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## ORIGINAL ARTICLE

### Self-reported rheumatic disease and presence of pain in elderly in the countryside of Amazonas/Brazil

#### *Doença reumática autorreferida e presença de dor em idosos no interior do Amazonas/Brasil*

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#### Abstract

*Introduction:* The presence of self-reported rheumatic disease and pain in older adults from the countryside of Amazonas state was identified and described. *Methods:* We visited 131 elderly residents of Amazonas, using the Functional Comorbidities Index to track the presence of self-reported diseases, and, to assess pain, we used the Numerical Scale and Sensitive Faces Scale for low education and cognitive changes. *Results:* Most of the elderly in this study did not present the presence of rheumatic diseases; however, a large part reports moderate to severe pain, mainly in the lumbar spine, knees, and legs, and do not present functional physical decline even with signs of rheumatic diseases.

**Keywords:** aged; rheumatic disease; pain, referred.

## Resumo

*Introdução:* Identificou-se e descreveu-se a presença de doença reumática autorreferida e de dor em idosos do interior do Amazonas. *Métodos:* Foram visitados 131 idosos residentes do Amazonas. Utilizou-se o Índice de Comorbidades Funcional (ICF) para rastrear a presença de doenças autorreferidas e para avaliação de dor utilizou-se a Escala numérica e de faces que são sensíveis para baixa escolaridade e alterações cognitivas. *Resultados:* A maioria dos idosos deste estudo não apresentou presença de doenças reumáticas autorreferidas e são funcionais, porém, grande parte relata dor de moderada à forte principalmente na coluna lombar, joelhos e pernas.

**Palavras-chave:** idoso; doença reumática; dor referida.

## Introduction

Population aging is becoming increasingly evident in all countries of the world [1]. In 1950, the number of people aged 60 years or more was 202 million; in 2020 it increased to 1.1 billion, and it is expected to reach 3.1 billion by 2100 [1]. In Brazil, this global trend is observed even more markedly. In 2020, the number of Brazilians aged 80 years or more reached 4.2 million and was expected to increase to 28.2 million in 2100 [2]. The different Brazilian states have specific characteristics regarding the aspects related to population aging [3]. In Amazonas, the elderly population in urban and rural areas represents 6.02% of the total population [3]. In some cities in the state's interior, it is possible to observe even higher numbers, such as in Coari, which has more than 45% of elderly people [4].

The phenomenon of population aging brings several consequences, among which is the increased frequency of diseases, frailty, or disabilities [5]. According to the Brazilian Society of Geriatrics and Gerontology (SBGG), advancing age is the leading risk factor for chronic and degenerative diseases [5]. Rheumatic diseases are the most prevalent among older Brazilian people; about 37.5% of people aged 60 years or more are affected by this heterogeneous group of diseases [6]. They are characterized by causing systemic alterations involving the connective tissue, causing joint pain, and even causing deformities that lead to incapacity to perform basic functional activities [7].

Research on this subject still needs to be conducted in the Amazonian population. Thus, knowing that rheumatic diseases are the second most prevalent self-reported disease in the Brazilian elderly and that the complaint of pain in this public may be related to at least one significant health problem that can impact the functionality and purpose of life of these people [8,9], we sought to identify and describe the presence of self-

reported rheumatic diseases and the presence of pain in the elderly assessed in their homes in the countryside of the state of Amazonas.

## Methods

This cross-sectional and descriptive study presents pain characteristics and self-reported rheumatic diseases in older people evaluated at home in Coari, in the state of Amazonas. The sample size was random and straightforward until the number of 131 older people was reached. This study is part of a more extensive study evaluating the elderly at home in Coari, Amazonas.

The inclusion criterion was 60 years old or older and physical and cognitive ability to answer the evaluations. The exclusion criterion was the elderly who were unable (mentally) to answer the questions and participate in the assessments.

