



AN INVESTIGATIONAL STUDY ON EFFECT OF 12-WEEK YOGIC PRACTICES ON HEMATOLOGICAL VARIABLES OF WOMEN

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Abstract:

The purpose of present study was to assess the effect of 12-week yogic practices on hematological variables of women cricketers. The present study was conducted on 120 women Cricketers of Northern region of India. Keeping in view the objectives, the players were categorized into two main groups: Group A: Experimental group ($N_1=60$) and Group B: Control group ($N_2=60$). The age of subjects ranged between 18 to 25 years. The purposive sampling technique was used to attain the objectives of the study. All the subjects, after having been informed about the objective and protocol of the study, gave their consent and volunteered to participate in this study. The difference in the mean of each group for selected variable was tested by "t" test. The level of significance was set at 0.05. Analysis of data revealed that with regard to Hemoglobin the "t" -value in case of experimental group was 0.3811 and for Control group it was 0.2363 was found statistically insignificant. It is evident that women cricketers with regards Total Cholesterol the "t"-value in case of experimental group was 0.8162 and for control group it was 0.4924 was found statistically insignificant.

Keywords: hematological variables, hemoglobin, total cholesterol and women cricketers

1. Introduction

A modern day cricketer, who spends hours on the field and the one who is also involved in the off-field activities such as brand endorsements, campaigns and other activities, needs to keep a sharp eye on his physical as well as mental health. And other activities, needs to keep a sharp eye on his physical as well as mental health. Among the

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various fitness activities and drills, it is crucial for cricketers around the globe to sign up for Yoga as it not only helps keeping a track of his mental and physical health, but also helps improving reflections and overall strengthening of the body. It is a known fact that a strong and well-maintained body is less prone to injuries, and all cricketers must vie for it. With a powerful tool such as Yoga, cricketers can work their entire body, stretch, strengthen, and recover quickly as compared to the other ways. In a gymnasium, a cricketer can work out on only few specific parts of his body, but combining it with Yoga can do wonders for cricketers who are some or the other way busy all around the year.

Yoga and cricket make a powerful combination. Yoga, across the world, is seen as a one-stop shop for body-mind-spirit wellness. It is no more an ancient Indian practice but a global phenomenon, touching varied fields like sports. Most warm-up exercises that cricketers do nowadays are yoga postures. Back in the seventies and eighties, cricketers were not very conscious about their fitness. It also illustrates the various advantages of yoga postures in making a sportsperson's body much more flexible and agile. For a cricketer, yoga helps in keeping track of his mental and physical health, apart from improving reflexes and strengthening the body. Yoga-related exercises focus on core muscle stability benefitting the sports person holistically.

After all Bhagvad Geeta States that Yoga is "Yogah karmasu kaushalam" Spiritual experience & bliss is the final aim of Yoga, however, the journey of it deals with Holistic health & fitness of individuals and the players. It is not only improving the tone of the big muscles but also corrects the reflex mechanisms of the body. This is supported by above aphorism of Gita. It develops correct skills. Winning can be a final aspiration of the game, however, the process is concerned with players & the cricket lovers. Therefore, to maintain the pure Cricket spirit, Yoga has its own value. It can be utilized for cricketers on & off the field. Great cricketers like Sachin Tendulkar, Rahul Dravid etc. all shared their own experience of it. In cricket, also there is need of connecting bat & ball through the sharp mind. Yoga definitely increases concentration power and better focusing. Asanas not only help to prevent the body from major injuries but are also helpful to heal injuries faster. They have unique characteristics of isometric and isotonic coordination of muscles bones & joints due to which they are well trained. Hence, yogis gain the lot of suppleness, stability & stamina.

2. Materials and Methods

2.1 Samples

The present study was conducted on 120 women Cricketers of northern region of India. Keeping in view the objectives, the players were categorized into two main groups: Group A: Experimental group ($N_1=60$) and Group B: Control group ($N_2=60$). The age of subjects ranged between 18 to 25 years. The purposive sampling technique was used to attain the objectives of the study. All the subjects, after having been informed about the

objective and protocol of the study, gave their consent and volunteered to participate in this study.

Table 1: Subjects' Demographics

| S. No | Experimental group | Control group | Total Sample |
|-------|--------------------|--------------------|--------------|
| 1. | N ₁ =60 | N ₂ =60 | N=120 |

2.2 Selection of Variables

A feasibility analysis as to which of the variables/skills could be taken up for the investigation, keeping in view the availability of tools, adequacy to the subjects and the legitimate time that could be devoted for tests and to keep the entire study unitary and integrated was made in consultation with experts. With the above criteria's in mind, the following variables were selected for the present study:

2.2.1. Hematological Variables

- Hemoglobin;
- Total cholesterol.

The data on hematological variables were taken from Hemoglobinometer tube and Hemoglobinometer pipette, and total cholesterol, were assessed in the elite laboratory in Amritsar. The data was collected before pre-test and after 12 weeks of experimental treatment.



Figure 1: Subject's Performing Hematological Test

The subjects from Group A: Experimental Group was subjected to a 12-week yogic Asanas training programme. The training was consisting of a variety of yogic Asanas.

