INTRODUCTION
Life is endless chain of action & reactions, experiences and experiments, and trials and errors. In order to face the track and to continue the life cycle efficiently one should be physically wholesome, mentally alert and socially sound, fitness leads to live longer and serve best. Participation in sports means regular exercise, involvement in physical activity is very important habit which helps in maintaining good health. The personality development of individuals are expressed through the inter relationship between physical, psychological and social factors.
The assumption of women's health being governed by her womb was not seriously challenged until later in the twentieth century (Powell 1981). Any ailment that a women had from a sore throat to back pain was thought to be related to the uterus (Powell 1981), physicians agreed with the theory that all women were frail and weak making them unable to participate in sport. The ecocultural model given by Berry (1979) states that it is the socialization process which is more responsible for gender differences, as women are not much encouraged to take part in many social activities including games and sports. In developed countries women are allowed to take part in sports competitions. In India also the fair sex was prohibited to take part in sports due to certain myths related to physical activities. Despite the health warnings, women wanted the freedom to play sports. As women began participation, it was inferred that women who participated in exercise would become unfeminine, muscular and subject to uterine damage (Powell 1981). However some people also believed that physical exercise could benefit women by helping with the birthing process. There is wealth of evidences to support that sport women have differences in their body composition physiological and psychological functioning as compared to their counter parts i.e. non sports women.

The importance of studying women in sports is inarguably one of the most influential and overlooked topics of the women’s movement. In the sports area women are given the opportunity to level with men, to be given the opportunity to succeed is landmark milestone in itself, throughout women's history.

Theoretical underpinning of this study is that participation of sports has potential to offer a protective influence in
terms of, physical, physiological, gynecological well being and long term health benefits (Active Australia, 2001; William & Cash, 2001).

In recent years there has been a progressive increase in the number of young women in occupation that involve strenuous work performance, either on an acute basis or over prolonged periods, in addition, many female athletes now pursue athletic careers, that extend through their optimal childbearing year’s in the third and fourth decades of life (Beilock et.al. 2001; Pivarnik, et.al. 2003). This is probably result of better physical conditioning access to improved athletic therapy resources and enhanced economic support both at the amateur and professional levels. There may also be other socioeconomic and biomedical factors. (Larry et.al. 2005).

Based on current scientific evidence on the positive effects of regular physical activity (PA) on health and functional capacity, several authorities have stated that increasing the PA level of general population is one of the key issues in today’s health promotion (A.C.S.M. 1990 & Kozma, et.al. 1991). Hypokinetic, sedentary life in middle aged men and women is apt to lead to obesity and deterioration of aerobic power and both are characteristics problems of developed countries in recent years (Yorikoatomi et.al. 1987).

Increased participation of women in sports both in number and quality has naturally raised the question of scientific investigation and study in the area of women and sports, it is an important issue but the gap of scientific knowledge in this field is still enormous. Not only is women’s involvement in the world of sport science still restricted furthermore only a small part of the scientifically related literature deals with women’s performance. There are almost no studies
Concerning the long range effects of intensive conditioning programs on women, there is no overwhelming information on the physical capacities of older women. Assessment of the females function in sport and exercise has mainly been generalized from results of investigation of male participants, sports standards were in fact male oriented and thus the women in sport were compared more with men that with other women.

Virtually every process and organ within the body is affected by exercise. As an example, the skin, the largest human organ, undergoes physical changes when exposed to the environmental factors encountered in sport, such as increases and decreases in external temperatures. The physiology of exercise tends to center upon the most important physical systems to athletic performance: the cardiovascular system, the cardio-respiratory system, the thermoregulatory system, body composition and the musculoskeletal system. It is these aspects of human function that tend to have the greatest impact upon the ability of an athlete to maintain or improve their level of performance in any sport.

Body composition is the most visible of the physiological changes often observed to have occurred through exercise. The body is constructed from body fat, lean muscle mass, and the organs and skeletal bone, the dimensions of which are not altered through exercise. Body composition is affected by two distinct exercise mechanisms—through a reduction in the percentage of body fat in a subject, and through the increase of lean muscle mass developed through specialized exercise. Body fat is the storage form of the triglycerides that are processed by the body from the fats consumed through diet. These fats may be stored for indefinite periods in the adipose tissues located in the region of the abdomen, pelvis, buttocks, and chest. Exercise, when combined with proper attention to diet, will result in a weight loss in any
subject where the amount of caloric energy required to fulfill the body's needs, including exercise, exceeds the amount of caloric energy sources ingested as food.

