CLINICAL-FUNCTIONAL VULNERABILITY IN OLDER ADULTS AND ITS IMPACT ON PRIMARY HEALTH CARE ACTIONS

ABSTRACT

Objective: To describe the prevalence of clinical-functional vulnerability among older adults cared for in a Primary Health Care Unit (PHCU). Methods: This is a retrospective epidemiological study performed through the review of medical records of 950 elderly users of a PHCU in the northeast region of Belo Horizonte, between August 2016 and July 2017. The score obtained with use of the Clinical-functional Vulnerability Index (IVCF-20) evidenced the clinical-functional vulnerability of the older adults. The PHCU health professionals had been trained and had been implementing the IVCF-20 since the end of 2015. In 2016, the application of IVCF-20 was intensified following training of psychology undergraduates who participated in the Health Work Education Program (Programa de Educação pelo Trabalho para a Saúde - PET-Saúde). Descriptive statistics was applied to IVCF-20 data to verify the frequency of frail older adults and individuals at risk for frailty. Pearson’s chi-square test was used to verify association between the IVCF-20 classification and the Family Health Teams. Results: Of 950 older adults included in the study, 49.37% (n=469) had mild clinical-functional vulnerability, considered robust; 28.84% (n=274) had moderate vulnerability, considered at risk for frailty; and 21.79% (n=207) had high vulnerability, regarded as frail. Conclusion: A high prevalence of clinical-functional vulnerability (mild, moderate, and high) was observed among older adults attended to at primary health care services. Screening with IVCF-20 can prove useful for early identification of vulnerable older adults and to indicate the focus of health promotion and preventive interventions.

Descriptors: Primary Health Care; Health of the Elderly; Frail Older Adult.

RESUMO

Objetivo: Descrever a prevalência de vulnerabilidade clínico-funcional em idosos atendidos em uma Unidade Básica de Saúde (UBS). Métodos: Trata-se de um estudo epidemiológico retrospectivo realizado com a revisão dos prontuários de 950 idosos usuários de uma UBS, na região nordeste de Belo Horizonte, atendidos entre agosto de 2016 e julho de 2017. O escore do Índice de Vulnerabilidade Clínico-Funcional (IVCF-20) forneceu a vulnerabilidade funcional do idoso. Capacitaram-se os profissionais de saúde da UBS e implantou-se o IVCF-20 desde o final de 2015. Em 2016, ampliou-se a aplicação do IVCF-20 com o treinamento de graduandos de psicologia que participaram do Programa PET-Saúde. Realizou-se estatística descritiva com os dados do IVCF-20 para verificar a frequência de idosos frágeis ou em risco de fragilidade. Utilizou-se o qui-quadrado de Pearson para verificar a associação da classificação do IVCF-20 com a Equipe de Saúde da Família. Resultados: Dos
INTRODUCTION

Population aging is a phenomenon observed in our society and is considered an achievement of humanity in the twentieth century. However, there are many challenges for aging to happen in a healthy way, and this is an issue of concern in various levels of public health care. With an estimate that 73% of the elderly population in Brazil is attended to by the Unified Health System (Sistema Único de Saúde - SUS), the Ministry of Health launched the Personal Health Record for Older Adults, which includes a set of initiatives aimed at qualifying the care provided for elderly people.

According to the Ministry of Health, about 30% of the elderly can be classified as frail or at risk of frailty, which means greater vulnerability, more frequent states of disability, functional dependencies, or health conditions that represent the need for access and more qualified care within SUS. Thus, it is urgent that effective strategies be implemented in the identification and treatment of older adults at risk of frailty from the demand for Primary Health Care services.

Although frailty is a common condition associated with aging, this condition appears quite heterogeneously among individuals of roughly the same age. Health in the elderly comprises maintaining independence for satisfaction of biopsychosocial needs even with advancement of age or when pathological conditions are present. Fragilization refers to the functional decline that falls on those needs; biological, individual, and social factors are related to this process, which results in loss of autonomy or independence in activities of daily living. Given this, it is important to consider the elderly comprehensively through the multiplicity of aspects that influence health and quality of life, such as the preservation of functional capacity, autonomy, social participation, cognition, and self-perception of health status.

