CHAPTER – I
INTRODUCTION

The history of sports probably extends as far back as the existence of people as purposive sportive and active beings. Sport has been a useful way for people to increase their mastery of nature and the environment. The history of sport can teach us a great deal about social changes and about the nature of sport itself. Sport seems to involve basic human skills being developed and exercised for their own sake, in parallel with being exercised for their usefulness. It also shows how society has changed its beliefs and therefore there are changes in the rules. Of course, as we go further back in history the dwindling evidence makes the theories of the origins and purposes of sport difficult to support. Nonetheless, its importance in human history is undeniable.

Sports that are at least two and a half thousand years old include hurling (similar to field hockey) in Ireland, harpastum (similar to rugby) in Rome, (similar to association football) in China, and polo in Persia. The Mesoamerican ballgame originated over three thousand years ago.

There are artifacts and structures that suggest that the Chinese engaged in sporting activities as early as 2000 BC. Gymnastics appears to have been a popular sport in China's ancient past. Monuments to the Pharaohs indicate that a number of sports, including wrestling, weightlifting, long jump, swimming, rowing, shooting, fishing and athletics, as well as various kinds of ball games, were well-developed and regulated several thousands of years ago in ancient Egypt. Other Egyptian sports included javelin throwing, high jump, and wrestling. Ancient Persian sports such as the traditional Iranian martial art of Zourkhaneh. Among other sports that originated in Persia are polo and jousting.

Depictions of ritual sporting events are seen in the Minoan art of Bronze Age Crete (from approximately 2700 to 1450 BC), mainly involving religious bull-leaping and possibly bullfighting. Homer tells us that sport was practiced in Mycenaean times, between 1600 BC and ca. 1100 BC. In the Iliad there are
extensive descriptions of funeral games held in honors of deceased warriors, and engaging in sport is described as the occupation of the noble and wealthy, who have no need to do manual labour themselves. In the Odyssey, king Odysseus of Ithaca proves his royal status to king Alkinoös of the Phaiakes by showing his proficiency in throwing the javelin. It was predictably in Greece that sports were first instituted formally, with the first Olympic Games recorded in 776 BC in Olympia, where they were celebrated until 393 AD. Initially a single sprinting event, the Olympics gradually expanded to include several footraces, run in the nude or in armor, boxing, wrestling, pankration, chariot racing, long jump, javelin throw, and discus throw. A variety of informal and formal games were popular in Ancient Greece, with the most prestigious ones achieving Panhellenic status. Some games, e.g. the Panathenaia of Athens, included musical, reading and other non-athletic contests in addition to regular sports events. High-profile athletes were major celebrities in ancient Greece.

Middle Ages

For at least seven hundred years, entire villages have competed with each other in rough, and sometimes violent, ballgames in England (Shrovetide football) and Ireland (caid). In contrast, the game of calico Florentine, in Florence, Italy, was originally reserved for the aristocracy. The aristocracy throughout Europe favoured sports as patrons as well as player. Horse racing, in particular, was a favourite of the upper class in Great Britain, with Queen Anne founding the Ascot Racecourse.

Development of modern sports

Some historians – most notably Bernard Lewis – claim that team sports as we know them today are primarily an invention of Western culture. The traditional teams sports are seen as springing from Europe, primarily England through its British Empire. This can be seen as discounting some of the ancient games of cooperation from Asia (e.g. polo, numerous martial arts forms, and various, now assimilated football varieties) and even from the Americas (e.g. lacrosse).
European colonialism certainly helped spread particular games around the world, especially cricket (related to baseball), football of various sorts, bowling in a number of forms, cue sports (like snooker, carom billiards and pool), hockey and its derivatives, equestrian (originally of Middle Eastern origin), and tennis (and related games deriving from jeu de paume), and many winter sports, while the originally Europe-dominated modern Olympic Games generally also ensured standardization in particularly European directions when rules for similar games around the world were merged. Regardless of game origins, the Industrial Revolution and mass production brought increased leisure which allowed more time to engage in playing or observing (and gambling upon) spectator sports, as well as less elitism in and greater accessibility of sports of many kinds. With the advent of mass media and global communication, professionalism became prevalent in sports, and this furthered sports popularity in general.