The bones of the musculoskeletal system also undergo structural changes that result from exercise. Resistance, either through weight training, or in activities that require running or other forces to be directed into the body, generally tends to increase bone density.

Exercise also increases blood flow to the brain, releases hormones, stimulates the nervous system, and increases levels of morphine-like substances found in the body (such as beta-endorphin) that can have a positive effect on mood. Exercise may trigger a neurophysiologic high—a shot of adrenaline or endorphins—that produces an antidepressant effect in some, an ant anxiety effect in others, and a general sense of "feeling better" in most.

Exercise can be a powerful method of relaxation, and it can help people deal effectively with the stress of daily life. In various studies, researchers have found that exercise can decrease anxiety and depression, improve an individual's self-image, and buffer people from the effects of stress. Not every study has shown the precise benefits the investigators were looking for; but taken as a whole, the research strongly supports the common experience that exercise can elevate mood and reduce anxiety and stress. Some early studies even suggest that the stress-reducing effect of exercise—not just its cardiovascular benefits—may help improve physical health.

Sports mean rigorous physical activities. The physical activity is considered as an important component in today's
concept of health. This indicates that those who are involved in physical activities for longer time tend to have good health, good physique and psychological health. The physiological aspects like the gynecological problems related to hormonal imbalances, the pregnancy, nature of delivery and postpartum condition depends upon the health of the women. Studies on exercise have shown that participation in sports helps one to develop psycho-physiological domain. There are certain gynecological consideration which may affect the performance of sports women, as well as sports participation may have impact on certain gynecological characteristics of women.

Premenstrual syndrome (PMS) is characterized by a group of physical and psychological symptoms that appear 3 to 14 days prior to menstruation, and are relieved by the onset of menses. P.M.S. – The PMS is a state when a woman feels a lot of changes in her physical & mental conditions prior to menstruation. The behavior pattern of individual has influence of his/her rearing pattern and socialization process. Premenstrual disorders including premenstrual syndrome, cyclic luteal-phase events that encompass physical, psychological and behavioral symptoms. For PMS these symptoms range from moderate to severe, by definition, is a severe form of PMS characterized as a distinct affective disorder that causes social and/or occupational impairment.

COMMONLY REPORTED PMS SYMPTOMS

1. Hormonal Acne
2. Breast Swelling & Tenderness
3. Feeling Tired
4. Occasional Sleeplessness
5. Upset stomach,
6. Bloating,
7. Occasional Constipation, or Loose Stools
8. Appetite Changes or Food Cravings
9. Trouble Concentrating or remembering
10. Tension
11. Irritability
12. Mood swings or crying spells
13. Anxiety

The cause of PMS is not fully understood, but is generally attributed to hormone fluctuations, particularly estrogen, progesterone, and serotonin. Estrogen and progesterone have both been shown to influence serotonin production. Research has also shown that low serotonin levels are associated with many of the symptoms of PMS, including irritability, sadness, and increased craving for carbohydrates. Therefore, it is theorized that relief of PMS symptoms may be obtained through increasing serotonin levels.

In order to make classification of PMS easier a system of categories for the different types of PMS symptoms have been developed. According to Abraham these categories are as follows:

1. **Type A- Anxiety**: This category which is very common in up to 80% women, each cycle, includes those symptoms such as mood swings, irritability anxiety and tension.

2. **Type C-Carvings**: This group includes carvings for sweets or chocolates, increased appetite, fatigue and headaches. Up to 60% of women can experience these kind of symptoms leading up to the periods.
3. **Type H- Hyper hydration**: Type H includes symptoms such as water retention, breast tenderness and enlargement, abdominal bloating and weight gain up to 40% of women can experience these changes.

4. **Type D-Depression**: Depression is the largest symptoms in this group but it can also include confusion, forgetfulness, clumsiness, withdrawal, lack of co-orientation, crying spells. Only 5% women experience these symptoms but these can be the most serious if the woman is verging on the point being suicidal.

