INTEGRATIVE LITERATURE REVIEW ARTICLE

IMPACT OF SARCOGENIC OBESITY ON THE FUNCTIONAL CAPACITY OF THE ELDERLY

IMPACTO DA OBESIDADE SARCOGÊNICA NA CAPACIDADE FUNCIONAL DE IDOSOS

IMPACTO DE LA OBESIDAD SARCOGÉNICA EN LA CAPACIDAD FUNCIONAL DE LOS ANCIANOS

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ABSTRACT

Objective: to identify scientific production on the impact of sarcopenic obesity on the functional capacity of the elderly. **Method:** this is a bibliographic, descriptive, integrative review type study, based on the search in the CINAHL, LILACS, MEDLINE, SCOPUS and Web of Science and SciELO Virtual Library databases, between 2014 and 2018. We proceeded with the descriptive analysis of the results based on similarities of the data, explained in synoptic figure. **Results:** 14 articles were included that pointed out influences of the aggravation in gait speed, difficulties in balance and increased risk of falls. These impacts were shown to limit daily activities, increasing the dependence and frailty of the elderly, with worsening quality of life and occurrence of depressive symptoms. **Conclusion:** it is emphasized that the negative impacts generated by sarcopenic obesity on the functionality of the elderly point to the need to monitor the body composition and muscle strength of the elderly population, in addition to preventive actions for this health problem. **Descriptors:** Aged; Obesity; Sarcopenia; Frailty; Public Health; Review.

RESUMO

Objetivo: identificar a produção científica sobre o impacto da obesidade sarcopênica na capacidade funcional de idosos. **Método:** trata-se de um estudo bibliográfico, descritivo, tipo revisão integrativa, a partir da busca nas bases de dados CINAHL, LILACS, MEDLINE, SCOPUS e Web of Science e Biblioteca Virtual SciELO, entre 2014 e 2018. Procedeu-se com a análise descritiva dos resultados a partir de semelhanças dos dados, explicitados em figura sinóptica. **Resultados:** incluíram-se 14 artigos que apontaram influências do agravamento na velocidade da marcha, dificuldades no equilíbrio e aumento do risco para ocorrência de quedas. Mostrou-se que esses impactos eram limitadores das atividades cotidianas, aumentando a dependência e fragilidade dos idosos, com piora na qualidade de vida e ocorrência de sintomas depressivos. **Conclusão:** ressalta-se que os impactos negativos gerados pela obesidade sarcopênica na funcionalidade dos idosos apontam a necessidade do monitoramento da composição corporal e força muscular da população idosa, além de ações preventivas deste agravamento à saúde. **Descritores:** Idoso; Obesidade; Sarcopenia; Fragilidade; Saúde Pública; Revisão.

RESUMEN

Objetivo: identificar la producción científica sobre el impacto de la obesidad sarcopénica en la capacidad funcional de los ancianos. **Método:** este es un estudio de tipo de revisión bibliográfica, descriptiva e integradora, basada en la búsqueda en las bases de datos CINAHL, LILACS, MEDLINE, SCOPUS y Web of Science y Biblioteca Virtual SciELO, entre 2014 y 2018. Se procedió al análisis descriptivo de los resultados basados en similitudes de los datos, explicado en figura sinóptica. **Resultados:** se incluyeron 14 artículos que señalaron las influencias del agravamiento de la velocidad de la marcha, las dificultades en el equilibrio y el aumento del riesgo de caídas. Se demostró que estos impactos limitan las actividades diarias, aumentando la dependencia y la fragilidad de los ancianos, con el empeoramiento de la calidad de vida y la aparición de síntomas depresivos. **Conclusión:** se enfatiza que los impactos negativos generados por la obesidad sarcopénica en la funcionalidad de los ancianos apuntan a la necesidad de monitorear la composición corporal y la fuerza muscular de la población de ancianos, además de las acciones preventivas para este problema de salud. **Descritores:** Anciano; Obesidad; Sarcopenia; Fragilidad; Salud Pública; Revisión.

