Effect of Six Week Yogic Training on Selected Skill Related Motor Components of State Level Cricketers

Ms. Apoorva Dixit
Assistant Professor, Department of physical education, Lovely Professional University, Phagwara, Punjab
Radha Rani
Physical education teacher, JNV- south west khasi hills, mawkryawat
Puja kumari
MPED final year, Reg no. :12100120,Department of physical Education, Lovely Professional University, Phagwara, Punjab
Dr. Thanujaprabashani Liyanage
Senior lecturer, Sabaragamuwa university of srilanka
Dr. Bhanu pratap
Assistant Professor, Department of physical Education, Lovely Professional University, Phagwara, Punjab

Abstract

The purpose of this study was to evaluate and compare the effects of yogic exercises on Agility and balance. 40 state-level cricketers from Lakshmibai National Institute of Physical Education in, Guwahati, Assam, North East Regional Centre, were tested. The age ranging from 18-22 years old. As a result measurement, the AAPHERD SHUTTLE RUN (1996) or the BASS STICK TEST (1939) was used. A six-week yoga program was created, progressing from easy to difficult, during 3 times per week for 45 minutes each. The program includes warm-up and cool-down exercises. Yogic group (N=20) underwent training, which was completed by subjects under the supervision of researcher. For 6 weeks, control group received no training (N = 20). Both participants in the selected group underwent pre-training tests to collect information and examine different aspects of fitness. For each of the two groups, the same parameters used in the former test are applied to the latter. A paired t-test was used for data analysis. After the intervention, there was a significant difference between the control group and the yoga group was found.

Keywords: yogic exercises, Balance, Agility

DOINumber:10.14704/nq.2022.20.10.NQ55593

1. Introduction

In modern times, people practice yoga to develop physical and mental health. Yoga, it spread around the world through the teachings of great figures like Swami Sivananda. Swami Kvalayananda, Swami Rama, Sri Aurobindo, Maharshi Mahesh Yogi, BKS. Iyengar, Swami SatyanandaSaraswati and others. The word yoga means "union" or "oneness" and comes from the Sanskrit word yuj.It means "to participate". This unity or union is, in spiritual
terms, individual consciousness and cosmic consciousness. (Saraswati S.S, 2008)
As modern scientists have suggested, all of the universe is just the emergence of a similar quantum atmosphere. A person who experiences this oneness of being is known as yoga and is called a yogi after achieving the state of freedom known as muki, nirvana and moksha. Therefore, the main goal of yoga is self-actualization, overcoming any kind of suffering that brings about a 'state of salvation' (moksha) or 'freedom' (kaivalya). Free living in all aspects of life, health and harmony is the main focus of yoga practice.
Yoga is one of India’s greatest gifts to humanity. One of its valuable properties is that it builds the body's stock of health through the practice of a system of movements called asanas, keeping the body clean and healthy. Yoga believes exercise is essential to quickly remove toxins and keep blood circulation and all internal processes running smoothly. Yoga has a complete message for humanity. It is a message for the human body, the human mind and the human soul. (Kuvalayananda, 1977)
In India, sun worship dates back to prehistoric times or hindu scriptures include hymns praising the sun god. Qualities as protector, giver of life and destroyer of darkness and evil.
“Sun is the sustainer of the Universe comprised of movable and immovable.” (Rig Veda 1,115-1).
The sun is the "creator" that everyone admires Tomorrow, the universe and humans will wake up. It is a guardian and a keeper A cow and a traveler's companion. that's why the sun is one of the important deities of the Vedas, personified as Surya. (Trimurti)
Yogic exercises (Sun Salutation) is a series of 12 combinations, Powerful and graceful yoga poses performed dynamically. Synchronicity with breathing. The sun is the source of all energy. Salute to the sun or Surya Namaskar is a prayer for energy or prana. Yogic exercises revitalize the body, mind and soul. There are 12 names of Sun in Sanskrit. Yogic exercises consist of 12 built-in positions successor. Yogic exercises said to remove physically and mentally tension, improves tone, blood circulation, increases body temperature. Loosens and lubricate all joints of human body. Yogic exercises or Sun Salutation is a procedure in science and yoga. Yogic exercises increase both visceral and visceral fitness through yoga methods and also preserved organs. It is a form of viyama (physical exercise). Yogic exercisesismost effective for health. A person practicing yoga, Stay healthy every day. (Ghanekar and VaidakiyaSubhashitSahityani 1999)
Motor skills refer to the ability to acquire and develop basic physical skills. These skills fall into six categories: Agility, Balance, Coordination, Power, Reaction Time, and Speed. These elements are important building blocks for success in sports, but you can also apply some or all of them to your daily life. Forexample, balance and coordination used in a variety of tasks walking, carrying dishes. Physically demanding jobs such as firefighting or construction work also require adequate physical fitness.
A person with good balance can maintain and control their body position when standing still or moving on a variety of surfaces. World-class gymnasts are some of the most fit athletes in the sports world, as evidenced by their intricate maneuvers on the balance bar. Figure skaters of all types, from recreational to competitive, must also maintain excellent balance on slippery surfaces. Exercises that improve balance involve standing on one leg or switching from one foot to the other.
Balance is the ability to stay upright or stay in control of body movement, and coordination is the ability to move two or more body parts under control, smoothly and efficiently. (topend sports)
The capacity to quickly and accurately shift the position of one's entire body in space is referred to as agility. Agility is a skill-related aspect of physical fitness. Therefore, for sports requiring cutting, such basketball, volleyball, football, lacrosse, and soccer, clinical evaluations of agility can be acceptable function- and sport-specific examinations. The reader should be aware that several CORE power tests, including
the T-test, shuttle run, and single-leg jumps, are also effective agility tests. (Robert A. Donatelli, Kenji Carp, in Sports-Specific Rehabilitation, 2007)

