RIASE
REVISTA IBERO-AMERICANA DE SAÚDE E ENVELHECIMENTO
REVISTA IBERO-AMERICANA DE SALUD Y ENVEJECIMIENTO

CORRELATIONS BETWEEN SOCIOECONOMIC AND HEALTH VARIABLES IN ELDERLY PEOPLE IN A LIVING CENTER IN THE NORTHEAST, BRAZIL

CORRELAÇÕES ENTRE VARIÁVEIS SOCIOECONÔMICAS E DE SAÚDE EM IDOSOS EM UM CENTRO DE CONVIVÊNCIA NO NORDESTE, BRASIL

CORRELACIONES ENTRE VARIABLES SOCIOECONÓMICAS Y DE SALUD EN PERSONAS MAYORES DE UN CENTRO DE VIDA DEL NORESTE, BRASIL

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Received/Recebido: 2025-02-04 Accepted/Aceite: 2025-03-28 Published/Publicado: 2025-03-31

DOI: http://dx.doi.org/10.60468/r.riase.2024.10(3).729.134-149

ABSTRACT

Introduction: Concern for the health and well-being of the elderly has been growing globally, especially in Brazil, where various initiatives aim to promote quality of life in this population. In this context, understanding the relationships between factors such as pain, income, health, age, and functional capacity is crucial, especially in community spaces frequented by the elderly.

Objectives: This study aims to investigate the correlation between socioeconomic and health variables in elderly attendees of community spaces in Rio Grande do Norte, Brazil.

Methodology: A descriptive and cross-sectional study with a quantitative approach was conducted. Sixty elderly individuals from basic health units and community centers, selected by convenience, participated. Socioeconomic, health, and functionality data were collected, including pain assessment and mobility tests. Statistical analysis used Pearson's correlation.

Results: The majority of participants were female (88.3%), mostly married (44.3%), predominantly literate (41.7%). Regarding self-perceived health, most elderly individuals rated their health as “fair” (35%), systemic arterial hypertension was the most prevalent condition in the sample (58.33%). Pain in the neck region (46.7%) and lower back (31.7%) was more prevalent. Correlation analysis showed a significant association between perceived health status and pain intensity, as well as between performance in the sit-to-stand task and time in the TUG mobility test.

Conclusion: The results highlight the association between health perception and pain, as well as between functional capacity and mobility in the elderly. These findings emphasize the importance of health policies and interventions that consider not only physical but also social and psychological aspects to promote the well-being of this population.

Keywords: Aged; Health of the Elderly; Mobility Limitation; Pain.

RESUMO

Introdução: A preocupação com a saúde e o bem-estar dos idosos tem crescido globalmente, especialmente no Brasil, onde diversas iniciativas visam promover qualidade de vida nessa população. Nesse contexto, entender as relações entre fatores como dor, renda, saúde, idade e capacidade funcional é essencial, especialmente em espaços de convivência frequentados por pessoas idosas.

Objetivos: Este estudo tem como objetivo investigar a correlação entre variáveis socioeconômicas e de saúde em idosos frequentadores de espaços de convivência no Rio Grande do Norte, Brasil.

Metodologia: Realizou-se uma pesquisa descritiva e transversal com abordagem quantitativa. Participaram 60 idosos de unidades básicas de saúde e centros de convivência, selecionados por conveniência. Foram coletados dados socioeconômicos, de saúde e de funcionalidade, incluindo avaliação de dor e testes de mobilidade. A análise estatística utilizou correlação de Pearson.

Resultados: A maioria dos participantes era do sexo feminino (88,3%), em sua maioria casados (44,3%), com nível de alfabetização (41,7%). Em relação à autopercepção de saúde, a maioria dos idosos classificou sua saúde como "mais ou menos" (35%), hipertensão arterial sistêmica foi a mais prevalente na amostra (58,33%). A dor na região do pescoço (46,7%) e inferior das costas (31,7%) foi mais prevalente. A análise de correlação mostrou uma associação significativa entre o estado de saúde percebido e a intensidade da dor, assim como entre o desempenho na tarefa de sentar e levantar e o tempo no teste de mobilidade TUG.

