Study of the relationship between functional clinical vulnerability and depression in elderly people attending a social group

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ABSTRACT
Introduction: Aging is a natural process of life, but it also causes difficulties in locomotion, relationships, and understanding, both through speech and cognitive understanding. These difficulties can generate vulnerability, dependence and psychological illnesses, such as depression. Objective: To analyze the possible relationship between clinical functional vulnerability and depression in elderly people attending a social group. Materials and method: Analytical cross-sectional study carried out in a senior living center in São Luís, MA, with a sample of 30 elderly people who met the inclusion criteria. Sociodemographic, economic and health questionnaires prepared by the researchers were applied to understand the sample profile. To assess functional vulnerability, the Functional Clinical Vulnerability Index (IVCF-20) was used and to assess depression, we chose the GDS Scale- 15, both validated for application with the Brazilian population. In the analysis of correlations, Pearson (r) coefficient was applied, considering a significance level of 5%. Results: Sample consisting of 30 elderly people, 77% of whom were women, with 54% aged between 75 and 80 years. Of these, 83% presented moderate and high risk of vulnerability, with 30% already showing depressive symptoms between moderate and severe. The correlation between vulnerability and depression was positive, indicating (rs)=0.5339 and (p)=0.0028. Conclusion: the relationship between the risks of clinical-functional vulnerability and depressive symptoms in the elderly is evident, with emphasis on women, highlighting the importance of early screening of psychological fragility and its association with the dimensions of functionality, essential measures to propose care interventions capable of guaranteeing autonomy, independence and quality of life for this population.

Keywords: Depression, Clinical and functional vulnerability, Elderly.

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INTRODUCTION

In Brazil, the rate of elderly people has grown significantly over the years, that is, those who, based on the Statute of the Elderly (Law No. 10,741/2003), reach the age of 60 years or older, also becoming part of the vulnerable group. (MIRANDA, 2016)

This name is given by the fragility that affects many because, with biological aging, the individual presents a more fragile organism and prone to external and internal aggressions, in addition to awakening to the signs of functional deficiencies that arise over the years. This stigma ends up triggering social risk, which occurs due to the sum of effects of the passage of time, so strategies are needed that allow these elderly people to live the accumulation of years with more quality (FERREIRA, 2021).

Aging is part of the natural cycle of life, but in parallel with advancing age, it presents difficulties in locomotion, relationships, and comprehension, both through speech and cognitive comprehension. In view of this, the functional autonomy of many elderly people is diminished, increasing their dependence on family members, especially children, to play the role of caregiver and to offer special attention, even generating a decrease in the quality of life of the elderly person (CAMARANO, 2021).

Faced with this dependence, many elderly people feel incapable and this feeling can generate bad consequences, for example, the development of psychological illnesses, such as anxiety and depression, since, in various family contexts, many family members need to be absent for work or even leave voluntarily, which favors the aggravation of these diseases. because, most of the time, the affective abandonment of the elderly occurs (RABELO, 2015).

In many cases, it is linked to the process of diseases and other factors that can worsen, such as the difficulty of accepting age, increased physical and emotional dependence, food, difficulty in maintaining quality of life and the need for family support, since the changes can cause the emergence of psychological pathologies requiring intense emotional elaboration aimed at a healthy adaptation to the changes for a healthy adaptation. (CAVALCANTE, 2022).

Among the tools proposed for greater support in this phase, the coexistence groups emerge, an important alternative for prevention and health promotion, since the attendees begin to acquire new knowledge, perform social practices, in addition to exercising feelings, bringing improvements to health and well-being. In these spaces, several activities are developed that explore potentialities so that they can fulfill their role in society, enjoying the company of someone to listen to them, making their relationships their own and strengthened by several moments of free time (SCHOFFEN AND SANTOS, 2018).

Still on the importance of these groups, the elderly acquire knowledge, perform social practices, exercise feelings and sensations that bring improvements to health and well-being, because

through this participation it is possible to better deal with prejudices that still exist with regard to being old, leading them to see older age in a positive way, improving their quality of life and reintegration into society. (GUERRA et al., 2021; AXE; SILVA, 2022).

