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REVIEW ARTICLE

Prevalence of Rheumatic Diseases in Older Adults

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Highlights

(1). The prevalence of rheumatic diseases ranged from 25% to 43.6% in the Brazilian older population.
(2). Rheumatic diseases in the older population bring physical, mental and functional impairments.
(3). Public policies must seek functionality in older adults with rheumatic diseases.

ABSTRACT

The present study aimed to investigate the prevalence of rheumatic diseases in older Brazilians and their consequences. This is an integrative systematic review carried out in 2022, based on Prisma recommendations, developed with articles published from 2016 to 2021 in the following electronic databases: Medline, PubMed, SciELO and Lilacs. Forty-five (45) studies were identified through the search strategy. After the initial reading, nine studies were included. According to the results found, it was observed that the prevalence of rheumatic diseases ranged from 25% to 43.6% when analyzed in older people of both sexes. Older adults with rheumatic diseases had a higher prevalence ratio for spinal disorders, occurrences of falls, lower walking speed, lower handgrip strength, disabilities for activities of daily living, general adiposity, not currently working, low education, not living alone, medical appointments in the last three months, self-perceived poor health and common mental disorder. It was possible to verify the consequences of rheumatic diseases in physical, mental and functional aspects, which can serve as a basis for the elaboration of public policies that aim to maintain functionality in the older person.

Keywords: rheumatic diseases; older adults; Brazil.

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INTRODUCTION

Brazil, like other Latin American countries, is going through a process of rapid and intense aging. Between 2012 and 2017, the Brazilian population aged 60 and over reached 30 million people, 56% women and 44% men[1]. The aging process brings a series of changes, both morphological and functional, which decrease the individual's ability to face the demand necessary to maintain a healthy life[2]. In Brazil, according to a household sample carried out by the national survey, it was observed that rheumatic diseases are the diseases that most affect the older person, affecting 24.2% of this population segment[3-4].

Rheumatic diseases can be defined as functional alterations of the musculoskeletal system, not due to traumatic cause[5].

They can affect various parts of the human body, affecting important structures such as joints, bones, cartilage, muscles, tendons and ligaments; but they can also reach vital organs such as the heart, kidneys, lung, intestine and skin[6]. In addition, it should be noted that rheumatic diseases are divided into several subtypes, including inflammatory diseases, degenerative diseases, metabolic diseases, periarticular soft tissue changes and diseases of other organs and/or systems[5].

These diseases are capable of triggering physical limitations, reducing functionality and the ability to perform activities of daily living. Thus, patients with the diagnosis are more likely to be away from work and have early retirement[7]. Studies have shown that increasing age generates a significant reduction in functional capacity, factors that cause the older adults to become more dependent due to the decrease in their autonomy[8].

Research with a diagnosis of rheumatic diseases is necessary, as it points out aspects of signs and symptoms, age group, sex, treatment administered and main consequences on the quality of life and functionality of these patients[9]. Given the above, the present study aimed to investigate the prevalence of rheumatic diseases in older Brazilians and their consequences.

METHODOLOGY

This is an integrative systematic review, based on Prisma recommendations, developed with articles published from 2016 to 2021 in the following electronic databases: Medline, PubMed, SciELO and Lilacs. The following keywords were used: prevalence, *rheumatic diseases*, *older adults* and their respective synonyms, in Portuguese and English, as shown in Box 1. The guiding question for the search was: what is the prevalence of rheumatic diseases in older Brazilians?

	"Prevalence"[Mesh] OR "Prevalences" OR "Period Prevalence" OR "Period Prevalences" OR "Prevalence, Period" OR "Point Prevalence" OR "Point Prevalences" OR "Prevalence, Point"
AND	"Rheumatic Diseases"[Mesh] OR "Disease, Rheumatic" OR "Diseases, Rheumatic" OR "Rheumatic Disease" OR "Rheumatism"
AND	"Aged"[Mesh] OR "Older adults"
AND	"Brazil"[Mesh]

Box 1 – Search strategy

Source: Made by the author (2022).

The articles identified by the search strategy were evaluated by researchers independently, starting with the selection of articles, the reading of titles and abstracts. Inclusion criteria were: studies that had as population people aged 60 years or older, living in Brazil, who presented data on

the prevalence of rheumatic diseases and that were published in Portuguese, English or Spanish. As for the exclusion criteria, repeated articles were established; studies published more than five years ago; with therapeutic intervention; narrative review articles and with hospitalized or institutionalized older population.