England

Writing about cricket in particular, John Leech (2005a) has explained the role of Puritan power, the English Civil War, and the Restoration of the monarchy in England. The Long Parliament in 1642 "banned theatres, which had met with Puritan disapproval. Although similar action would be taken against certain sports, it is not clear if cricket was in any way prohibited, except that players must not break the Sabbath". In 1660, "the Restoration of the monarchy in England was immediately followed by the reopening of the theatres and so any sanctions that had been imposed by the Puritans on cricket would also have been lifted." He goes on to make the key point that political, social and economic conditions in the aftermath of the Restoration encouraged excessive gambling, so much so that a Gambling Act was deemed necessary in 1664. It is certain that cricket, horse racing and boxing (i.e., prizefighting) were financed by gambling interests. Leach explains that it was the habit of cricket patrons, all of whom were gamblers, to form strong teams through the 18th century to represent their interests. He defines a strong team as one representative of more than one parish and he is certain that such teams were first assembled in or immediately after 1660. Prior to the English Civil War and the Commonwealth, all available evidence concludes that cricket
had evolved to the level of village cricket only where teams that are strictly representative of individual parishes compete. The "strong teams" of the post-Restoration mark the evolution of cricket (and, indeed of professional team sport, for cricket is the oldest professional team sport) from the parish standard to the county standard. This was the point of origin for major, or first-class, cricket. The year 1660 also marks the origin of *professional* team sport.

A number of the English public schools, and colleges and universities such as Winchester and Eton, introduced variants of football and other sports for their pupils. These were described at the time as "innocent and lawful", certainly in comparison with the rougher rural games. With the coming of the industrial revolution and the movement of the populace from the country to the cities, the rural games moved to the new urban centres and came under the influence of the middle and upper classes. The rules and regulations devised at English institutions began to be applied to the wider game, with governing bodies in England being set up for a number of sports by the end of the 19th century. The rising influence of the upper class also produced an emphasis on the amateur, and the spirit of "fair play". The industrial revolution also brought with it increasing mobility, and created the opportunity for universities in Britain and elsewhere to compete with one another. This sparked increasing attempts to unify and reconcile various games in England, leading to the establishment of the Football Association in London, the first official governing body in football.

The British Empire and post-colonial sports

The influence of British sports and their codified rules began to spread across the world in the late 19th and early 20th century, particularly association football. A number of major teams elsewhere in the world still show these British origins in their names, such as AC [Athletic Club] Milan in Italy, Grêmio Foot-Ball Porto Alegrense in Brazil, and Athletic Bilbao in Spain. Cricket became popular in several of the nations of the then British Empire, such as Australia, South Africa, India and Pakistan, and remain popular in and beyond today's Commonwealth of Nations. The revival of the Olympic Games by Baron Pierre de
Coubertin was also heavily influenced by the amateur ethos of the English public schools.

Baseball (closely related to English rounders and French la soule, and less clearly connected to cricket) became established in the urban Northeastern United States, with the first rules being codified in the 1840s, while American football was very popular in the south-east, with baseball spreading to the south, and American football spreading to the north after the Civil War. In the 1870s the game split between the professionals and amateurs; the professional game rapidly gained dominance, and marked a shift in the focus from the player to the club. The rise of baseball also helped squeeze out other sports such as cricket, which had been popular in Philadelphia prior to the rise of baseball.

American football (and gridiron football more generally) also has its origins in the English variants of the game, with the first set of intercollegiate football rules based directly on the rules of the Football Association in London. However, Harvard chose to play a game based on the rules of Rugby football. Walter Camp would then heavily modify this variant in the 1880s, with the modifications also heavily influencing the rules of Canadian football.

Today

There are many sports whose modern rules were formulated during the mid- or late- 19th century. World-wide, this certainly includes many different football codes, lawn bowls, lawn tennis and others. The major impetus for this was the patenting of the world's first lawnmower in 1830. This allowed for the preparation of modern ovals, playing fields, pitches, grass courts, etc.