In the context of geriatric care, the search for instruments capable of scaling the level of vulnerability of patients and its determining factors is increasing, since this strategy is indicated for optimization of services and resources of the health system in assisting the elderly population. Specifically in the context of primary care, for early detection of geriatric syndromes, it is necessary to use quick and simple instruments, applied by professionals from several health fields. Additionally, in the national and international context, conducting health assessments and screening for medical conditions of the elderly population in the primary health care level have been suggested as strategies to guide the elaboration of interventions based on identification and monitoring of groups that demand differentiated care. Thus, through the implementation of monitoring and interventions based on the clinical-functional profile of...
the elderly population, it is possible to prevent or delay the onset of disability and dependence in this group, increasing their chances to maintain an active aging and better quality of life\cite{12,13}.

A multidimensional evaluation of the factors associated with frailty in older adults enables the appropriate referral of risk groups for specialized evaluation. Among the instruments reported in the literature for this multidimensional assessment, the Clinical-functional Vulnerability Index-20 (Índice de Vulnerabilidade Clínico-funcional - IVCF-20) can be considered a simple geriatric assessment tool, whose objective is a specialized evaluation of older adults, aiming to identify their degree of clinical vulnerability.

A study with a group of older adults from Belo Horizonte, Minas Gerais (MG)\cite{13} found significant correlations between IVCF-20 results and the Comprehensive Geriatric Assessment, and concluded that, although it does not replace the specialized care provided by a geriatric/gerontological team – a work that demands higher costs and time – IVCF-20 is a tool that articulates the strategy of comprehensive assessment of older adults’ health with the viability in primary health care settings.

To describe the prevalence of clinical-functional vulnerability among older adults cared for in a Primary Health Care Unit (PHCU) in order to trace their demands and assist in the planning of interventions.

**METHODS**

This is a retrospective epidemiological study performed with the review of medical records of elderly users of a Primary Health Care Unit (PHCU) in the northeast region of Belo Horizonte, Minas Gerais, Brazil. The PHCU is responsible for the primary care of 12,195 low-income users, of which 6,409 are female, and 5,786 are male. Adults make up the majority (60.14%) of the described population. The elderly population corresponds to 16.33% (n=1991) of users cared for in the PHCU. The PHCU has four Family Health Teams (FHT), which are identified as Red, Blue, Yellow, and Green; two Dentistry Teams; a Family Health Support Center (psychologist, physiotherapist, pharmacist, nutritionist, speech therapist, physical educator); and a Mental Health Team (psychologist, psychiatrist and social worker), in addition to Support professionals (nurse, physician and pediatrician). This information was provided by the Department of Health of Belo Horizonte - SMSA/BH.

The Green FHT serves 458 (23.83%) users, of whom 275 are female, and 183 are male. The Blue FHT serves 440 (22.89%) users, 263 female and 177 male. The Red FHT attends to 460 (23.34%) users, 260 female and 200 male, and the Yellow FHT serves 564 (29.34%) users, 339 female and 225 male. There is a similar percentage of elderly users in all FHTs, with a predominance of women. This information was provided by the Department of Health of Belo Horizonte - SMSA/BH.

The IVCF-20 application for screening for clinical-functional vulnerability, during the study period, was performed with a total of 950 older adults, and these were included in the present study sample, corresponding to 49.28% of the elderly population attended to in the PHCU, with 228 (22%) served by the Red team; 209 (22%) by the Green team; 271 (28.5%) by the Blue team, and 242 (25.4%) by the Yellow team.

To obtain data from the Clinical-functional Vulnerability Index (IVCF-20), the medical records of the elderly population attended at the PHCU in the period from August 2016 to July 2017 were reviewed. Besides the medical records, additional data was obtained, such as sex and FHT responsible for attending to the patient.