After the first selection and exclusion of duplicate articles, the researchers read the articles in full for data extraction and methodological quality analysis. When there was divergence in the selection, the evaluators discussed until reaching consensus. In extracting data from the articles, the search for the following information was emphasized: objective of the study, type of study, sample and its characteristics, place where the research was carried out, prevalence of rheumatic diseases and analysis of the main results presented.

Regarding methodological quality, the included articles were evaluated using the scale by Loney *et al.*[10], used for cross-sectional studies. This scale evaluates aspects related to the validity of the method, interpretation and applicability of the results and has a maximum score of eight points, with higher values meaning higher methodological quality.

RESULTS

Forty-five (45) studies were identified through the search strategy. After the initial reading, nine studies were included. The processes carried out in the selection of articles and the reasons for exclusion are shown in Figure 1.

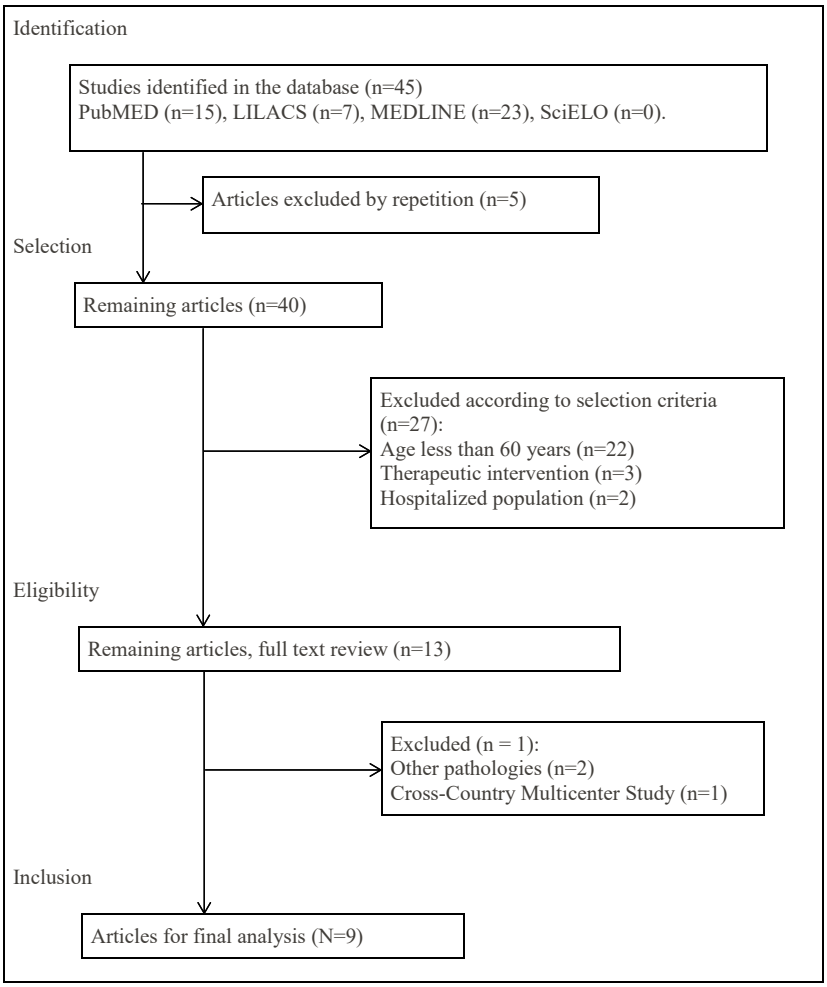

Figure 1 – Study selection flowchart.

Source: Made by the author (2022).

Box 2 shows the articles selected for this study and their main characteristics. The methodological quality was also presented in this box, and it was possible to observe that most of the selected articles scored above mean, which represents a good methodological quality of scientific evidence level.