2.2.2 Yogic Practices Training Programme

| Week | Yogasana positions | Intensity | Repetition | Set | Frequency Per Week | Each Asana | Rest in between asanas |
|-------|---------------------------|-----------|------------|-----|--------------------|------------|------------------------|
| 1-3 | Standing Postures | 50% | 12 times | 4 | 3 days | 2 minute | 45 Seconds |
| 4-6 | Balancing Postures | 60% | 10 times | 4 | 3 days | 2 minute | 45 Seconds |
| 7-9 | Arm-Balancing Postures | 70% | 8 times | 4 | 3 days | 2 minute | 45 Seconds |
| 10-11 | Inverted Postures | 80% | 6 times | 4 | 3 days | 2 minute | 45 Seconds |
| 12 | Backward-Bending Postures | 85% | 6 times | 4 | 3 days | 2 minute | 45 Seconds |

(RM – Repetition Maximum)

2.2.3 Statistical Analysis

SPSS statistical software (version 16.0) was used to analyze. Student's t-test for independent data was used to assess the between-group differences and for dependent data to assess the Post-Pre differences. To test the hypothesis, the level of significance was set at 0.05.

3. Results

The results of effect of 12-week yogic practices on hematological variables of women cricketers are presented in the following tables:

Table 2: Significance of Differences between Pre-Test and Post-Test Means of Experimental group and the Control Group with regard to Hemoglobin

| Group | Number | Mean | S.D. | SEM | t-Value |
|--------------------------|--------|--------|-------|-------|---------|
| Experiment (Pre-test) | 60 | 11.978 | 0.736 | 0.095 | 0.3811 |
| Experimental (Post-test) | 60 | 11.933 | 0.690 | 0.089 | |
| Control (Pre-test) | 60 | 12.108 | 0.787 | 0.102 | 0.2363 |
| Control (Post-test) | 60 | 12.077 | 0.772 | 0.100 | |

*Significant at 0.05 level

Table 2 presents the results of experimental group and the control group with regard to the variable Hemoglobin. The descriptive statistics shows the Mean and SD values of Hemoglobin of pretest and posttest of experimental group was 11.978 ± 0.736 and 11.933 ± 0.690 respectively, whereas the Mean and SD values of Hemoglobin of pre-test and post-test of control group was 12.108 ± 0.787 and 12.077 ± 0.772 . The “t”-value in case of experimental group was 0.3811 and for Control group it was 0.2363 as shown in the table above was found statistically insignificant ($P > .05$). As per the study, the above remark can be given at 95% confidence. The graphical representation of responses has been exhibited in Figure 2.

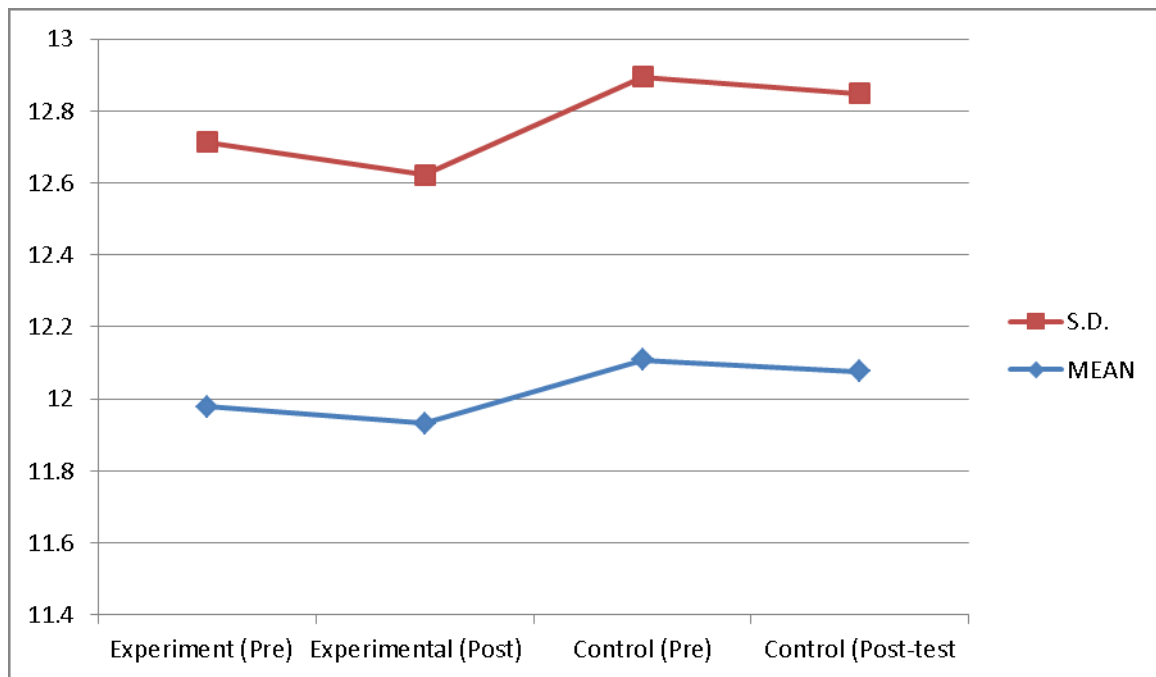


Figure 2: Mean, Standard Deviation (SD) of Hemoglobin of Experimental and Control Group

