CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.0 INTRODUCTION

Sports performance is indeed an aspect of complex human performance, which has several dimensions. Hence, several disciplines of sports science are required to work in a coordinated manner to explore the nature of sports performance and the process of improving sports performance. In last few decades, several disciplines of sports science have been established e.g. Sports medicine, sports pedagogy, sports nutrition, sports biochemistry, sports neuro-physiology, sports cybernetics etc.,

Basketball today being a fast paced sport, success in it depends a lot on the athletes speed, power, strength, agility, endurance, skill, flexibility and tactical knowledge. Basketball apart from being a highly skilled game, the rules governing this game has been frequently changed in order to make the game much faster than ever.

The most important among the changes came during the year 2000. The game has been made to play in 4 ten-minute quarters. In this new format, there is one time out per quarter, two time outs in the last quarter and one time out for each extra period. Federation of international basketball association (FIBA), the governing body of the basketball game reduces 30 second rule to 24 seconds and back court rule from 10 seconds to 8. Ball has to hit the ring to reset the shot clock. These changes have brought in tremendous changes in the mode of playing and training methods.
The latest change in the rules made the game much speedier and powerful and squeezes the players and taps the anaerobic pathways most effectively than ever. A player on court sprints for a minimum of six seconds continuously and runs back in almost equal speed for a period of at least three minutes they also get an equal amount of recovery period because each team has been provided with one time out each in one quarter and a two minute interval at the end of the first quarter. At the end of the second quarter a brief interval of fifteen minutes is given and again in the last quarter two timeouts are given for each team. So the latest changes made the game much faster, since the game is full of short sprints a player requires more of anaerobic power.

Anaerobic training involves very high intensity exercise lasting from a few seconds to several minutes. Basketball players should be trained with proper anaerobic components in order to attain maximum gain. For any sport pre-season is an important period during which the team will work on the major fitness components as well as important skills of the game. During this period the teams will be concentrating in the development of the motor components as well as the skill part. For a game like basketball where fitness plays a major role in the development and success a sensible team management will certainly looking forward to the pre-season to equip their team with all that is needed for the team in particularly game specific fitness.

Therefore this study is intended to evolve a pre-season training package by studying on the effect of specific pre season training package on selected physical, physiological and skill performance variables of college level male basketball players.
5.1 PROCEDURE:

The subjects for this investigation were 60 male Basketball players who participated in the inter-collegiate level Basketball tournaments. The subjects were randomly selected and divided into two equal groups’ namely experimental group and conventional group. The criterion variables selected were the following.

**TABLE - 16**

**THE DEPENDENT VARIABLES AND TESTS USED IN THIS STUDY**

<table>
<thead>
<tr>
<th>Sl.No</th>
<th>Variables</th>
<th>Test</th>
<th>Unit of Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Speed</td>
<td>50 yards dash (AAHPERD 1976 - Youth fitness test)</td>
<td>In seconds</td>
</tr>
<tr>
<td>2</td>
<td>Agility</td>
<td>30 Feet Shuttle run (AAHPERD – 1976 Youth fitness test)</td>
<td>In seconds</td>
</tr>
<tr>
<td>3</td>
<td>Flexibility</td>
<td>Sit and Reach Test (AAHPERD – 1980 Health related physical fitness test)</td>
<td>In centimeters</td>
</tr>
<tr>
<td>4</td>
<td>Explosive power</td>
<td>Vertical jump test (Texas jump test 1973)</td>
<td>In inches</td>
</tr>
<tr>
<td>5</td>
<td>Abdominal muscular strength and endurance</td>
<td>Modified sit-ups test (AAHPERD 1980 - Health related physical fitness test)</td>
<td>In numbers</td>
</tr>
<tr>
<td>6</td>
<td>Maximal oxygen consumption</td>
<td>Queens college step test</td>
<td>In milliliters</td>
</tr>
<tr>
<td>7</td>
<td>Shooting – close range</td>
<td>Field goal speed test – Johnson basketball test</td>
<td>In numbers</td>
</tr>
<tr>
<td>8</td>
<td>Shooting – long shorts</td>
<td>Speed spot shooting test (AAHPERD 1984)</td>
<td>In numbers</td>
</tr>
<tr>
<td>9</td>
<td>Defensive movement</td>
<td>Basketball defensive movement (AAHPERD 1984)</td>
<td>In seconds</td>
</tr>
<tr>
<td>10</td>
<td>Passing</td>
<td>Basketball passing ability test (AAPEHHRD 1984)</td>
<td>In numbers</td>
</tr>
<tr>
<td>11</td>
<td>Dribbling</td>
<td>Basketball control dribble test (AAHPERD 1984)</td>
<td>In Seconds</td>
</tr>
</tbody>
</table>
Tests were administered prior to the training (pre-test) and post was taken after twelve weeks of training period. The data were processed by using ‘F’ test to find out the significance of mean difference in the pre-test and in the post-test among the Experimental Group and Conventional Group. Then analysis of covariance was used to analyze the significance among the data on pre test means and post test means between the Experimental Group and Conventional Group on criterion variables is the preliminary process. As the final step of analysis of covariance, the post test means were adjusted for differences in the pre test means, and the adjusted post test means are tested for significance among the two groups. The results of the same are tabulated and presented in this chapter. The obtained results were tested with 0.05 level of significance.

5.2 FINDINGS:

The findings of the study are given below

1. It is found that the specific training package produced significant difference on selected physical fitness variables among the experimental group than the conventional group.

2. It is found that the specific training package produced significant difference on selected physiological variable among the experimental group than the conventional group.
3. It is found that the specific training package produced significant difference on selected skill performance variables among the experimental than the conventional group.

5.3 CONCLUSIONS

The following conclusions may be drawn based on the findings of the study. In the criterion measures the experimental group shows significant improvement than the conventional group.

1. The experimental group trained with specific pre season training package has significantly improved the physical variables such as speed, agility, explosive power, strength and flexibility which are very essential physical components for any basketball player to achieve maximum success in their playing career.

2. The experimental group trained with specific pre season training package has significantly improved in the only important physiological variable VO₂ max.

3. The experimental group trained with specific pre season training package has significantly improved in all the selected skills variables. Passing and Dribbling skills which are the most basic one but also the most important one for any basketball player to excel showed significance. Also the major skills shooting and defensive movements are also showed significant difference than the conventional group.
4. Thus the experimental group trained with specific pre season training package on selected physical, physiological and skill performance variables proved to be effective.

5.4 RECOMMENDATIONS

Based on the major findings of the present study the following recommendations were made.

1. Since this study has proved that the specific pre season training package played a major role in enhancing the performance of all the selected physical, physiological and skill performance variables, it is suggested that the coaches and physical education teachers can follow this pre season training package to train the Basketball players in order to improve the overall performance of Basketball players.

2. It is suggested that similar type of study may be done to evolve an off season training package for the college level basketball players.

3. It is suggested that similar type of study may be done to present training packages for specific positions in the game of basketball such as offensive, defensive and post play inorder to help the college level players to benefit with proper position specific training.
4. It is recommended that all the state basketball associations, national association, academies and the coaching centers shall utilize the result of this investigation.

5. Similar type of studies can be undertaken for different age groups and also for women Basketball players.

6. It is suggested that programmes of similar type for various levels like University, State and National can be prepared with varied intensity.

7. A similar study may be undertaken which includes the nutritional effect, psychological and physical variables.