Article Authors	Objective	Type of Study	Number	Research Site	Characterization of the sample	Methodological quality
(Saes et al., 2021a)	To estimate the prevalence of spinal disorders in older adults and analyze potential associated factors	Cross-sectional study	1593 individuals of both sexes	Bagé – RS	63% female sex 31.2% aged 75 years or older 78.6% white skin color, 54.6% with 1 to 7 years of study, 51.2% were married or living with a partner, 38.4% belonged to economic classification C and 34.0% to D/E	6/8
(Pimen-TEL et al., 2018)	To determine the prevalence and factors associated with falls in a representative national sample of the older population living in urban areas	Cross-sectional study	4,174 individuals of both sexes	70 municipalities located in all Brazilian regions	56.6% female. The mean age was 70.2 years. 42.3% with 1-4 years of schooling	5/8
(Assumpção et al., 2018)	To estimate the prevalence of underweight in the older adults according to demographic, socioeconomic, health-related behaviors, morbidities and health status variables	Cross-sectional study	3,478 individuals of both sexes	Campinas (SP), Belém (PA), Poços de Caldas (MG), Ermelino Matarazzo (SP), Campina Grande (PB), Parnaíba (PI), Ivoti (RS)	67.65% were women, 65.05% were 65 to 74 years old, 52.26% were white, 52.00% did not have a partner, 49.22% had 1 to 4 years of schooling. 49.41% had an income of 1 to 3 minimum wages	5/8
(Silva et al., 2018)	To estimate the prevalence and factors associated with Common Mental Disorders (CMD) in the resident older population in a Municipality in Brazil.	Cross-sectional study	310 individuals of both sexes	Ibicuí (BA)	56.5% female, 83.9% aged between 60 and 79 years, 51% living without a partner, 93.2% with a monthly income of one minimum wage or less, 56.1% literate	5/8

(Torres; Castro; Lustosa, 2019)	To evaluate the association between the permanence of the older person in the labor market and the presence of chronic conditions, in a random sample of older adults residents in Belo Horizonte - MG	Cross-sectional study	597 individuals of both sexes.	Belo Horizonte (MG)	66% females The mean age was 74.3 years, 69% with less than 8 years of schooling, 74.4% retired	5/8
(Saes et al., 2021b)	To calculate prevalence and identify factors associated with rheumatic diseases in the older adults of the urban area of a municipality in southern Brazil	Cross-sectional study	1593 individuals of both sexes	Bagé - RS	62.7% female, 53.2%, aged 60 to 70 years and 78.6% white race/color. 51.2% were married or living with a partner; 17.6% lived alone 54.5% with 1 to 7 years of study and 27.1% belonged to economic class D/E	5/8
(Guimarães et al., 2020)	To evaluate the prevalence and factors associated with general and central adiposity in older adults of Palmas (TO)	Cross-sectional study	449 older adults of both sexes.	Palmas – TO	50.6% female. The mean age was 68.28 years. 56.8% aged between 60 and 69 years. 57% with 1-4 years of schooling and 21.6% with an income below one minimum wage	5/8
(Guedes et al., 2019)	To identify adverse health outcomes related to declining gait speed in community-dwelling older adults	Cross-sectional study	5501 older adults of both sexes	Different cities located in all Brazilian regions	66.20% female. The mean age was 43.36 years.	6/8
(Confor-Tin et al., 2018)	To investigate the association between chronic diseases and handgrip strength (HGS) in the older adults of Florianópolis, SC	Cross-sectional study	599 older adults of both sexes.	Florianópolis (SC).	65% of females The mean age was 72.4 years. 35% male The mean age was 72.1 years.	4/8

Box 2 – Main characteristics of the selected studies.

Source: Made by the author (2022).

Box 3 presents the main results of each selected study, with greater relevance for those statistically significant data. We sought to emphasize the prevalence of rheumatic diseases, as well as relationships found with other conditions or risk factors.

Authors (year)	**Results**		
Reference	**Prevalence**	**Relationships**	**OR/PR (95% CI)**
(Saes et al., 2021a)	27.2% of the older adults had a medical diagnosis of rheumatism/arthritis/ arthrosis	X	Older adults with rheumatic diseases were more likely to have a spinal disorder when compared to those without these diseases. Model adjusted for self-perceived health, history of fractures in the last year, systemic arterial hypertension, diabetes mellitus and cognitive deficit PR: 1.67; 95% CI 1.46-1.91 p<0.001
(Pimentel et al., 2018)	25.0% of the older adults had a medical diagnosis of arthritis or rheumatism	X	Older adults with rheumatic diseases were more likely to fall. Model adjusted for sex and age PR: 1.39; 95% CI 1.23-1.57
(Assumpção et al., 2018)	43.60% of the older adults had a medical diagnosis of rheumatism	X	Older adults with rheumatic diseases had a lower prevalence of low weight when compared to older adults without rheumatic disease. Model adjusted for sex, age group, hypertension, diabetes, loss of appetite, smoking, frailty PR 0.58; (0.45, 0.76) p<0.001
Silva et al.	31.6% of the older adults reported having rheumatism	Among the older adults with rheumatic diseases, 75.5% had Common Mental Disorders, while among the older adults without rheumatic disease the prevalence was 46.7%, p < 0.001	Older adults with rheumatic diseases were more likely to have Common Mental Disorders Single model PR 1.61; 95% CI 1.50-3.15

