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Menopause in Athletes - An Overview

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Abstract

The menopause hit the year mark from one's final period in the adulthood stage of life. There are three stages of menopause: perimenopause, menopause, and postmenopause. Some of the first signs of the transition are often so-called vasomotor symptoms that are associated with a period of self-reflection. Women who exercise can better control and tolerate their symptoms. Menopause presents a great chance to encourage and reintroduce physical activity habits. Methods: Dindigul district was chosen for the study. Fifty women those who were in the age group of 40-60 years were purposively selected for the study. Among them eighteen women were found to be athletes until 30 years of age. Initial rapport was established with the women and the purpose of the study was explained to them. Their doubts were clarified and then the interview was conducted. Results: 40 percent of athletes underwent a number of Physical changes, including decreased muscle mass, bone density, and cardiovascular function. Menopause can also have not a significant impact on athletes (25 percent) by the decline in estrogen and progesterone levels. 60 percent of athletes may also face a lack of support from the athletic community. Nearly 55 percent of athletes are often expected to prioritize their families and careers over their athletic pursuits Athletes should consult with healthcare professionals, including gynecologists and sports medicine specialists, to address their specific needs and develop strategies to navigate menopause while maintaining their athletic performance and overall well-being.

Keywords: Menopause, Symptoms, Physical Activity, Nutritional Strategy

Introduction

“Menopause doesn't mean't the end of being a competitive athlete,” - Stacy Sims

Menopause is a normal biological process that ends a woman's reproductive years and usually happens between the ages of 45 and 55. It is described as the absence of menstruation for a whole year in a row, a sign that the ovaries have run out of eggs and are no longer producing hormones, especially progesterone and oestrogen.

Menopause brings about hormonal changes that can affect an athlete's body composition, metabolism, and energy levels. The decline in estrogen, in particular, may contribute to changes in muscle mass, bone density, and fat distribution. Estrogen plays a crucial role in maintaining bone density, and the hormonal changes during menopause can lead to a decrease in bone mineral density. Athletes, especially those engaged in weight-bearing activities, need to pay attention to bone health and may consider adjustments to their training and nutrition. The decline in estrogen levels can contribute to a decrease in muscle mass

and strength. Athletes may need to adjust their training programs to include strength training to counteract these effects and maintain overall physical performance. Menopausal symptoms such as hot flashes, insomnia, and mood swings can impact sleep quality and recovery. Adequate rest and recovery become even more critical for athletes during menopause to manage fatigue and optimize performance. Nutritional Considerations: Menopause can affect metabolism and body composition, so athletes may need to reassess their nutritional needs. Adequate protein intake becomes essential to support muscle health, and sufficient calcium and vitamin D intake are crucial for bone health. Menopause can be associated with mood swings, anxiety, or depression in some women. Athletes should prioritize mental health and consider seeking support or counseling if needed. Athletes may need to work closely with coaches, trainers, and healthcare professionals to optimize their training programs, manage symptoms, and adapt to the changes that come with menopause. It's important to note that the impact of menopause can vary among individuals, and some women may experience fewer or milder symptoms than others.

The menopause lowers oestrogen levels. Certain women have unpleasant sensations referred to as vasomotor symptoms, such as vaginal dryness or hot flashes. The best treatment for menopause symptoms is hormone replacement therapy, or HRT (also called hormone therapy, menopausal hormone therapy, and oestrogen replacement therapy). It's important to emphasize that the decision to pursue hormone therapy is highly individual, and athletes should make informed choices in collaboration with healthcare professionals. Regular monitoring and open communication with healthcare providers can help adjust the therapy as needed and minimize potential risks while optimizing benefits for the athlete's overall well-being and performance.

Objectives

- To study the psychological and physiological challenges to aging athlete women
- To study the desired positive changes brought in diet and exercise
- To suggest hormone therapy to minimize negative effects

Methodology

Menopause is a natural biological process that occurs in women typically between the ages of 45 and 55 and marks the end of the reproductive years. It is defined as the absence of menstrual periods for 12 consecutive months, which indicates the depletion of the ovaries' supply of eggs and the cessation of hormone production, particularly estrogen and progesterone. During these years, they undergo lot of physical and mental changes. In 'Menopause the cessation of menstrual period for women, 75 percent of women experience some problem or discomfort noticed among women during these years are many. So, a need was felt essential to understand the symptoms of menopausal women and the treatment they have taken with this intention the study was carried out.

Area of the Study

Dindigul district was chosen for the study. Investigator's familiarity and proximity to this area were the main reasons for selecting this area.

