Relationship between pain, functional limitations, dependence, depression and osteoarthritis in older adults

Relação da dor, limitação funcional, dependência e depressão com a osteoartrite em idosos

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Abstract

Introduction: Knee osteoarthritis (KOA) is a prevalent pathology in older adults, with physical, social and psychological impacts that reduce their quality of life. **Objective:** Analyze the correlation between KOA in older individuals and biopsychosocial aspects such as pain, functional limitation, dependence, anxiety and depression. **Methods:** A systematic review of English and Portuguese articles published on the Cochrane Library, PUBMED/MEDLINE, SciELO and Web of Science databases between 2016 and 2021, selected according to inclusion and exclusion criteria. **Results:** After cross-checking specific to each database, studies were selected by reading the title (2,304), abstract (136) and full article (72), with 30 ultimately included based on the eligibility criteria. **Conclusion**: Knee osteoarthritis has a significant negative impact on patients' lives and is correlated with pain, functional limitation, dependence, anxiety and depression, compromising interpersonal relationships, physical and mental status and causing disability due to chronic pain, making osteoarthritis (OA) a public health issue with a high financial, physical and emotional cost for patients.

Keywords: Elderly. Knee osteoarthritis. Physical and functional performance. Psychosocial alterations. Quality of life.

Resumo

Introdução: *A osteoartrite de joelho é uma patologia prevalente em idosos, impactando suas vidas em um contexto físico, social e psicológico, o que ocasiona redução na qualidade de vida desses indivíduos.* ***Objetivo:*** *Analisar a correlação entre a osteoartrite de joelho em idosos e aspectos biopsicossociais como dor, limitação funcional, dependência, ansiedade e depressão.* ***Métodos:*** *Revisão sistemática de artigos publicados nas bases de dados Cochrane Library, PUBMED/MEDLINE, SciELO e Web of Science, entre 2016 e 2021, em português e inglês. Após isso, realizou-se a seleção dos artigos de acordo com os critérios de inclusão e exclusão.* ***Resultados:*** *Após cruzamentos específicos em cada base, selecionaram-se os artigos por meio da leitura do título (2.304), do resumo (136) e do artigo na íntegra (72). Assim, 30 artigos foram selecionados de acordo com os critérios de elegibilidade.* ***Conclusão:*** *Confirmou-se que a osteoartrite de joelho impacta negativamente a vida dos pacientes e está correlacionada com dor, limitação funcional, dependência, ansiedade e depressão, prejudicando as relações interpessoais, afetando condições físicas e mentais e gerando incapacidade devido à dor crônica, tornando a osteoartrite uma questão de saúde pública de alto custo financeiro, físico e emocional aos pacientes.*

Palavras-chave: *Idosos. Osteoartrite de joelho. Desempenho físico funcional. Alterações psicossociais. Quali-dade de vida.*

Introduction

Osteoarthritis (OA) is a progressive disease that affects the entire joint.[1] According to Hawker,[2] the condition is more prevalent in older adults, affecting an estimated one in three people over the age of 65 years, and is one of the leading causes of disability in this population, with a high social cost. Globally, it affects more than 300 million people.[3]

The main symptoms reported by patients are pain, morning stiffness and crepitus during joint movement.[1] Risk factors for developing OA are divided into those related to the patient (advanced age, being female, obesity, genetic factors, diet) and the joint (injury, overuse, repetitive use).[1,4] Given the differences in disease concept definition, the population studied and joints affected, incidence and prevalence estimates vary considerably.[4]

From this perspective, the knee is clinically the most affected joint.[5] The physiopathology of knee osteoarthritis (KOA) is highly complex and multifactorial, making it difficult to accurately establish the factor that triggers pain in these patients. In addition to chronic pain, other impacts of OA on patients include disability and reduced quality of life.[6] As such, the goal of treatment is to mitigate the physical symptoms reported by patients and, at more advanced stages, partial or full joint replacement surgery.[7,8]

According to the Brazilian Society of Rheumatology,[9] OA accounts for 30 to 40% of outpatient rheumatology appointments, which causes a considerable economic impact, since KOA is responsible for 7.5% of work absences. This is due to the relationship between the constant increase in pain caused by the disease and the resulting loss of function, which cannot always be mitigated by symptomatic treatment.[10]

In addition to its economic effects, OA is associated with cognitive decline and depressive symptoms, which can increase the risk of social isolation 1.47 fold, compromising quality of life and leading to psychological and psychiatric symptoms.[11] Depression and anxiety are common in this population,[12] affecting up to one fifth of patients.[13] In this context, OA can increase the chances of institutionalization among older people, thus raising treatment costs. It can also lead to sickness benefits and even retirement, raising the cost of living for patients, who are prevented from working due to disability, and straining public coffers, which fund these benefits.