Conclusão: Os resultados destacam a associação entre percepção de saúde e dor, bem como entre capacidade funcional e mobilidade em idosos. Esses achados ressaltam a importância de políticas e intervenções de saúde que considerem não apenas aspectos físicos, mas também sociais e psicológicos, para promover o bem-estar dessa população.

Palavra-chave: Dor; Idoso; Limitação da Mobilidade; Saúde do Idoso.

RESUMEN

Introducción: La preocupación por la salud y el bienestar de las personas mayores ha crecido a nivel mundial, especialmente en Brasil, donde varias iniciativas apuntan a promover la calidad de vida de esta población. En este contexto, comprender las relaciones entre factores como el dolor, los ingresos, la salud, la edad y la capacidad funcional es crucial, especialmente en los espacios habitables frecuentados por personas mayores.

Objetivos: Este estudio tiene como objetivo investigar la correlación entre variables socioeconómicas y de salud en personas mayores que frecuentan espacios sociales en Rio Grande do Norte, Brasil.

Metodología: Se realizó una investigación descriptiva, transversal con enfoque cuantitativo. Participaron 60 personas mayores de unidades básicas de salud y centros comunitarios, seleccionadas por conveniencia. Se recogieron datos socioeconómicos, de salud y de funcionalidad, incluida la evaluación del dolor y pruebas de movilidad. El análisis estadístico utilizó la correlación de Pearson.

Resultados: La mayoría de los participantes eran mujeres (88,3%), en su mayoría casados (44,3%), predominantemente alfabetizados (41,7%). En cuanto a la autopercepción de salud, la mayoría de los adultos mayores clasificó su salud como "más o menos" (35%), la hiperten-

sión arterial sistémica fue la más prevalente en la muestra (58,33%). El dolor en la región del cuello (46,7%) y la parte baja de la espalda (31,7%) fue más prevalente. El análisis de correlación mostró una asociación significativa entre el estado de salud percibido y la intensidad del dolor, así como entre el rendimiento en la tarea de estar sentado y de pie y el tiempo en la tarea. Prueba de movilidad TUG.

Conclusión: Los resultados resaltan la asociación entre percepción de salud y dolor, así como entre capacidad funcional y movilidad en ancianos. Estos hallazgos resaltan la importancia de políticas e intervenciones de salud que consideren no solo los aspectos físicos, sino también los sociales y psicológicos, para promover el bienestar de esta población.

Descriptores: Anciano; Dolor; Limitación de la Movilidad; Salud del Adulto Mayor.

INTRODUCTION

In recent years, attention to the health and well-being of elderly people has become an increasingly important priority in different contexts around the world. In Brazil[1,2], this concern is reflected in the various health promotion and quality of life initiatives aimed at this share of the population. Within this context, it is essential to understand the interrelationships between various factors that influence the well-being of the elderly population, such as pain, income, health status, age, and the functional capacity of the lower limbs[3].

Living spaces, where elderly people often seek support and social interaction, as well as recreational activities, are places that can be used as favorable locations for strategies such as health promotion, from assessment of common symptoms that may arise in the course of aging to physical, cognitive, and/or social rehabilitation activities. The pertinent literature highlights the importance of senior living centers as spaces that promote not only socialization, but also access to health services and activities to promote well-being[4,5].

Among the common symptoms that can be reported in the elderly population, pain is most prevalent, which is perceived as a common experience among the elderly citizens and may be related to several factors, including chronic health conditions and physical limitations. In addition, income plays a significant role in accessibility to health care and quality of life, directly influencing the experience of pain and the general state of health of elderly patients. Age, in turn, is an intrinsic factor in the aging process and can affect both functional capacity and pain perception[6].

Functional capacity in the elderly person can be characterized as the ability to carry out routine and essential activities such as feeding, dressing, and bathing, as well as transfers such as getting out of bed, standing up and walking. Among these aspects of self-care, pain can be a significant barrier to carrying out these activities, compromising everything, from walking to the ability to socialize, thus leading to psychosocial problems such as depression and social isolation[7,8].

