



# The Role Of Physical Fitness On Women's Health Differences And Characteristics: Issues And Challenges

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## Abstract

Physical activity, recreational sports as well as competitive sports affect the individual body. Changes that happen under training are mainly connected to the adaptation process of body to specific form of activity. But on the other hand, changes that may be observed may lead to body functioning deregulations' that may affect health of sportsmen. The majority of the changes are being observed mostly in the functioning of the female body system, in spite of the fact that they are not gender specific. In women, the undesirable effect of intensive training and heavy training loads may be inhibition of sexual maturation, extraction of the menstrual cycle and its irregularity, as well as resolution of the reproductive system function. That's why the understanding of gender specific changes are so important for the sportsmen and trainers to understand what may be observed during training and what it may lead to. The aim of this work was to show the basic differences between genders physical fitness growth observed during body development and physical training.

**Key Words:** Gender, Human Body, Health Maturation, Physical, Training and System

**Introduction:**

The result obtained from studies on the positive contributions of sports habits on women's health emphasizes the versatile positive effect of sports on women's health. Participation in sports; There have been many studies showings that it contributes to positive outcomes such as increased self- esteem, body image, cardiovascular health and mental well-being, and a scientific consensus can be established on this subject, but the challenges related to gender-based discrimination and unequal opportunities in sports are quite challenging for the relationship between women and sports. It should not be overlooked that it may lead to the emergence of an environment. Being aware of these challenges that prevent women from engaging in sports more widely and promoting inclusion and equal opportunities for women in sports will help to further increase the overall impact of regular physical activity on women's health.

Corporeal activity, recreational sports as well as competitive sports affect the human body. Changes that occur under training are mainly connected to the adaptation process of body to specific form of activity. But on the other hand, changes that may be observed may lead to body functioning deregulations' that may affect health of sportsmen. Most of the changes are being observed mainly in the functioning of the female body system, despite the fact that they are not gender specific. In women, the undesirable effect of intensive training and heavy training loads may be inhibition of sexual maturation, withdrawal of the menstrual cycle and its irregularity, as well as resolution of the reproductive system function. That's why the understanding of gender specific changes are so important for the sportsmen and trainers to understand what may be observed during training and what it may lead to.

Present are many factors that stimulate sports participation in women. All of these and some of them come together to cause women to implement regular exercise habits. When the impact on self esteem and body image, which are one of the factors that motivate sports participation in women, is examined comprehensively, it is seen that the concepts of self-esteem and body image can be an effective factor in women's sports participation (Hausenblas & Fallon, 2006). As a result of these studies, it has been shown that regular exercise habits can have a very positive effect on women's self-esteem and body image. However, gender-based discrimination and unequal opportunities in sports continue to be significant challenges for women and a possible hindering factor in women's participation in sports (Hetzal, 1986; Kumar, 2017). It is observed that gender-based discrimination and unequal opportunities can, unfortunately, negatively affect the general well-being of women who want to engage in sports or who want to incorporate sports into their lives as a regular exercise habit.

Numerous factors that motivate women's participation in sports come together and cause women to acquire regular exercise habits, resulting in very positive results for women's health. Research on the relationship between women's overall health and regular physical activity reveals the positive effects of sports participation on cardiovascular health in women (Lapidus & Bengtsson, 1986; Mensink et al.,1996). Studies have shown that women who engage in regular physical activity through sports experience improved cardiovascular fitness and overall heart health. Additionally, it has been concluded that women participating in

sports have significant contributions to mental health, and the fact that there are positive relationships between participation in sports and mental well-being has been revealed (Oswald et al., 2020). These findings highlight the holistic benefits of women's participation in sports, not only for physical health but also for mental well-being.