Data collection was carried out in the first and second semesters of 2019 after the approval of the Research Ethics Committee of the Universidade Federal de Amazonas (UFAM) under the registration of CAAE number: 08021319.0000.5020. First, the elderly, their families, or caregivers were informed about the study, and when they consented to participate, they signed the Informed Consent Form (ICF). Then, to characterize the elderly, a semi-structured questionnaire was applied to contain the following information: age group, gender, level of education, housing situation, medications taken, place of birth, self-reported diseases, and monthly income.

To evaluate pain, two scales were used that are sensitive to the screening of pain in older people with low education. The Numerical Pain Scale was applied, which allows quantifying the intensity of pain using numbers from 0 to 10, 0 (zero) represents no pain, and 10 (ten) represents maximum pain [10], and then the Faces Scale, where the elderly indicate the intensity of their pain according to the expression that the mimic means in each drawn face, the expression of happiness corresponds to the classification "no pain" and the manifestation of maximum sadness corresponds to the classification "maximum pain" [11].

The Functional Comorbidity Index (FCI) was applied to check the presence of self-reported rheumatic diseases, which consists of a list of 18 comorbidities, with no difference in weights among them. The ICF score is obtained by the sum of all comorbidities present and ranges from 0 to 18 [12].

A descriptive statistical analysis was performed from the collected data. A spreadsheet database was built and analyzed using SPSS (Statistical Package for the Social Science), version 22.0, and Microsoft Excel 2007®.

## Results

One hundred and thirty-one elders of both sexes were evaluated in their homes in the countryside of the Amazonas. The sociodemographic characteristics of these elderly are described in table I.

**Table I - Sociodemographic data of the elderly living in the interior of Amazonas (n = 131)**

Variables	%	n
<b>Age</b> (60 to 69 years old)	32,8	43
<b>Age</b> (70 to 79 years old)	42,7	56
<b>Age</b> (80 to 89 years old)	19,80	26
<b>Sex</b>		
Male	30,5	41
Female	69,5	91
<b>Education</b>		
Illiterate people	48,1	63
Incomplete primary (up to 5 years)	26,7	35
<b>Naturality</b>		
State of Amazonas	96,9	127
<b>Present occupation</b>		
Pensioner	91,6	120
<b>Monthly income</b>		
No rent	4,6	6
Less than minimum wage	17,6	23
One minimum salary	72,5	95
<b>Lives with</b>		
Spouse (a)	44,3	58
Children	40,5	53

Sources: autores

The self-reported rheumatic diseases concern the group of osteoarthritis and degenerative diseases of the spine. These findings are described in table II.

**Table II - Self-reported rheumatic diseases by the elderly in the Interior of Amazonas (n = 131)**

Variables	%	n
<b>Arthritis or arthrosis</b>		
Yes	26	34
No	74	97
<b>Osteoporosis</b>		
Yes	14,5	19
No	85,5	112
<b>Degenerative spinal diseases</b>		
Yes	21,4	28
No	78,6	103

Source: autores

Regarding the presence of pain, the main findings are described in table III.

**Table III - Assessment of pain degree with the face and numeric scales (n = 131)**

Variables	%	N
<b>Numeric pain scale</b>		
You feel pain	88,5	116
You feel no pain	9,9	13
<b>Region of pain</b>		
Lumbar spine	22,1	29
Knee	19,1	25
Legs	10,7	14
<b>Intensity of pain</b>		
Moderate pain	26,7	35
Severe pain	19,8	26
<b>Scale of faces</b>		
<b>Numeric</b>		
10 (maximum pain)	29	38
4 (moderate pain)	104	52
<b>Faces</b>		
5 (maximum pain)	28,2	37
4 (moderate pain)	106	53

Sources: autores

## Discussion

The sample of this study is composed mainly of older women aged 70 to 79. Of these, most are illiterate, presenting a low level of education. They are from the interior of the state of Amazonas, are retired, and have incomes of up to less than one minimum wage per month. These characteristics are similar to the sociodemographic profile described by Costa *et al.* [13] in their study of elderly residents of rural areas in Coari/AM.