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INTRODUCTION

It is known that the rapid aging of the population presents itself as a current phenomenon resulting from the decline in fertility and the improvement in survival that characterize the demographic transition worldwide.¹ It is shown, through data from the World Health Organization (WHO), that by 2050 one in five people will be 60 years old or older, representing two billion elderly people worldwide.²

In addition to the aging population, there is an increase in obese elderly people. It is reported that the prevalence of obesity among middle-aged and elderly adults has doubled since 1980 and presents growing forecasts.³ The number of elderly people with obesity is expected to increase as the population ages.⁴ It is known that obesity is a complex disease, of multifactorial origin, which, associated with the common physiological transformations of aging, contributes to the occurrence of functional disabilities and other health damage.⁵

As another challenge faced in the aging process, the occurrence of sarcopenia, characterized by the decline in strength and skeletal muscle mass.⁶ Over the years, natural changes in body composition have been shown, with an increase in visceral fat and a progressive loss of muscle mass. It is also noted that, in addition to the constitution of muscle mass, the decline in muscle quality is an important characteristic aspect of aging, influencing the functionality of the elderly.⁷

It has been found that Sarcopenic Obesity (SO), characterized by the coexistence between sarcopenia and obesity, presents itself as a health concern among the elderly, since it has been associated with metabolic and functional deficiencies, increased mortality rates and worse survival of those with this condition.⁸⁻⁹ In a systematic review of the literature, it became evident that there is a vicious relationship between muscle loss and fat accumulation, since they exercise a reciprocal interaction involving factors such as oxidative stress, insulin resistance and low physical activity.¹⁰

It is observed that, despite the negative impact caused by SO in the aging process, there are still incipient studies in the literature that gather evidence regarding the functional capacity of the elderly who present this condition, an important aspect to be considered for the promotion of healthy aging. In this perspective, we sought to contribute to the reflection on the theme in order to collaborate with the integral care of this population from this integrative literature review.

OBJECTIVE

- To identify scientific production on the impact of sarcopenic obesity on the functional capacity of the elderly.

METHOD

This is a bibliographic, descriptive, integrative literature review type study, developed from the stages: identification of the review question; definition of inclusion and exclusion criteria for studies; establishment of data to be extracted from selected research; evaluation of included publications; interpretation of data and presentation of knowledge synthesis.¹¹

The objective, through an integrative literature review, is to present, in a systematic, orderly and comprehensive manner, the results of research on a given topic, providing a broad view on the subject. In this sense, it is possible to identify a complete panorama of aspects related to a problem of importance for health care.¹²

This review was guided by the following question: "What is the scientific knowledge about the impact of sarcopenic obesity on the functional capacity of the elderly?". Descriptors and keywords in the English language were used with the help of the Booleans AND and OR to perform the search for studies in the databases, with the following search strategy employed: "sarcopenic obesity" AND "aged" OR "elderly" OR "senior" OR "older people".

The search for publications was carried out in July 2019 in the following databases: Cumulative Index to Nursing and Allied Health Literature (CINAHL); Scopus Info Site (SCOPUS); Web of Science; Medical Literature Analysis and Retrieval System Online (MEDLINE) and in the Scientific Eletronic Library Online (SciELO) magazine directory).

The criteria for inclusion of articles in the review sample were defined as: studies that evaluated the impact of SO on the functionality of the elderly population; published between 2014 and 2018; in English, Spanish or Portuguese. Studies were included whose participants were elderly from the WHO classification, that is, 65 years or older. Experience reports, papers presented at events, theses, dissertations, gray literature and duplicate studies found in more than one database were excluded.

Investigations that involved both adult and elderly participants were included, if data on the elderly were analyzed separately, as well as studies that assessed the impact of sarcopenia, obesity and SO on functional capacity were considered for the sample of this review when analysis and presentation of the results related to the SO in isolation.

The levels of evidence of the articles analyzed were classified according to the following hierarchical levels: I - systematic review or meta-analysis of multiple controlled and randomized clinical trials; II - evidence from at least one randomized controlled clinical trial; III - evidence resulting from well-designed clinical trials without randomization; IV - evidence obtained from cohort and case-control studies; V - evidence originating from a systematic review of descriptive and qualitative studies; VI - evidence from a single descriptive or qualitative study; VII - evidence from the opinion of authorities and / or expert committee reports.¹³

A critical appraisal of the publications found was carried out to assess the eligibility of the studies in this review. For this purpose, the checklist of the Critical Appraisal Skills Program (CASP) was used, in which the studies were evaluated for accuracy, credibility and relevance.¹⁴ It is noteworthy that the CASP contains items referring to the methodological quality of the articles to be evaluated, so that the positive and negative responses give one and zero points, respectively, for each item assessed. Through this instrument, publications are classified in category A, which have good methodological quality and reduced bias (6 to 10 points) and in category B, characterized by presenting satisfactory methodological quality, however with increased risk of bias (up to 5 points).¹⁴ The inclusion of articles in this study was considered to have reached level "A".

