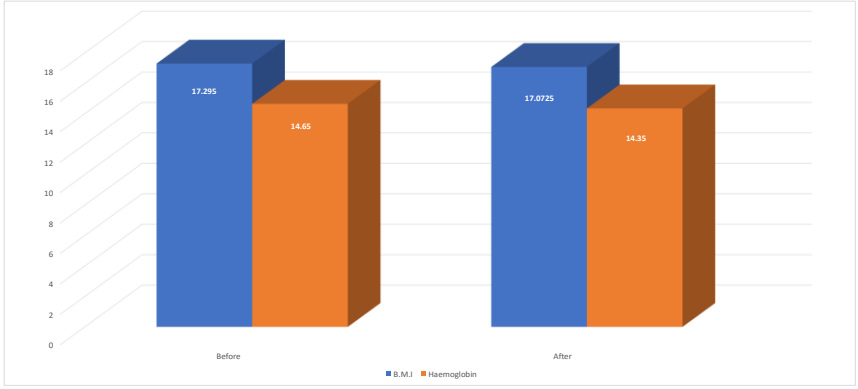


**TABLE -1 MEAN, S.D. OF BLOOD OXYGEN LEVEL OF EXPERIMENTAL GROUP**

**RESULT:**

After 6 weeks yoga exercises, the BMI (p =0.0019) and

Haemoglobin in the body (t=-5.2129, p=0.0002) significant hence the hypothesis was accepted.

**CONCLUSION:**

The present study found significant improvement in the study to assess the effect of yoga exercise on blood oxygen level. Hence we concluded that Yogic exercises is effective in blood oxygen deficiency. The study may be done with more subjects for long duration for better results.

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