(Torres; de Castro; Lustosa, 2019)	26.6% of the older adults had a medical diagnosis of arthritis	Among the older adults who do not currently work, 90.6% have rheumatism, while among the older adults who work the prevalence was 9.4%, p<0.01	People, 65 years of age or older, with arthritis are less likely to be currently working. Model adjusted for sex, age, education, retirement, BMI, hypertension, depression, heart disease, diabetes and frailty PR 0.54; 95% CI 0.35-0.85
(Saes et al., 2021b)	27.3% of the older adults had a medical diagnosis of arthritis, arthrosis or rheumatism	X	Females (PR=2.86; 95% CI 2.28-3.59; p≤0.001), without education (PR=1.24; 95% CI 1.0-1.58; p=0.047), do not live alone (PR=1.29; 95% CI 1.03-1.61; p=0.024), self-perceived poor health (PR=1.54; 95% CI 1.63-2.02; p=0.001), spinal problems (PR=1.96; 95% CI 1.67-2.31; p≤0.001), fall in the last year (PR=1.22; 95% CI 1.04-1.43; p=0.013), presence of disability for instrumental activities of daily living (PR=1.20; 95% CI 1.02-1.41; p=0.028) and medical consultation in the last 3 months (PR=1.20; 95% CI 1.01-1.42; p=0.035) were associated with the presence of rheumatic diseases. Model adjusted for demographic and socioeconomic variables, behavioral, health perception, health status, functionality and use of health services
Guimarães et al., 2020)	36.3% of the older adults reported having rheumatism	Among the older adults with rheumatic diseases, 54.6% had general adiposity, while among the older adults without rheumatic disease the prevalence was 42.3%. p= 0.012	X
(Guedes et al., 2019)	31.60% of the older adults reported having rheumatism	Among the older adults with gait speed less than 0.8 m/s 45.20% had rheumatic diseases, while among the older adults with gait speed equal to or greater than 0.8 m/s the prevalence was 24.50% (p<0.01)	Older adults with rheumatic disease are more likely to have a walking speed of less than 0.8m/s OR 2.16 95% CI 1.79-2.52; p < 0.01

(Confortin et al., 2018)	43% of older women and 23.4% of older men reported having arthritis, arthrosis or rheumatism	X	Women with rheumatic diseases had lower Hand Grip Strength. Model adjusted for age, education, family arrangement, smoking, physical activity, body mass index (BMI), cognitive status, functional disability and chronic health conditions. β:-1.37; 95% CI:-2.55;-0.20; p = 0.022 There was no difference between men with and without rheumatic disease

Box 3 – Results of the selected studies.

Source: Made by the author (2022).

DISCUSSION

Prevalences of rheumatic diseases ranging from 25% to 43.6% were found when analyzed in the older adults of both sexes. The articles that analyzed populations from different regions of Brazil[11-12-13] did not make comparisons regarding the prevalence of these diseases. In the comparison by sex, only one article made this distinction[13], in which the prevalence of rheumatic disease was 43% in women and 23.4% in men. However, another study[12] found a prevalence ratio of rheumatic disease 2.86 times higher in females when compared to males.

The prevalence of rheumatic diseases among women may be associated with biological causes, including hormonal disorders arising from puberty and climacteric[14-15]. In women, puberty begins earlier when compared to males, thus, they have a greater tendency to develop rheumatic diseases such as osteopenia and osteoporosis[16]. Behavioral differences and pregnancy may also be associated with a higher prevalence of these diseases in females[16].

When associated with rheumatic diseases with physical changes, it was noticed that people with rheumatic diseases had a higher prevalence ratio for spinal disorders[11-12], occurrences of falls[17-12], lower walking speed[18], lower handgrip strength[13] and disabilities for activities of daily living[12]. Thus, rheumatic diseases significantly impair the quality of life of the older population, interfering with the independence of activities of daily living due to their progressive and chronic character. In addition, these impairments can also generate functional disabilities, social withdrawal and depression[19]. These disabilities occur due to joint damage, causing stiffness and movement restriction, which affects ambulation and increases the likelihood of falls[20-17].

Muscle weakness in the lower limbs is related to reduced functionality and slowed gait in older adults with rheumatism, resulting in a decrease in the size of the stride[21-22]. The reduction in handgrip strength in these individuals, on the other hand, occurs due to the atrophy caused by the lack of use of the limb and the pain generated by the disease[23].

As for body composition, one study showed a relationship between rheumatic disease and general adiposity[24], while another found that the older adults with rheumatic diseases had a lower prevalence of low weight when compared to the older adults without rheumatic disease[25]. In the aging process, it is possible to identify greater distribution and accumulation of body fat, especially in the abdominal region. In men, this event occurs earlier, around midlife, and in women after menopause[26].