The optimistic relationship between physical activity and health is no longer debatable. People who undertake physical activity at a sufficient level obtain a wide set of benefits for physical and mental health compared to inactive people (Bouchard and co. 1990). However, it should be remembered that each time physical activity is associated with a number of changes observed in the functioning of the human body. The changes are healthy in most situations; however, in the situation of long-term physical training, the nature of induced adaptation may lead to the development of features not always characteristic of gender and leading to "blurring" of gender differences observed in the natural environment. Sex dimorphism, which means the body's duality in form, manifesting itself in a series of changes in morphology, physiology, motor and human psyche, is also one of the criteria why women do not compete with men in sport. The size of the occurring changes is so large that the competition of both sexes in various sports would be devoid of a sporting spirit. In the ancient Olympic Games, only men who performed in scanty clothes in front of male audiences could compete. The law was against watching the show by women. Pierre de Coubertin also prevented rivalry between women as a "weak sex." The inconvenience was found in 1912, during the first official participation of women in the Olympic Games. Men, being naturally faster and stronger, wanted to compete with women as well as to become similar to the female sex. The problem of gender verification appeared in 1932 during the Olympic Games in Los Angeles (Mędraś 2010). However, the problem of gender diversity remains one of the basic criteria for sports qualification. Unfortunately, this phenomenon is still not fully understood by the players themselves as well as coaches and sport animators. Particular emphasis should be placed on deepening the knowledge of the impact of physical activity on the body shape of the competitors with particular attention to gender differences. Only understanding them consciously will allow you to conduct physical training, taking into account its possible consequences and methods of counteracting them.

### **Morphological Functional Growth:**

Morph functional development was based on the functions associated with the extension of the species, which are different in men and women. When a child is born, these differences are relatively small, which does not change the fact that they are clearly marked. During the course of the individual process, the features become apparent during puberty and in the last period of people's lives - old age clearly fades away (Drozdowski 1997).

- Characteristic features of the female sex stand out among others the specific nature of fat, greater stability and balance resulting from the lower center of gravity, changed body proportions.
- The morphological difference is evident primarily in the proportions of the body and its tissue composition, body weight and dimensions (Osiński 1996).
- In literature and colloquial vocabulary two body types are mentioned: "typically male" and "typically female", which differ in their characteristics and proportions.

- In the context of somatic features, larger body sizes can be considered as "typically masculine" than for women. It is characterized by a higher body height - on average about 8-10 cm, higher body weight - about 8 kg.
- Men are distinguished by a strong development of the shoulder girdle and chest, large head, massive neck, narrow pelvis, high muscle mass, low fat tissue located in the shoulder girdle area (Malinowski 1999; Malinowski and co. 2012).
- Generally, the "female type" is dominated by lower height and weight, smaller head, long torso with a drawn waist, wide pelvis with significant fatness, and weaker muscle development (Malinowski 1999; Malinowski and co. 2012).
- Another feature is the sex differences of the skeleton, which concern: a larger and more strongly built skeleton of men with a strongly marked cortical layer of long bones and larger bone bases.
- The male skull has a larger capacity than the female (1500 cm<sup>3</sup>: 1300 cm<sup>3</sup>). In men we notice an obtuse cervical-molar angle, testifying to more frequent development of knee deformity (Malinowski 1999; Malinowski and co. 2012).

The discrepancy in the shape of the skeleton, as well as the structures of the joint - ligament apparatus translates into different functioning of the joints (women have looser joint capsules and ligaments), noticeable in women during motor activities related to running, throwing, stretching exercises. Statistically, women achieve greater mobility and joint flexibility than men (Fig. 1) (Malinowski 1999; Malinowski and co. 2012). It is suggested that men and women differ in physical characteristics that can affect physical characteristics, physical fitness, and similarly to athletic performance. An example may be the somato type, colloquially speaking, body type of women and men. Consistently occurs in the general and athletic populations, with women being more often endomorphic and men being mesomorphic (Carter and co. 1990).

Gender differences are seen as an inherent biological factor. During puberty, physical abilities develop more and faster in men than women. As a result, since puberty, men are better at motor tasks that require strength or speed (Knisel and co. 2009).

Biological factors may partly explain gender differences, other factors may also be involved. As it turned out, gender only matters in 5% of variance in physical abilities (Eagly 1995). Observing gender differences does not give us information about their origin, which can be natural, but also environmental which actually translates into the fact that in childhood boys more often participate in physical and motor activities than women (Wood and co. 2012; Hines 2004). In addition, there is evidence that gender has an important psychological impact on performance, i.e. boys are more motivated than girls to participate in rivalry and physical education classes, and have a higher perception of sporting competences (Biddle and co. 2011).

