



THE ROLE OF SPORTS PHYSIOTHERAPY IN ELDERLY ATHLETES: A LITERATURE REVIEW

REVIEW ARTICLE

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ABSTRACT

Population aging is a fact that requires attention from all sectors of society. Once the practice of physical activity is emphasized, the figure of the athlete in old age and the importance of sports physiotherapy emerges in this context. The guiding question arises: How can sports physiotherapy help athletes in old age? The general objective of this article is to review the literature on the performance of sports physiotherapy in elderly athletes. The methodology chosen was the systematic review of the literature, in which the textual texture was carried out by consulting databases and other texts related to the topic in question, between the months of August 2018 and March 2022 a review based on PEDro, MedLine, Lilacs, Scielo databases. The keywords “*idoso*”, “*atletas*”, “*fisioterapia*” and their correspondents in English were used. The results allowed the inclusion of 09 papers written between 2018 and 2021. It was concluded that the importance of sports physiotherapy in senior athletes is related to health promotion and the prevention of sports injuries and rehabilitation, knowing that the physiotherapist acts both in the treatment of athletes and in the development of specific programs to improve physical performance, injury prevention and rehabilitation.

Keywords: Physiotherapy, Athletes, Seniors.



1. INTRODUCTION

Faced with the guiding question: How can sports physiotherapy help athletes in old age? The general objective of this article is to review the literature on the performance of sports physiotherapy in elderly athletes. In addition to the general objective, the specific ones are: addressing aging and the aging process in senior athletes; present sports physiotherapy; to identify the importance of sports physiotherapy in the prevention of injuries and rehabilitation of athletes in old age.

One can see, in recent times, changes in the Brazilian population profile. The number of elderly people is growing more and more and this demographic transition is the result of the reduction in mortality rates and the drop in birth rates (MIRANDA; MENDES; SILVA, 2016). It can be seen that there was an increase in Brazilian life expectancy, an average of 75.8 years, and, as a result, an increase in the number of elderly people in sports (GOMES; NASCIMENTO, 2018). Furthermore, many of these seniors became athletes in old age.

Just to exemplify, IstoÉ Magazine, on July 7, 2021, published an article about medalists in the elderly, in which it presented Joshua Millner, gold medal at age 61 in free rifle 1000 yards, Lida Peyton Eliza Pollock, gold at age 63 years in team archery, Gale Spencer, gold at age 64 in team archery and Oscar Swahn, silver medal at age 72 in team double shot (ISTOÉ, 2021).

Population aging ends up bringing a series of health problems that challenge the health and social security sectors. However, aging is not only associated with getting sick. "Unless there is an associated disease, aging is associated with a good level of health" (MIRANDA; MENDES; SILVA, 2016, p. 508).

Old age constitutes a phase of life that presents particularities that can only be understood from the moment in which the chronological, biological, psychological and social aspects that involve it are considered. This interaction is the result of the



cultural conditions in which the person is inserted. Thus, historical, political, economic, geographic and cultural conditions “produce different social representations of old age and also of the elderly. There is a correspondence between the conception of old age present in a society and the attitudes towards people who are aging” (SCHNEIDER; IRIGARAY, 2008, p. 585).

Physical activity, exercised at any age, brings health benefits. However, in the elderly, it induces several physiological and psychological adaptations. It corroborates with active aging (SOUZA *et al.*, 2015).

Sports, recreational or competitive actions allow for the strengthening of self-esteem, social integration and the promotion of basic physical qualities that have a drop in quality with aging. The elderly who are active in sports become aware of the importance assumed by physical activity for maintaining their basic physical qualities, their body weight, muscle tone, appetite, cardiorespiratory capacity, socialization, satisfactory sleep pattern, maintenance of reasoning (in sports practice there is a need to predict actions and speed of reasoning) and space-time notion, in addition to improving peripheral vision, according to Filgueiras Júnior (2013).

The role of physiotherapy in old age seeks to restore and improve the functional capacity of the elderly. Its function is to assess the individual as a whole, his musculoskeletal, neurological, urological, cardiovascular and respiratory systems, as well as to consider the environment in which he operates, identifying the people with whom the elderly person relates more closely.

When it comes to athletes, the sports physiotherapist monitors the evolution of training and the impacts on health. Senior athletes are subject to injuries, which are caused by lack of warm-up, over-training or inadequate movement, for example. The sports physiotherapist acts in identifying the origin of the pain and in the search for forms of treatment, that is, it means care and support for the recovery of injuries.



2. METHODOLOGY

The present research is a systematic review of the literature, in which the textual texture was carried out by consulting databases and other texts related to the subject in question, between the months of August 2018 and March 2022 that the research request is not practical, so that it was not necessary to go through the Research Ethics Committee (CEP)[2].