Perhaps in a reaction to the demands of contemporary life there have been developments in sport that are best described as post-modern extreme ironing being a notable example. There is also a move towards adventure sports as a form of escapism, transcending the routines of life examples being white water rafting, paragliding, canyoning, base jumping, parkour/free running and more genteelly, orienteering.
Women's sport history

Women's competition in sports has been frowned upon by many societies in the past. The English public-school background of organised sport in the 19th and early 20th century led to a paternalism that tended to discourage women's involvement in sports, with, for example, no women officially competing in the 1896 Olympic Games. The 20th century saw major advances in the participation of women in sports, although women's participation as fans, administrators, officials, coaches, journalists, and athletes remains in general less than men's. Mass involvement tends to favor sports such as swimming and aerobics, and tends to stress the competitive aspects less than men. The increase has been partly related to the drive for more women's rights. In the United States, female student's participation in sports was significantly boosted by the Title 9 Act in 1972, preventing gender discrimination and equal opportunity for women to participate in sport at all levels. Pressure from sports funding bodies has also improved gender equality in sports. For example the Marylebone Cricket Club (MCC) and the Leander Rowing Club in England had both been male-only establishments since their founding in 1787 and 1818, respectively, but both opened their doors to female members at the end of the 20th century at least partially due to the requirements of the United Kingdom Lottery Sports Fund.

TRAINING

The word ‘Training’ has been a part of human language since ancient times. It denotes the process of preparation for some task. This process invariably extends to a number of days and even months and years. The term ‘training’ is widely used in sports. The regular and systematic use of physical exercise, however, does not guarantee maximum improvement in performance. The effect of these exercises is increased or decreased by a multitude of factors. Some of these factors, if ignored, lead to a drastic reduction in the efficacy of physical exercise. The complex nature of sports training involving physical exercise along with other means becomes obvious when one looks at the training of advanced sports persons.
The training of advanced sports persons is significantly supported by means and measures from several sports science disciplines e.g., sports medicine, sports physiology, nutrition, physiotherapy, sports psychology, sports biomechanics and so on. The training for specific sports is based on motor abilities viz. strength, speed, endurance, flexibility and coordinative abilities. Few sports are dominated by specific motor ability along with all other in supportive action. In this study the scholar is specified to only endurance ability, which is dominated in basketball sport.

ENDURANCE

Endurance training is the deliberate act of exercising to increase stamina and endurance. An Exercise for endurance tends to be aerobic in nature versus anaerobic movements. Aerobic exercise develops slow twitch muscles. Performing these exercises strengthens and elongates the muscles for preparation of extended periods of use.

Athletes train for endurance to compete in 5k and 10k races, half marathons, marathons, ultra marathons, triathlons, Ironman competitions, Century bike rides, mountain biking and so on. Non-athletes can train similarly with an aerobic workout to burn calories and fat. It is known that long distance training (LDT) for endurance over long periods of time can be harmful to joints and ligaments.

Long-term endurance training induces many physiological adaptations both centrally and peripherally mediated. Central cardiovascular adaptations include decreased heart rate, increased red blood cell count, increased blood plasma which reduces blood viscosity and increased cardiac output as well as total mitochondrial volume in the muscle fibers used in the training (i.e., the thigh muscles in runners will have more mitochondria than swimmers). Adaptations of the peripheral include capillarization, that is an increase in the surface area that both the venous and arterial capillaries supply. This also allows for increased heat dissipation during strenuous exercise. The muscles heighten their glycogen and fat storing
capabilities in endurance athletes in order to increase the length in time in which they can perform work. Catabolism also improves increasing the athlete’s capacity to use fat and glycogen stores as an energy source. These metabolic processes are known as glycogenolysis, glycolysis and lipolysis.

Aerobic Endurance Training:

There are several different types of aerobic endurance training - each with a different, specific outcome and suitable for different events and sports.

