INTRODUCTION

Basketball is a sport that builds competitive success upon specific training and strength conditioning programs. The object of the game is to put the basketball through the opponent's basket and to, conversely, prevent the opponent from scoring. Every player is engaged at some point in a game, either ball handling, passing, shooting, and/or defensive techniques. Here, physical abilities of players exert marked effects on the skill of the players and the tactics of the team, because this game demands repeatedly maximum exertion. Therefore, the players must have physical abilities to make rapid and powerful movements, and aerobic and anaerobic capacities that make them competent in prolonged vigorous offensive and defensive maneuvers to win. Studies conducted by the National Collegiate Basketball Association (NCAA) revealed that an average segment of play during a game will last between 12 and 20 seconds. For this reason, basketball places its primary demands on the human body's anaerobic energy system, with secondary reliance on the aerobic energy systems. Hence, the most effective forms of basketball training develop the physical skills necessary to play the game by placing emphasis upon both energy systems. In previous basketball eras, it was thought that conditioning was best achieved in practice sessions. Further, the running drills for the players were as much punishment as they were productive. But modern basketball training, as with the development of any higher level athletic skills, requires methods that incorporate physical fitness and sport-specific skills into each element of training.

Statement of the Problem

Basketball is a fastest game that changes in metabolic activity requiring rapid adaptation to alterations in oxygen demand which would implicate a specific adaptation of the lung. High-intensity intermittent running has been shown to increase ventilatory performance (forced vital capacity, peak flow, and forced expiratory flow) (Nourry et al., 2005) suggesting that intermittent exercise enhances the respiratory demand as well as it enhances the cardiac demand (Paterson, 1979), other than strength, speed and power, basketball players must possess excellent endurance. Whereas a distance runner or cyclist requires excellent low-intensity aerobic endurance, basketball players are expected to repeat multiple high-intensity activities
with minimal rest periods. Speed endurance becomes an important factor, as does the ability to tolerate a high production of blood lactate. Furthermore, a basketball player in great condition should demonstrate the endurance to run tirelessly on the court and should possess the strength to engage in the physical battles beneath the basket. There is no doubt that strength training plays an important part in building up the power to meet demands on the court (Fulton, 1992). College basketball has emphasized strength training to a great degree because it increases overall strength, flexibility, and lean body mass (Fulton, 1992). The implementation of strength training in order to increase vertical jumping ability, thereby enhancing overall sport performance, appears well founded (Renfro, 1996). This explains that there is need to develop a specific exercise training programme to sustain the high state of circulo-respiratory demands of the game. Hence, the investigator of this study intends to see the effect of selected specific exercises training on circulo-respiratory function and skills that are principally required for the elite school level basketball players.

Problem and its Relevance

Basketball, although helps to maintain high state of physical fitness, affects the human body through injuries, muscle overuse, illnesses, dehydration and other biomechanical strain. It is highly recommended that a proper physical preparation is incorporated in the training of the elite basketball player. This involves a program of conditioning exercises designed to develop muscle groups, improve cardiovascular capacity and physical performance, and to promote the safety and health of the players. Because the physiological requirements of men's basketball are high, placing considerable demands on the cardiovascular or circulo-respiratory and metabolic capacities of players. Therefore, the importance of developing good conditioning programs based on the specific physiological demands of each sport is considered a key factor to success (Gillam, 1985; Taylor, 2003; 2004). In the game of Basketball tremendous endurance, speed, agility, and power are required (Siegler et al., 2003). Therefore, the investigator has undertaken this study entitled, “Effect of Selected Exercises on Cardio-respiratory function and Skill in Elite Basketball Players.”
Delimitation of the Study

- The present investigation will be delimited to the school level male elite basketball players aged 12 to 14 years.

- Two major variables viz., cardio-respiratory function and basketball skills will be delimited for measurements.

Objectives of the study

- To assess the cardio-respiratory functions of elite basketball players.

- To assess the skill ability of elite basketball players.

- To prepare specific exercise training programme considering the enhancement of cardio-respiratory functions and skills in basketball players.

- To evaluate the efficacy of selected exercise training on cardio-respiratory function and skills in basketball players through a controlled experiment.

Hypotheses

On the basis of literature available so far it is hypothesized that:

H₁: The stimulus of selected exercise training programme may be effective in improving cardio-respiratory function of elite Basketball players.

H₂: The selected exercise training would be beneficial to enhance the skills in basketball players.
Scope of the Study

The study has very wide scope because it has been defined in such a way so that it will help other research scholars, sport scientist, and scientists of physical education to conduct similar studies. Moreover, similar studies may also be conducted in other games too.

Operational Definitions of the Terms

Cardio-Respiratory function

Physiology deals with the functions and activities of life or of living matter (as organs, tissues, or cells) and of the physical and chemical phenomena involved. **Cardio-respiratory function deals with the functional ability of lungs that influences the activities of heart.** There are various components involved in the cardio-respiratory function viz., blood pressure, respiratory rate, **vital capacity**, pulmonary expiratory flow rate and pulse rate.

Exercise

Exertion for the sake of training or improvement whether physical, intellectual, or moral; practice to acquire skill, knowledge, virtue, perfectness, grace, etc. Bodily exertion for the sake of keeping the organs and functions in a healthy state; hygienic activity.

Basketball

Basketball is a team sport in which two teams of 5 players try to score points against one another by placing a ball through a 10 foot (3.048 m) high hoop (the goal) under organized rules. Basketball is one of the most popular and widely viewed sports in the world.

Significance of the Study

- The study may bring an excellent result showing improvement in selected components of **cardio-respiratory** function as well as improvement in skills of the basketball players.

- The newly designed training schedule of exercise, as a result of this study, may be beneficial for the Indian elite players participating in basketball competitions.