The physical decline results in greater difficulty with tasks and physical activity, which are therefore performed less frequently. This not only affects the quality of life of patients, but predisposes them to psychological symptoms caused by social isolation.[14] Reduced physical capacity has also been reported as a predictor of depressive symptoms and greater prevalence of anxiety.[15]

Knowledge about the relationship between OA, inactivity, depression and anxiety could promote the development of public policies that better address the complexity of this disease that affects a large part of the population. Understanding that KOA not only compromises individuals physically, but psychologically and socially, is essential in preventing the emergence of associated symptoms and improving quality of life and life expectancy, particularly in the elderly population, which is most affected by this comorbidity.

In light of the above, the aim of this study was to review the existing correlation between the presence of OA and the occurrence of pain, functional limitations, dependence, anxiety and depression in the older population. Assessing these variables to determine whether they are correlated is vital in developing new research and protocols that can help prevent OA in primary care and optimize the available treatments.

Methods

This is a systematic review on the correlation between KOA in older adults and pain, functional limitation, dependence, anxiety and depression, registered on the PROSPERO database (CRD42021287461).

Searches were conducted on the Cochrane Library, PubMed/MEDLINE, SciELO and Web off Science databases, for articles in English and Portuguese published between 2016 and 2021, based on the descriptors selected and specific cross-checks, using the Boolean operator [AND] to optimize the search:

- "Osteoarthritis" AND "ageing" AND "functional limitation";
- "Osteoarthritis" AND "ageing" AND "independency";
- "Osteoarthritis" AND "ageing" AND "anxiety";
- "Osteoarthritis" AND "ageing" AND "depression".

A manual search of the reference lists of the selected articles and other systematic or integrative reviews on the topic was also carried out.

Inclusion and exclusion criteria

All the articles that demonstrated a correlation between OA and pain, functional limitation, dependence, anxiety and depression in a sample of elderly patients were included in this study.

Excluded were studies that focused on OA treatment protocols during and after surgery or exercises, approaches on disease pathogenesis such as tissue inflammation, chondrocyte degradation or joint dissection, and articles with a generalized view in a nonspecific population, emphasizing pain and not reporting the impact on patients' lives. These criteria were important in determining whether there is a correlation between osteoarthritis, pain, functional limitation, dependence, anxiety and depression in older adults.

Study selection and data extraction

Studies were selected by three independent authors. Articles were initially chosen based on their titles, after which the abstracts were analyzed and those not related to the specific topic were discarded, while those that met the inclusion criteria were read in full. The articles chosen were evaluated maintaining their authors' chosen terminology.

Data extraction was performed by all three authors working together, compiling the information, mechanisms and results of all the included articles, followed by a detailed analysis to rule out any discrepancies.

The search strategies applied in January 2022 to all four electronic databases and the refined search for articles published in the last five years yielded 2,304 articles. After analyzing the titles according to the eligibility criteria, 184 articles were selected and 48 discarded as duplicates, leaving 136 to be evaluated based on their abstracts. After reading the abstracts, 72 articles were chosen to be read in full, yielding 30 studies that met the eligibility criteria for inclusion in this systematic review (Figure 1).

Results

Based on the eligibility criteria, 30 articles were chosen for the systematic review and are presented in Table 1.

In regard to pain, Santos et al.[16] and Lee and Oh[17] reported increased pain in patients with OA, and Koning et al.[18] correlated the disease with functional limitation issues and reduced independence in older adults. Signs and symptoms of anxiety and depression are also prevalent in older individuals diagnosed with OA, as confirmed by Stubbs et al.[13] and Alabajos-Cea et al.[19]

In this scenario, the studies confirm the negative impact of KOA on the everyday lives of patients, affecting their family and social relationships, as well as their mental and physical condition. Osteoarthritis is also responsible for causing pain, functional limitations, dependence, anxiety and depression.