The duration, frequency and intensity of sessions vary with each form of training leading to different physiological adaptations within the body. The table below summarizes the main types of aerobic endurance training and suggested parameters:

<table>
<thead>
<tr>
<th>TYPES OF AEROBIC ENDURANCE TRAINING</th>
<th>FREQUENCY (PER WEEK)</th>
<th>DURATION (PER SESSION)</th>
<th>INTENSITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long, Slow Distance</td>
<td>1-2</td>
<td>Race distance or longer or (30 – 120 min)</td>
<td>~ 70% VO₂ max</td>
</tr>
<tr>
<td>Pace / Tempo</td>
<td>1-2</td>
<td>20-30 min</td>
<td>At lactate threshold or slightly above race pace.</td>
</tr>
<tr>
<td>Interval</td>
<td>1-2</td>
<td>3-5 min interval</td>
<td>Near VO₂ max.</td>
</tr>
<tr>
<td>Repetition</td>
<td>1</td>
<td>30-90 sec interval</td>
<td>Greater VO₂ max.</td>
</tr>
<tr>
<td>Fartlek</td>
<td>1</td>
<td>20-60 min</td>
<td>Variable: ~ 70% VO₂ max with bouts at or above lactate threshold</td>
</tr>
</tbody>
</table>

Adopted from Essentials of Strength Training and Conditioning (2000)

Long Slow Distance Training:

As you would expect this type of training is typical of a long distance runner. Intensity is usually less than 70% VO₂ max, or equivalent to about 80% maximum heart rate. Duration should be near to race distance or at least 30 minutes to 2 hours long (1). Intensity for long, slow distance endurance training is
often gauged using the "talk" test whereby the athlete can hold a conversation without being too winded.

Adaptations to this form of aerobic endurance training include improved cardiovascular and thermoregulatory function, improved mitochondrial energy production, increased oxidative capacity of skeletal muscle and increased utilization as fat for fuel (which spares muscle glycogen) Anaerobic or lactate threshold is also likely to improve with a body better able to remove lactate. Because long distance training is low intensity (lower than competition) too great a reliance on this form of endurance running in the athlete's training program can be disadvantageous. Here is a sample training program for a marathon runner:

<table>
<thead>
<tr>
<th>Sample Half Marathon Training Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sunday</td>
</tr>
<tr>
<td>Rest</td>
</tr>
</tbody>
</table>

Notice how the two long distance runs are split up with plenty of rest between? Only one runs per week that approaches half marathon distance. The other types of training are covered below...

Pace/Tempo Training:

Referred to as lactate threshold training, pace/tempo training is designed to improve energy production from both aerobic and anaerobic energy pathways. Intensity is slightly higher than race pace and corresponds to the lactate threshold. Duration is usually 20-30 minutes at a steady pace.

Tempo/pace training can also be performed intermittently or in intervals. Intensity is the same as steady state tempo/pace training except the session consists of a series of shorter bouts with brief recovery periods. It is important to
keep intensity at or slightly higher than competition pace for either type of pace/tempo training. Progression should be in the form of increased duration rather than a faster running/cycling/swimming/rowing velocity etc.

**Interval Training:**

Interval training allows the athlete to work close to their aerobic limit ($\text{VO}_2\text{max}$) for a longer duration compared to a continuous type session. Short bouts of 3-5 minutes at intensity close to $\text{VO}_2\text{max}$ are interspersed by periods of active recovery. Work to rest ratio should be 1:1 so a 3 minute run should be followed by 3 minutes of rest. Because this type of aerobic endurance training is very demanding, sessions should be limited both in duration and in frequency each week. Duration is usually 30-45 minutes and frequency is one or two sessions per week, with ample rest days between. Below is a sample program for a 10k runner:

**Sample 10K Training Plan**

<table>
<thead>
<tr>
<th>Sunday</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Saturday</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rest</td>
<td>10 x 0.5km</td>
<td>10km run (easy)</td>
<td>Long Slow Distance Run (45 min)</td>
<td>5 x 1km</td>
<td>Long Slow Distance Run (45 min)</td>
<td>Fartlek Run (45 min)</td>
</tr>
</tbody>
</table>

Taking the time for each 0.5km interval, allocate the same amount of time for the rest periods between. Rest should be in the form of active recovery such as brisk walking or very light jogging. Click here for more on interval training.

