

Exercise and nutrition are two important factors to improve a woman's immune system

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Abstract:

The current study addresses part of the sustainable development project plan, which emphasizes the need to pay attention to women's health in society. Also the study addresses the importance of sports and its positive impact on health in general, especially in light of chronic diseases and highlights the positive effects of exercise on the cardiovascular system, such as reducing blood pressure, improving cardiovascular health, maintaining normal blood sugar levels and its effects on the body's immunity, in addition to the role of good nutrition in enhancing the health benefits of sports and emphasizing the importance of maintaining a balanced diet to support these benefits. There are many challenges that women face when practicing sports, such as social pressures and physical obstacles. On the other hand, there are solutions to enhance participation in sports activities through special sports programs and community support. It is important to point out the importance of regular exercise as part of a healthy lifestyle.

Keywords: Immunity, Diabetes, Women and sports, Nutrition, Exercises.

Introduction:

Nutrition, exercise and a healthy lifestyle play an important role in strengthening the immune system, which is closely linked to women's health. Consequently, this role is reflected in strengthening the functional capacity of the body's systems, improving immunity, and affecting energy balance, making the person less susceptible to disease. ⁽¹⁾Exercise is one of the things that helps improve blood circulation, thus allowing nutrients and oxygen to reach the immune cells well, which leads to their activation. Also, regular exercise leads to an increase in the production of white blood cells (immune cells) that play a very important role in fighting infection. In addition, exercise increases the activity of the hypothalamic-pituitary-adrenal axis (HPA), which causes the release of hormones, including (cortisol from the adrenal cortex), which in turn will help reduce stress levels. ⁽²⁾

The good nutrition also regulates the optimal immune response by providing good nutrients that help enhance the functions of the immune system and immune cells, such as minerals and vitamins such as vitamin C, vitamin D and zinc, as well as consuming proteins, fibers, amino acids and fatty acids, which have proven to have an important and clear effect on immune activity. ⁽³⁾ Sports and nutrition work to enhance the health of the immune system and also enhance positive effects. Sports enhance the health of the immune system, but on the other hand, excessive exercise or following a harsh diet leads to weakening the immune system. Therefore, sports are an essential element in human life, because it is not limited to the physical aspect only, but also includes the social and psychological aspect. ⁽⁴⁾ This research aims to review the importance of sports for women and highlight the challenges they face in the field of sports, in addition to studying the effect of chronic injuries on sports performance and body immunity.

The biological effect of sports and its importance for women:

Exercising helps strengthen bones and muscles, and reduces the risk of chronic diseases such as diabetes. It also helps reduce stress and anxiety and enhances self-confidence by getting a fit body, radiant skin and a strong immune system, in addition to enhancing the social aspect of women by joining a team or clubs. It also teaches women commitment and perseverance in order to achieve their goals. ⁽⁵⁾ Sports help strengthen the heart, improve its health and lower blood pressure, in addition to improving blood circulation, thus reducing the risk of heart disease. It also contributes to regulating the body's hormones in women, especially estrogen and progesterone. This regulation leads to alleviating the symptoms of menstruation and menopause, in addition to stimulating the production of calcium, which in turn works to strengthen bones and joints, in addition to protecting against osteoporosis. In addition to this, exercise will help improve balance and regulate weight by burning calories, thus reducing the risk of obesity which is a risk factor for cardiovascular disease. ⁽⁶⁾

Women's strength to face the challenges they face in practicing sports:

Sports are an essential element in human life, as they are not limited to the physical aspect only, but also extend to include the psychological and social aspect. Sports have always been associated with men, but women have proven their ability to excel and excel in various sports, as women enjoy a number of characteristics that distinguish them from men, especially differences in the sex steroid hormone, estrogen and progesterone hormones, which greatly affect women's physiology, as well as differences in the physical aspect and other aspects. Sports have always been associated with men, but women have proven their ability to excel and excel in various sports. ⁽⁷⁾