Table 3: Significance of Differences between Pre-Test and Post-Test Means of Experimental Group and the Control Group with regard to Total Cholesterol

| Group | Number | Mean | S.D. | SEM | t-Value |
|--------------------------|--------|---------|-------|-------|---------|
| Experiment (Pre-test) | 60 | 154.875 | 2.348 | 0.303 | 0.8162 |
| Experimental (Post-test) | 60 | 155.217 | 2.246 | 0.290 | |
| Control (Pre-test) | 60 | 142.780 | 3.560 | 1.751 | 0.4924 |
| Control (Post-test) | 60 | 141.482 | 2.865 | 1.661 | |

*Significant at 0.05 level

Table 3 presents the results of experimental group and the control group with regard to the variable Total Cholesterol. The descriptive statistics shows the Mean and SD values of Total Cholesterol of pre-test and post-test of experimental group was 154.875 ± 2.348 and 155.217 ± 2.246 respectively, whereas the Mean and SD values of Total Cholesterol of pre-test and post-test of control group was 142.780 ± 3.560 and 141.482 ± 2.865 . The “t”-value in case of experimental group was 0.8162 and for control group it was 0.4924 as shown in the table above was found statistically insignificant ($P > .05$). As per the study,

the above remark can be given at 95% confidence. The graphical representation of responses has been exhibited in Figure 3.

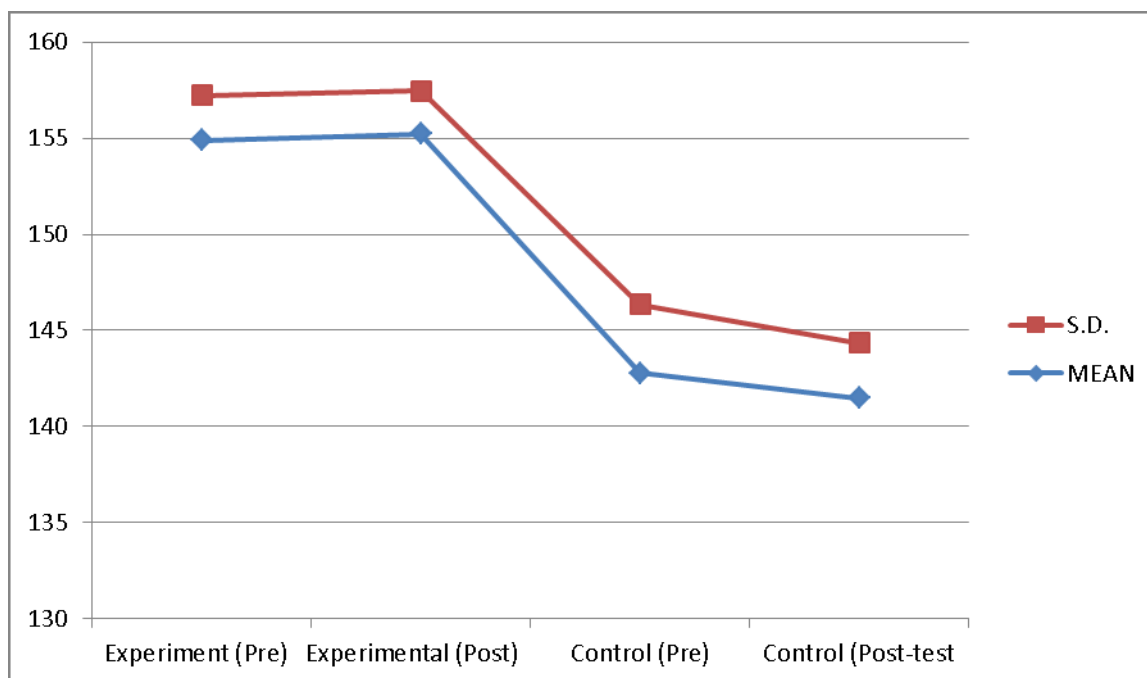


Figure 3: Mean, Standard Deviation (SD) of Total Cholesterol of Experimental and Control Group

4. Discussion

It is evident from the findings of Table 2 and 3 with regard to hematological variables that insignificant differences have been observed on the sub-variables; Hemoglobin and Total Cholesterol of women Cricketers of northern region of India. When compared the mean values of both the groups, it has been found that experimental group have demonstrated better on Hemoglobin and Total Cholesterol of women cricketers of northern region of India after the yoga practices.

When compared to the control group. Yoga Asanas are psychophysical practices to culture body and mind. Yoga practices are known to significantly improve health status, and reduce stress and anxiety. Meditative Asanas or poses establish such physiological conditions in the body that the mind ceases to be disturbed by any stimuli received from the body and selectively increases the respiratory sensation. Meditative Asanas also help balancing and harmonizing the basic structure of the human mind, which makes them therapeutically useful.

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