

# Sarcopenia prevalence in a nursing home

## Summary

Sarcopenia is a geriatric syndrome characterized by loss of muscle mass and power, loss of function related to age, a risk factor for morbidity, mortality and disability in the elderly.

**Keywords:** aging, sarcopenia, adults, physical disabilities

Volume 8 Issue 2 - 2023

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**Received:** March 29, 2023 | **Published:** April 13, 2023

## Introduction

Human aging is a gradual and adaptive process of a biological, psychological and social type, produced as a consequence of genetically programmed changes, history, lifestyles, environment and social conditions to which the person was exposed. On the other hand, old age is a stage of life whose beginning is established by society, which is why the United Nations Organization agreed that, in developing countries, people aged 60 and over are classified as older adults.<sup>1-6</sup>

Within the present work, it is intended to obtain a diagnosis in which the current situation of the patients of a permanent nursing home is shown, which receives adults with physical disabilities, some mental disability or in a situation of abandonment. This population is offered a food supervision service, which is served three times a day, daily monitoring of vital signs, therapies and recreational activities, daily cleaning, chapel, access to gardens and proportion of wheelchairs if necessary.<sup>7-12</sup>

Sarcopenia (from the Greek sarx, meat, and penia, poverty) is the involuntary loss of skeletal muscle mass that occurs with advanced age. Muscle mass declines approximately 3-8% per decade after the age of 30, and this rate accelerates above the age of 60. This decrease in muscle mass causes a decrease in strength and muscle function that are involved in the disability of the elderly. Sarcopenia increases the risk of falls, fractures and increases vulnerability to injuries, and consequently it can be a cause of functional dependence and disability in the elderly.<sup>13-19</sup>

Sarcopenia is part of the frail elderly syndrome, being one of the main risk factors for disability and death in the elderly population. Besides, the decrease in muscle mass is accompanied by other changes in body composition, such as a progressive increase in fat mass. These changes have been associated with greater insulin resistance in the elderly, implicated in the etiopathogenesis of type 2 diabetes mellitus, obesity, hyperlipidemia, and arterial hypertension in the genetically susceptible population.<sup>20-25</sup>

This is considered important because structural and functional changes occur in different organs and systems during aging. For this reason, as health professionals, we must know the normal morphological and functional changes of physiological aging, and thus guide the elderly to adapt and improve their lifestyle.<sup>26-33</sup>

## Methods

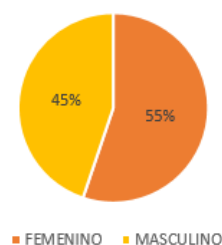
A cross-sectional, non-probabilistic study with a quantitative approach was carried out in a permanent nursing home in the city of Irapuato, Gto in November 2022 to search for the prevalence of sarcopenia in older adults using the Barthel scale, also taking demographic data, the sample was 29 older adults with a universe of 59 these older adults from 45-90 years, which in turn are divided into Percentile 45-60 years, Gradual Senescence 60-70 years, declared Old Age 70-90 years, long-lived more than 90 years.<sup>34-39</sup>

Ethical considerations: The research was considered “without risk” in accordance with the Regulation of the General Health Law on Health Research 25, in force at the time of the study, since no interventions were made on the physiological or psychological variables of the participants, nor was sensitive information collected, so the participation of the subjects was not subject to obtaining their written informed consent.<sup>40-45</sup>

## Results

When taking the general data of the elderly, the following results were obtained: 13 male patients representing 45% and 16 female patients representing 55% (Figure 1).<sup>46</sup>

SEXO DEL PACIENTE



**Figure 1** Patient sex.

When obtaining the data of the 29 geriatric patients, the following results were obtained; 3 patients (10%) are within the age group of 40-59 years, 8 patients (28%) are within the age group of 60-79 years, and 18 patients (62%) are within the age group from 80-99 years (Figure 2).<sup>47</sup>

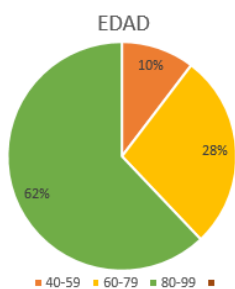


Figure 2 Age.