In this sense, this study aimed to analyze the possible relationship between clinical-functional vulnerability and depressive symptoms in elderly people attending a community group and, finally, to analyze whether or not the actions used in these community centers are effective in contributing to a better physical and psychological quality of the elderly.

MATERIALS AND METHODS

This study complied with the national and international standards of ethics in research involving human beings of resolution n°. 466/2012, and is approved by the Human Research Ethics Committee of the University CEUMA – UNICEUMA under opinion no. 20050714.7.0000.5084.

This is an analytical cross-sectional study developed in a center for the elderly in the city of São Luis-MA, associated with the Assistance Program for the Retired Elderly (PAI) and offers workshops and actions aimed at prevention and health promotion, during the morning and afternoon shifts. Data collection was carried out from February to June 2023.

A non-probabilistic sample of 30 elderly people was used, and the following inclusion criteria were established: elderly aged 60 years or older, registered at the community center for at least six months and having preserved cognitive capacity, according to the parameters of the Mini Mental State Examination (MMSE).

Regarding the data collection procedures, a meeting was initially held to present and invite participation in the study with due clarifications and signature of the Free and Informed Consent Form (ICF) (Appendix A). Those who agreed to participate and met the selectivity criteria became part of the sample group and proceeded to data collection, as described below.

The following instruments were used for data collection:

a) Sociodemographic, economic and health questionnaire prepared by the researchers, in order to outline the profile of the analyzed sample;

b) The Clinical Functional Vulnerability Index (IVCF-20) was used to assess individual vulnerability, developed and validated to assess eight dimensions considered predictors of functional decline and/or death. Each dimension has a specific score according to the performance of the elderly, which in total makes a maximum value of 40 points. At the end, the elderly can be classified as low risk for clinical-functional vulnerability (0 to 6 points), moderate risk for clinical-functional vulnerability (7 to 14 points) and high risk for clinical-functional vulnerability (equal to or greater than 15 points). The higher the

value obtained, the greater the risk of clinical-functional vulnerability of the elderly. MORAES (2016).

c) For the evaluation of depression, we chose the GDS-15 Scale; it is an abbreviated scale of the one originally proposed by Yesavage et al., in 1983, with 30 items and developed especially for the screening of depression in the elderly, whether in the clinical or research context. YESAVAGE (1983). In 1986, a short version of 15 items was developed by Sheike & Yesavage, with the advantage of short and easy-to-understand questions, with few answer options, facilitating its application in the elderly population. The cut-off point proposed for the abbreviated version is 5/6, LOURENÇO (2011).

Data collection was performed while the elderly were waiting or after performing the center's activities by previously trained researchers.

Regarding the treatment of the collected data, for the sociodemographic and economic characterization, the results were presented through descriptive analysis of frequency and percentage.

Pearson's correlation (r) was used to investigate the correlation between age variable and GDS and IVCF-20. Person's correlation coefficient ranges between -1 and 1. The sign indicates the direction of the correlation (negative or positive) while the value indicates the magnitude. The closer to 1, the stronger the level of linear association between the variables. According to Dancey and Reidy (2007), who propose a classification for the analysis of Person's correlation: r = 0.10 to 0.30 (weak); r = 0.40 to 0.60 (moderate); r = 0.70 to 1 (strong), DANCEY (2007).

RESULTS

This study addresses the increasing proportion of elderly people in Brazil over the years, emphasizing the importance of understanding and addressing the difficulties faced by this population. For a better understanding of the sample profile, sociodemographic and economic data of the elderly are presented in Table 1.

Table 1- Sociodemographic and economic characterization of the elderly in São Luís, MA- 2023.