The IVCF-20 is a multidimensional evaluation of the elderly and proposes a risk classification of frailty based on 20 questions, distributed into eight sections: age (1 question), self-perception of health (1 question), functional disabilities (4 questions), cognition (3 questions), mood (2 questions), mobility (6 questions), communication (2 questions), and multiple comorbidities (1 question), which can be answered by the elderly or an accompanying person. The tool enables the completion of a brief evaluation of the functionality of the older adult and can be applied by any health professional\cite{14}. The maximum score is 40 points, and the higher the score, the greater the clinical-functional vulnerability risk of the elderly. To characterize the clinical-functional vulnerability of the elderly, the following classification criteria from the IVCF-20 total score were used: a) 0 to 6 points - mild vulnerability; b) 7 to 14 points - moderate vulnerability, indicating risk of frailty; c) 15 or more points - high vulnerability, indicating frailty\cite{15}.

The PHCU health professionals, including the Community Health Workers (CHWs) and other professionals from the Family Health Support Center (Núcleos de Apoio à Saúde da Família - NASF) had been trained and had been implementing the IVCF-20 since the end of 2015. In order to intensify data collection during the period of interest of the study, in 2016, psychology undergraduates who participated in the Health Work Education Program (Programa de Educação pelo Trabalho para a Saúde - PET-Saúde) were trained to apply IVCF-20 to the elderly in the area of comprehensiveness. IVCF-20 questionnaires were applied at the health unit, when the elderly attended for consultations and/or pick up medication, or during group reunions, such as on the “Elderly Day”, organized to receive at the unit a
large flow of elderly users. These data collections also occurred during home visits made by the CHWs. Thus, it is understood that the data, recorded in the IVCF-20 chart, were adequate to fulfill the research objectives.

Descriptive statistics were conducted with the IVCF data to verify the frequency of robust elderly and individuals at risk of frailty, according to the FHT. The Pearson’s chi-square test was used to verify association of the IVCF classification according to sex and the FHT. Statistical analyses were performed using the Statistical Package for Social Sciences (SPSS), version 20.0.

Prior to conducting the study, consent was obtained from the Education Management in Health, linked to the Department of Health of Belo Horizonte, and it was approved by the Ethics Committee in Research Involving Human Subjects of the same Department (Number: 2.448.462, CEP-SMSA/BH).

RESULTS

The medical records of 950 older adults were analyzed, covering 49.28% of the elderly population cared for in the PHCU, being 621 (65.37%) women and 329 (34.63%) men. The distribution of this sample according to gender and age was described in Table I, according to the FHT that serves this population at the PHCU.

It was observed that there was no statistically significant difference for the variable gender (p-value = 0.87), but there was a difference in the proportion of age groups (p = 0.02) in the elderly attended to by FHT. Comparing these characteristics of the elderly between the FHTs, it was observed that the highest proportion of older adults aged up to 74 years (20.74%) was in the Blue team; the highest proportion of older adults aged 75-84 years (8.42%) was in the Yellow team; and the lowest proportion of older adults over 85 years old (1.58%) was also in the Yellow team.

Table I - Distribution of the older adults in the sample according to sex and age by PHCU Family Health Team. Belo Horizonte, Minas Gerais, Brazil, 2016 - 2017.

<table>
<thead>
<tr>
<th>Distribution</th>
<th>Red n (%)</th>
<th>Green n (%)</th>
<th>Blue n (%)</th>
<th>Yellow n (%)</th>
<th>Total</th>
<th>p-value*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age group</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>60-74 years</td>
<td>158 (16.63)</td>
<td>140 (14.74)</td>
<td>197 (20.74)</td>
<td>147 (15.47)</td>
<td>636</td>
<td>0.02</td>
</tr>
<tr>
<td>75-84 years</td>
<td>50 (5.26)</td>
<td>51 (5.37)</td>
<td>51 (5.37)</td>
<td>80 (8.42)</td>
<td>232</td>
<td></td>
</tr>
<tr>
<td>&gt; 85 years</td>
<td>20 (2.11)</td>
<td>18 (1.89)</td>
<td>23 (2.42)</td>
<td>15 (1.58)</td>
<td>76</td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.87</td>
</tr>
<tr>
<td>Female</td>
<td>149 (15.58)</td>
<td>141 (14.84)</td>
<td>177 (18.63)</td>
<td>154 (16.21)</td>
<td>621</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>79 (8.23)</td>
<td>68 (7.16)</td>
<td>94 (9.89)</td>
<td>88 (9.26)</td>
<td>329</td>
<td></td>
</tr>
</tbody>
</table>