When collecting the general data of the elderly who are inside the nursing home, the following results were obtained regarding their religion: there is a higher prevalence of patients with a Catholic religion with a number of 28 patients representing 95% compared to the Christian religion presenting 5% with 1 patient (Figure 3).<sup>48</sup>

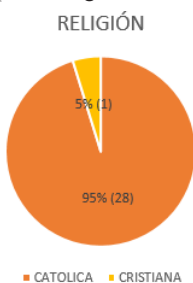


Figure 3 Religion.

When interviewing patients about the medical service they have, it was found that 16 people (56%) have IMSS, 11 people do not have rights (38%), 1 person has a military hospital (3%) and another 3% to ISSSTE (Figure 4).<sup>49</sup>

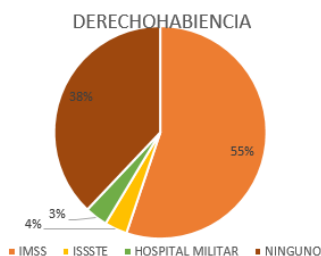


Figure 4 Legal holding.

With respect to the data obtained in the investigation of the elderly, the following data was obtained regarding their marital status: 19 people representing the majority are single, representing 66%, 7 people are widowed with 24%, 2 people are divorced, with 7% and 1 person is married to 1% (Figure 5).<sup>50</sup>

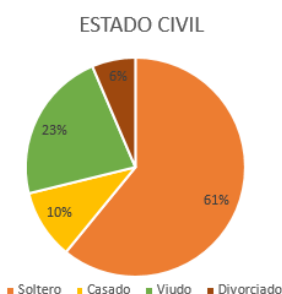


Figure 5 Civil status.

The SARC-F scale was applied to 29 patients living in the nursing home, the universe is 59 patients. The previous graph represents the percentages of the results obtained from said scale. It was determined that 31% (9 people) of the patients have a low risk of suffering from sarcopenia, while 69% (20 people) do have sarcopenia (Figure 6).<sup>51</sup>

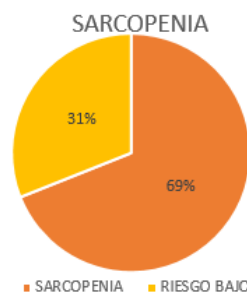


Figure 6 Sarcopenia.

## Discussion

This study aimed to establish the presence of sarcopenia in a nursing home. It was found that 69% (20) people do suffer from sarcopenia. Therefore, it is concluded that more than 50% of the population of the aforementioned institution suffers from this disease (sarcopenia). Coinciding with what Bravo et al, 2018 mentions, patients residing in nursing homes have a higher prevalence of sarcopenia due to nutritional status and a decrease in basic activities of daily living, losing muscle mass function. One of the main factors of muscle weakness that leads to loss of muscle mass and strength is a sedentary lifestyle, causing greater dependence on the elderly.<sup>52,53</sup>

The great variability in the prevalence of sarcopenia observed in the elderly population in the different studies carried out is due to different factors, but it depends fundamentally on the characteristics of the population studied, as well as the methodology used for its diagnosis, the criteria for its definition and the cut-off points used. On the other hand, malnutrition is also another important problem that is frequently observed in the institutionalized elderly and that can coexist with sarcopenia. To assess both entities, the determination of anthropometric measurements could be an easily applicable method in this type of population and very useful in clinical practice. A nutritional program should be proposed to increase protein consumption and add supplements such as leucine, vitamin D.

## Conclusion

The level of sarcopenia in the elderly in this nursing home is high, so plans and programs aimed at improving the diet and nutrition of the elderly with a physical mobilization plan supported by health personnel who can provide follow-up on this are recommended. suffering. These results coincide with Rodríguez, (2022), wherefound that 89% of the evaluated population had sarcopenia, a value well above that found in the literature, where an average of 18%. However, it should be noted that in this study the population was not institutionalized, several mechanisms have been proposed to reduce sarcopenia and the risk of fractures, given that individuals with sarcopenia have a high risk of falls, hence the risk of fractures in elderly people. advanced age according to Zhang Y (2023). Institutional plans and programs should be proposed to avoid sarcopenia to avoid risk to the health of the older adult.<sup>54</sup>

## Acknowledgements

None.

## Conflicts of interest

The author declares that they have no direct or indirect conflicts.

## Funding

None.

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