Sample Studied

Fifty women those who were in the age group of 40-60 years were purposively selected for the study. Among them eighteen women were found to be athletes until 30 years of age.

Data Collection Procedure

Bingham and Moore define an interview as a “conversation with a purpose.” Therefore, an interview is a purposive interpersonal communication between two parties engaged in exchanging ideas through conversation by asking and answering questions. Initial rapport was established with the women and the purpose of the study was explained to them. Their doubts were clarified and then the interview was conducted.

Tools Used

A set of printed or written questions with a choice of answers, devised for the purposes of a survey or statistical study.

Literature Review

Literature pertaining to active and inactive women’s (aged 45-60) relationship with sport and physical activity during menopause was explored. Sport deliverers to support women to maintain and re-engage with physical activity during menopause, to encourage the sport, exercise and health sectors to work together to support women during this time. (Anon 2018)

As a result of this hormonal shift, women may experience various physical and emotional symptoms are anxiety and changes in mood, such as low mood or irritability, changes in skin conditions, including dryness or increase in oiliness and onset of adult acne, difficulty sleeping, which may make you feel tired and irritable during the day, headaches or migraines, hot flashes (i.e., short, sudden feelings of heat, usually in the face, neck and chest, which can make your skin red and sweaty), Joint stiffness, aches, and pains, loss of self-confidence, night sweats (i.e., hot flashes that occur at night), palpitations (i.e., heartbeats that suddenly become more noticeable), problems with memory, concentration and ‘brain fog’

Menopause can also increase your risk of developing other health issues, such as weak bones (i.e., osteoporosis) or cardiac disease. In addition to these female-specific physiological phenomena, aging adults will also experience sarcopenia, which is characterized by loss of muscle mass and strength. While weaker bones and lower muscle mass have a direct effect on athletic performance, rest assured that you can still train and race well into later life

Women before and after menopause have benefited in consuming more protein diet than the recommended daily amount. The recommended daily amount of protein is 0.8 g/kg of body weight. However, researchers have found that by increasing this to 1 g/kg or more and combining it with high-volume exercise and anaerobic exercises, lean body mass can be increased. The researchers also recommend consuming 20-25 g/kg of high-quality protein during each main meal throughout the day. Simply put, it is less effective to load your daily protein intake into one meal than to spread it equally between meals.

For the synthesis of protein and calcium needed by muscles, vitamin D is necessary. Because estrogen in women boosts the activity of the enzyme that activates vitamin D, vitamin D deficiency is a major risk factor for menopausal women whose estrogen levels are dropping. This is linked to a reduction in physical performance in older adults as well as a loss of muscle mass and strength.

There’s mounting evidence that supplementing with omega-3 polyunsaturated fatty acids (PUFAs) can help older women for a number of reasons. Lower risk of heart disease: It has been demonstrated that omega-3 PUFAs, especially EPA and DHA, can lower the risk of heart disease in older women. According to studies, these fatty acids can help improve overall cardiovascular health, lower blood pressure, and lower triglyceride levels.

Enhanced memory and cognitive function: Omega-3 polyunsaturated fatty acids (PUFAs) have been associated with enhanced memory and cognitive function. This is especially significant

for older women who may be susceptible to age-related cognitive decline. According to certain research, omega-3 polyunsaturated fatty acids (PUFAs) may enhance brain function by lowering inflammation and enhancing blood flow to the brain.

Lower chance of depression: Depression is more prevalent: Postmenopausal women should combine strength, balance, and endurance (aerobic) exercises to maintain their physical fitness from a holistic standpoint. For postmenopausal women, aerobic or cardiovascular exercise is crucial because it enhances heart health, circulation, and respiratory function. Examples of this type of exercise include brisk walking, cycling, or swimming. Additionally, it can enhance mood and mental health, lower the risk of type 2 diabetes and some cancers, and help manage weight. (N Mishra, 2011)

For postmenopausal women, who are more susceptible to osteoporosis because of their decreased oestrogen levels, strength or resistance training can help increase bone density. The loss of estrogen during menopause can result in lower bone density, which can make bones more brittle and prone to fractures. Estrogen is essential for bone metabolism. (Anon 2021)

After menopause, restoring normal estrogen levels, hormone replacement therapy (HRT) has been shown to improve bone density and muscle mass while also helping to relieve menopausal symptoms. It has also been demonstrated that HRT boosts power. Phytoestrogens are a natural substitute for hormone replacement therapy if the idea of taking it makes you uneasy. Soy protein contains phytoestrogens, which have a chemical structure quite similar to that of human estrogen. Research has demonstrated that isoflavones and soy protein can lower body weight and increase muscle density. (Bone Health & Osteoporosis Foundation)