*Obtained through Pearson’s Chi-Square Test

The Clinical-functional Vulnerability classification, according to the IVCF-20 total score, showed that 21.79% (n=207) presented high vulnerability, classified as frail; 28.84% (n=274) presented moderate vulnerability, classified as at risk for frailty, and 49.37% (n=469) of the elderly had mild clinical-functional vulnerability, classified as robust. The distribution of this classification by FHT can be seen in Figure 1.

The Clinical-functional Vulnerability classification, according to the IVCF-20 total score, showed that 21.79% (n=207) presented high vulnerability, classified as frail; 28.84% (n=274) presented moderate vulnerability, classified as at risk for frailty, and 49.37% (n=469) of the elderly had mild clinical-functional vulnerability, classified as robust. The distribution of this classification by FHT can be seen in Figure 1.
The Yellow FHT stood out with the highest proportion of frail older adults (28.11%, n=68). On the other hand, the Blue FHT stood out with the highest proportion of robust older adults (58.67%, n=159), obtaining lower averages in the vulnerability indicators, evaluated in the IVCF-20 dimensions, in comparison to those obtained by the elderly population of the Unit. Tables II and III summarize the distribution of the elderly according to the responses in each clinical dimension evaluated with use of IVCF-20. These results were described by FHT.

Table II shows Red and Yellow FHTs with the highest percentages of older adults with negative self-perception of health, indicated by a score of 1 in this dimension. Regarding the item Activities of daily living (ADL), there was predominance of score 0, which indicates absence of decline in activities of daily living. However, the results of the Yellow FHT stood out, showing the highest percentage of elderly people who scored a loss in the three instrumental ADL evaluated, namely: stop shopping, stop controlling their own money, and stop doing small housework. The Red FHT was distinguished by presenting the highest percentage of elderly people who stopped doing the self-care.

With regard to cognitive aspects, Red FHT was highlighted as the only one with a percentage above 50% (n=114) of elderly people with a complaint of forgetfulness, such as saying that it has been worsening in the last months and/or that it is preventing performance of everyday activities. In contrast, the Green FHT had 67.94% (n=142) of elderly people without complaints of forgetfulness.

Regarding mood, Red and Yellow FHTs stood out for obtaining a percentage of 22.80% (n=52) and 19.42% (n=47), respectively, of older adults who reported symptoms of discouragement, sadness or hopelessness, and loss of interest/plasure in activities that were once considered pleasurable.

Regarding mobility, there was a slight overlap of losses in this dimension for older adults of the Yellow FHT. It was verified, for example, that 9.5% (n=23) of the elderly served by this team scored difficulty holding small objects, compared to an average percentage of 5.52% (n=13) of other FHTs. Another aspect of the multifunctional evaluation, for which the Yellow FHT presented the highest percentage of older adults with losses, was communication. In this IVCF-20 dimension, complaints of loss of visual and auditory acuity, sufficient to prevent some daily activity, are evaluated and, for the elderly of the Yellow team, 53.31% (n=129) and 24.38% (n=59), respectively, presented these complaints.

### Table II - Distribution of the older adults by their scores in the IVCF-20 dimensions Self-perception of health, Activities of daily living, Cognition, and Mood, according to the Family Health Team of the PHCU. Belo Horizonte, Minas Gerais, Brazil, 2016 - 2017.