To encourage women to practice sports, the appropriate environment must be provided for this, by changing the traditional view of women and sports and encouraging girls to practice sports from a young age. Appropriate sports facilities must be provided for women and special sports programs must be

organized for them, in addition to the need for greater media interest in women's sports and highlighting the achievements of female athletes. Therefore, sports are not just a hobby, but rather a healthy and happy lifestyle. Women are considered an essential partner in achieving sustainable development, and they have the right to practice sports and enjoy their health, psychological and social benefits. It is worth noting that there are many challenges facing women in the field of sports, as there are still some societies that consider sports not to be women's specialty. Also, the opportunities available to women are often less than those available to men, whether these opportunities are in terms of financial support or media promotion. Sometimes, female athletes may be exposed to gender bias and discrimination on the basis of gender, in addition to the many challenges that women may face in the field of sports, but we can say that sports and women: strength and achievement. ⁽⁸⁾

The impact of chronic diseases on women's performance in sports:

Chronic diseases pose a major challenge to women's sports health. These chronic diseases include diabetes, heart disease, asthma, and arthritis. All of these diseases negatively affect women's ability to exercise regularly. Therefore, many chronic diseases restrict physical activity, making exercise more difficult. Also, people who suffer from chronic diseases are more susceptible to injury during exercise. Many people with chronic diseases find it difficult to exercise. Chronic diseases can affect an individual's energy level, so it will be difficult to continue performing or exercising. In addition, some medications used to treat these diseases may have side effects that harm or affect exercise. Therefore, studies currently support the integration of daily physical activity and exercise into a person's life. This will reduce the risk of developing chronic diseases ⁽⁹⁾. When a chronic disease is diagnosed, treatment is good when physical activity and exercise are part of the disease management plan. In both cases, whether for treatment or prevention of

disease, the availability of exercise contributes to a higher and longer quality of life. ⁽¹⁰⁾

Exercise is not considered a substitute for drug treatment, but it is an important complement to it, as there are many benefits to exercising for women with chronic diseases, as exercise can improve general health and control symptoms such as diabetes and high blood pressure. It helps increase strength and flexibility, as well as improves mental health. It also plays an important role in treating chronic diseases and improving quality of life by improving cardiovascular health. It also helps strengthen bones, improve mood, reduce depression, and reduce weight, which is an important factor for many chronic diseases. ⁽¹¹⁾

The importance of exercising for women with chronic diseases:

Exercise plays an important role in treating many chronic diseases and improving the quality of life of those afflicted with them. Many diseases have spread, including diabetes, which is one of the most widespread diseases in the world in our modern era, as it affects children, young people and the elderly as well. Exercising and eating healthy food are the basis for controlling blood sugar levels in women, especially women with type 2 diabetes. Healthy and physical activity also strengthens the body so that the body becomes able to withstand fatigue, and our bodies are designed to move, and every movement that a person makes during his day is a physical effort. ⁽¹²⁾

The reason for the spread of this disease is due to fast food that is rich in sugars and fats and lack of physical activity, Type 2 diabetes is known as insulin resistance, as insulin cannot open the cells in the blood to allow glucose to enter, and this is very harmful to people who take medications for diabetes patients, and these medications help insulin to open the cells and allow glucose to enter them. If a diabetic patient relies on this and does not try to change his lifestyle, the cell will become saturated with glucose, which leads to the cell's inability to absorb other amounts of glucose until the glucose is emptied inside it, so the infected person must not It depends on treatment

without changing his lifestyle, but rather he introduces a good diet and exercise into his life, as it has been scientifically proven that practicing moderate physical activity on a regular basis has positive effects on the various functions of the body and has many health benefits for humans. ⁽¹³⁾

Exercise and healthy nutrition are two essential pillars for controlling blood sugar levels in women, especially those with type 2 diabetes, as these two factors play a crucial role in improving overall health and reducing the risk of complications associated with diabetes. A balanced diet is the basis for treating type 2 diabetes, as exercise helps cells respond better to insulin, which allows glucose (sugar) to enter cells and be used as energy. In addition to a healthy diet rich in fiber, proteins and complex carbohydrates, it will help regulate blood sugar levels, thus controlling blood sugar levels. Therefore, the patient should avoid processed foods and sugars and instead focus on eating fruits, vegetables and lean proteins. Also, before starting any new diet or exercise routine, the patient should consult a doctor to determine the appropriate foods and activities for him. ⁽¹⁴⁾

Conclusions:

- * Regular exercise helps strengthen the immune system, making it more capable of fighting diseases and infections.
- * Exercise improves blood circulation, which helps transport immune cells throughout the body better.
- * Exercise helps relieve stress and anxiety, two factors that weaken the immune system.
- * Maintaining a healthy weight through exercise helps reduce the risk of chronic diseases that affect the immune system.

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