Results and Discussion

Table 1
Challenges to Aging Athlete Women

*Challenges	Percentage	
	athletes	Non-athletes
Physical changes	40	60
Hormonal changes	25	75
Lack of support	60	40
Societal expectations	55	45

*Multiple Respondents

The above table shows that 40 percent of athletes underwent a number of Physical changes, including decreased muscle mass, bone density, and cardiovascular function. These changes can make it more difficult to maintain peak performance and increase the risk of injury. Menopause can also have a significant impact on Non athletes (75 percent) by the decline in estrogen and progesterone levels. 60 percent of athletes may also face a lack of support from the athletic community. Only 40 percent of non athlete women face a lack of support from their family. Nearly 55 percent of athletes are often expected to prioritize their families and careers over their athletic pursuits and 45 per cent of non athletes frequently expected to put their family first.

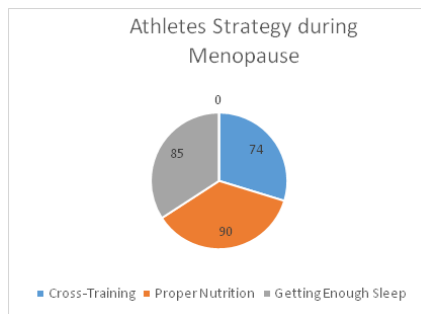


Figure 2 Athletes Strategy during Menopause

The above figure shows the athletes using the strategies at the time of menopause, Ninety percent of athletes are taking proper nutrition, seventy-four per cent of athletes are taking cross training during the time.

Summary

Research on the direct impact of menopause on athletic performance is still an evolving field, and findings can vary based on individual factors and sports. While there is evidence suggesting that hormonal changes during menopause may influence certain aspects of performance, the overall effects are complex and multifaceted.

Physiological Factors: Cardiorespiratory Fitness: Some studies have shown that declines in estrogen levels during menopause may be associated with reductions in cardiorespiratory fitness. This could potentially affect an athlete’s endurance performance. However, the relationship between menopause and cardiorespiratory fitness is not universally observed in all individuals. Muscle Mass and Strength: The decline in estrogen levels can contribute to changes in body composition, including a decrease in muscle mass. Maintaining muscle mass is crucial for athletic performance, and strength training can help mitigate potential losses. Bone Health: Menopause is associated with a decline in bone density, which may increase the risk of fractures. Athletes, particularly those engaging in weight-bearing activities, need to pay attention to bone health through proper nutrition, strength training, and supplementation if necessary. Recovery and Injury Risk: Hormonal changes during menopause can affect recovery from exercise, potentially leading to longer recovery times. Athletes may need to adjust their training intensity and incorporate additional recovery strategies.

Psychological Factors: Menopause can bring about psychological symptoms such as mood swings, anxiety, or sleep disturbances, which may indirectly impact an athlete’s mental focus and overall well-being. It’s important to note that the impact of menopause on athletic performance is highly individualized. Athletes may experience different symptoms and respond differently to hormonal changes. Factors such as fitness level, training history, genetics, and overall health also play a role.

Healthy ageing populations may gain from the dietary tactics employed by athletes seeking higher levels of performance. The dietary therapies (protein, creatine, n-3 PUFA, NO3) that are covered in this article do not prevent sarcopenia. To promote more active, healthy ageing, dietary changes, however, may enhance the advantages of exercise training. To optimise the advantages of increased physical activity levels, more research is needed to identify the processes by which nutrients, either alone or in combination, may promote favourable changes in skeletal muscle and cognitive performance.

While some studies suggest potential performance implications, it's crucial to approach the topic with nuance and recognize that athletes can continue to excel during and after menopause with proper adjustments to training, nutrition, and recovery. Consulting with healthcare professionals, including sports medicine specialists, gynecologists, and nutritionists, can provide personalized guidance based on an individual athlete's needs and goals.

Conclusion

The study aims to investigate the psychological and physiological challenges faced by aging female athletes. Menopause in athletes can be a unique and challenging experience, impacting both physical and psychological aspects of performance. As female athletes navigate this biological transition, understanding the possible impacts on training, recuperation, and general well-being is crucial. Sports medicine specialists and gynaecologists are among the medical professionals that athletes should speak with in order to address their unique needs and create plans for navigating menopause while preserving their general health and athletic performance.

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