Another gynecological consideration is pregnancy. Pregnancy used to signal the end of a woman’s sporting career but in recent years many great female athletes have returned to their sport to compete at the highest levels following the birth of a baby. Pregnancy is a natural condition rather than an illness and unless you have complications, it should be possible to enjoy your sport or activity at some level throughout most of your pregnancy (Bahar 2009). It is interesting to note that as pregnancy progresses; the body’s ability to transport oxygen improves. This adaptation is designed to meet the needs of the growing fetus. This means that oxygen supply to other parts of the body, including working muscles, also improves. These cardio respiratory adaptations are potentially advantageous for performance after the baby is born. During pregnancy the advantages are offset by changes in weight, blood pressure and ligaments, and by the need to ensure oxygen supply to the fetus. It is true however, that physiological adjustments resulting from pregnancy will remain for some weeks following the birth of the baby. There may therefore be improvements in performance for those who manage to return to competition soon after
the birth. For most women, managing a new baby, breast-feeding and sleep deprivation, means this potential 'advantage' may go unnoticed.

Sport, besides requiring certain physical attributes on the part of the athletes, also requires specific psychological characteristics to be able to take part in competitive sports. An athlete needs to manifest competitiveness, self assertion independence, controlled aggression, the will to win and ability to dominate. But these attributes have also been designated "Masculine" and these are considered undesirable and inappropriate in the female, the typically womanly temperament includes being passive, non competitive and submissive. These characteristics are supposed to be possessed naturally only by women and have been designated feminine (Ferris, 1981). Modern man lives in a mental world in which the important skills for success are based on his psychological activities. The personality development of individual are expressed through the interrelationship between physical and psychological factors. Sports is a multidimensional activity which include psychology as well as the other areas of life viz- business, politics, media, management etc. Women in sports and physical activity are influenced by social environment. It has been noted that participation in sports integration, develops creativity, need achievement, independence, mental reaction, emotional disposition and stability and facilitate social expression, thus personality development (McPherson et.al. 1974). He further stated the sports increases the self esteem of an individual. Self concept is all the information individuals have about their own characteristics and themselves.

"The totality of complex, organized, and dynamic system of learned beliefs, attitudes and opinion that each person holds to
be true about his or her personal existence" (Purkey, 1988). Self concept is developed through the process of taking action and then reflecting on what one has done and what others tell about what one has done. Self concept is not innate, but is developed or constructed by the individual through interaction with the environment and reflecting on that interaction. This dynamic aspect of self-concept is important because it indicates that it can be modified or changed. There are evidences sports activities can modify the self-concept of a person. Good self concept can be developed through participation in games. Self concept means the individuals perception attitude and feeling about him/her, which can be positively influenced through involvement in sports.

Friedman et.al. (1950) and his co-workers defined people’s behaviour in two personality types Type A and Type B.

A' types were found to be very much achievement motivated and dominant. The label 'A type' (and its converse, 'B type') is, of course, deliberately uninformative. The underlying concept, however, would appear to concentrate on what one might call 'hard-driving-ness' -- particularly in relation to time. Friedman & Rosenman (1974) define it as: 'Type A Behavior Pattern is an action-emotion complex that can be observed in any person who is aggressively involved in a chronic, incessant struggle to achieve more and more in less and less time, and if required to do so, against the opposing efforts of other things or other persons.' Later the same authors say: 'overwhelmingly, the most significant trait of the Type A man is his habitual sense of time urgency or 'hurry sickness'.
Numerous studies have reported positive mood benefits from exercise (Ronsbottom et al. 1988). Mood enhancing effect have been evidenced in many different physical activities, including jogging, swimming, yoga and weight lifting (Anderson 1992, Leger et al. 1987). It has been emphasized that mood enhancement is dependent upon interaction between participant, exercise modality and practice condition (Berger et al., 1988).

Adjustment is a continuous process in the life of a human being; goal of Adjustment is successful survival. It is the process of establishing a successful relationship between the individual and his environment. When an individual makes adjustment he tries to modify or mould his behavior in order to meet the demand of the environment. A state of complete equilibrium between an organism and its environment, a state wherein all needs are satisfied, all organism functions are being carried out smoothly. Adjustment refers to the establishment of a harmonious relationship with physical and social environment.

There is positive impact of the exercise it effects values, attitude, self concept adjustment. There are studies which reveal that physical exercise and training can change one’s morphological status, nutrition also helps one to perform in better way by keeping people energetic. In sports apart from morphological characteristics also helps to enhance psychological characteristic such as motivation, self concept and adjustment etc.

Often the terms self and self concepts are used to refer to an individual’s awareness of self. The self is often seen to include self esteem, self image, ideal self can also be seen to have many facets; it can be private i.e. within us, it can be shown to others and can also be
part of what we use to view and monitor the process itself. According to self acts as a filter for experience, shaping our responses to others.