The increase in obesity generates greater chances of developing arthrosis, due to the accumulation of body fat causing overload in the joints, leading to cartilage degeneration[27]. Some studies address the advantages of weight reduction in reducing joint impacts and inflammatory biomarkers such as IL-6 and CRP[28]. In addition, patients with rheumatic diseases are more sedentary when compared to the rest of the population[29-30]. Through a study in which individuals with rheumatoid arthritis were selected, it was observed that they were less likely to start or stay in physical activities[31].

As for sociodemographic variables, it was found that the older adults with rheumatic disease had a higher prevalence ratio for not currently working [32], low education[12] and not living alone[12]. The probability of an older person developing some rheumatic disease is associated with less learning during the school period, which leads to work with greater physical effort and musculoskeletal overload throughout life[33]. Consequently, when they reach older age groups, they need greater assistance to carry out their daily activities, making it impossible for them to live alone[34].

In our study, there was also a higher prevalence ratio for medical visits in the last 3 months and poor self-perception of health[12]. The individuals' perception of their own health is an indicator that takes into account physical, emotional and cognitive aspects[35-36]. Furthermore, rheumatic diseases influence the health status of their sufferers, affecting their quality of life and their daily activities[35-36], consequently damaging their self-perception of health.

Finally, our results found a higher prevalence ratio for common mental disorder in patients with rheumatic disease[37]. This condition manifests itself from a set of somatic symptoms, anxiety and depression[38]. Depression is present in 15 to 50% of patients with rheumatism, probably due to the presence of disability, a condition of dependence and social isolation[39-40]. It is observed that symptoms of anxiety and depression in patients with systemic lupus erythematosus are present in 93% of cases[41]. On the other hand, people diagnosed with rheumatoid arthritis have an approximately threefold higher incidence of depression and anxiety[42].

Another hypothesis for the greater development of depressive symptoms is the relationship with the pain generated by rheumatic diseases. Studies show that people with chronic musculoskeletal diseases have a degree of pain between 7 and 8, according to the numeric pain scale43. The study by Monti and Caporali44, on the other hand, showed that 25% of the participants interviewed with rheumatic diseases commented that they had musculoskeletal and joint pain at some period of life.

This study found limitations such as the lack of research with comparative data between the different regions of the country, as well as more in-depth research on the impact of rheumatic disease on the older population, since most studies address the population segment with a younger age group. Even so, it was possible to verify the consequences of rheumatic diseases in physical, mental and functional aspects, which can serve as a basis for the elaboration of public policies that aim to maintain functionality in the older adults.

CONCLUSION

According to the results found in the studies, it was observed that the prevalence of rheumatic diseases ranged from 25% to 43.6% when analyzed in the older adults of both sexes. It was also possible to observe that rheumatic diseases are more prevalent in females.

Regarding the consequences of rheumatic diseases in the older population, there were changes in physical, mental and functional aspects. Older adults with rheumatic diseases had a higher prevalence ratio for spinal disorders, occurrences of falls, lower walking speed, lower handgrip strength, disabilities for activities of daily living, general adiposity, not currently working, low education, not living alone, medical appointments in the last 3 months, self-perceived poor health and common mental disorder. It is suggested that this information can serve as a basis for the elaboration of public policies that aim to maintain physical and cognitive functionality in the older adults with rheumatic diseases, contributing to a better quality of life for this population.

REFERENCES

1 Paradella R. Número de idosos cresce 18% em 5 anos e ultrapassa 30 milhões em 2017. Agência IBGE Notícias, 1º/10/2018. Available at: https://agenciadenoticias.ibge.gov.br/agencia-noticias/2012-agencia-de-noticias/noticias/20980-numero-de-idosos-cresce-18-em-5-anos-e-ultrapassa-30-milhoes-em-2017

2 Perracini MR, Fló CM. Funcionalidade e envelhecimento. 2. ed. Rio de Janeiro: Guanabara Koogan; 2019.

3 Barros MB de A et al. Tendências das desigualdades sociais e demográficas na prevalência de doenças crônicas no Brasil, PNAD: 2003- 2008. Ciência & Saúde Coletiva [online], Sept. 2011;16(9):3.755-3.768. [cited 11 Nov. 2022]. DOI: https://doi.org/10.1590/S1413-81232011001000012. Epub 15 May 2012. ISSN 1678-4561

4 Lima-Costa MF et al. Tendências em dez anos das condições de saúde de idosos brasileiros: evidências da Pesquisa Nacional por Amostra de Domicílios (1998, 2003, 2008). Ciência & Saúde Coletiva [online]. 2011;16(9):3.689-3.696. [cited 11 Nov. 2022]. DOI: https://doi.org/10.1590/S1413-81232011001000006. Epub 15 May 2012. ISSN 1678-4561.