Table 1 - Studies selected to integrate the systematic review

Article	Design/Sample	Mechanisms/Results
Husnain et al.[36]	Prospective observational study with 136 patients.	Patients with osteoarthritis were selected to investigate its association with anxiety and depression using the HADS questionnaire. A large- scale study is needed since the association could not be proven via the HADS questionnaire.
Milano et al.[37]	Observational multicentric cross--sectional study involving 1371 patients.	Study to compare the prevalence of comorbidities in patients aged 55 to 80 years with symptomatic knee osteoarthritis in relation to controls. According to the HADS scale, patients with osteoarthritis exhibited more anxiety and depression and worse quality of life than controls of the same age and sex.
Alabajos-Cea et al.[19]	Cross-sectional study with a total sample of 105 patients.	Study to analyze the psychosocial differences between patients with knee pain or early knee osteoarthritis and healthy individuals at risk of developing the disease. Patients with knee pain showed higher levels of anxiety and depression regardless of early KOA, which also leads to reduced functional capacity. Depression also seems to influence the social participation of individuals.
Veronese et al.[12]	Longitudinal cohort study with 3,491 participants.	Study of individuals with depressive symptoms aimed at determining whether osteoarthritis is related to increased risk of developing depressive symptoms. It was concluded that individuals with hip and knee osteoarthritis are more likely to develop depressive symptoms than those without arthritis.
Siviero et al.[11]	Prospective observational study with a sample of 1,967 individuals.	Analysis of social isolation in patients with osteoarthritis. Joint pain and reduced function may increase the risk of social isolation, resulting in additional risk for those with the disease, since favorable social relationships are related to a lower mortality risk.
Tak et al.[14]	Cohort study involving 309 older adults with generalized radiographic osteoarthritis.	Study involving community-dwelling older adults with generalized radiographic osteoarthritis aimed at reporting on factors associated with changes in disability after 5 years, with a focus on physical activity. It was concluded that physical activity levels declined in this population with increased disability.
Shams et al.[38]	Clinical trial with a sample of 440 older individuals.	Response to a questionnaire on the personal characteristics, physical activity and depression levels of healthy active and inactive older adults versus those with knee osteoarthritis. KOA was related to negative effects on the physical and mental condition, social and family relations, general health and positive feelings; weakness had an important effect on the movement, independence and daily activities of those with KOA, leading to social isolation and limited recreational, sport and career activities. There was a significant difference in depression levels between healthy active older people and inactive individuals with KOA.
El Monaem et al.[39]	Clinical trial with 200 participants.	Explore correlations between the presence of depression, clinical scores and ultrasonographic grading in osteoarthritis patients using scales. High scores in these variables are correlated with the emergence of depressive symptoms. Disability in individuals with KOA is frequently related to pain, with evolution leading to mental decline.
Ahn et al.[31]	Comparative study with a sample of 100 participants.	Comparison between Asian Americans and non-Hispanic white Americans to determine whether variations in depression contribute to racial group differences in symptomatic knee osteoarthritis using pain and depression scales. The results indicate that high levels of depression in Asian Americans may be related to increased pain and sensitivity. Additionally, lack of social support combined with stress may increase pain levels and depressive symptoms.
Zheng et al.[33]	Randomized clinical trial with 397 individuals.	Participants selected from a randomized clinical trial to assess the severity of depression and joint symptoms in knee osteoarthritis using the patient health questionnaire and WOMAC index. The physical limitation caused by osteoarthritis may lead to withdrawal from rewarding and social activities. The presence and incidence of depression were 25.4 and 11.2%, respectively, with initial depression not linked to changes in knee joint symptoms over 24 months.