Agility is the ability to rapidly change body direction, accelerate, or decelerate. It is influenced by balance, strength, coordination, and skill level. (Christine Prelaz 2013)

2. Methodology

For fulfilling the purpose of this study, 40 male state level athletes were selected as subjects from different academies of Sagar, Madhya Pradesh with their age ranging between 18 to 22 years. The total number of subjects were further divided into two groups with 20 subjects in each group i.e. experimental group and control group. The experimental group was exposed to six week yogic training whereas the control group continued with their daily routine activities but was not given training.

Based on the literature review and understanding, and also keeping in mind that the purpose of the study of following motor components variables were selected for the study.
- Agility
- Balance

<table>
<thead>
<tr>
<th>TRAINING PROGRAMME:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asanas Prescribed for Experimental Group</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WEEKS</th>
<th>ASANAS</th>
<th>REPETITIONS</th>
<th>FREQUENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - 6</td>
<td>Sun Salutation</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Tadasana (palmtree pose)</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Vrikshasana (Tree Pose)</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Chakrasana (wheel pose)</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Lolasana (Swinging pose)</td>
<td>3</td>
<td>5</td>
</tr>
</tbody>
</table>

At the end of six weeks outcomes measures were assessed. Students were asked to wear loose clothes to prevent restriction of movements.

Aapheer shuttle run

This test requires the person to run back and forth between two parallel lines as fast as possible. Set up two lines of cones 30 feet apart or use line markings, and place two blocks of wood or a similar object behind one of the lines.

Starting at the line opposite the blocks, on the signal "Ready? Go!" the participant runs to the other line, picks up a block and returns to place it behind the starting line, then returns to pick up the second block, then runs with it back across the line. Two or more trails may be performed, and the quickest time is recorded. Results are recorded to the nearest tenth of a second.

Bass stick test (cross wise)

The Bass test is an assessment of balance, in which the participants alternate foot hopping and holding a static position for five seconds at each point. The course is marked out as illustrated within the diagram. The subject begins by standing stationary on the proper foot on the place to begin square. The subject then hops to the primary tape mark with the left foot and immediately holds a static
position for five seconds. After now, the subject then hops to the second tape mark with the correct foot and holds a static position for an additional five seconds. This continues with alternate foot hopping and holding a static position for five seconds at each point until the course is completed. At each point, the sole of the right foot must completely cover each tape mark in order that it cannot be seen. A period of practice with the procedure and on the course should be allowed. The result is recorded as either a success or fail. A successful performance consists of hopping to each tape mark without touching the floor with the heel or any other part of the body, and holding a static position on each tape mark for five seconds without exposing the tape mark.

**DESIGN OF THE STUDY**

The experimental design used for this study was pre and post- test random group design involving 40 subjects who were divided at random into two groups of twenty each. This study consisted of one experimental group and one control group. All the subjects were tested prior to and after the training on selected variable. Data on the fitness tests were done before the beginning of Yoga practice and after 6 weeks of practice.

\[
\begin{array}{cccc}
R & O_1 & T & O_2 \\
R & O_3 & & O_4 \\
\end{array}
\]

**NOTE:**

- R - Signifies random assignment of subjects into three groups
- O - signifies an observation in terms of pretest and posttest
- T - signifies that treatment (yogic exercise) was applied

- _ - signifies a blank space in a line appears below the alphabet T means, it was a control group.

The total number of subjects were further divided into two groups with 20 subjects in each group i.e, experimentaland control group. The experimental group was exposed to yogic
exercises whereas the control group continued with their daily routine activities but was not given training.

A pretest was conducted on the subjects of all designated groups for collecting data and testing the physical fitness variables i.e., Agility (AAHPERD shuttle run test) and BALANCE (bass stick crosswise test).