VARIABLES	Frequency (N)	Percentage (%)
Gender		
Female	23	77,00%
Male	07	23,00%
Age group		
60 to 75 years old	14	46,00%
76 to 85 years old	16	54,00%
Marital Status		
Married	14	47,00%
Widower	10	33,00%
Other	6	20,00%
Schooling		
No schooling	00	00,00%
Incomplete elementary school	01	03,00%
Incomplete high school	04	14,00%
Completed high school/higher education	25	83,00%
Monthly Income		
< 1 salary	11	37,00%
Up to 2 salaries	05	16,00%
> 2 salaries	14	47,00%
Didn't respond		
Main source of income		
Retirement	30	100,00%
TOTAL	30	100,00%

Table 2 shows the Clinical-Functional Vulnerability Index (IVCF-20), which allows us to assess the degree of vulnerability of the elderly participants. The results show that 17% of individuals were at low risk of vulnerability, while 43% were classified as having a moderate risk and 40% were at high risk.

Table 2 - Clinical Functional Vulnerability Index - 20. Version for healthcare professionals.

Vulnerability Index	Cut-off point					
	≥7			≥15 points		
	BRV		RMV		NUMBER	
	F	%	F	%	F	%
	05	17,00%	13	43,00%	12	40,00%
TOTAL	30			100,00%		

Legend: BRV: Low risk of vulnerability scores from 0 to 6; RMV: Moderate risk of vulnerability, scores from 7 to 14; ARV: High risk of vulnerability scores of 15 above.

Table 3 shows the score of the elderly on the Geriatric Depression Scale (GDS-15). It is found that 70% of the participants had no symptoms of depression, while 20% had mild to moderate depression and 10% had severe depression. These results underscore the relevance of assessing depressive symptoms in the elderly, since depression can have a significant impact on mental health and quality of life.

Table 3 - Characterization of the sample according to the GDS-15 score in the elderly. São Luis-MA, 2023

GDS-15	Frequency (N)	Percentage (%)
No depression	21	70%
Mild to moderate depression	6	20%
Severe depression	3	10%
Total	**30**	**100%**

Legend: N- Normal with values up to 5; LD-Mild depression with values of 6-10 and SD-Severe depression with values of 11 to 15.

Finally, Table 4 presents an analysis of the correlation between the Clinical-Functional Vulnerability Index (IVCF-20) and the Geriatric Depression Scale (GDS-15). The results reveal a significant association between these variables, showing that older adults with greater clinical-functional vulnerability also tend to have a higher occurrence of depressive symptoms.

Table 4 - Correlation between the variables Level of Cognition and Depression in the Elderly. São Luis-MA, 2023

	Correlation between age and GDS and IVCF		GDS and IVCF Correlation	
	r*	P-Value	r*	p-value
GDS-15	0.0223	0.9085	0.5339	0.0028
IVCF-20	0.0865	0.6553		

p-values: p ≤ 0.05 significant result
Legend: IVCF-20 – clinical and functional vulnerability index; GDS: Geriatric Depression Scale

DISCUSSION

In a sample that included 30 elderly people, 77% were female and 23% were male, in an age group of (46%) between 60 and 75 years and (54%) by those between 76 and 85 years. Regarding marital status, 47% were married, 33% were widowed and 20% were in other conditions. Regarding schooling, most of them had completed high school/higher education (83%).

Compared with the data of Baldin et al., (2008), who reported in their study, the predominance of widowed women (43.7%) in the national scenario, to which the authors discuss the difficulty for elderly women in finding a partner at an older age, different from the willingness of widowed men to find a partner earlier.

The data coincide with scenarios of studies outside Brazil, since a study carried out in Korean communities showed that elderly women, when widowed, most of the time remain alone. Out of a total of 97 elderly people in 32 rural communities, 10 widowed men and 87 widowed women were found, who after the death of their husbands remained living alone; and this has repercussions in different communities in other countries (AIN et al., 2004).

In terms of schooling, compared to other studies, only one elderly man aged 60-69 years has higher education, which refers to 1.4%, showing a number below the level of education in the elderly population, therefore, some governmental and non-governmental actions do not invest so much in literacy and continuing education of adults and the elderly (INOUYE et. al., 2007). A small number of similar studies show that 9.4% of elderly women between 60 and 64 years old are illiterate in Brazil, and for those over 64 years old this percentage has an increase of 29.4% (CAMARANO 2021).