Helminen et al.[23]	Prospective analysis with a total of 111 patients.	One-year analysis of patients aged 35 to 75 years with knee osteoarthritis aimed at identifying predictors of pain and disability. The evidence suggests the importance of psychological variables (affective, behavioral and cognitive) in explaining pain and disability in osteoarthritis. Advanced age, female sex, low schooling level and high body mass index are associated with disability.
Carlesso et al.[24]	Secondary analysis of longitudinal data from a prospective population--based study with 462 participants.	A standardized telephone questionnaire was used to analyze the sociodemographic data, pain impact, osteoarthritis severity (through the WOMAC index), psychosocial factors and persistent low back pain in patients with an average age of 76 years. Treatment should focus on reducing pain severity and functional limitation.
Duarte et al.[40]	Clinical trial with a sample of 1,645 older adults.	Assessment of sociodemographic factors, physical activity, functionality, mental and physical health and the presence of osteoarthritis in patients over 50 years old. Those who are female, with more advanced age, more than five comorbidities, physical disability and lower physical activity levels were more likely to be diagnosed with osteoarthritis. The condition seems to be linked to disability, sedentarism, weight gain, anxiety and depression, predisposition to social isolation and the emergence of other chronic conditions.
Santos et al.[16]	Cross-sectional study with 50 older women diagnosed with knee osteo-arthritis and 51 without KOA.	Osteoarthritis is a chronic multifactorial disease. Disability generated by this condition affects simple and complex activities involving knee movement. Participants provided written informed consent as well as personal and sociodemographic data. The following were evaluated: cognitive capacity by the MMSE; pain by the visual analog scale; indirect assessment using the sit-to-stand test; muscle power via the gait speed test; mobility by the Timed Up and Go test; cardiorespiratory fitness by the 6-minute walk test; body balance using the Berg balance scale; quality of life via the SF36 and self-perception of the disease with the WOMAC index. The assessments were carried out by a previously trained professional. It was concluded that older women with KOA showed a decline in functional performance and quality of life and higher pain levels.
Park et al.[34]	Cross-sectional study with a sample of 6,343 participants.	Assessment of the relationship between KOA, mental health and quality of life. A relationship was observed between KOA and a decline in mental health and quality of life in middle aged and older individuals.
Helminen et al.[25]	Longitudinal cohort study with 108 participants.	Five-year study involving participants with an average age of 63.6 years, aimed at identifying predictors of long-term pain and disability in KOA. Anxiety, pain-related cognition and psychological resources predict long-term symptoms in KOA.
Rathbun et al.[30]	Data analysis of 1,463 participants.	Three years of annual data from participants with radiographic KOA were analyzed to determine whether pain severity is related to depressive symptoms and physical performance. Pain severity mediated one fifth of the association between depressive symptoms and physical performance in the individuals studied.
García-López et al.[20]	Cross-sectional study with a total sample of 23,089 patients.	Assessment of patients aged 65 years or older diagnosed with osteoarthritis and classified according to pain level and use of analgesics. Patients with severe pain who used analgesics obtained higher limitation scores. Osteoarthritis is also related to high levels of social isolation, negatively affecting physical and mental health, with a commensurate individual and socioeconomic burden.
Stubbs et al.[13]	Systematic review with 49 studies included.	Review of data on the incidence of depression and anxiety in patients with and without osteoarthritis. One fifth of those with osteoarthritis showed symptoms of anxiety and depression, which were also associated with increased pain and disability and a drastic decline in quality of life.
Zambon et al.[26]	Clinical cohort study involving 2,942 individuals.	The WOMAC index and walking test were used to assess the role of pain and comorbidities in the association between hip and knee osteoarthritis in older adults aged 65 to 85 years. Obesity, anxiety, depression and cardiovascular diseases were associated with the worst WOMAC scores and obesity, cognitive impairment, depression, peripheral artery disease and stroke with the worst walking times. Thus, given the resulting disability, osteoarthritis can also be linked to an increase in healthcare costs and a greater demand for social care services in the older population.