Roger's (1951) emphasized that the self concept is the most important aspect of each person's world. He believed that, in addition to maintaining and enhancing the self everyone needs to receive positive regard. From the beginning, each person needs love so strongly in fact, that a child's self concept is child's actual feelings and perceptions.

The self concept is a schema consisting of an organized collection of self oriented beliefs, memories, feelings and conceptions of future selves.

Human beings spend a lot of time and effort thinking about him. That is, the centre of each person's social universe. The self identity, or self concept, is acquired primarily through social interactions that being with immediate family and continue with other people whom they meet throughout life.

The self concept is an organized collection of beliefs about oneself. In other words, it is a schema that functions like other schemas. Thus the self concept is a special framework that influences how we process information about the social world around us along with information about ourselves.

The programmers of physical education should provide vital experience from the growth & development of the
personality enabling the individual to become an efficient and productive member of society.

There is paucity of studies on sports women and their psycho-physiological correlates. As we know that sports or physical exercises helps in positive development of all aspects of an individual i.e. physical and psychological. Therefore the researcher decided to undertake the study comparison of psycho physiological correlates of sports women & non sports women of Chhattisgarh.

Statement of the problem

To study the psycho physiological correlates of sports women and non sports women.

OBJECTIVE

1. To study the body composition of sports women and non sports women.
2. To study the physiological characteristic of sports women and non sports women.
3. To study the Gynecological characteristics of the sports and non sports women.
4. To find out psychological characteristics of sports women & non sports women differ in their self concept and adjustment.
5. To find out difference between psycho-physiological correlates between sports women and non sports women.
HYPOTHESIS

It was hypothesized that the sports women and non sports women may show differences in the following characteristics.

- The sports women and non sports women will differ in body composition variables.
- The sports women and non sports women will differ in physiological variables.
- The sports women and non sports women will differ in the gynecological characteristics.
- The sports women and non sports women will differ in psychological characteristics under study.

DEFINITIONS:

**Sports**: Organized indoor or outdoor physical activity of athletic nature. Involves rules, scoring and competition. Can be conducted at a social, sub-elite or elite level.

**Body Mass Index**: A measure of relative fatness calculated by body weight divided by height squared.
Sport Women (SW): A woman sports participant who participated in competition like state level, inter university level and national level competition in different games and sports.

Non Sports Women (NSW): A woman not participating in any training, physical activity or competition.

Anthropometric measurements: Anthropometric measurements are the measurement of the human body in terms of the dimensions of bone, muscle, and adipose (fat) tissue.

Body Composition: Body composition is the term used to describe the different components that include lean tissues (muscle, bone, and organs) that are metabolically active, and fat (adipose) tissue that is not.

Somatotype: A system of classifying body type or physique according to a range of three extremes.

Endomorphic: Body build that is round and heavy with a high percentage of body fat.

Mesomorphic: A body frame that tends to be muscular characterized by wide shoulders and harrow hips.

Ectomorphc: Slight body builds with very little fat, tall and slender.
Adjustment: It is the process of establishing a successful relationship between the individual and his environment.

Self Concept (SC): What an individual thinks, feel and belief about his or herself. An understanding of the value of one’s personal abilities, values, feelings and qualities.

Significance of the study:

1. The result of the study will help in understanding physical status of sports women & non sports women of different age group i.e. 25-30 year 30-35 year, 40-45 year.

2. The result of the study will help to understand the self concept & adjustment of sports women & non sports women of different age group hence will provide information how participation in sports activities helps in development of personality.

3. The result of the study will provide the information regarding the body composition, physiological and psychological status of the sports women & non sports women of Chhattisgarh which will motivate them to maintain fitness.

5. The result of the study will provide norms for anthropometric characteristics, somatotype, body composition, physiological characteristics and psychological characteristics.

6. Further the result of the study would provide basis for planning physical education and sports programs for
women of the Chhattisgarh and will help to improve overall quality of life of women

Delimitation

1. The study was delimited to sports women and non sports women of 25-30 year, 30-35 year, 35-40 year, 40-45 year of Chhattisgarh.

2. The study was further delimited to assessment of psycho-physiological co-relates variables which were selected for the present study.

Limitation:

The variability in living condition, life style, daily route in, nutritional habit and different socioeconomic status of subjects can be considered as some of the limitation of the present study.