## The Consequence of Physical Training on Female Body Functioning:

From the point of view of some researchers, suggestions have been made that physical activity and sports training may cause changes in the somatic structure of women (development of muscle mass, reduction of body fat) towards the male figure.

The organism's duality is not only visible in the specificity of morphological and physiological properties; it is also manifested in physical performance, leading to disproportion in the physical fitness of women and men. In general, men have greater strength, speed, endurance and agility. In contrast, women outperform men in terms of flexibility. Physical activity, recreational sports and also competitive sports in the main group of elimination of disciplines that abound in strength and brutality (e.g. Boxing, MMA, American football). For competitive sports, a masculinized rather than delicate silhouette is desirable (Malinowski 1999; Malinowski and co. 2012). In women, the undesirable effect of intensive training and heavy training loads may be inhibition of sexual maturation, withdrawal of the menstrual cycle and its irregularity, as well as resolution of reproductive system function. This is the result of a great emphasis on maintaining a constant - low body weight, which they achieve through low calorific value, the use of diuretics, frequent use of the sauna and limitation of fluid supply. An extremely low body weight is associated with the critical body fat content, which is responsible for energy reserves and also acts as an endocrine gland - low energy balance contributes to gonadotropin disorders, low levels of estradiol, progesterone, T3, T4, insulin. Whereas men encounter disorders from the hypothalamic axis - pituitary gland - male gonads, i.e. lower levels of testosterone, LH, cortisol, and prolactin (Malinowski 1999; Malinowski and co. 2012; Mędraś 2010).

Numerous authors have suggested that for morphological and physiological reasons men will dominate in sports that are based on anaerobic strength and endurance, while women were far better able to cope with aerobic exercise over longer distances (Beneke and co. 2005). Previous studies of sexual dimorphism in world records do not support this statement.

### Summary:

- Analyzing the impact of physical training on the human body we can observe that training deregulates and affects the functioning of almost all systems of the human body
- . This leads to the development of a number of adaptive changes, but on the other hand it disrupts the body's natural homeostasis.
- The relatively large number of observed changes have a short-term nature (especially hormonal disorders), however, it should be remembered that the rate of recovery may be very extended in time, and sometimes even impossible.
- Understanding inter-gender variability is and will be the basic qualification criterion in sport and will invariably be an important element of "competitive sport" which will be an inevitable element of its implementation



**Discussion:**

Many scientific studies that accelerate the promotion of physical activity habits, which are considered as the cornerstone of improving women's health and preventing diseases, also pave the way for discussing new implications for public health policies and future research projects on women's general health. Because women's health has been the focus of attention of researchers and health professionals for many years, the effect of regular physical activity on women's health has been the subject of research for decades. The purpose of many articles in the literature is to present a comprehensive review of the impact of sports on women's health and to clearly emphasize the synthesis of evidence obtained from various studies by investigating the relationship between sports and women's health. Sports participation has been shown to have a positive effect on physical and mental health, but since the effect of sports, especially on women's health, has not yet been widely researched, it is necessary to examine the effect of regular sports habits on various aspects of women's health (Asztalos et al., 2012).

Usual physical habits and participation in sports have many benefits on women's physical health. Sääkslahti et al., (2004) emphasize the role of physical activity in early life as a preventive natural treatment method against coronary heart disease and cardiovascular risk factors, which have caused serious concern about the increasing incidence in women in recent years. Regular participation in physical activity has been shown to strengthen the cardiovascular system, increase exercise tolerance and reduce the risk of cardiovascular complications (Myers, 2003; Owe et al., 2009). In terms of the positive effects of regular physical habit and participation in sports on women's physical health, Westcott (2012) also emphasizes the importance of resistance training in increasing muscle strength and bone density, and this study emphasizes the importance of regular physical habit in maintaining skeletal health for women, especially as they age.