<table>
<thead>
<tr>
<th>Clinical dimensions assessed by the IVCF</th>
<th>Red n (%)</th>
<th>Green n (%)</th>
<th>Blue n (%)</th>
<th>Yellow n (%)</th>
<th>Total n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-perception of health**</td>
<td>0 153 (59.21)</td>
<td>133 (63.64)</td>
<td>209 (77.12)</td>
<td>146 (60.33)</td>
<td>618 (65.4)</td>
</tr>
<tr>
<td></td>
<td>1 64 (23.42)</td>
<td>76 (36.36)</td>
<td>62 (22.88)</td>
<td>96 (39.67)</td>
<td>326 (34.6)</td>
</tr>
<tr>
<td>Activities of daily living***</td>
<td>0 165 (74.32)</td>
<td>154 (73.68)</td>
<td>216 (80.00)</td>
<td>166 (71.24)</td>
<td>701 (74.15)</td>
</tr>
<tr>
<td></td>
<td>35 (15.77)</td>
<td>40 (19.14)</td>
<td>40 (14.81)</td>
<td>61 (26.18)</td>
<td>176 (18.64)</td>
</tr>
<tr>
<td></td>
<td>6 (1.44)</td>
<td>2 (0.94)</td>
<td>2 (0.74)</td>
<td>1 (0.43)</td>
<td>8 (0.85)</td>
</tr>
<tr>
<td></td>
<td>20 (9.01)</td>
<td>12 (5.74)</td>
<td>12 (4.44)</td>
<td>5 (2.15)</td>
<td>59 (6.36)</td>
</tr>
<tr>
<td>Cognition***</td>
<td>0 108 (48.65)</td>
<td>142 (67.94)</td>
<td>170 (62.73)</td>
<td>134 (55.37)</td>
<td>554 (58.65)</td>
</tr>
<tr>
<td></td>
<td>1 52 (23.42)</td>
<td>19 (9.09)</td>
<td>39 (14.39)</td>
<td>53 (21.9)</td>
<td>163 (17.3)</td>
</tr>
<tr>
<td></td>
<td>2 21 (9.46)</td>
<td>26 (12.44)</td>
<td>35 (12.92)</td>
<td>23 (9.5)</td>
<td>105 (10.97)</td>
</tr>
<tr>
<td></td>
<td>3 5 (2.25)</td>
<td>2 (0.96)</td>
<td>6 (2.21)</td>
<td>3 (1.24)</td>
<td>16 (1.7)</td>
</tr>
<tr>
<td></td>
<td>4 36 (16.22)</td>
<td>20 (9.57)</td>
<td>21 (7.75)</td>
<td>29 (11.98)</td>
<td>106 (11.39)</td>
</tr>
<tr>
<td>Mood****</td>
<td>0 131 (57.46)</td>
<td>121 (57.89)</td>
<td>169 (62.36)</td>
<td>127 (52.48)</td>
<td>542 (57.36)</td>
</tr>
<tr>
<td></td>
<td>2 45 (19.74)</td>
<td>54 (25.84)</td>
<td>69 (25.46)</td>
<td>68 (28.10)</td>
<td>233 (24.58)</td>
</tr>
<tr>
<td></td>
<td>4 52 (22.80)</td>
<td>34 (16.27)</td>
<td>33 (12.18)</td>
<td>47 (19.42)</td>
<td>169 (17.80)</td>
</tr>
</tbody>
</table>

*Some score categories were grouped because of the small sample size in the category. **p > 0.001; ***p > 0.01; ****p > 0.05
Table III - Distribution of the older adults by their scores in the IVCF-20 dimensions Mobility, Communication and Comorbidities, according to the Family Health Team of the PHCU. Belo Horizonte, Minas Gerais, Brazil, 2016 - 2017.