The evaluation and subsequent selection of the articles were carried out by two independent reviewers with experience in the theme or methodology of this review. It is noteworthy that, if there were disagreements between the two reviewers on the selection of the finished study, a third researcher would be consulted. An

instrument was used to extract and evaluate data from publications containing data on the research, namely: date and year of publication; methodological design used; objective of the study, main research outcome / outcome (impact of OS on the functional capacity of the elderly) and level of evidence. Based on the composition of the sample, a database was created using Microsoft Office Excel 2010 software, which allowed organizing and compiling information from selected studies.

The results of the publications were descriptively analyzed based on similarities to the results of the primary studies (impacts of SO on the functional capacity of the elderly) presented by the original authors. Such results were interpreted based on the literature related to the subject of the study. Knowledge review / synthesis were presented in the Discussion and Conclusion sections. It should be noted that, when carrying out the synthesis of the content, the researchers' original ideas were maintained.

RESULTS

1,637 records were identified through searches in the databases and a total of 736 were excluded for not meeting the inclusion criteria and / or for not responding to the guiding question of the research and for being presented in duplicate in the different databases. Such selection was made possible by reading the title and abstracts of the publications. After this stage, 99 articles were chosen to be submitted to a complete reading and, of these, 14 articles were selected to compose the set of definitive studies of the review. The results were presented through the flow chart Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA), being possible to obtain the analysis of this review in figure 1.

Figure 1. Flowchart of study selection adapted from Preferred Reporting Items for Systematic Reviews and Meta-Analyzes (PRISMA 2009). Sao Paulo (SP), Brazil, 2019.

14 studies were selected that addressed the impacts of SO on functional capacity in the elderly population after application of the evidence level instrument and CASP. It was found that the investigations were carried out

in different locations, representing the American, European, Asian and Oceania continents. The main information regarding the publications in figure 2 is highlighted.

<i>Authorship/Country</i>	<i>Design/ Participants</i>	<i>Objective</i>	<i>Results</i>	<i>Level of Evidence</i>
Gadelha, Dutra, Oliveira, Safons, Lima. 2014. ¹⁵ Brazil	Exploratory, correlational N = 137 elderly	To verify the association between muscle strength, sarcopenia and SO with the functional performance of elderly women.	A tendency towards a significant difference between SO and non-SO was identified in the walking test (p = 0.09) and in the strength assessment (p = 0.07), but the cutoff points proposed for the classification of the SO did not show a significant association with the tests functional performance.	IV
Meng, Hu, Fan, Zhang, Zhang, Sun, et al. 2014. ¹⁶ China	Exploratory, correlational N = 75 young people and 101 elderly people aged 80 or over	Investigate the prevalence of sarcopenia and SO and their associations with functional status.	Multiple linear regression analyzes showed that the skeletal muscle mass of the thigh was positively correlated with walking speed (p = 0.011), and total body fat (p = 0.002) and age (p = 0.000) were negatively correlated with the speed of independent gait. There was no significant difference between the group with sarcopenia, obesity and SO.	IV
Batsis, Mackenzie, Lopez-Jimenez, Bartels. 2015. ¹⁷ United States	Cross-sectional, observational N = 4.984 elderly	Assess the impact of sarcopenia and SO on physical capacity, basic and instrumental activities of daily living.	In men, a strong association was identified between SO with functional disabilities. In women, SO impacted physical capacity, basic and instrumental activities of daily life more when compared to sarcopenia alone.	IV
Chang, Huang, Chan, Wu, Lin, Hsiung, et al. 2015. ¹⁸ China	Cross-sectional, observational N = 2.629 elderly and 998 adults	Identify the impacts of sarcopenia and SO on the physical performance of the elderly.	Elderly individuals with SO were more fragile than their normal counterparts in terms of physical performance, performing worse than their normal counterparts in physical performance (all p <0.05, except handgrip strength).	IV
Hamer, Batty, Kivimaki. 2015. ¹⁹ England	Observational, cohort study, longitudinal N = 3.862 idosos	Examine the influence of SO as a risk factor for depressive symptoms over four years.	The risk of depressive symptoms was higher in obese elderly people with lower handgrip strength (odds ratio - OR) 1.79, 95% confidence interval (1.10; 2.89) compared to non-obese individuals with high strength handgrip.	IV
Hirani, Naganathan, Blyth, Le Couteur, Seibel, Waite, et al. 2016. ²⁰ Australia	Observational, longitudinal N = 1.705 elderly men	Explore longitudinal associations between body composition measures, SO and fragility outcomes, basic and instrumental activities of daily living, institutionalization and mortality. The elderly were reevaluated after two and five years.	SO was significantly associated with deficiencies in daily activities: OR 1.58 (95% confidence interval (CI): 1.12, 2.24, P = 0.01). Elderly people with OS had an increased risk of frailty and disability, with a negative impact also on performing instrumental activities.	IV
Ishii, Chang, Tanaka, Kuroda, Tsuji, Akishita, et al. 2016. ²¹ Japan	Cross-sectional, observational N = 1.731 elderly	Examine the association of depressive symptoms with SO in the elderly.	The elderly with SO were older, less physically active, less educated and with a higher burden of comorbidity and poor sleep. These factors contributed to the prevalence of depressive symptoms was 26.6% in the group with SO, higher compared to other elderly people who did not have this condition.	IV
Scott, Seibel, Cumming, Naganathan, Blyth, Le Couteur, et al. 2017. ²² Australia	Longitudinal, observational N = 1.486 elderly men	Investigate associations between SO and its components with bone mineral density (BMD), falls and fractures. The elderly were reevaluated every four months.	Participants with SO did not have significantly different BMD of the hip compared to non-obese non-sarcopenic men (p> 0.05). SO was associated with significantly higher fall rates in two years (incidence rate: 1.66; 95% CI: 1.16; 2.37). Elderly people without SO had a lower risk of fractures for six years compared to elderly people with SO (risk rate: 0.44; 95% CI:	IV