Note: HADS = Hospital Anxiety and Depression Scale; WOMAC = Western Ontario and McMaster Universities; MEEM = Mini Exame do Estado Mental; SF-36 = 36-Item Short Form Health Survey.

Table 1 - Studies selected to integrate the systematic review (continued)

Article	Design/Sample	Mechanisms/Results
Duica et al.[21]	Clinical trial with a sample of 123 patients.	Using different scales and the WOMAC score, osteoarthritis was correlated with a high economic cost, work absenteeism and reduced productivity, performance, efficiency and quality of life in the population studied. Individualized treatment based on age showed positive results in reducing pain and anxiety and improving functional capacity and quality of life.
Sayre et al.[15]	Population-based cohort study with a sample of 122 patients.	Assessment of the relationship between KOA, depression and anxiety in individuals aged 40 to 79 years. It was concluded that osteoarthritis is a highly prevalent, disabling and costly condition. Present-day OA predicts future anxiety and depression, highlighting the importance of OA diagnosis and measures to prevent this risk.
Aqeel et al.[29]	Cross-sectional study with 250 participants.	Assessment of depression and pain anxiety symptoms in individuals of both sexes, aged 30 to 60 years, with osteoarthritis. There was a high prevalence of pain anxiety, depression and mood swings among the participants, with men being more predisposed to psychiatric features. Patients with worse mental health experienced more symptoms of chronic physical diseases. While pain exacerbates depressive symptoms, the reverse also occurs. This is related to great functional restrictions and worse physical performance.
Uritani et al.[27]	Randomized controlled trial with a total of 167 participants.	Analysis of baseline data from adults aged over 50 years with KOA to examine psychological characteristics and physical activity level. Physical activity level was related to fear of movement, but the relationship with depressive symptoms was unclear. Knee osteoarthritis is associated with psychological problems such as depressive symptoms, low efficacy in symptom management, increased pain catastrophizing and fear of movement.
Lee e Oh[17]	Data analysis of 222 participants using serial multiple mediation analysis.	Study of adults older than 65 years diagnosed with osteoarthritis aimed at investigating whether OA pain is related to physical function based on sleep quality, depression and fatigue. It was concluded that pain in older adults led to limited physical function.
Li et al.[28]	Clinical trial with 2,833 participants.	Analysis of eight-year trajectories to detect risk factors of an unfavorable trajectory for depressive symptoms and comorbidities in patients with KOA. Depression can negatively influence osteoarthritis through biological, behavioral and psychological mechanisms. Additionally, the osteoarthritis process can cause depression.
White et al.[32]	Clinical trial with 1,055 participants.	Annual measures of WOMAC physical function over 84 months to assess functional decline and associated risk factors in initially limitation-free adults in an osteoarthritis context. Baseline radiographic disease, obesity and depressive symptoms were associated with worse functional decline in 1055 participants with an average age of 61 years. Of the initially limitation-free sample, 5% were on a trajectory of progressive functional decline after 84 months.
James et al.[10]	Clinical trial with a sample of 889 patients.	Assessment of the interplay between pain and functional disability in arthritis among older adults, adjusting for heterogeneity. Disability in basic and instrumental activities of daily living and worse mobility were associated with pain. Greater levels of disability were identified in patients with severe pain or a worsening of pain when its effects were examined heterogeneously. Due to difficulties with personal hygiene and dressing, social engagement did not improve despite pain alleviation.
Han e Gellhorn[35]	Prospective cohort study including 1,013 individuals.	A study of KOA aimed at characterizing changes in quality of life trajectories. It was concluded that different quality of life trajectories are associated with modifiable factors, showing potential for improvement over time
Koning et al.[18]	Multicentric study with 832 participants.	Investigation of pain severity and variability with symptoms of depression and anxiety in older adults with osteoarthritis. The findings imply that stable pain levels are more detrimental to mental health than fluctuating pain levels in older adults. With regard to the impacts of osteoarthritis, it is an important cause of functional limitation and loss of independence in this population, with chronic pain as one of the main debilitating symptoms.

Note: WOMAC = Western Ontario and McMaster Universities.

