



SOCIO-BIOLOGICAL ASPECTS OF WOMEN'S PARTICIPATION IN SPORTS: AN ANALYTICAL STUDY

(Dr. Yasmeen Iqbal)

Abstract

Women's sport is expanding rapidly in recreational sports in local communities, or at national and international competitions. But, in many societies women do not enjoy enough equal opportunities to fully engage in sports especially when comparing South Asian with Euro-Americans. Women in sports have now become an effective force in world competitions, and the domination by men of world-class sport is threatened. This paper will not give solutions to all major problems, but it will identify them and endeavor to provide a better insight in the athletic potential of all women. It is believed that inherent biological factors limits female performance potential such as height, body composition, muscle mass and cardiovascular endurance capacity which constitute biological differences between the sexes. The delayed menarche, which is often found in female athletes who train at high levels, and is associated with estrogen-a necessary hormonal trigger for increasing bone density in adolescence. The social conditions prevalent in the society and their roles in sport have developed to this orthodox view and are said to be justified, to great extent. The highly trained male and female athletes have more similarities than differences in these physiological and physical parameters. Physically fit women sweat less and have smaller rises in rectal temperature under strenuous conditions, and assumed that women may be better suited physiologically to long-distance running than men. The biological factors a highly trained female athlete, as manifest in physiological functioning and physical characteristics



change, and develop similar capacities equivalently as compared to trained male counterparts.

Introduction

Since centuries women have participated very little in athletic and various sports competitions. In fact, in the early 20th Century women were excluded from the Olympic Games because participation in sport was thought to be too vigorous and stressful to women Athletes. In 1972, American Congress passed a federal law prohibiting sex discrimination in federally funded educational institutions (J.Coaklay, 2001), in other words women Athletes were allowed to have the same opportunities as men have for participation in sports and exercise. Consequently, by 1990's approximately 2.4 million girls were playing high school sports, more than 800% since the law was introduced.

Many studies have shown the importance and positive impact of regular exercise on the individuals of the society, and explored that women who exercise at least 4 hours a week reduce their risk of pre-menopausal ??? and breast cancer by 50% and women who exercise 1-3 hours a week reduce their risk by 30%. It is observed that women who participate in sports and fitness programs are healthier and have higher self-esteem as compared to non participants (Brownell et al., 1987). Sports may also have academic benefits as some studies have revealed that high school girls who participate in sports have higher grades than non-athletes do. Furthermore, high school athletes are more likely than non-athletes of Euro-American states aspire to become



leaders or dominant figures in their communities as other adults. India and Pakistan, to some extent, are no exception to it. Many outstanding sportsmen and film industry actors have occupied seats in the national parliament and provincial assemblies in India and Pakistan due the recognition in the society for their outstanding performance.

It is historical fact and comparatively undesirable experience that sport has always been a male domain of both developed and developing nations from the time national and International competitions were organized. But since the inception of the women's liberation movement initiated in Europe in the late 1960s, trends towards equality for men and women have developed considerably and entered an era in which many western countries have outlawed sexual discrimination, and introduced legislation to ensure equality of opportunity between the sexes in education, jobs, sports and civic rights, and followed the same suit in this direction to have greater participation of women in competitive sports events. It is observed, when compared with males, female still hold inferior position in sporting achievements. The reasons given in support of the view of female inferiority in sporting performance that there are inherent biological factors that necessarily limit female performance potential. These factors include such as height, body composition, muscle mass and endurance, and cardiovascular endurance capacity which, when grouped together, constitute biological differences between the sexes. In general, men are tall, heavier, stronger, have larger hearts and lungs, and



more muscle mass than women. In contrast, women averagely are smaller, weaker, lighter and fatter than men.

Socio-Biological Impact

The environmental conditions of the society and the performance of women in sport is said to be the result of socio-biological differences between men and women, which is not fully justified and challenging, enabling them to take part in sporting activities as female needs to manifest competitiveness, self-assertion, determination, the will to win and the ability to dominate her opponent. But in tradition bound societies parental control becomes more restrictive especially in South Asian countries where conservative communities demand that the girls must behave in a way that conforms to a feminine sex stereotype role prevalent in the society. The social acceptance as a women and her self-esteem depend on manifestations of her femininity and under such conditions a young girl may be unclear about what to do as being a woman, she does respond to one single clear directive, which is to withdraw from what is obviously designated masculine characteristic for them, and in their opinion sports clearly falls into that category. (Carrion et al.,1996), Hence, unless an adolescent girl has the supportive family and conducive social environment to counteract these cultural influences, she will probably choose to opt out of sport at school or college level, using often, as she has her menstrual periods or some other female disease as a reasonable excuse. Perhaps, such attitude of avoiding participating in games and sport is



considered normal in teenage girls in Pakistan, India and Muslim states. Thus the collaboration, which is required to receive from their parents and teachers, would be a testimony to the widespread social attitudes that prevail concerning women's sporting participation.