**Repetition Training:**

This is the most intense form of aerobic endurance training. Performed at a pace greater than $\text{VO}_2\text{max}$ it places a high demand on the anaerobic energy systems. Work intervals are usually only 60-90 seconds separated by rest
intervals of 5 minutes or more. Typically work to rest ratio is 1:5 Repetition training helps to improve running speed, running economy and builds a greater tolerance to lactic acid. Endurance athletes often use repetition training to help in the final kick of a race. Due to the high intensity nature, only one session per week is required.

Fartlek Training:

Fartlek training combines some or all of the above aerobic endurance training techniques. A long slow run/cycle (at about 70% VO₂max) forms the foundation of the session and is combined with short bursts of higher intensity work. There is no set format for a Fartlek session although there are some standard sessions that have been developed by coaches over the years. Fartlek endurance training will improve VO₂max, exercise economy and lactate threshold. It also adds a nice change of pace to the more monotonous steady-state training. The table below outlines a sample program for an amateur Cross Country Runner:

<table>
<thead>
<tr>
<th>Sample Cross Country Training Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sunday</td>
</tr>
<tr>
<td>Rest</td>
</tr>
</tbody>
</table>

PRANAYAMA:

Pranayama (Sanskrit: prāṇāyāma) is a Sanskrit word meaning "lengthening of the prana or breath". The word is composed of two Sanskrit words, Prāṇa, life force, or vital energy, particularly, the breath, and "āyāma", to lengthen or extend. It is often translated as control of the life force (prana) When used as a technical term in yoga, it is often translated more specifically as "breath control" Literal
translations include A. A. Macdonell's "suspension of breath"[126] and I. K. Taimni's "regulation of breath".

Etymology:

Pranayama (Devanagari: प्राणायाम, prāṇāyāma) is a Sanskrit compound.

V. S. Apte provides fourteen different meanings for the word prana (Devanagari: प्राण, prāṇa) including these:

- Breath, respiration
  - The breath of life, vital air, principle of life (usually plural in this sense, there being five such vital airs generally assumed, but three, six, seven, nine, and even ten are also spoken of)
  - Energy, vigor
  - The spirit or soul

Of these meanings, the concept of "vital air" is used by Bhattacharyya to describe the concept as used in Sanskrit texts dealing with pranayama. Thomas McEvilley translates "prana" as "spirit-energy".

Monier-Williams defines the compound prāṇāyāma as (m., also pl.) "N. of the three 'breath-exercises' performed during Saṃdhyā (See pūraka, recaka, kumbhaka". This technical definition refers to a particular system of breath control with three processes as explained by Bhattacharyya: pūraka (to take the breath inside), kumbhaka (to retain it), and recaka (to discharge it). There are also other processes of pranayama in addition to this three-step model.

Macdonell gives the etymology as prāṇa + āyāma and defines it as "m. suspension of breath (sts. pl."). Apte's definition of āyāmah derives it from ā + yām and provides several variant meanings for it when used in compounds. The first three meanings have to do with "length", "expansion, extension", and "stretching, extending", but in the specific case of use in the compound prāṇāyāma he defines āyāmah as meaning "restrain, control, stopping".
An alternative etymology for the compound is cited by Ramamurti Mishra, who says that:

"Expansion of individual energy into cosmic energy is called prāṇāyāma (prāṇa, energy + ayām, expansion)"

The word "yama" (Devanagari: याम, yāma) means "cessation" or more generally "control" or "restraint".

VOLLEYBALL:

Volleyball is an Olympic team sport in which two teams of six players are separated by a net. Each team tries to score points by grounding a ball on the other team's court under organized rules.¹

The complete rules are extensive. But simply, play proceeds as follows: A player on one of the teams begins a 'rally' by serving the ball (tossing or releasing it and then hitting it with a hand or arm), from behind the back boundary line of the court, over the net, and into the receiving team's court. The receiving team must not let the ball be grounded within their court. They may touch the ball as many as three times. Typically, the first two touches are to set up for an attack, an attempt to direct the ball back over the net in such a way that the serving team is unable to prevent it from being grounded in their court.