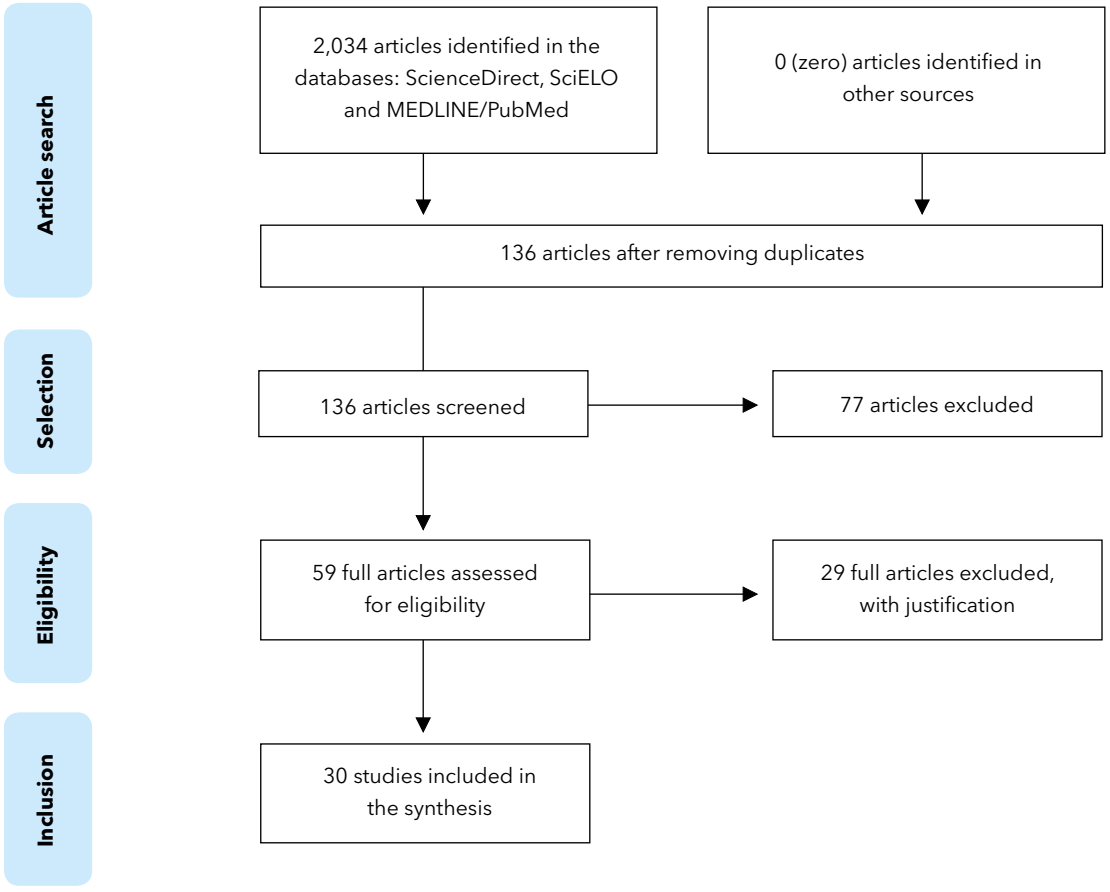

Figure 1 - Flowchart of study selection for the systematic review.

Discussion

Osteoarthritis is characterized by joint pain, stiffness and functional limitations, compromising patient participation in everyday and work-related activities. The disease is most prevalent among older adults, affecting an estimated one in three people aged over 65 years.[2]

KOA pain presents heterogeneously, since the relationship that patients have with pain changes over times.[10] KOA-related joint pain leads to functional limitations, poor sleep quality, fatigue, depression and loss of independence. It is also the main indicator for joint replacement surgery.[2]

AKOA is currently underdiagnosed and a barrier to physical activity in patients, who begin to avoid activities that exacerbate their pain, further limiting their mobility and functional capacity.[2] This compromises functionality in activities such as sitting, crouching, climbing stairs and standing for extended periods.[16] Additionally, the greater the intensity of OA-induced pain, the more restricted patients are in their basic activities of daily living,[20] which is problematic because physical activity is the most effective nonsurgical treatment for KOA.[2] Physical exercise and daily activities contribute to independence and are effective at reducing pain and disability in people with OA.[13]

In this scenario, as individuals experience greater difficulty in executing basic tasks, their dependence makes them less motivated to interact in society and even with their own family, resulting in social isolation.[20] Older adults who are completely dependent require care that their families are often unable to provide due to work

commitments. This leads to institutionalization, which further deprives these individuals of social contact and overburdens social and family welfare services. García-López et al.[20] studied patients with intense OA-related pain and found that about half required assistance from a caregiver to perform everyday activities. In this respect, pain severity is the main determining factor of disability in patients predisposed to dependence.