The girls from economically disadvantaged backgrounds and the girls with disabilities face obstacles in relation to physical activity and sport. The poor families cannot afford to invest in health club memberships or purchase exercise machines and equipments for their daughters. The sports girls belonging to such families often cannot pay fees or transportation costs to bring their daughters back and forth between home and school or college, and it is hard fact that such families consider fitness and sport as unattainable luxuries rather than potential resources; sometimes depend on older daughters to cook or take care of smaller children at home after school, and discourage their involvement in extracurricular activities. The poor working class girls often work part-time jobs to help their families, thereby reducing the amount of time and energy available for exercise or sports. The parental perceptions of the benefits of exercise and sports participation for daughters also vary by the social set up of the society, and depend on environmental conditions of the area where they live. The impact of cultural values and environmental conditions has deep influence on our societal system prevailing in most of the villages, towns and cities of Pakistan.



It is unfortunate that most of the South Asian women including Pakistan are confronted largely with the conservative socio cultural values, economic depression, and also in relation to physical activity and sport that developed out of the same poverty soil, where physical activity and athletic opportunity is lacking badly. Economically disadvantaged girls are more likely to suffer from that unsafe and unhealthy environment. The simple act of walking or jogging may be problematic in conservative neighborhoods. Poor girls often do not have access to athletic resources, effective coaching and expert training, and lack of basic knowledge about exercise, diet and sport. They are less apt to receive quality physical education and athletic training at earlier ages which, in turn, erodes the foundation for subsequent motor development, and most of the South Asia is good example in this regard.

Physical activity has long been recognized for its effects on maturing the child. However, one of the challenges of interpreting the research work on children is the difficulty of differentiating between the changes in physiological functioning, which may have been affected by regular exercise or strenuous training. It is important that activities in childhood include both the motor and health aspects of physical fitness and such development is believed to be essential as children need a reasonable level of motor skill proficiency to participate in the activities that build endurance, power and strength, and reasonable levels of fitness to engage in exercise and sport activities (K.C. Shekar,2005), which is important to get the benefit of lifetime participation in physical activity, as it



has an effective impact on sociological, psychological, biological and the mental health aspects of young female participants.

In the Olympic Games of Rome held in 1960, women competed in only eight sports events, and in Moscow Olympics (1980) they contested in 14 of the 21 sports events which was in a way not in accordance, with the world wide recognition of legislation that had created the environment to provide women' to provide equal opportunities in sports competitions along with other social factors. But still many nations including Pakistan largely amounts to a token gestures rather than a social revolution in terms of equality of opportunity. In sports, as well, the trend towards greater participation of women has only paid lip-services to real equality, for example, women were not allowed to run races further than 1,500 m in the Moscow Olympic Games (1980), even though all the criteria for inclusion of long race event for women right up to the marathon had been satisfied and were up to the mark as per described standards of Olympic competitions. The International Olympic Committee declined to include 3000m race for women on the pretext that it is a little too strenuous event for women (Anoop Jain, 2004) and in a way built into the notion of lip-service to equality and allied with the long time established attitude that women are inferior in all spheres of physical activities.

During the last two decades, the performance of women has excelled, to great extent, as compared with men and they have set new world standards. For example, two way English Channel swim record is held by a women,



Cynthia Nicholas of Canada. Another woman, Bev Francis of Australia set women's world record in men's middle weightlifting competition beating all the men who participated in that event. Many women have also climbed Everest. In Cycling, Beryl Burton of Great Britain, many time holder of the world title, created a new competition record and covered 277 miles, more than her two closest male rivals. Anoop Jain (2004) has further elaborated the performances in sporting events that involve strenuous exertion, such as swimming and running, have revealed that when compared with the men's records, it seems women's performance is improving at a faster rate at almost all distances. The mean percentage difference in these events is diminished from 16.85% in 1948 to 10.46% in 1976; 9.35% in 1986, and 8.74% in 2004. This steady decline in the difference between the sexes is reflected in the world records of all the track events. In some cases, the difference has declined by more than half, for example, in the 800m race the percentage difference was 20.33% in 1976 and 9.98% in 2004. The marathon races are the outstanding examples of this trend; in the 18 years between 1986 and 2004, the percentage difference between the male and female world best times declined by nearly two-thirds from 31.44 to 11.70% and timings reasonably decreased, during international competitions held in 2002 and 2004, whilst the women's record has decreased in marathon by more than 1 hour. That is a great achievement, and rightly challenged the long established notion that women are inferior in sports and physical activities.