Kera, Kawai, Hirano, Kojima, Fujiwara, Ihara, et al. 2017. ²³ Japan	Exploratory, correlational N = 1.283 elderly	Compare skeletal muscle mass and physical function among elderly people with sarcopenia and SO.	0.23; 0.86). The SO group had more comorbidities (p <0.001), greater muscle mass of the upper limb (p <0.001), lower proportions in the muscle mass ratio of the lower limb and upper limb (p <0.001), greater adherence power (p = 0.007), longer walking time (p = 0.00), shorter standing on one foot (p = 0.005), higher frequency of gonalgia (p = 0.013).	IV
Santos, Dias, Samora, Perracini, Guerra, Dias. 2017. ²⁴ Brazil	Exploratory, documentary N = 1.373 elderly	Identify the prevalence of obesity and SO and the sociodemographic factors, health conditions and measures of functional performance associated with SO from a database.	The prevalence of SO was 4.44%, with levels of frailty and pre-frailty at 59% in relation to basic and instrumental activities of daily living. Gait speed was lower in the SO group compared to the other groups. Elderly people with SO were 14.2 times more likely to be pre-frail and 112.9 times more likely to be frail than other groups.	IV
Santos, Gomes, Bueno, Christofaro, Freitas Jr, Gobbo. 2017. ²⁵ Brazil	Exploratory, cross-sectional N = 116 elderly aged 80 and over	Determine which unfavorable conditions in body composition (obesity, sarcopenia or SO) are related to reduced mobility in elderly people aged 80 and over.	There was a higher proportion of SO among elderly men (8.6%). Only sarcopenia was associated with reduced mobility, and the elderly person's chances of having reduced mobility increased 3.44 times. Participants with SO did not show reduced mobility compared to other elderly.	IV
Aibar-Almazán, Martínez-Amat, Cruz-Díaz, Jiménez-García, Achalandabaso, Sánchez-Montesinos, et al. 2018. ²⁶ Spain	Cross-sectional, correlational N = 235 postmenopausal women (69.21 ± 7.56 years)	Analyze the association of sarcopenia, obesity and SO with fear of falling, confidence in balance and risk of falling.	18.72% of participants had SO that was independently associated with a higher risk of falling as assessed by the International Scale for Efficacy of Falls score, low confidence in balance and worse physical performance.	IV
Oliveira Neta, Souza, Câmara, Souza. 2018. ²⁷ Brazil	Cross-sectional, Analytical observational N = 100 elderly women	Assess the relationship between sarcopenia, functional capacity and nutritional status of elderly women in the community.	Five percent of the elderly women had SO. Those who were not obese or sarcopenic walked the functionality test more than the others (p = 0.021). SO was associated with poor performance in the walk test and its occurrence was converted into worse results when compared with the two conditions separately.	IV
Öztürk, Türkbeyler, Abiyev, Kul, Edizer, Yakaryılmaz, et al. 2018. ²⁸ Turkey	Cross-sectional, correlational N = 423 elderly	Investigate the interrelationship between sarcopenia, obesity and SO with clinical components and quality of life.	The prevalence of elderly people with SO was 14%. The lowest values of average gait speed and handgrip strength were observed in the SO group (0.6 ± 0.3 m / s and 19.7 ± 9.8 kg, respectively). Participants with SO were associated with the highest risk of falling risk and the worst scores for health-related quality of life domains.	IV