Hawker,[2] Duica et al.[21] and Fielding et al.[22] also reported dependence and functional limitations caused by KOA pain. Depression and anxiety exacerbate symptoms such as pain and disability, in addition to reducing the quality of life and social participation of older adults with OA.[2,13,21] Helminem et al.[23] used the WOMAC and RAND-36 questionnaires and identified important psychosocial and behavioral impacts in the individuals analyzed, especially fear of movement (kinesiophobia), worsening of pain and disability.

Although some authors have demonstrated that pain is a determining factor and/or predictor of reduced physical function,[10,24,25] others, such as Zambon et al.,[26] found that the psychological aspect is as important as the musculoskeletal decline. These authors revealed that, despite symptomatic pain control, patients with OA were still limited in activities of daily living.[26] This clearly demonstrates the psychosocial bias of this disease, prevalent in older people, which involves everything from kinesiophobia,[27] to sleep disturbances, fatigue, anxiety and depression[12,28] in a cyclic process.

Given the relationship between mental health and rheumatic diseases, patients with poor mental health tend to exhibit worse evolution for chronic physical diseases in a feedback-type process.[29,30] Thus, depression may be an aggravating factor for pain and disability, drastically reducing patient quality of life.[13,31,32]

Anxiety is another psychological disorder that permeates the everyday lives of patients with OA. Studies based on the Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) reported positive relationships for the emergence of anxiety in individuals with OA.[21,26,33] In this respect, anxiety may also be a predictor of worse prognosis and pain evolution in individuals with OA, heavily impacting their daily lives.[19,25] Much like depression, anxiety symptoms can be caused by OA itself, with factors such as knee swelling reported by patients deemed predictors of anxiety.[15]

This results in a vicious cycle, where OA causes considerable pain that leads to disability and dependence, resulting in social isolation or institutionalization, a precipitating factor for the emergence of psychological disorders, especially anxiety and depression. Furthermore, it clearly demonstrates the relationship between OA, poor mental health, reduced social interaction and a subsequent decline in quality of life, particularly in middle-aged and older adults.[34]

Han et al.[35] concluded that a patient's quality of life can be improved over time by determining the factors that influence it. Thus, for rheumatic patients, treatment should be individualized and tailored according to age as opposed to adopting a generalist approach, in order to mitigate symptoms and delay disease progression.[21,24] The most feasible alternative is to stimulate physical activity and social interaction, since healthy active people have a better prognosis than inactive individuals with OA.[28]

Finally, this study is limited by the small number of articles that address all the biopsychosocial aspects analyzed in our investigation and their correlation with KOA, in addition to their subjectivity. Another limitation was the different methodologies used in the literature to obtain the results reported. On the other hand, this study is innovative in that it jointly correlates the main biopsychosocial factors that affect older adults with this pathology. As such, this systematic review can contribute to future research on the connection between OA and biopsychosocial aspects with a view to finding alternatives to mitigate symptoms, develop new lines of research and delay disease progression, thus improving the quality of life of older adults and providing healthcare professionals with a new way of managing the disease that focuses on biopsychosocial aspects.

Multi and interprofessional management that considers the individualities and particularities of each case can help manage pain, improve inactivity and socialization and encourage independence, in addition to delaying disease progression and the emergence of other associated symptoms. It can therefore also reduce the socioeconomic impact of the disease, particularly in relation to medication, institutionalization and social isolation among older adults, lowering health system costs by decreasing hospitalizations, consultations and early retirement due to illness.

Conclusion

Knee osteoarthritis is a chronic disease that causes pain and disability, as well as being responsible for considerable social and health costs. The present study confirms the correlation between knee osteoarthritis and biopsychosocial aspects such as functional limitations, anxiety and depression. However, further research is needed to elucidate knee osteoarthritis as the sole cause of these symptoms. Thus, it was concluded that the disease negatively impacts the mental and physical well-being of older adults, causing dependence, reduced quality of life and physical and psychological symptoms. There is therefore a need for a preventive multi and interprofessional approach to mitigate the symptoms and improve the quality of life of patients.

Authors' contributions

LDSP, MEKR, JCC, GLB and CCR were responsible for data collection, analysis and interpretation, MEKR, CCR and GLB selected the articles to be included and LOS and JCC analyzed them in detail to rule out any discrepancies. All the authors contributed substantially to writing the article.

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