The women of developing nations of Asia and many others world over, especially in Pakistan assume a



much more sedentary existence owing to the cultural and social restrictions placed upon them after puberty. The physical educationists have explored that a substantial reduction in physical activity results in deterioration in the basic physiological components of physical fitness, strength, cardiovascular endurance and muscular endurance all diminish, and body fat accumulates. It is exactly in these features that affect and reduce physiological responses of the athletes the average female differs from the average male. (Fox & Mathews, 1981)

In recent times, the opportunities for girls to play football, cricket, boxing and weight lifting at a young age, as well as through high school and college have increased tremendously. The girls now account for 22% of soccer (Football) players worldwide specially in Europe and South America and close to 40% in the United States; and are able to enjoy the awesome challenge of learning soccer and other games skills that require extensive practice and exercise for improving their physical conditioning strength, and availing the benefits of team competition. It is unfortunate that in Pakistan, in practice, women are not treated equal in sports, but difference is displayed in many aspects of the societal values of the society. In recent times, girls have started playing Hockey, Cricket and soccer games, and need support of the authorities of the academic institutions and the government organizations and the society at large.

However, girls involved in these games are at occasional risk for injury and may some times develop



medical problems. If our girls are provided moral, social and financial support for participating and organizing sporting events to earn laurels for themselves and the nation, they must be encouraged to be physically fit, active and maintain through out their lives to become useful citizens of the society.

If injuries of medical attention develop, knowledgeable professionals, who deal with extensive exercises, (I think better wording will be sports injuries) undertaken by active women in such games, may be consulted immediately for treatment. Normally women Athletes may face three following. Interrelated problems in sports competitions known as female Athlete Triad. The girls who are extremely driven to excel in sports may develop such medical problem.

In this physiological health problem three distinct, but inter related conditions (disordered eating, amenorrhea and osteoporosis) comprise the female athlete triad. Disordered eating is a range of poor nutritional behaviors. Amenorrhea refers to lack of menstrual cycle or women stops having their period. Osteoporosis refers to low bone mass and micro architectural deterioration, which leads to bone fragility and risk of stress fracture. The professional athletes and coaches explore various ways and means to over come this increasing problem in competitive girl-athletes at early stages. Although many believe the female athlete triad is a problem only in sports such as gymnastic and runners; but, this is not true (Yasmeen, 2004). Triad remains a concern for all female athletes, and other



competitive games that require extensive exercises for possible desired achievements.

The external and internal pressures may also foster the development of the Triad, as girls may face societal pressure that young girls appear to be lean and smart and for this reason coaches, friends, and parents may encourage weight loss by a female athlete, due to a mistaken belief, that excessive leanness enhances the performance. A young girl who is determined to achieve a lean appearance for athletic success may attempt to excel through dieting and excessive exercise. Such women are believed to be typically goal oriented, perfectionist, and compulsive and that misguided approach may lead to this problem. Female athlete triad is a serious medical illness, as women with untreated chronic anorexia or bulimia may die prematurely from heart problems (Mackinnon, 1994). Christy Henrich, a member of the U.S. gymnastics team died at the age of 21 years from the consequences of anorexia and bulimia. However, if these disorders are recognized early, treatment may be effective.

The women Athlete with disordered eating and amenorrhea may some times deny their nutritional or health problems and are reluctant to seek medical care which is essential for treatment. In fact such individual is more likely to seek medical health if the risks of poor nutrition and amenorrhea are not explained clearly at early stage. The successful coaches' keep the female athletes remind that medical care and proper nutrition is essential to enhance performance. A physician, nutritionist and psychologist may need to work with the



women Athletes, coaches, and parents and also close friends to over come this acute problem. In such condition nutritional monitoring, hormone replacement and reasonably reduced training at early stage is recommended to provide speedy recovery. In general, moderate regular exercise is believed to be effective in many ways for women as it promotes health, fitness and longevity. However, for a small portion of susceptible women, some serious medical concerns must be kept in mind, and be consulted with doctor before they under take extensive exercises for competitive events.