<table>
<thead>
<tr>
<th>Clinical dimensions assessed by the IVCF</th>
<th>Score*</th>
<th>Red n (%)</th>
<th>Green n (%)</th>
<th>Blue n (%)</th>
<th>Yellow n (%)</th>
<th>Total n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobility****</td>
<td>0-1</td>
<td>131 (59.21)</td>
<td>108 (51.67)</td>
<td>158 (58.3)</td>
<td>107 (44.21)</td>
<td>499 (52.86)</td>
</tr>
<tr>
<td></td>
<td>2-3</td>
<td>45 (19.74)</td>
<td>59 (28.23)</td>
<td>73 (26.94)</td>
<td>62 (25.62)</td>
<td>241 (25.53)</td>
</tr>
<tr>
<td></td>
<td>4-5</td>
<td>22 (9.65)</td>
<td>26 (12.44)</td>
<td>26 (9.59)</td>
<td>40 (16.53)</td>
<td>116 (12.29)</td>
</tr>
<tr>
<td></td>
<td>6-7</td>
<td>13 (5.70)</td>
<td>13 (6.22)</td>
<td>11 (4.06)</td>
<td>25 (10.33)</td>
<td>63 (6.67)</td>
</tr>
<tr>
<td></td>
<td>8-10</td>
<td>13 (5.70)</td>
<td>3 (1.44)</td>
<td>3 (1.11)</td>
<td>8 (3.31)</td>
<td>25 (2.65)</td>
</tr>
<tr>
<td>Communication**</td>
<td>0</td>
<td>172 (75.44)</td>
<td>142 (67.94)</td>
<td>221 (81.55)</td>
<td>91 (37.60)</td>
<td>620 (65.68)</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>45 (19.74)</td>
<td>48 (22.97)</td>
<td>40 (14.76)</td>
<td>114 (47.11)</td>
<td>245 (25.85)</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>11 (4.82)</td>
<td>19 (9.09)</td>
<td>10 (3.69)</td>
<td>37 (15.29)</td>
<td>79 (8.47)</td>
</tr>
<tr>
<td>Comorbidities****</td>
<td>0</td>
<td>109 (47.81)</td>
<td>107 (51.2)</td>
<td>161 (59.41)</td>
<td>127 (52.48)</td>
<td>505 (53.39)</td>
</tr>
<tr>
<td></td>
<td>2-4</td>
<td>119 (52.19)</td>
<td>102 (48.8)</td>
<td>110 (40.59)</td>
<td>115 (47.52)</td>
<td>439 (46.61)</td>
</tr>
</tbody>
</table>

* Some score categories were grouped because of the small sample size in the category; “p > 0.001; “p > 0.01; ““p > 0.05

DISCUSSION

The results showed a high prevalence of elderly individuals at risk for frailty and frail, 28.84% (n=274) and 21.79% (n=208), respectively. These findings are compatible with results of other studies carried out in the context of public health, which showed an expressive percentage of older adults with high or moderate clinical-functional vulnerability(9).

One of the FHTs, Blue, stood out with an expressive proportion of robust older adults (58.67%; n=159), which may be associated with the fact that the subgroup of older adults attended to by this team corresponds to a younger population, with a higher concentration of older adults in the age group of 60 to 74, compared to those of the other teams. The increase in age is recognized as the main risk factor for several diseases measured by IVCF-20, such as falls, cognitive and functional losses, as well as for other geriatric syndromes associated with severe impairments in old age(3,4).

In the present study, there was a high prevalence of positive self-perception of health; 58.56% of the older adults perceived their health as excellent, very good, or good. This favorable perception about their own health has been widely reported in the technical literature(15,16), including studies with older adults assisted in primary care(17,18).

From this understanding that self-perception of health in the elderly tends to be positive, it can be assumed that the worsening of this self-perception represents a relevant indicator of health alterations that can be easily obtained and monitored by the FHT. In addition, it is known that negative self-perception of health is related to adverse outcomes in old age such as disability and mortality(19,20). In a study(21) with a sample of older adults from Belo Horizonte, Minas Gerais, Brazil, attended to at a Reference Center in elderly care, at the secondary health care level, obtained a prevalence of 70.1% (n=218) of negative self-perception of health and evidenced that this was associated with impaired autonomy and independence.