The ability to sit[9], stand and walk is an important measure of physical functionality in elderly patients and is closely linked to independence and quality of life. Understanding how this ability relates to pain, income, health status and age can provide valuable aspects for the development of interventions aimed to improve the health and well-being of this population. Therefore, this study seeks to investigate the correlation between these factors in elderly people attending living spaces in the countryside of Rio Grande do Norte, Brazil, with the aim of contributing to the formulation of more effective and inclusive health policies and practices.

METHODOLOGY

Research type:

This is a descriptive and cross-sectional research, with a quantitative approach.

Research location:

The study was developed with elderly people assisted by primary health care in the countryside of the state of Rio Grande do Norte, situated in the Brazilian Northeast, who attend the local senior living center.

Population and sample:

The population was represented by users of both genders, aged 60 or over, who reported chronic or acute musculoskeletal pain, enrolled in the local Basic Health Units (BHU), and who took part at least twice a week in the activities at the living center. The sample selection was carried out by convenience.

Eligibility criteria:

The following patients were included: 1) men and women belonging to the areas of the aforementioned BHU; 2) aged over 60 years; 3) with adequate mobility to go to BHU; 4) who reported chronic or acute pain.

Patients who presented the following characteristics were excluded at any time during the study: 1) cognitive deficit; 2) disabling neurological deficits; 3) refusal to answer the assessment instruments; 4) non-attendance at scheduled assessments.

Data collection procedures:

The participants were invited to take part in the research project by the community health workers, and then attended a meeting with the research team made up of the researcher in charge and assistants. After clarifying the research objectives, the participants signed the Free and Informed Consent Form (FICF). The study was conducted in the BHU's premises, with a survey of sociodemographic data, health conditions, pain levels and functionality tests between March and December 2021.

A general health assessment, a pain assessment and, finally, a lower limb mobility and function test were carried out. The assessment instruments used to assess pain were: the Nordic. Questionnaire of Musculoskeletal Symptoms (NMQ)[10], the Visual Analogue Scale (VAS)[11], the Timed Up and Go (TUG)[9] test and the Five Times Sit-to-Stand (FTSST) test[12].

NMQ[10] allows the identification of musculoskeletal symptoms and disorders by describing their occurrence through pain, discomfort, or numbness in the anatomical regions of the neck, shoulders, thoracic and lumbar regions, elbows, wrists, hands, hips, knees, and ankles. The variables depend on the intensity of the symptoms between the 7th and 30th days and 12 months, as it assesses whether there has been time off work in the last 12 months.

VAS[11] is an important tool for checking the patient's progress during treatment. It consists of a ruler divided into eleven equal parts numbered successively from 0 to 10, where 0 corresponds to the classification "NO PAIN" and 10 "MAXIMUM PAIN". It also has images of mimicry represented on each drawn face, with the expression of happiness corresponding to the classification "NO PAIN" and the expression of maximum sadness corresponding to the classification "MAXIMUM PAIN". The patient was informed about the VAS instrument at every session and instructed to mark where his/her pain was at that moment.

The mobility test used in this study was the Timed Up and Go (TUG)[9], which assesses the speed of standing up from a chair, walking three meters, turning around, walking back, and sitting down. The test is quantified by the time taken to complete it, which is also used to screen for falls.

FTSST[12] is used to measure the time taken to stand up from a sitting position five times as quickly as possible. The individual remains seated on a straight-backed chair with a solid seat and arms crossed over the chest. Time counting begins when the back is moved forward and ends when the back returns to the starting position after the fifth repetition. The FTSST

test was repeated twice with a 10-minute interval between attempts, and the shortest time dedicated between the two attempts was used for data analysis.

Data analysis:

The data was analyzed using the SPSS 21.0 program. Quantitative variables were expressed as percentages and descriptive qualitative variables as measures of central tendency (mean) and variability (standard deviation). The Shapiro-Wilk and Kolmogorov-Smirnov (KS) tests were used for data normality, and Pearson's test was used for correlation. Confidence intervals of 95% were adopted, where a p-value of < 0.05 was statistically significant.

Ethical aspects:

This study was approved by the Ethics and Research Committee of the College of Health Sciences of Trairí (FACISA, as per its Portuguese acronym), under no. 2.625.676, in accordance with Resolution no. 466/12 of the Brazilian National Health Council. All the volunteers who took part in this research signed a Free and Informed Consent Form (FICF). Ethical issues were observed at all times during the study, where the confidentiality and anonymity of the participants were maintained.