Regarding education, it was observed that working in the field or fishing is the primary source of income, and education was seen as a privilege, being possible only for those with higher financial status [13]. According to Silva *et al.* [14], low schooling and the prevalence of agricultural activities are frequent among the elderly living in rural areas. It is worth mentioning that for those living in areas far from the city, the high cost and difficulties of access through river transport to schools are considered major obstacles to continuing their studies [13,14]. Torres *et al.* [15] state that the problem of displacement is a contributing factor to the prevalence of illiterate or unlettered people, which may be directly linked to low income.

As for the participation of older women in this study, Storti *et al.* [16] justified that their presence in the study, when compared to men, is mainly due to differences in lifestyles, either in the consumption of alcohol and tobacco or because most of them are more likely to request health services [16].

Regarding the findings by the ICF, the elderly in this study reported not having any rheumatic diseases: osteoarthritis or osteoarthrosis, osteoporosis, or degenerative diseases of the spine. In Holick *et al.* [17], the opposite of this study was found; the author states that in the elderly, rheumatic diseases have a higher incidence, with osteoarthritis, osteoporosis, and spinal diseases being the most common [17].

When we evaluated the results by the numerical pain scale and the faces scale, the elderly reported pain, referring to it with greater intensity in the regions of the lumbar spine, knees, and legs. For Dellarozza *et al.* [18], pain can be understood as a multifactorial phenomenon due to an injury, emotional, sociocultural, or environmental aspects. In his other study about chronic pain in the elderly, Dellarozza *et al.* [19] states that the most prevalent sites for pain in the elderly were 21.7% in the back and 21.7% in the lower limbs.

On the Numerical and Face Scale, the pain was considered moderate to severe, and some studies [19-21] point out that pain in the elderly is frequent in women and can be associated with their lifestyles. For Cunha *et al.* [22], the leading cause of pain in the elderly is osteoarticular diseases. With that, returning to the ICF, it was observed that most of the elderly presented difficulties relating their pain to the diseases mentioned, making it clear that the lack of information influenced the interpretation of this questionnaire.

The presence of pain can cause limitations in activities of daily living (ADL) in the elderly; for Ferretti *et al.* [23], pain interferes with the acuity that each individual has in his life, and due to this act, it is necessary to take appropriate actions that can provide well-being and pain control, aiming at reducing pain complaints to improve functional capacity.

When assessing pain in the elderly, we impact their quality of life, for most of the time, pain drives to situations that generate discomfort and limitations [24]. In the studies by Gold *et al.* [25], one can see that pain causes an impact on daily activities with a high prevalence of functional disability, greater frailty, and high levels of comorbidities.

The low level of education and the little knowledge of the elderly in this study about the pathologies may have directly influenced how the elderly made the self-report; in this sense, the self-report may not express the reality.

There is a need for further studies on the subject, and more research on these older people since the impact of rheumatic diseases on the health of the elderly population is well known and described in the literature.

## Conclusion

The elderly in this study present pain, some rheumatologic complaints, and changes in the functions of the lower limbs; however, they have difficulty in self-reporting rheumatic diseases; it is believed that this happens due to the enormous difficulty in diagnosing these diseases in the interior of the state of Amazonas, besides the low education and understanding when asked about the presence of these comorbidities. It

is necessary, based on the complaint that these elderly have to perform the clinical and functional diagnosis for rheumatic diseases, to foster decision-making and prevention in health for this population.

**Conflict of interest**

There is no conflict of interest

**Funding source**

There were no external funding sources for this study

**Authors' contributions**

*Research conception and design:* Campos HLM; *Data collection:* Silva GS, Braga JAC, Prestes YA; *Data analysis and interpretation:* Campos HLM, Braga JAC, Prestes YA; *Manuscript writing:* Braga JAC, Prestes YA, Silva GS; *Critical review of the manuscript for important intellectual content:* Braga JAC, Checchi MHR, Leon EB

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