Figure 2. Synthesis of selected articles. Sao Paulo (SP), Brazil, 2019.

DISCUSSION

It is noteworthy in the studies included in this literature review the occurrence of SO among the elderly, which, despite being shown with varying prevalences among the surveys, indicates the need for attention to this condition, especially in the elderly population. It is known that SO may be able to negatively interfere in the maintenance of the physical capacities of the elderly and, consequently, in the active and healthy aging recommended by the WHO.²

It is reported that the prevalence of SO was different in the groups studied, since the investigations were carried out in different locations and, thus, factors influenced by cultural and socioeconomic conditions may interfere in the development of this condition. It was evidenced, in a survey carried out in Spain with 1,765 non-institutionalized elderly people that the prevalence of obesity and frailty was higher among those with less education, who had a history of manual work and had poor housing conditions. It was identified in this same study that having one or more social disadvantages throughout life was associated with a higher prevalence of fragile obesity.²⁹

It is also pointed out that the use of different definitions and methods for measuring SO by the authors of the publications may have resulted in different prevalence of the disease among the elderly participants in the studies. Currently, there is a lack of consensus on which diagnostic criteria and methods would be most appropriate for this identification, which makes the diagnosis of SO difficult, as well as its association with functional tests and other consequences for the elderly's life.³⁰

It was evident that the selected publications emphasized the negative impact exerted by SO on the physical performance of the elderly. It was shown that this impact is mainly caused by the decrease in muscle mass in the elderly population and aggravated by excess weight among the participants in the researches found. As a result, it was found that the elderly studied had lower muscle strength, impacting gait speed,^{16,23,27} difficulties in balance and general physical performance, increasing the risk of falls.^{22,26} Due to such complications, limitations in the performance of daily activities were created, increasing dependency and fragility in the elderly,^{17-8,20,24} as well as worsening quality of life²⁸ and occurrence of depressive symptoms.^{19,21}

It is added that, as the loss of muscle mass is one of the main causes of functional decline in elderly people with SO, a study conducted with 1,283 elderly people in Tokyo, Japan, compared skeletal muscle mass and physical function between participants with sarcopenia and with SO.

It was identified that the elderly with SO had a lower proportion of muscle mass in the lower limbs, which made them gain more weight due to physical limitations that, in turn, generated greater limitations in their daily lives. As a consequence, it was evident that those with SO had worse results in walking time, balance in one leg and higher incidence of gonalgia.²³

In contrast to these results, it was found in research carried out in China that the highest proportion of skeletal muscle mass in the thigh was directly related to better results in functional tests. It was identified that the levels of fat and age were related to worse results of gait assessment.¹⁶

It is perceived that worse walking and balance conditions can condition elderly people with SO to falls, as found in studies conducted in Spain, Turkey and Australia.^{22,26,28} Especially mention is made of research carried out in Australia, which showed that the high risk of falls gave elderly people with SO a twice as high risk for the occurrence of fractures in six years compared to healthy men.²² It is noteworthy that fractures represent a worldwide concern in relation to the health of the elderly, since their occurrence impacts mortality and worsens the quality of life of this population, as well as leading to higher health expenditures.³¹

It was also observed that the elderly with SO had more comorbidities, which can worsen their health conditions and, consequently, their functional capacity.²³ It was emphasized, in a study carried out with 423 elderly people, that elderly people with SO had a higher number of medications used, a higher incidence of geriatric depression and, consequently, worse results in the assessment of quality of life.²⁸

It is noteworthy that the SO is highlighted in the studies as generating negative impacts on the functionality of the elderly, making it difficult to perform ADLs (activities of daily living) and IADLs (instrumental activities of daily living). It was shown, in a research carried out with 1,705 men aged 70 years or more in Sydney, Australia, that those who had SO had a significant risk of greater frailty and, among SO, the prevalence of those who needed assistance to perform at least one ADL and IADL.²⁰ This result is corroborated by a study with 4,984 elderly people in the United States, which assessed the relationship between the participants' body composition and physical limitations, performing ADL and IADL. In men, a strong association was found among those who had SO with physical limitations, such as difficulty in climbing ten steps, kneeling and standing up. Negative impacts of SO were identified in women in the three domains evaluated.¹⁷