RESULTS

The study included 60 elderly people monitored by primary care, with a mean age of 67 (6.1) years, who take part in weekly activities at the living center. There was a predominance of females (88.3%), most of whom were married (44.3%) and were literates (41.7%). In terms of health self-assessment, most believed it to be "regular" (35%) and reported feeling pain in the back (81.7%), upper limbs (71.7%) and lower limbs (83.3%). The main comorbidity found was Systemic Arterial Hypertension – SAH (58.3%), and the other variables can be seen in Table 1↗.

Regarding pain perception, elderly patients reported an average pain level between 0 and 10, with a mean of 6.4 (1.8). The most prevalent body regions were the neck (46.7%) and the lower back (31.7%). The rest of the information can be seen in Figure 1↗.

The analysis investigated the relationship between socioeconomic variables and health indicators. Using Pearson's correlation, associations between various variables were examined, as can be seen in Table 2↗.

Firstly, a significant negative correlation was identified between perceived health status and pain intensity ($r = 0.418$, $p < 0.05$). In addition, a significant correlation was observed between performance in the sit-to-stand task and the time taken in the Time Up and Go

(TUG) mobility test ($r = 0.458$, $p < 0.05$). A significant positive correlation ($r = 0.418$, $p < 0.05$) was identified between perceived health status and pain intensity.

On further exploration, a moderate correlation was found between education level and the number of painful areas on the body ($r = 0.294$, $p < 0.05$). Nonetheless, no significant association was observed between education level and pain intensity ($r = -0.001$, $p > 0.05$), indicating that education level does not seem to directly influence pain perception.

DISCUSSION

This study aims to explore the associations between socioeconomic and health factors in elderly people who attend living centers in the state of Rio Grande do Norte, Brazil. The results of this research highlight several correlations between these variables, aligning with previous findings and offering significant information for a better understanding of the health-disease-care process in this specific population.

Pain is a variable examined in studies involving elderly people, with a significant incidence of discomfort in the neck and lumbar regions. One review[14] found a considerable prevalence of low back pain, ranging from 21% to 75% among the surveyed elderly patients. In addition, high rates of functional disability were identified, along with challenges in daily activities and physical capacity in 60% of the reviewed studies.

A significant correlation was found between perceived health status and pain intensity. This finding suggests that there is an association between reports of a poorer health status and higher pain levels. Individuals who perceive their health as worse tend to experience greater pain intensity. This finding highlights the importance of considering the subjective perception in terms of health status when investigating and treating pain in clinical and research contexts[15].

Also corroborating these results, previous studies have already shown this relationship in the elderly population, for instance, Nicolson *et al* (2021)[3] found an association between musculoskeletal pain and mental health in elderly patients, suggesting that health perception may influence the experience of pain. In addition, other scholars[14] have highlighted the importance of participation in living spaces for the physical and emotional health of the elderly population, which can influence their pain perception.

The association identified between performance in the sit-to-stand task and the time taken in the Time Up and Go (TUG) mobility test resonates with previous findings[16,17] that emphasize the critical relevance of physical function in the mobility and autonomy of elderly people. These results corroborate previous findings that highlight how a solid functional capacity of the lower limbs is closely linked to greater mobility and a reduced risk of falls in the elderly population. This correlation reinforces the importance of interventions that promote and preserve physical function in advanced ages, not only to improve quality of life, but also to mitigate the risks associated with loss of independence and the adverse consequences of falls[18].

Although no significant correlation was found between education level and pain intensity, the moderate correlation between education level and number of painful regions in the body suggests that elderly people with a higher education level may be more aware of their health conditions and, therefore, more likely to report pain in various regions. This result is in line with studies[19] highlighting the role of education level in the perception and reporting of health symptoms.

The results of this study highlight the importance of senior living centers as spaces that not only promote social interaction, but also offer opportunities to monitor the health and well-being of this population. Through physical, educational and recreational activities, living centers can contribute to maintaining the physical and mental functionality of the elderly population, thus reducing the incidence of pain and improving their quality of life[20]. Active involvement in communities and participation in social activities have also been associated with improvements in the physical and mental health of elderly citizens[21].