The rally continues, with each team allowed as many as three consecutive touches, until either (1): a team makes a kill, grounding the ball on the opponent's court and winning the rally; or (2): a team commits a fault and loses the rally. The team that wins the rally is awarded a point, and serves the ball to start the next rally. A few of the most common faults include:

- causing the ball to touch the ground outside the opponents' court or without first passing over the net;
- catching and throwing the ball;
- double hit: two consecutive contacts with the ball made by the same player;
- four consecutive contacts with the ball made by the same team.
- net foul: touching the net during play.

The ball is usually played with the hands or arms, but players can legally strike or push (short contact) the ball with any part of the body.

A number of consistent techniques have evolved in volleyball, including spiking and blocking (because these plays are made above the top of the net the vertical jump is an athletic skill emphasized in the sport) as well as passing, setting, and specialized player positions and offensive and defensive structures.

Endurance: Endurance is a very important ability in sports. Endurance is the product of all psychic and physical organs and systems. No other motor ability depends so much on the working capacity of complete psycho-physical apparatus of humans as endurance. All other performance factors depend on one or more parts of this psycho-physical apparatus and as a result are directly or indirectly affected by endurance.

Endurance like any other motor ability is a conditional ability. It is primarily determined by energy liberation processes. The ability of the human body to maintain a certain level of energy production forms the physiological basis of endurance. Endurance is directly or indirectly of high importance in all sports. It is however not easy to define endurance, but there is agreement regarding the following aspects: endurance: it related to doing work for a long time of period, it relates to working under fatigue conditions, it involves a large number of muscles and it involves work efficiency. Harre (1986) defines endurance as the ability to resist fatigue, Thiess and Schnable (1987) also defines endurance as the resistance ability to fatigue. Martin (1979) and Matwejew (1981) have also used to the concept of ability to resist fatigue, for defining endurance. “Endurance is the ability to do sports movements, with the desired quality and speed, under conditions of fatigue.”
There are many types of endurance which are classified according to nature of activity viz. basic endurance, general endurance and specific endurance; classification according to duration of activity viz. speed endurance, short time endurance, medium time endurance and long time endurance. Endurance is determined with various factors as: (1) Aerobic capacity - (a) Oxygen intake; (b) Oxygen transport; (c) Oxygen uptake; (d) Energy reserves, (2) Anaerobic capacity - (a) Phosphogens stores; (b) Buffer capacity; (c) Lactic acid tolerance; (d) Aerobic capacity, (3) Movement economy and (4) Psychic factors.

STATEMENT OF THE PROBLEM:

“A Diagnostic Study of Development of Endurance in Volleyball Players by Using Two Different Training Methods Along with Pranayama” was considered for the study.

NEED OF THE STUDY:

Any competitive sports demands results and the need to establish any innovative and fast developing ability is always invited in any field, sports being no exception to it. The researcher scholar is associated with the game of volleyball and is always in pursuit to establish the best possible methods in developing the sport to its best. The latest trend of pranayama for health along with other benefits which are popular because of media has created the need to study the topic.

Considering the research will enhance and establish a scientific based training methodology in development of certain motor ability which is a prerequisite and one of the ability required in the sport of volleyball.

OBJECTIVES OF THE STUDY:

1. To find out, assess and analyze the developments taking in endurance ability among college students at particular age group.
2. To understand if any specific endurance development method is helpful for the college volleyball players.
3. To understand various parameters of endurance ability associated with pranayama in certain age group of certain sport.
4. To understand scientific base for methods of training in endurance for volleyball along with the traditional means of pranayama.
5. To understand how the endurance ability will enhance with any specific training methods of endurance.