It is noted that, when compared to their peers, elderly people with SO may present greater

fragility. In a Brazilian investigation with 1,373 elderly people, it was shown that, among sarcopenic obese individuals, the prevalence of frailty was 36.1% and 59% of pre-frailty. It was pointed out that being obese sarcopenic increased the chance of being pre-frail 14.2 times and 112.9 times the chance of being a frail elderly person.²⁴

It should be noted that, among the studies included in this review, three had only women as participants. It is observed that, among the elderly, hormonal changes resulting from menopause influence the increase in systemic inflammation and insulinemia, which stimulate adipogenesis and inhibit lipolysis. Through these changes, the increase in body weight and fat mass is favored, expanding waist circumference and reducing muscle mass.³²

It was evident, in an investigation carried out with 235 women after menopause in Spain, that SO was related to slower gait speed and a history of falls and was identified as a predictor of worsening balance and an increased risk of new falls between participants.²⁶ In a study with 137 Brazilian elderly women, the lowest muscle strength among the elderly women with SO was shown by the peak isokinetic torque of the knee extensors and handgrip strength.¹⁵ In a study conducted in Brazil, it was identified that occurrence of SO in elderly women was associated with poor performance in the walking test.²⁷

It should be noted that the difficulty or inability to perform daily activities can lead elderly people with SO to develop depressive symptoms. In a survey of 3,862 elderly people in England, it was found that obese participants who had low handgrip strength over four years had 1.79 times greater risk of having depressive symptoms. It turns out that depression was more prevalent among those who reported being less physically active.¹⁹ It was pointed out, in an investigation with 1,731 Japanese elderly people, that the prevalence of depressive symptoms was 26.6% among participants with SO and that this prevalence was higher compared to groups without sarcopenia and/or obesity.²¹

It is concluded, with these results a study carried out with 2,402 elderly people in Brazil that showed a strong association between frailty and depressive symptoms among the participants. It was identified that women in the age group of 75 to 79 years, with a greater number of disabilities and who met the criteria of frailty and pre-frailty, had a higher prevalence of depression. A 28% higher prevalence of frailty was found among those elderly who reported that they did not feel happy and, among those who reported fatigue, 38% had depressive symptoms.³³

It is mentioned that, despite the negative impact exerted by SO on the functional capacity of the elderly previously presented in the highlighted

studies, a research carried out with 137 elderly women in the Federal District, Brazil, did not identify significant direct associations between this condition and worse results in the functional variables (tests agility, elbow flexion, getting up and sitting on / in the chair) and muscle strength.¹⁵ It was also observed a Brazilian study that showed that participants with SO did not show reduced mobility compared to other elderly people; only sarcopenia was associated with impaired gait and increased chances of the elderly having reduced mobility 3.44 times.²⁵

As a limitation of this literature review, it is reported that the studies included were developed in different contexts involving elderly people of different nationalities who, consequently, have specific socioeconomic and cultural aspects. There are also limitations regarding diagnostic definitions and measurement of SO, impacting the prevalence of identification of this condition, as well as associations with health parameters of the elderly population.

It is noteworthy that the synthesis of evidence elucidated in this literature review can contribute to support the realization of actions in the context of health services in order to address risk factors, as well as the prevention and treatment of SO in the elderly population.

CONCLUSION

It was found that the knowledge produced in the literature regarding the impacts of SO on the functional capacity of the elderly included studies developed in different countries. It is noteworthy that such publications pointed out influences of the aggravation in gait speed, difficulties in balance and increased risk for the occurrence of falls. These impacts were shown to generate limitations in the performance of daily activities, increasing the dependence and fragility of the elderly, with a consequent worsening in the quality of life and occurrence of depressive symptoms. Two studies were included that did not find a significant association between the condition and functionality in the elderly.

It highlights the importance of including the assessment of body composition and muscle strength in the routine of health care services for the elderly, since it represents a determinant for the functional capacity and, consequently, the quality of life of these people. It also emphasizes the need to develop policies aimed at preventing SO in the elderly, with encouragement to practice healthy lifestyle habits, with a view to contributing to the promotion of healthy aging.

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