Integration between health services and living centers can enhance the health benefits for the elderly population. The joint work of health professionals, social workers and physical educators in community settings can enable a more comprehensive and personalized approach to the health needs of elderly people. In addition, collaboration between the health and social care sectors can facilitate access for the elderly citizens to services and programs that promote active and healthy aging[22,23].

The relationship between perceived health status and pain intensity highlights the importance of primary health care[24] in providing a comprehensive approach to the elderly population. Strengthening primary care services can provide an environment conducive to the early identification of health problems and the appropriate management of chronic pain, contributing to a better quality of life at this stage of life. In addition, the promotion of healthy habits and the prevention of chronic diseases are crucial aspects of primary care, which can help to reduce the incidence of pain and improve the well-being of elderly patients[25].

This study has limitations that should be considered when interpreting the results. The small sample size, selected for convenience, restricts the generalization of the findings to other elderly populations. In addition, the cross-sectional nature of the study prevents the establishment of causal relationships between the analyzed variables. The reliance on subjective perceptions, such as health self-assessment, can introduce biases, and contextual and cultural factors specific to the Brazilian Northeast can limit the application of the results to other regions. Psychological, environmental and social aspects that can influence the health and functionality of the elderly population were also not widely addressed. Finally, the assessment instruments, although reliable, have limitations in capturing more in-depth details, indicating the need for future studies with longitudinal methodologies and more representative samples.

CONCLUSION

A high prevalence of musculoskeletal pain was observed, especially in the neck and lower back, which is in line with previous findings on pain in elderly patients. A significant negative correlation was identified between perceived health status and pain intensity, suggesting that elderly people who perceive their health conditions as worse tend to experience greater pain intensity.

In addition, a significant correlation was found between performance in the sit-to-stand task and the time taken in the Time Up and Go (TUG) mobility test, highlighting the critical importance of physical function in the mobility and autonomy of elderly people. Education also showed a moderate correlation with the number of painful areas in the body, indicating that elderly people with a higher education level may be more aware of their health conditions.

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JS: Study coordination, study design, collection, storage, and analysis of data, review and discussion of results.
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SS: Study design, data analysis, review and discussion of results.
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FM: Study design, data analysis, review and discussion of results.
TN: Study design, data analysis, review and discussion of results.
All authors have read and agreed with the published version of the manuscript.

Ethical Disclosures
Conflicts of Interest: The authors have no conflicts of interest to declare.
Financial Support: This work has not received any contribution, grant or scholarship.
Provenance and Peer Review: Not commissioned; externally peer reviewed.

Responsabilidades Éticas
Conflitos de Interesse: Os autores declararam não possuir conflitos de interesse.
Suporte Financeiro: O presente trabalho não foi suportado por nenhum subsídio ou bolsa.
Proveniência e Revisão por Pares: Não comissionado; revisão externa por pares.

Table 1 – Health and sociodemographic conditions of participating elderly people.

Characteristics	Variable	N	%
Gender	Female	53	88
	Male	7	12
Marital status	Single	10	17
	Widowed	13	22
	Separated	8	13
	Married	35	44
Education	Illiterate	19	32
	Literacy	25	42
	Complete elementary school	9	15
	Complete high school	7	12
Health	Very good	1	1,7
	Good	14	23
	Regular	21	35
	Poor	19	32
	Very poor	5	8,3
Back pain	No	11	18
	Yes	49	82
Upper limb pain	No	17	29
	Yes	43	72
Lower limb pain	No	10	17
	Yes	50	83
Arthritis	No	34	57
	Yes	26	43
Systemic arterial hypertension	No	25	42
	Yes	35	58
Diabetes mellitus	No	43	72
	Yes	17	28
Anxiety	No	30	50
	Yes	30	50

Table 2 – Correlations between health and sociodemographic variables.

	Age	Education	Income	Health	Pain	Segments	5TSTS	TUG
Age	1							
Education	-0.202	1						
Income	-0.041	0.17	1					
Health status	0.032	0.068	0.092	1				
Pain	0.039	-0.001	-0.088	-.418**	1			
Segments	-0.082	.294**	0.193	.229**	0.074	1		
5TSTS	0.208	-0.004	-0.051	-0.104	-0.009	0.041	1	
TUG	0.224	0.019	-0.052	0.159	0.025	0.043	0.458**	1

TUG: Time Up and Go test.
**Significant correlation.