5 Portugal. Programa Nacional contra as Doenças Reumáticas. Direcção-Geral da Saúde. Ministério da Saúde; 2004. Available at: https://www.dgs.pt/upload/membro.id/ficheiros/i006345.pdf. Acesso em: 22 Oct. 2021.

6 Carvalho MAP et al. Reumatologia: diagnóstico e tratamento. 5. ed. Rio de Janeiro: Guanabara Koogan; 2019.

7 Passalini TSP, Fuller R. Public social security burden of musculoskeletal diseases in Brasil-Descriptive study. Revista da Associação Médica Brasileira [online]. 2018;64(4):339-345. [cited 13 Nov. 2022]. Available from: https://doi.org/10.1590/1806-9282.64.04.339. ISSN 1806-9282. DOI: https://doi.org/10.1590/1806-9282.64.04.339

8 Pereira LC et al. Fatores preditores para incapacidade funcional de idosos atendidos na atenção básica. Revista Brasileira de Enfermagem [online]. 2017;70(1):112-118. [cited 20 Nov. 2022]. DOI: https://doi.org/10.1590/0034-7167-2016-0046. ISSN 1984-0446

9 Nobre MRC, Bernardo WM, Jatene FB. A prática clínica baseada em evidências: Parte III – avaliação crítica das informações de pesquisas clínicas. Artigo Especial, Rev. Assoc. Med. Bras. Abr. 2004;50(2). Available at: https://www.scielo.br/j/ramb/a/NHrvm4bRvMv7PxBT4LBhFkc/?lang=pt

10 Loney PL et al. Citical appraisal of the health research literature: prevalence or incidence of a health problem. Chronic Dis Can. 1998;19(4):170-176.

11 Saes M de O et al. Ocorrência de distúrbios na coluna e fatores associados em idosos: estudo populacional em município do extremo Sul do Brasil. Ciência & Saúde Coletiva [online]. 2021;26(2):739-747. [cited 29 Oct. 2022], Epub 12 Feb. 2021. ISSN 1678-4561. DOI: https://doi.org/10.1590/1413-81232021262.33542018. Available at: https://www.scielo.br/j/csc/a/Cv94GCSzw3y99mw7SqynwLv/?lang=pt#

12 Saes MO et al. Doenças reumáticas e fatores associados em idosos: um estudo brasileiro de base populacional. ABCS Ciências da Saúde. 2021(46):e021218. DOI: https://doi.org/10.7322/abcshs.2020049.1498

13 Confortin SC et al. Associação entre doenças crônicas e força de preensão manual de idosos residentes em Florianópolis-SC, Brasil. Ciência & Saúde Coletiva [online]. 2018;23(5):1.675-1.685. [cited 18 Nov. 2022]. Available at: ISSN 1678-4561. DOI: https://doi.org/10.1590/1413-81232018235.19742016

14 Maynard C et al. Sex Differences in the Achievement of Remission and Low Disease Activity in Rheumatoid Arthritis. Arthritis Care & Research. Mar. 2020;72(3):326-333. DOI: 10.1002/acr.23873. Available at: https://onlinelibrary.wiley.com/doi/10.1002/acr.23873

15 Talsania M, Scofield R. H. Menopause and Rheumatic Disease. Rheum Dis Clin North Am. 2017 May.;43(2):287-302. DOI: 10.1016/j.rdc.2016.12.011. PMID: 28390570; PMCID: PMC5385852. Available at: https://pubmed.ncbi.nlm.nih.gov/28390570/

16 Hoy D et al. A systematic review of the global prevalence of low back pain. Arthritis Rheum. 2012 June;64(6):2.028-2.037. DOI: 10.1002/art.34347. Epub 2012 Jan 9. PMID: 22231424. Available at: https://pubmed.ncbi.nlm.nih.gov/22231424/

17 Pimentel WRT et al. Quedas em idosos brasileiros residentes em áreas urbanas: ELSI-Brasil. Revista de Saúde Pública. 2018;52(Supl 2):12s. DOI: https://doi.org/10.11606/s1518-8787.2018052000635