After the pretest the groups were separately exposed to assigned training and no training conditions. The control group (N=20) was not given any training for the period of 6 weeks. The experimental group (N=20) was given yogic training and was exposed to yoga asanas for 6 weeks, 3 days a week with a session duration of 45 minutes.

Posttest was conducted using same parameters as was done in the pretest for all the two groups i.e., experimental group (N=20) and control group (N=20). The visuals of administration of test and data collection are presented below. A diagrammatic representation of the procedure is shown in figure below.

**A DIAGRAMMATIC REPRESENTATION OF THE PROCEDURE**

**SAMPLE FOR EXPERIMENT (N=40)**

- **EXPERIMENTAL GROUP (N=20)**
- **CONTROL GROUP (N=20)**

**PRETEST**

- Agility (AAHPERD SHUTTLE RUN TEST), Balance (Bass STICK (CROSS-WISE) TEST)

**YOGIC TRAINING**

- SIX WEEKS, THREE DAYS A WEEK, 45 MINUTES EACH SESSION

**POST TEST**

- Agility (AAHPERD SHUTTLE RUN TEST), Balance (Bass STICK (CROSS WISE) TEST)

Test applied: In order to examine the effect of yogic training and on agility and balance of state level cricketers, statistical technique **Analysis of Covariance (ANCOVA)** were employed and level of significance was set at 0.05.

**3. Result and Analysis**

**AGILITY**

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Groups</th>
<th>Pre/Post</th>
<th>Mean</th>
<th>N</th>
<th>Std. Deviation</th>
<th>Std. Error</th>
</tr>
</thead>
</table>

The data collected were put to statistical computerization of analysis which have been present in the chapter. Paired T-test was employed as a measure for the present data (SPSS was used).
The above table showed the descriptive statistics for both the groups with respect to agility. The experimental group was found to have mean values of 10.3050 ± 0.72073 for pre-test and 8.9450 ± 0.24382 for post-test whereas, for control group, the mean values were 10.4000 ± 0.78673 for pre-test and 10.3050 ± 0.72073 for post-test (table no. 1).

This clearly indicated the positive impact of selected asana practices on the agility of subjects within the given period of time and in case of control group there is no change over given period of time.

Table no. 2- Paired Correlations for agility of experimental group and control group of state level cricketers.

<table>
<thead>
<tr>
<th>Pre/Post</th>
<th>N</th>
<th>Correlation</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre Test Agility Yogic exercises &amp; Post Test Agility Yogic exercises</td>
<td>20</td>
<td>.307</td>
<td>.188</td>
</tr>
<tr>
<td>Pre Test Agility Control Group &amp; Post Test Agility Control Group</td>
<td>20</td>
<td>.873</td>
<td>.000</td>
</tr>
</tbody>
</table>

As per the table, in case of experimental group it shows that (r= 0.307) which implies that correlation between pre and post test is less positively correlated with (p=0.188) which is insignificant and control group shows that (r=0.873) which implies that correlation between pre and post test is positively correlated with (p=.000) which is significant.

Table no. 3- Paired t-Test for Experimental group and control group in response to Agility of State Level Cricketers.

<table>
<thead>
<tr>
<th>Group</th>
<th>Pre/post</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
<th>95% Confidence Interval of the Difference</th>
<th>Lower</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental group</td>
<td>Pre Test Agility Yogic exercises - Post Test Agility Yogic exercises</td>
<td>1.36000</td>
<td>.68626</td>
<td>.15345</td>
<td>1.03882</td>
<td></td>
</tr>
<tr>
<td>Control group</td>
<td>Pre Test Agility Control Group - Post Test Agility Control Group</td>
<td>.09500</td>
<td>.38590</td>
<td>.08629</td>
<td>-.08561</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Group</th>
<th>Pre/post</th>
<th>Paired</th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental group</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control group</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
As per the above table, in case of experimental group, the difference was significant as the value of p (0.000) is less than 0.05. Thus, the null hypothesis of equality of average pre test agility and post test agility was rejected, which indicated that the given training using selected asana practices had a practice and significant impact on improving agility in the given framework of time. However, in control group, the difference was non-significant as the (p=0.285) is more than 0.05, indicating the non-significant or no change in agility after 6 weeks.
Table 4 - Descriptive Statistics for Balance of experimental group and control group of state level cricketers

<table>
<thead>
<tr>
<th>S.NO.</th>
<th>Groups</th>
<th>Mean</th>
<th>N</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Pre Test Balance yogic exercise</td>
<td>81.4000</td>
<td>20</td>
<td>11.30626</td>
<td>2.52816</td>
</tr>
<tr>
<td></td>
<td>Post Test Balance yogic exercise</td>
<td>115.5000</td>
<td>20</td>
<td>13.83550</td>
<td>3.09371</td>
</tr>
<tr>
<td>2</td>
<td>Pre Test Balance Control Group</td>
<td>87.6000</td>
<td>20</td>
<td>31.97762</td>
<td>7.15041</td>
</tr>
<tr>
<td></td>
<td>Post Test Balance Control Group</td>
<td>90.4500</td>
<td>20</td>
<td>34.48642</td>
<td>7.71140</td>
</tr>
</tbody>
</table>