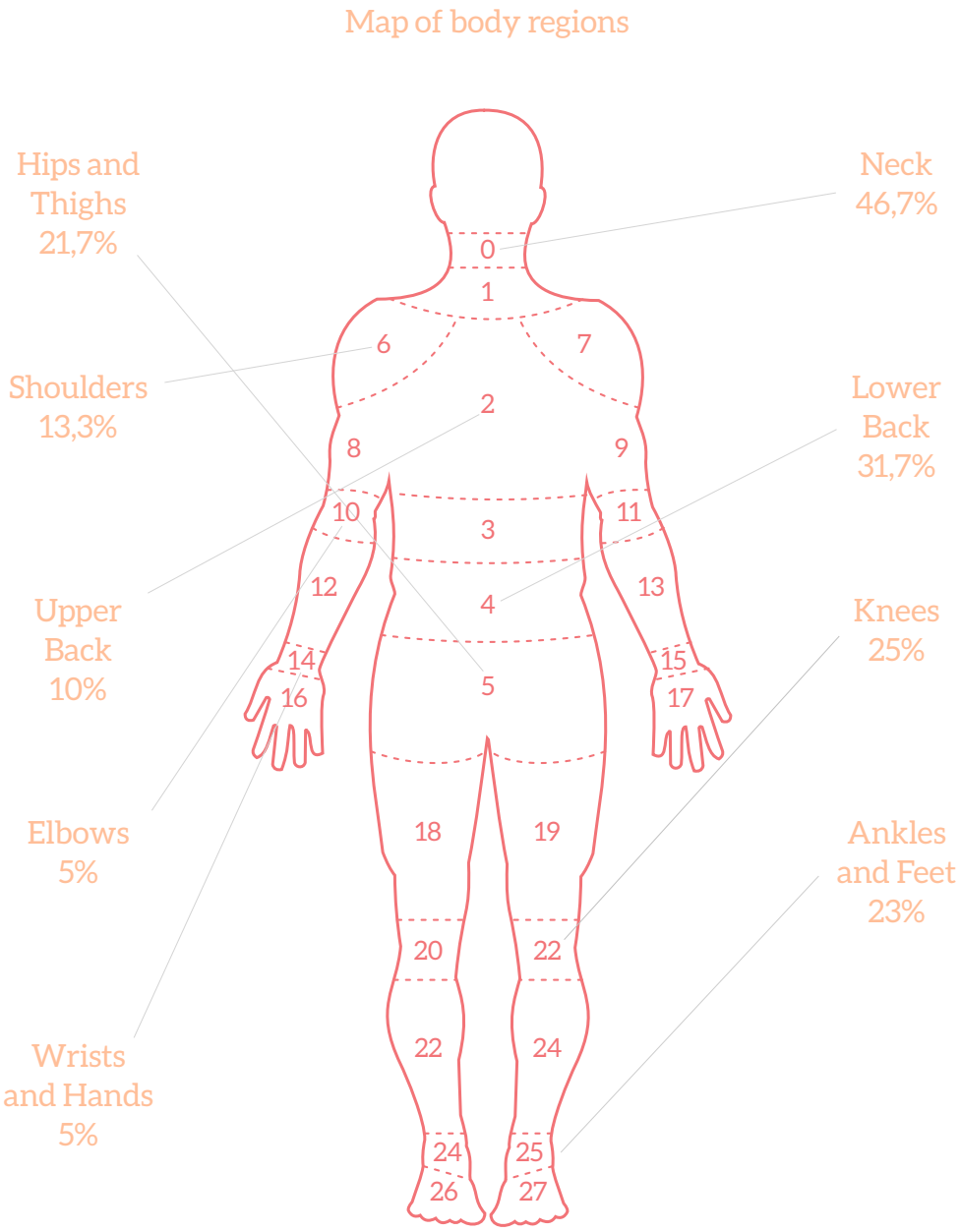

Figure 1 – Classification of painful regions cited by elderly people in the research.
Source: adapted from Paggotto *et al*, 2020[13].