It was observed that 47% of the elderly earn more than two salaries, which demonstrates a good financial level when compared to the national scenario, as there are still several elderly people who receive only one minimum wage, in this research, totaling a percentage of 37%. Compared to one conducted by the Pan American Health Association (2005), it can be seen that 32.5% of women and 23.4% of men still have a paid job, despite still having a pension, which demonstrates financial independence in terms of daily needs.

In the case of Clinical-Functional Vulnerability, assessed here through the (IVCF-20), an instrument that allows assessing the degree of vulnerability of the elderly participants, the results show that 17% of the individuals presented a low risk of vulnerability, while 43% were classified as having a moderate risk and 40% presented a high risk, compared to another study, there was dominance of elderly classified as low and medium risk for clinical-functional vulnerability. therefore, there is a clear need for interdisciplinary health operations for comprehensive, intersectoral and transversal care for the elderly, in order to prevent functional falls and negative outcomes, constitutionalization and death (OLIVEIRA et al., 2020)

When the depression index in the sample was analyzed, assessed using the Geriatric Depression Scale (GDS-15), it was found that 70% of the participants had no symptoms of depression, while 20% had mild to moderate depression and 10% had severe depression. These results underscore the relevance of assessing depressive symptoms in the elderly, since depression can have a significant impact on mental health and quality of life.

These data highlight the importance of identifying and assessing depressive symptoms in older adults, since depression can have a significant impact on the mental health and quality of life of these individuals. Depression in the elderly can be associated with a number of factors, such as the loss of loved ones, social isolation, deterioration of physical health, decreased autonomy, and adaptation to new challenges related to aging (FERREIRA et al., 2021).

Finally, the analysis of the correlation between the Clinical-Functional Vulnerability Index (IVCF-20) and the Geriatric Depression Scale (GDS-15) showed that the results reveal a significant association between these variables, showing that older adults with greater clinical-functional vulnerability also tend to have a higher occurrence of depressive symptoms.

Thus, it is highlighted that women, among the elderly population, are more likely to face a higher prevalence of mental illnesses, especially depression. This disparity can be attributed to a combination of factors, such as family neglect, a stressful environment, and the constant conflict related to the aging process.

These results highlight the importance of monitoring the clinical-functional vulnerability of older adults in order to implement appropriate interventions and support to improve their quality of life.

FINAL THOUGHTS

This study addressed the sociodemographic and economic characterization of the elderly in São Luís, MA, in conjunction with the Assistance Program for the Retired Elderly (PAI), in 2023, along with the assessment of clinical-functional vulnerability and symptoms of depression in this population.

The assessment of clinical-functional vulnerability revealed that a significant portion of the elderly presented a high risk of vulnerability, which emphasizes the need for public policies and health programs aimed at this specific population. In addition, the analysis of depression symptoms indicated that a considerable proportion of older adults showed signs of mild to severe depression.

In view of these results, it is essential to adopt a multidisciplinary approach to the health of the elderly, involving physical and mental health professionals. Prevention, early intervention and emotional support strategies should be implemented to meet the specific needs of the elderly, considering their clinical-functional vulnerability and symptoms of depression.

Importantly, these findings are based on data specific to São Luís, MA, in 2023, and may not be generalizable to other regions or time periods. However, the information provided by this study can support actions, policies and programs aimed at healthy aging and the promotion of the quality of life of the elderly in this specific region.

Therefore, the study contributes to the knowledge about the characteristics and challenges faced by the elderly in São Luís, MA, in 2023. This information can guide the implementation of effective measures to improve the quality of life and well-being of this population, with a focus on vulnerability prevention and comprehensive care.

REFERENCES

1. Ahn, Y.-H., & Kim, M. J. (2004). Necessidades de cuidados de saúde de idosos em uma comunidade rural na Coréia. Enfermagem em Saúde Pública, 21(2), 153-161.

2. Baldin, C. B., & Fortes, V. L. F. (2008). Viuvez feminina: a fala de um grupo de idosas. Revista Brasileira de Ciências do Envelhecimento Humano, 5(1).