As exercise increasingly becomes the cornerstone of improving women's health, it has been observed that regular exercise habits can offer a multifaceted impact on women's well-being, going beyond the realm of physical fitness. While numerous and growing studies investigating the various ways in which sports contribute to the improvement of women's health in the physical, cognitive and mental domains have been added to the literature, it has been brought to the fore that the health effects of regular exercise can extend beyond the physical body and positively affect cognitive functions in women. Smith et al., (2010), in a meta-analysis showing that aerobic exercise significantly improved neuro-cognitive performance in women and observed benefits in areas such as memory, attention, and executive function, showed that sports participation may play crucial physiological roles in protecting against cognitive decline and improving neurocognitive health. Regular exercise habits have been shown to have positive effects on a wide range of cognitive outcomes, and these positive effects may contribute to the development of better cognitive functions in healthy individuals, but may also serve to improve cognitive functions in those suffering from certain cognitive and brain disorders (Erickson et al., 2019).

In terms of improving women's health, it has been observed that regular physical exercise can offer a multifaceted impact on women's mental health and well-being, going beyond the realm of physical fitness. Kang (2004) showed that sports participation has a positive effect on self-esteem and body image in women, and Fernández-Bustos (2019) explained the effect of physical activity on self-concept and emphasized that it is mediated by body image and physical self-concept in adolescents.

Although it is clear that the positive effects of regular exercise habits on women's overall health are multifaceted and that exercise has the potential to create physical, mental and emotional well-being, research in this area also highlights the social and cultural barriers that women face with (Abbasi, 2014). In addition to these factors, it has been determined that there are difficulties in participating in sports, such as inadequacy in facilities and family support, and the inability of their families to encourage women who are hesitant about participating in sports. It should be underlined that more research is needed to overcome these difficulties, which can be considered as an obstacle to women gaining regular physical activity habits, and to promote the benefits of sports on women's health (Pedersen et al., 2021; Santos et al., 2016).

It has been also shown that regular exercise habits have a positive impact on various aspects of women's health, and women who engage in regular physical activity have improved cardiovascular health, including a reduced risk of heart disease and stroke (Billinger et al., 2014). Moreover, regular exercise has been associated with better weight control and management; This is very important for general health and is considered a very important health contribution in reducing the risk of obesity-related conditions such as diabetes. (Goedecke et al., 2014; Kulie et al., 2011)

### **Conclusion:**

- Many scientific research studies have shown that regular exercise habits have a positive impact on various aspects of women's health, and women who engage in regular physical activity have improved cardiovascular health, including a reduced risk of heart disease and stroke.
- Additionally, regular exercise has been associated with better weight control and management;
- This is very important for general health and is considered a very important health contribution in reducing the risk of obesity-related conditions such as diabetes.
- It has been demonstrated that participation in regular sports and exercise has positive effects on mental health as well as physical health benefits, and women who engage in physical activity are generally reported to experience lower levels of stress, anxiety and depression problems.
- This positive point for psychological health is attributed to the release of endorphins, which contribute to the feeling of spiritual well-being and improved mood of exercise.
- It is also stated that encouraging women's participation in sports can have a significant impact on their self-confidence and body image, and it is emphasized that women who regularly participate in physical activity help them feel stronger and more confident in their bodies.
- As a result of all these positive contributions to mental health, it is emphasized that women with regular exercise habits can have a greater sense of self-worth and general well-being.

- In addition to the comprehensive contributions of sports to women's health, it is important to examine factors such as gender-based discrimination and inequality of opportunities as problems that unfortunately may prevent women from participating in sports and to find solutions to these problems.
- Therefore, it is important to keep in mind that the more inclusive and supportive environments can be created to encourage women's participation in sports, the more women's overall health and well-being can be improved.
  - Additionally, in many studies, scientific evidence about the complex interaction between physical exercise and women's health clearly presents the contributing relationship between exercise and women's health.
  - Examining the multifaceted effects of exercise on cardiovascular health, reproductive health, mental health, and musculoskeletal integrity, these research studies highlight the various physiological, psychological, and social mechanisms through which physical activity affects women's health.
  - In addition, by discussing new implications for public health policies and future research projects on women's overall health, the importance of encouraging the habit of physical activity, which is envisaged as the cornerstone of improving women's health and preventing diseases, will be emphasized more clearly.

In conclusion, the positive effects of regular sports habits on women's general health are multifaceted and encompass physical, mental, and emotional well-being. By promoting and supporting women's participation in sports, society can contribute to the overall improvement of women's health.

#### **Conflict of Interest**

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