Some girl athletes may experience an energy deficit when they attempt to exceed calorie intake. This deficit may be unintentional resulting from inadequate replacement of the caloric demands of training, or may be a conscious attempt to lose weight or body fat to improve appearance or performance. A study of young elite swimmers revealed that more than 60% of average-weight girls and nearly 18% of under-weight girls were trying to lose weight. The methods for weight loss included decreased eating, vomiting, and the use of laxatives and diuretics as many girls participating in sports emphasize on leanness relating to physical appearance in gymnastic, long-distance running, diving and figure skating were most at risk (Beals, 2000). The comparative studies revealed that highly trained male and female athletes have more similarities than differences in these physiological and physical parameters, and with respect to strength, the traditional view is effective that women are considerably weaker than men. Further it is true that in the upper part of the



body female have the lowest body strength and in legs or lower portion when expressed relative to lean body weight, females are actually stronger in the legs than males. It was also found that with a programme of progressive weight training, females can substantially increase their strength, and found that in a relatively short 10 week programme a group of young non-athletic women improved their strength by 30-35% (Wilmore, 1974).

Wiggins et al. (1996) postulates that women are more efficient regulators of their body temperatures because females rely to a greater degree on cardiovascular measures of thermoregulation than on evaporative heat loss, and found that women were apparently able to achieve thermo-regulation in an environment with 80% humidity with a lower sweat rate than the men. Further, Martinez et al. (1998) reported that for work in a moist heat, men had significantly higher sweat rates, where as women had smaller increases in heart rate and rectal temperature. In women despite the usual evidence of acclimatization, several investigators have observed only a slight increase in sweat rate that showed women may be more efficient regulators of body temperature since they achieve the same acclimatization results with the loss of less water.



Conclusion

To summarize, the evidence that exists in many sporting events, women have performed well, and on occasions better than their male counterparts; in running and swimming, female performances are improving at a faster rate than male performances, showing a positive trend in top world class achievements towards equality between the sexes in terms of sports competitions reaching in the very near future. The physiological studies reveal that highly trained female athletes are very similar in their capacities with respect to exercise as compared with to their highly trained male counterparts. Hence, one can reasonably reach the conclusions that firstly, the evidence put forward and discussed deeply undermines the orthodox view of women's inherent sporting inferiority, and suggests that the biological factors are not fixed and immutable; when a female becomes a highly trained athlete, the biological factors as manifest in physiological functioning and physical characteristics change, with the result such women have similar capacities in these respects to equivalently trained men. There are good reasons for anticipating that in certain endurance events, female performance potential is equal or superior to, that of the male.

Lastly, if we consider that the female have a more efficient heat-regulating system than the male, and that the highly trained female endurance runner can achieve cardiovascular endurance capacities similar to those of the top male long-distance runners, it is not inconceivable that a woman could or even beat a man in



marathon events in near future by over coming the biological differences and socio-cultural limitations prevalent in the western and Asian societies through effective participation and training in conducive atmosphere and environment.



References

1. Anoop Jain (2004), Women and Sports, New Delhi: Sports Publications, pp.3-11.
2. Beal, K.A. (2000, September). Sub clinical eating disorders in female athletes. *Journal of Physical Education, Recreation, and Dance*, 71, pp. 23-29.
3. Brownell, Steen and Wilmore (1987). Weight regulation practices in athletes: analysis of metabolic and health effects. *Medicine and Science in Sports and Exercis.* 19, p. 546.
4. Carron, Hauseblas, & Mack, D. (1996). Social influence and exercise: A meta-analysis. *Journal of Sport and Exercise Psychology*; p, 16.
5. Jay Coaklay (2001). *Sports in Society: Issues and controversies*
6. Singapore: MC Graw-Hills International, 7ed., P-204
7. Fox, E. L., and D.K .Mathews (1981) *The Physiological Basis of Physical Education and Athletics*, 3rd ed. Philadelphia: Saunders College Publishing, p.372.
8. K.C. Shaker (2005), *Women in Sports*.
9. New Delhi: Khel Sahitya Kendra, p.7.
10. Mackinnon, L (1994). Current challenges and future expectations in exercise immunology: Back to the future. *Medicine and Science in Sports and Exercise*, 26, pp. 191-194.
11. Martinez, E., Raglan, J, Hoff art, A. & Fries, S. (1998). Tolerance to intensive exercise and high levels of lactate in panic disorder.. *Journal of Anxiety Disorders*, 12, pp. 339-340.
12. Wiggins, D. (1996). A history of highly competitive sport for American children, in F. Moll & R. Smith (Eds.), *Children and youth in sport a bio-psychosocial perspective*. Madison: Brown & Benchmark, pp.28-30.
13. Wilmore, J.H. and Brown, C.H. (1974) *Physiological profiles of women distance runners*. *Medicine and Science in Sports*, 6, p. 178.