3. Brasil. (2003). Lei nº 10.741/2003, de 1º de outubro de 2003. Dispõe sobre o Estatuto da Pessoa Idosa e dá outras providências. Recuperado de http://www.planalto.gov.br/ccivil_03/leis/2003/l10.741.htm

4. Camarano, A. A. (2021). Vidas idosas importam, mesmo na pandemia. Revista Políticas Sociais: Acompanhamento e Análise, (28).

5. Cavalcante, M. B. (2022). Luto na Terceira Idade: uma discussão sobre dificuldades, família, e atuação do psicológico. Revista Eletrônica, 7(02).

6. Costa, M. F. L., & Barreto, S. M. (2003). Tipos de estudos epidemiológicos: conceitos básicos e aplicações na área do envelhecimento. Epidemiologia e Serviços de Saúde, 12(4), 194.

7. Dancey, C. P., & Reidy, J. (2007). Statistics without maths for psychology. Pearson Education.

8. de Souza, M. F. S., et al. (2021). Contribuições da Atividade física no envelhecimento dos idosos. Pesquisa, Sociedade e Desenvolvimento, 10(1), e11310111537.

9. Ferreira, D. N. (2021). A vulnerabilidade do idoso: o papel do Estado e da sociedade. Revista Científica Multidisciplinar Núcleo do Conhecimento, 6(11), 72-81.

10. Ferreira, F. G., et al. (2021). Prevalência de depressão e fatores associados em idosos atendidos na Atenção Primária à Saúde de uma região metropolitana do Distrito Federal. Scientia Medica, 31(1), 7.

11. Inouye, K., & Pedrazzani, E. S. (2007). Nível de instrução, status socioeconômico e avaliação de algumas dimensões da qualidade de vida de octogenários. Revista Latino-Americana de Enfermagem, 15, 742-747.

12. Lourenço, R. A., Perez, M., & Sanchez, M. A. S. (2011). Apêndice: Escalas de Avaliação Geriátrica. In E. V. Freitas et al. (Orgs.), Tratado de Geriatria e Gerontologia (3ª ed., pp. 1707-1720). Guanabara-Koogan.

13. Machado, M. C., & Silva, K. C. C. da. (2022). A percepção dos acadêmicos sobre a importância da estimulação cognitiva durante o tratamento fisioterapêutico em idosos. Research, Society and Development, 11(14), e271111436272. https://doi.org/10.33448/rsd-v11i14.36272

14. Miranda, G. M. D., Mendes, A. C. G., & Silva, A. L. A. da. (2016). O envelhecimento populacional brasileiro: desafios e consequências sociais atuais e futuras. Revista Brasileira de Geriatria e Gerontologia, 19, 507-519.

15. Moraes, E. N., et al. (2016). Índice de Vulnerabilidade Clínico Funcional-20 (IVCF-20): reconhecimento rápido do idoso frágil. Montilla.Revista de Saúde Pública, 50, 81.

16. Oliveira, C. E. de S., et al. (2020). Vulnerabilidade clínico-funcional de idosos em um centro de convivência. Acta Paulista de Enfermagem, 33, eAPE20190172.

17. Pestana, M. H., & Gageiro, J. N. (2009). Análise categórica, árvores de decisão e análise de conteúdo em ciências sociais e da saúde com o SPSS. Lidel.

18. Pilger, C., Menon, M. H., & Mathias, T. A. de F. (2011). Características sociodemográficas e de saúde de idosos: contribuições para os serviços de saúde. Revista Latino-Americana de Enfermagem, 19, 1230-1238.

19. Rabelo, D. F., & Neri, A. L. (2015). Tipos de configuração familiar e condições de saúde física e psicológica em idosos. Cadernos de Saúde Pública, 31, 874-884.

20. Schoffen, L. L., & Santos, W. L. (2018). A importância dos grupos de convivência para os idosos como instrumento para manutenção da saúde. Revista Cientifica Sena Aires, 7(3), 160-170.

21. World Health Organization, et al. (2005). Envelhecimento ativo: uma política de saúde. Organização Pan-Americana de Saúde.

22. Yesavage, J. A., et al. (1983). Development and validation of a geriatric depression screening scale: a preliminary report. Journal of Psychiatric Research, 17, 37-49.