18 Guedes R de C et al. Declínio da velocidade da marcha e desfechos de saúde em idosos: dados da Rede Fibra. Fisioterapia e Pesquisa [online]. 2019;26(3):304-310. [cited 18 Nov. 2022]. DOI: https://doi.org/10.1590/1809-2950/18036026032019. Epub 16 Set 2019. ISSN 2316-9117

19 Wysocka-Skurska I, Sierakowska M, Kułak W. Avaliação da qualidade de vida em doenças reumáticas crônicas e progressivas com base no exemplo da osteoartrite e da artrite reumatóide. Clin Interv Envelhecimento. 2016;11:1.741-1.750. DOI: https://doi.org/10.2147/CIA.S116185

20 Granados Y. et al. Prevalência de distúrbios musculoesqueléticos e doenças reumáticas em uma comunidade urbana no estado de Monagas, Venezuela: um estudo COPCORD. Clin Rheumatol. 2015;34:871-877. DOI: https://doi.org/10.1007/s10067-014-2689-9

21 White DK, Niu J, Zhang Y. Is symptomatic knee osteoarthritis a risk factor for a trajectory of fast decline in gait speed? Results from a longitudinal cohort study. Arthritis Care Res (Hoboken). 2013 Feb.;65(2):187-194. DOI: 10.1002/acr.21816. Erratum in: Arthritis Care Res (Hoboken). 2013 Apr.;65(4):666. PMID: 22899342; PMCID: PMC3529801

22 White DK et al. Reasons for functional decline despite reductions in knee pain: the Multicenter Osteoarthritis Study. Phys Ther. 2011 Dec.;91(12):1.849-1.856. DOI: 10.2522/ptj.20100385. Epub 2011 Oct. 14. PMID: 22003168; PMCID: PMC3229048

23 Häkkinen A et al. Muscle strength, pain, and disease activity explain individual subdimensions of the Health Assessment Questionnaire disability index, especially in women with rheumatoid arthritis. Ann Rheum Dis. 2006 Jan.;65(1):30-34. DOI: 10.1136/ard.2004.034769. Epub 2005 May 18. PMID: 15901635; PMCID: PMC1797977

24 Guimarães MSA et al. Adiposidade geral e central em idosos em Palmas (TO): prevalência e fatores associados. Journal of the American College of Nutrition. 2020;39(8):739-746, DOI: 10.1080/07315724.2020.1734989

25 Assumpção D de et al. Fatores associados ao baixo peso em idosos comunitários de sete cidades brasileiras: Estudo FIBRA. Ciência & Saúde Coletiva [online]. 2018;23(4):1.143-1.150. [cited 18 Novembro 2022]. DOI: https://doi.org/10.1590/1413-81232018234.17422016. ISSN 1678-4561

26 Marucci MFN, Barbosa AR. Estado nutricional e capacidade física. In: Lebrão ML, Duarte YAO (organizadores). SABE – Saúde, Bem-Estar e Envelhecimento. O projeto SABE no município de São Paulo: uma abordagem inicial. Brasília: Organização Pan-Americana da Saúde; 2003. p. 95-117.

27 Hootman JM, Helmick CG. Projections of US prevalence of arthritis and associated activity limitations. Arthritis Rheum. 2006 Jan.;54(1):226-229. DOI: 10.1002/art.21562. PMID: 16385518. Available at: https://pubmed.ncbi.nlm.nih.gov/16385518/

28 Urban H, Little CB. The role of fat and inflammation in the pathogenesis and management of osteoarthritis. Rheumatology (Oxford). 2018 May. 1º;57(suppl_4):iv10-iv21. DOI: 10.1093/rheumatology/kex399. PMID: 29444323. Available at: https://pubmed.ncbi.nlm.nih.gov/29444323/

29 Hootman JM et al. Physical activity levels among the general US adult population and in adults with and without arthritis. Arthritis Rheum. 2003 Feb. 15;49(1):129-135. DOI: 10.1002/art.10911. PMID: 12579604. Available at: https://pubmed.ncbi.nlm.nih.gov/12579604/

30 CDC – Centers for Disease Control and Prevention. State-specific prevalence of no leisure-time physical activity among adults with and without doctor-diagnosed arthritis – United States, 2009. MMWR Morb Mortal Wkly Rep. 2011 Dec. 9;60(48):1.641-1.645. PMID: 22157882. Available at: https://pubmed.ncbi.nlm.nih.gov/22157882/

31 Vervloesem N et al. Are personal characteristics associated with exercise participation in patients with rheumatoid arthritis? A cross-sectional explorative survey. Musculoskeletal Care. 2012 June;10(2):90-100. DOI: 10.1002/msc.1003. Epub 2012 Feb 20. PMID: 22351523. Available at: https://pubmed.ncbi.nlm.nih.gov/22351523/

32 Torres JL, Castro CMS de, Lustosa LP. Manutenção do trabalho e presença de condições crônicas em idosos comunitários: evidências da Rede Fibra-BH. Ciência & Saúde Coletiva [online]. 2019;24(5):1.845-1.852. [cited 18 Nov. 2022]. DOI: https://doi.org/10.1590/1413-81232018245.13302017. Epub 30 May. 2019. ISSN 1678-4561.