In the present study, the high percentage of older adults who presented symptoms of depression was also highlighted, and the FHT subgroups Red and Yellow presented the highest number of older adults with this condition. Depression symptoms in the elderly may negatively impact adherence to health care(22) and increase the risk for frailty(23). In this same direction, there was a high prevalence of cognitive impairment complaints among the older adults studied. Screening and monitoring the cognitive dimension of elderly public service users is regarded as a key strategy for early detection and treatment of cognitive impairment in this population(24,25). Therefore, it is understood that, in the care offered to the elderly at the primary health care level, it is necessary to identify and guarantee the treatment of psychological damages, including the articulation with specialized services(19), as well as assuming preventive strategies on cognitive decline and mental health promotion in old age(14).

Recommendations and worldwide evidences indicate that health policies which prioritize strategies to strengthen preventive health care in the elderly have obtained better economic results and effectiveness in controlling negative health outcomes in this population(26). In the context of public health, epidemiological data plays an important role in the
prevention of adverse events and enables early diagnosis and intervention\(^1\). More effective policies and guidelines for prevention strategies are obtained from the management of chronic health conditions of a given population, as well as the factors associated with these conditions\(^{26,27}\). In this sense, the results of the present study were shared with the FHTs of the health unit from which the study population was extracted, so that these professionals could use the classification of clinical-functional vulnerability to draw follow-up and intervention strategies for the older adults.

With regard to the most significant results, the impairment level in mobility and communication of the older adults under their care was alarming for the Yellow team, and it is assumed that these indicators should be more focused on interventions offered by this team. For the Red team, the expressive number of users who stopped doing self-care was unexpected, as well as the higher proportion of older adults with high vulnerability in the memory domain.

Despite these results, the team opted to prioritize the older adults at risk for frailty in their actions planned for 2018, aiming to prevent cognitive and functional decline in the elderly population. Although old age is associated with the probability of developing diseases, vulnerability and dependence conditions, there is a large part of the elderly population that does not require highly complex interventions, but demands care aimed at preventing functional losses and controlling non-disabling chronic diseases\(^{28}\). Thus, efficient models for health loss prevention in older adults should include actions aimed at postponing and controlling chronic diseases and maintaining functional capacity\(^{29}\).

The impact of the present study on actions in the health care unit can be observed from two projects elaborated by the Red FHT. One of these projects, based on the methodology of the Operational Group\(^{30}\) and with participation of a multiprofessional team, provided interventions with the elderly identified as at risk for frailty. The intervention sought, from specific cognitive and functional stimulation activities, conducted in six weekly meetings, to improve the acquisition and retention of memory, as well as the teaching of strategies for daily use aimed at improving global cognitive functionality. The other intervention for older adults at risk for frailty was focused on mobility, being carried out by a NASF physiotherapist assisted by a team of trainees, and included the accomplishment of five meetings in which educational actions, prescriptions, and exercises were addressed.

The present investigation was limited to the description of the clinical-functional profile of older adults in a health care unit and did not investigate contextual factors that may be associated with vulnerability in this population. Thus, it is pointed out the need for future research on socio-environmental factors of the different coverage areas that may intensify vulnerability conditions of this elderly population\(^{30}\).

**CONCLUSION**

The present study showed high prevalence of clinical-functional vulnerability in older adults and pointed out the indicators of this vulnerability that need to become focus of interventions in primary health care, such as cognitive and functional impairments, and mood changes. Health prevention and promotion surpass the bias towards curative care and represent a solution in the control of increased risk of chronic and degenerative pathological affections associated with aging.

**CONFLICTS OF INTEREST**

There are no conflicts of interest.

**CONTRIBUTIONS**

Pricila Cristina Correa Ribeiro contributed to the study conception and design; analysis and interpretation of data; and writing and revision of the manuscript. Andréia Cleide Costa e Neves and Juliana do Carmo Reis contributed to the study conception and design; supervision of data acquisition; analysis and interpretation of data; and writing the manuscript. André Luiz Almeida Damaso and Vanessa Cunha Barros contributed to the acquisition, analysis and interpretation of data; and writing the manuscript.

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