The above table showed the descriptive statistics for both the groups with respect to balance. The experimental group was found to have mean values of 81.4000 + 11.30626 for pre-test and 115.5000 + 13.83550 for post-test whereas, for control group, the mean values were 87.6000 + 31.97762 for pre-test and 90.4500 + 34.48642 for post-test (table no. 1). This clearly indicated the positive impact of selected asana practices on the balance of subjects within the given period of time and in case of control group there is less change over given period of time.

Table no. 5- Paired Correlations for Balance of Experimental and Control Group of state level cricketers

<table>
<thead>
<tr>
<th>Pre/Post Balance Yogic exercises</th>
<th>N</th>
<th>Correlation</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre Test</td>
<td>20</td>
<td>-.011</td>
<td>.963</td>
</tr>
</tbody>
</table>
As per the table, in case of experimental group it shows that \( r = -0.11 \) which implies that correlation between pre and post test is negatively correlated with \( p = 0.963 \) which is insignificant and control group shows that \( r = 0.954 \) which implies that correlation between pre and post test is positively correlated with \( p = 0.000 \) which is significant.

Table no. 6- Paired t-Test for experimental group and control group in response to Balance of state level cricketers.

<table>
<thead>
<tr>
<th>Group</th>
<th>Pre/post</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error</th>
<th>95% Confidence Interval of the Difference</th>
<th>Paired Differences</th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre Test Balance Yogic exercises &amp; Post Test Balance Control Group</td>
<td>20</td>
<td>.954</td>
<td>.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental</td>
<td>Pre Test Balance Yogic exercises - Post Test Balance Yogic exercises</td>
<td>34.10000</td>
<td>17.96459</td>
<td>4.01700</td>
<td>-42.50768</td>
<td></td>
<td></td>
<td></td>
<td>.000</td>
</tr>
<tr>
<td>Control</td>
<td>Pre Test Balance Control Group - Post Test Balance Control Group</td>
<td>2.85000</td>
<td>10.32766</td>
<td>2.30933</td>
<td>-7.68349</td>
<td></td>
<td></td>
<td></td>
<td>.232</td>
</tr>
</tbody>
</table>

As per the above table, in case of experimental group, the difference was significant as the value of \( p (0.000) \) is less than 0.05. Thus, the null hypothesis of equality of average pre test
agility and post test balance was rejected, which indicated that the given training using selected asana practices had a practice and significant impact on improving balance in the given framework of time. However, in control group, the difference was non-significant as the (p= 0.232) is more than 0.05, indicating the non-significant or no change in agility after 6 weeks.
In conclusion, the agility and balance of state level cricketers under experimental group was found to be improved during given framework of time but not in the case of control group. This might be attributed to the reason that the comprehensive training of selected yogic asana practices included in this study helped in improving agility and balance.

4. Discussions and Conclusion
The purpose of this study was to investigate the result of yogic exercises coaching on agility and balance. From the on top of results, it had been shown that yogic exercises are showing positive effect in improving agility as compared to control group.

The results shown that yogic exercises was effective in improving Balance of state level cricketers in comparison to Control group.

Final results shown that yogic exercises were effective in improving Agility and Balance of state level athletes because all the asanas carried out in yogic exercises focus on different muscle groups and nerve centers called Chakras. This helps you tone almost all your body parts including arms, abs, thighs, and butt. It also gives you more flexibility and improves your body posture. Along with asanas, the breathing pattern is also an important aspect of yoga. This gives deep conscious relaxation to the body and mind. It helps to relax the mind and sharpen the senses. It increases your self-awareness, which increases your energy levels.

This study was supported by Dr Umesh Jugalkishor Rathi (January 2019) studying the effects of Yogasanas on selected motor parts of SGBU, handball players from Amravati University. The selected players were divided into two equal groups consisting of 15 players, namely the experimental group (Group-1) and the control group (Group-2). Group 1 underwent eight weeks of yogasana training and Group 2 did not participate in any special training beyond their usual sports and games. Subjects were tested on selected endpoint variables such as muscle strength and balance. The latter was measured immediately after the eight-week yogasana training course. The 't' ratio statistical technique was used to analyze the means of Group 1 and Group 2 pre- and post-trial data. The results of the study showed that there was a significant difference between Group 1 and Group 2 on several variables.

References
9. Effect of aerobic exercise programme on health related physical fitness components of