Data collection was done by reading scientific articles that addressed the proposed subject. For that, a bibliographic survey was carried out in the PEDro, MedLine, Lilacs, Scielo databases. The following keywords were used: “*idoso*”, “*atletas*”, “*fisioterapia*” and their correspondents in English.

Articles were initially included based on title, abstract and keywords found in searches on PEDro, MedLine, Lilacs, Scielo databases and portals and, after reading the abstracts, those that did not fit the research objectives were excluded. Articles could still be excluded even after the complete reading of the text, if they did not fit the objectives of the study. Manual search from reference lists of classic texts and the selected articles were also a posteriori inclusion criteria.

After inclusion and exclusion of texts, those selected were read in full and their content was used as part of the research. In this way, both the analysis and the synthesis of the data compiled in the articles that were included in this research were portrayed in a descriptive way, through the production of two tables containing the information about the selected articles, namely: article title, author(s) and objective(s) of the article. Then, its content was used to prepare the text, with the data obtained.



3. RESULTS AND DISCUSSION

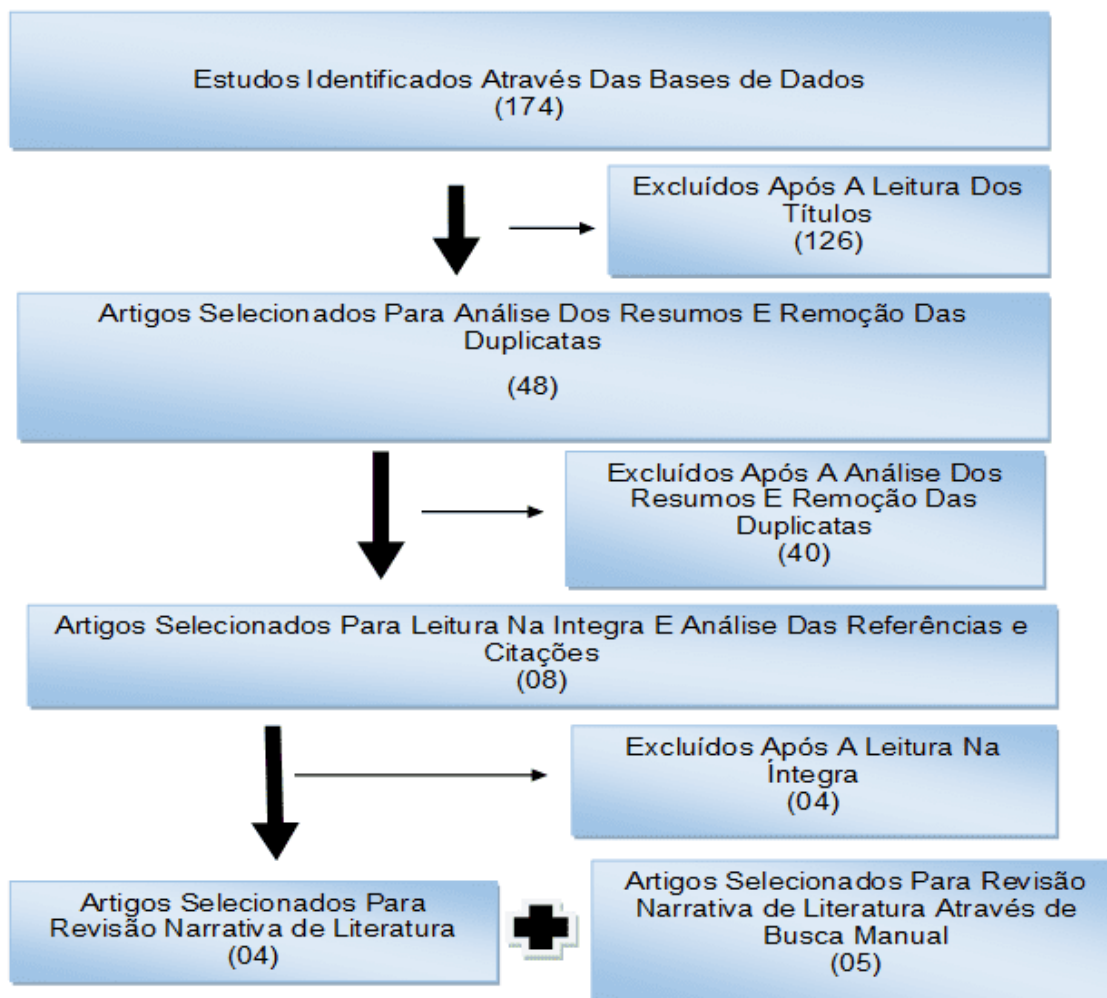
The electronic search resulted in 174 articles. Of these, 126 articles were excluded after reading the titles and 40 excluded after reading the abstracts, leaving 8 articles, which were selected for full text reading.

After reading, only 4 articles were included in this review, according to the established inclusion criteria. The manual search returned 5 studies and these were also included in this review after analysis.

Therefore, a total of 9 articles were included and described in this study. The main reasons for the exclusion of studies was the fact that they did not meet the objectives proposed for the research.

To facilitate the understanding of the article selection process, Figure 1 represents the study selection flowchart, with each step performed.

Figure 1 - Flowchart of the Article Selection Process



Source: Prepared by the author (2022).

The texts selected in this review are identified in the tables below.

Table 1: Summary of the evaluated studies: Aging and athletes in old age

Title	Authors	Objective
Aging today: chronological, biological, psychological and social aspects	Schneider, Rodolfo Herberto; Irigaray, Tatiana Quarti.	Present the concepts that involve the aging process considering the aspects involved, such as chronological, biological, psychological and social.



Successful aging and learning in competitive sport: a way of adapting for athletes who practice running	Almeida, Sionara Tamanini de.	To promote an investigation about the learning of athletes acquired through the practice of running through qualitative research with a target population of male athletes from different clubs and Brazilian sports societies.
Master athletes and successful aging: an integrative review	Alexandre, Fabiana Maria <i>et al.</i>	Carry out an integrative review on the successful aging of athletes over 60 years of age in various sports.
Analysis of motor performance in anticipatory timing tasks in elderly people who practice interception sports	Cantieri, Francys Paula; Marques, Inara	To analyze the effect of practicing interception sports on performance in anticipatory timing tasks in the elderly population.
Assessment of agility and endurance in old age	Sousa, Milena de Jesus Santana.	Check the difference in the functionality of active and inactive elderly.

Source: Prepared by the author (2022).

Table 2: Summary of the evaluated studies: The importance of sports physiotherapy

Title	Authors	Objective
The importance of sports physiotherapy in the recovery of athletes	Gomes, Fernanda.	To present the importance of sports physiotherapy when it comes to the recovery of athletes.
The importance of sports physiotherapy in the prevention of injuries in athletes: a systematic review	Nunes, Emerson Breno Virgulino; Falcão, Kelly Patrícia Medeiros; Silva, Edineide Nunes da.	Addressing the relevance of preventive physiotherapy regarding sports injuries by conducting a systematic review.
Physiotherapy and sports injury prevention	Resende, Marília Maniglia de; Câmara, Cibele de Nazaré da Silva; Callegari, Bianca.	Conduct a literature review presenting the important topics about injury prevention.

Source: Prepared by the author (2022).

Tables 1 and 2 present a summary of the studies chosen for this research according to aging and athletes in old age and the importance of sports physiotherapy.

Schneider and Irigaray (2008) studied the aging process in today's society, especially with regard to the concepts used to define this process in relation to the chronological, biological, psychological and social aspects involved, and identified



that chronological age is not the only way to measure the aging process, since it presents complex factors, with variable influence on the person. This way,

O envelhecimento é um processo complexo e multifatorial. A variabilidade de cada pessoa (genética e ambiental) acaba impedindo o estabelecimento de parâmetros. Por isso, o uso somente do tempo (idade cronológica) como medida esconde um amplo conjunto de variáveis. A idade em si não determina o envelhecimento, ela é apenas um dos elementos presentes no processo de desenvolvimento, servindo como uma referência da passagem do tempo (SCHNEIDER; IRIGARAY, 2008, p. 592).

For Almeida (2011), aging is a process that involves growth (gains) and declines (losses), which will be balanced through the adaptive capacity of the person, being perceived “through attitudes with individuals adapting to the inclemency of life and achieving personal goals” (ALMEIDA, 2011, p. 234).

From this point of view, Alexandre *et al.* (2018), state that in the face of aging, some athletes “experience a decline in terms of physical capacity and competitiveness, however, they are able to deal with it by reframing their goals and seeking a new level of involvement with their body and with sport” (ALEXANDRE *et al.*, 2018, p. 3).

No caso específico dos atletas com mais de 45 anos de idade, eles se encontram numa situação particular. Ao mesmo tempo em que o atleta treina para melhorar seu desempenho e realmente melhora, devido à reserva física que aumenta sua performance, ele também apresenta a influência do processo de envelhecimento que pode, agregado ou não a outros fatores, diminuir o desempenho esportivo. Nesse sentido, o atleta enfrenta duas tendências: uma relativa à melhora através do treino e com isso otimiza as capacidades físicas, e outra de diminuição, que exige do sujeito a ação de se adaptar a perdas e/ou ganhos relativos à sua prática esportiva (ALMEIDA, 2011, p. 234).

For Cantieri and Marques (2012), the motor performance in the elderly suffers a decline in the face of the aging process, as a result of the weakness of the central and peripheral functions, which promote a decrease in speed regarding the initiation, execution and completion of movements. Likewise, there is a decrease in the ability



to match motor actions and displacement of external stimuli, reflected in the performance of some tasks such as driving, climbing escalators, going through revolving doors, the so-called anticipatory “timing”.

Thus, Cantieri and Marques (2012) carried out studies in which they analyzed and proved a positive effect of the practice of interception sports on performance in a complex task of anticipatory “timing” in elderly athletes.

Since the aging process causes damage such as reduced physical fitness and mental abilities, physical activity can help to delay and reduce such damage (SOUSA, 2017). In elderly athletes, there are gains in strength, agility, balance and cognition, but it is necessary to pay attention to care and support for recovery from injuries that may occur.

The area of sports physiotherapy excels in the prevention and rehabilitation of people's physical capacity, through therapies that use massage, gymnastics, etc. Sports physiotherapy acts through a specific exercise program for athletes, combining activities and therapeutic actions that promote the prevention or rehabilitation of injuries that affect them. The techniques aim to rehabilitate aspects such as muscle strength, power, flexibility, endurance, balance, cardiovascular performance, etc. (GOMES, 2022).

A fisioterapia desportiva trabalha com o desenvolvimento de programas individuais de tratamento para cada atleta, avaliando cada caso de forma individual, sendo indicada para todas as idades, utilizando equipamentos específicos para cada treinamento (GOMES, 2022, p. 1).

The importance of sports physiotherapy in the prevention of sports injuries was evidenced in studies by Nunes, Falcão and Silva (2014) who concluded that physiotherapy in the prevention of sports injuries is of paramount importance, considering that the physiotherapist acts directly in the prevention of injuries, from prevention to rehabilitation. The study developed by the authors acquires importance by showing that sports physiotherapy acts in the prevention or cure of sports injuries



that commonly affect athletes, both those who are not physically well conditioned and those who practice sports without the supervision of a professional in the area. It can be noticed that the studies demonstrate that the performance of the physiotherapist in the sports area contributes to the treatment of athletes, the elaboration of preventive programs, which promote the improvement of the physical performance of all athletes, aiming at minimizing the risks of injuries and guaranteeing athlete strength.

Resende, Câmara and Callegari (2014) point out that “the preventive aspect of the treatment of sports injuries is essential for the performance of the physiotherapist who needs to redirect his focus of attention, from the injuries already installed, to risk situations” (RESENDE; CÂMARA; CALLEGARI, 2014, p. 220). From this point of view, the physical therapist's work needs to be individualized; in the case of senior athletes, assessment and follow-up are required to identify muscle imbalances that require action.

Moreover, age is a fact that interferes with the appearance of injuries, that is, “(...) age favors the appearance of degenerative injuries and tendon ruptures” (RESENDE; CÂMARA; CALLEGARI, 2014, p. 221).

This is why the importance of sports physiotherapy in elderly athletes lies in the need for individualized work, focused on the person of the elderly athlete. “The physiotherapist must maintain coherent preventive measures, such as indicating the use of appropriate clothes and shoes, balanced diet, water balance, rest and recovery, among others” (RESENDE; CÂMARA; CALLEGARI, 2014, p. 221).

There is also a need for frequent monitoring and reassessments of the individual abilities of elderly athletes, their biomechanical characteristics and those of the sport they practice so that “one can maximize sporting performance by minimizing the number of injuries” (RESENDE; CÂMARA; CALLEGARI, 2014, p. 222).



4. FINAL CONSIDERATIONS

Regarding the relationship between athletes in old age and the performance of sports physiotherapy, in view of the articles studied, it was evident that the aging process encompasses peculiar aspects that must be taken into account. The practice of physical activity leads to beneficial changes in this population and should be encouraged, but exposure to sports efforts can also lead to injuries.

In this context, the importance of sports physiotherapy in elderly athletes resides in the fact that the physiotherapist's role is both in their treatment and in the development of programs aimed at preventing possible injuries. In this sense, efforts are being made to improve the physical performance of elderly athletes, preventing injuries and aiming for rehabilitation.

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APPENDIX - FOOTNOTE

2. Comitê de Ética em Pesquisa (CEP).

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