33 Liu Q, Wang S, Lin J, Zhang Y. O fardo da osteoartrite do joelho entre os idosos chineses: estimativas de um estudo nacionalmente representativo. Osteoartrose Cartil. 2018;26(12):1.636-1.642. DOI: https://doi.org/10.1016/j.joca.2018.07.019

34 Nunes JD et al. Indicadores de incapacidade funcional e fatores associados em idosos: estudo de base populacional em Bagé, Rio Grande do Sul. Epidemiol Serv Saude. 2017;26(2):295-304. DOI: http://dx.doi.org/10.5123/S1679-49742017000200007

35 Falsarella GR et al. Impacto das doenças reumáticas e sintomas articulares crônicos na qualidade de vida de idosos. Arco Gerontol Geriatr. 2012;54(2):e77-82. DOI: https://doi.org/10.1016/j.archger.2011.06.038. Available at: https://www.sciencedirect.com/science/article/abs/pii/S0167494311001932?via%3Dihub

36 Fausto S et al. O impacto de diferentes doenças reumáticas na qualidade de vida relacionada à saúde: uma comparação com uma amostra selecionada de indivíduos saudáveis usando o questionário SF-36, Valores de utilidade EQ-5D e SF-6D. Acta Biomed, 2018;89(4):541-557. DOI: http://dx.doi.org/10.23750/abm.v89i4.7298. Available at: https://www.mattioli1885journals.com/index.php/actabiomedica/article/view/7298

37 Silva PA dos S da et al. Prevalência de transtornos mentais comuns e fatores associados entre idosos de um município do Brasil. Ciência & Saúde Coletiva [online]. 2018;23(2):639-646. [cited 18 Nov. 2022]. DOI: https://doi.org/10.1590/1413-81232018232.12852016. ISSN 1678-4561

38 Malhotra S, Shah R. Women and mental health in India: An overview. Indian J Psychiatry, 2015 July; 57(Suppl 2):S205-11. DOI: 10.4103/0019-5545.161479. PMID: 26330636; PMCID: PMC4539863

39 Nes LS et al. Self-Regulatory Fatigue: A Missing Link in Understanding Fibromyalgia and Other Chronic MultiSymptom Illnesses. Pain Pract. 2017 Apr.;17(4):460-469. DOI: 10.1111/papr.12480. Available at: https://pubmed.ncbi.nlm.nih.gov/27589266/

40 Buras A, Waszkiewicz N, Szulc A. Depression and inflammation in rheumatic diseases. Postepy Hig Med Dosw [online]. 2016 Mar. 4;70:162-168. DOI: 10.5604/17322693.1196386. Available at: https://pubmed.ncbi.nlm.nih.gov/26943313/

41 Torta R, Pennazio F, Leraci V. Anxiety and depression in rheumatologic diseases: the relevance of diagnosis and management. Reumatismo. 2014 June 6;66(1):92-97. DOI: 10.4081/reumatismo.2014.769. Available at: https://pubmed.ncbi.nlm.nih.gov/24938201/

42 Shih M et al. Serious Psychological Distress in U.S. Adults with Arthritis. J. Gen. Intern. Med. 2006;21:1.160-1.166. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1831669/#:~:text=Notably%2C%20a%20recent%20study%20in,risk%20due%20to%20heart%20disease.&text=Both%20arthritis%20and%20mental%20health,seen%20by%20health%20care%20providers

43 Nakamura M et al. Prevalence and characteristics of chronic musculoskeletal pain in Japan: a second survey of people with or without chronic pain. J Orthop Sci. 2014 Mar.;19(2):339-350. DOI: 10.1007/s00776-013-0525-8. Epub 2014. Available at: https://www.sciencedirect.com/science/article/pii/S0949265815303171

44 Monti S, Caporali R. Chronic pain: the burden of disease and treatment innovations. Reumatismo, 2015 Oct. 23;67(2):35-44. DOI: 10.4081/reumatismo.2015.840. Available at: https://pubmed.ncbi.nlm.nih.gov/26492961/

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