SIGNIFICANCE OF THE RESEARCH:

1. The study may reveal the effect of endurance training on the volleyball players.
2. The study may also profound a training methodology and loading procedure in endurance training with two different methods along with pranayama.
3. Results may also be helpful to enhance volleyball performance of the players who are provided with the different endurance training methods catalyzed with pranayama training.
4. Evaluation of development of endurance abilities may fetch platform for establishing training methodology for enhancing performance in specific methodology combined with pranayama.
5. The comparison of development of endurance will give clear picture of the positive and negative aspects of the endurance, which in turn ensure the proper training.

HYPOTHESIS:

H1: According to the researcher, there may be significant difference of development of endurance through continuous method in experimental group of volleyball players when compared to the control group.
H2: According to the researcher, there may be significant difference of development of endurance through interval method in experimental group of volleyball players when compared to the control group.

H3: According to the researcher, there may be significant difference of development of endurance through continuous method supplemented with pranayama in experimental group of volleyball players when compared to the control group.

H4: According to the researcher, there may be significant difference of development of endurance through interval method in experimental group of volleyball players when compared to the control group.

H5: According to the researcher, there may be significant difference of development of endurance through continuous method supplemented with pranayama in experimental group of volleyball players when compared to the experimental group imparted with only continuous training method.

H6: According to the researcher, there may be significant difference of development of endurance through interval method supplemented with pranayama in experimental group of volleyball players when compared to the experimental group imparted with only interval training method.

H7: According to the researcher, there may be significant difference of development of endurance through continuous method supplemented with pranayama in experimental group of volleyball players when compared to the experimental group imparted with interval training method supplemented with pranayama.

H8: According to the researcher, there may be significant difference of development of endurance through continuous method supplemented with
pranayama in experimental group of volleyball players when compared to the experimental group imparted only interval training method.

H9: According to the researcher, there may be significant difference of development of endurance through interval method supplemented with pranayama in experimental group of volleyball players when compared to the experimental group imparted with only continuous training method.

H10: According to the researcher, there may be significant difference of development of endurance through interval method in experimental group of volleyball players when compared to the experimental group imparted with only continuous training method.

DELIMITATIONS:

1. The study is delimited to the male students only.
2. The study is further delimited to the age group between 18 to 25 years.
3. The study is delimited to students from Aurangabad district, Maharashtra.
4. The study is delimited to the standard endurance training and tests applicable for specific age groups and sex.
5. The study is further delimited to the college going students.
6. The study is delimited to few types of pranayama.
7. The study is delimited to the volleyball players only.

LIMITATIONS:

1. Diet and rest of the college students was a limitation.
2. Involvement of students during endurance training and endurance test was a limitation.
3. Involvement of students during pranayama training during the sessions is a limitation.
4. Physical, mental, weather, college, house and surrounding conditions were a limitation.
5. The present research work had various limitations which were beyond the control of researcher and were considered as one of the major limitations of the study.

DEFINITION OF THE TERMS:
DEFINITIONS OF ENDURANCE:
Harre (1986) defines “endurance as the ability to resist fatigue.”
Thiess and Schnabel (1987) also define “endurance as the resistance ability to fatigue.”
Martin (1979) and Matweyew (1981) have also used the concept of “ability to resist fatigue.”
Hardayal (1991) defines “endurance is the ability to do sports movements, with the desired quality and speed, under conditions of fatigue.”

DEFINITIONS OF TRAINING:
“Sports training is a planned and controlled process in which, for achieving a goal, changes in complex sports motor performance, ability to act and behaviour are made through measures of content, methods and organization.” (Martin 1979).

“Sports training are the basic form of preparation of sportsmen.” (Matwejew 1981)

“The preparation of sportsman represents a multisided process of purposeful utilization of the total complex of factors (means, methods and conditions) which help in the development of the sportsman and ensure a necessary level of his sports performance ability.” (Matwejew 1981)

DEFINITIONS OF PRANAYAMA:
Pranayama (Devanagari: प्राणायाम, prāṇāyāma) is a Sanskrit compound. V. S. Apte provides fourteen different meanings for the word prana (Devanagari: प्राण, prāṇa) including these: