ORIGINAL ARTICLE

Quality of life and falls in elderly people: a mixed methods study

Qualidade de vida e quedas em idosos: estudo de método misto

Calidad de vida y caídas en los ancianos: estudio del método mixto

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ABSTRACT

Objective: to assess elderly people's quality of life, understanding the social representations of falls. **Methods:** a convergent mixed methods research carried out at homes, with a sample of 134 elderly people. A structured questionnaire was used, covering sociodemographic variables and factors that indicated frailty and risk of falling. For quality of life assessment, Medical Outcomes Study Short-Form 36 and Theory of Social Representations, Abric's structural approach were used, with data treated by dictionary of equivalent terms, processed in Evoc 2000, converging analytically according to Neuman. **Results:** quality of life impairment was identified in terms of physical, emotional and functional capacity. The elements of the possible central nucleus were fall, fear, and bruised-broken-bone. **Final considerations:** quality of life impairment can contribute to increase the number of falls, which has been shown to be an event present in elderly people's lives through evocations. Understanding elderly people's individual demands allows planning actions.
Descriptors: Quality of Life; Accidental Falls; Health Services for the Aged; Accident Prevention; Community Health Nursing.

RESUMO

Objetivo: avaliar a qualidade de vida dos idosos, compreendendo as representações sociais sobre quedas. **Métodos:** pesquisa de método misto convergente, realizada em domicílio, tendo como amostra 134 idosos. Utilizou-se questionário estruturado abrangendo variáveis sociodemográficas e presença de fatores que indicassem fragilidade e risco para queda. Para avaliação da qualidade de vida, utilizou-se *Medical Outcomes Study Short-Form 36* e Teoria das Representações Sociais, abordagem estrutural de Abric, sendo os dados tratados por dicionário de termos equivalentes, processados no *software* Evoc 2000, convergindo analiticamente segundo Neuman. **Resultados:** identificou-se comprometimento da qualidade de vida nos aspectos físico, emocional e de capacidade funcional. Os elementos do possível núcleo central foram *queda*, *medo* e *machucado-osso-quebrado*. **Considerações finais:** prejuízos na qualidade de vida podem contribuir no aumento do número de quedas, que se mostrou um evento presente na vida do idoso através das evocações. Compreender as demandas individuais do idoso permite o planejamento de ações.
Descritores: Qualidade de Vida; Acidentes por Quedas; Serviços de Saúde para Idosos; Prevenção de Acidentes; Enfermagem em Saúde Comunitária.

RESUMEN

Objetivo: evaluar la calidad de vida de los ancianos, entendiendo las representaciones sociales de las caídas. **Métodos:** investigación de método mixto convergente, realizada en el domicilio, con una muestra de 134 ancianos. Se utilizó un cuestionario estructurado, cubriendo variables sociodemográficas y la presencia de factores indicativos de fragilidad y riesgo de caídas. Para la evaluación de la calidad de vida se utilizó el Medical Outcomes Study Short-Form 36 y Theory of Social Representations, enfoque estructural de Abric, con datos tratados por diccionario de términos equivalentes, procesados en el software Evoc 2000, convergiendo analíticamente según Neuman. **Resultados:** se identificó deterioro de la calidad de vida en los aspectos de capacidad física, emocional y funcional. Los elementos del posible núcleo central caían, miedo y huesos rotos, magullados. **Consideraciones finales:** las deficiencias en la calidad de vida pueden contribuir al aumento del número de caídas, que resultó ser un evento presente en la vida de los ancianos a través de evocaciones. Comprender las demandas individuales de los ancianos permite planificar acciones
Descriptores: Calidad de Vida; Accidentes por Caídas; Servicios de Salud para Ancianos; Prevención de Accidentes; Enfermería em Salud Comunitaria.

INTRODUCTION

Aging is an emerging theme, considering the demographic transition process that has been happening, which can be evidenced by alterations in organs and tissues[1]. This process is accompanied by physiological alterations in the various systems that may result in the occurrence of diseases and increased frailty in elderly people[2-3].

The musculoskeletal system undergoes changes due to aging, such as loss of lean mass, bone demineralization, stiffness of the hip, knee and shoulder muscles. These conditions generate a reduction in elderly people's functional capacity, which decreases mobility and makes it difficult to walk, making elderly people prone to falling[2-4].

Falls are understood as "involuntary and unintentional displacement of the body to a level below the current level, which can be caused by intrinsic and extrinsic factors"[3-4]. The occurrence of this event generates, in addition to financial costs, psychological impact for causing the feeling of fear, which can lead to an increase in elderly people's dependence and vulnerability to new episodes of falling[4-6].

Falling generates influences on elderly people's quality of life (QoL), which can harm them physically, mentally and emotionally, due to the consequences of a fall or even the fear of falling[6-7]. However, elderly people who have a structured support network, helping to cope with the aging process, have positive results in QOL[7].

Analyzing falls through the eyes of nurses, it is possible to identify that they are inserted in the whole process of health and illness, being responsible for nursing service planning, organization, coordination, execution, and assessment. In addition, they are in direct contact with elderly people and family, seeking to provide QoL and rescue autonomy in the recovery process[8-9].

In order to comprehensively capture elderly people's QoL and falls, methods were approached in the light of the concept of stressors proposed by Betty Neuman. Thus, stressors are being conceived as the condition capable of generating an imbalance in the energy system of individuals, acting on the flexible lines of normal defense or residence, to the point of affecting one or more of its variables (physiological, psychological, sociocultural, of development and spiritual) arising from intrapersonal origins (causes internal to individuals), interpersonal (produced by their relationship with another person) or transpersonal (arising from their relationship with the environmental context). From this view, nurses can have a look directed at individuals, allowing a safe and effective performance focused on prevention, reducing stressors and helping to build new ways of coping amidst stressful situations[10]. Using the Theory of Social Representations (TSR) is justified insofar as the fall proves to be an event that makes elderly people vulnerable to morbidity and mortality and an event that can be apprehended and shared by social actors to the point of enabling the construction of culturally agreed images[11-13].

This study was carried out because it meets the guidelines of the research agenda[14] regarding the approach to elderly people in an active and successful aging process[1-2,4] from their perspective; the impact of the high rate of falls in elderly people on morbidity and mortality and QoL[4,6]; the profile of elderly people regarding the number of diseases, number of medications and musculoskeletal deterioration predisposing to falls[1,6].

OBJECTIVE

To assess elderly people's quality of life, understanding the social representations of falls.

METHODS

Ethical aspects

This research met the ethical and legal criteria required for research involving human beings. Obtained approval by the Research Ethics Committee of *Universidade Federal de Juiz de Fora*. To ensure anonymity, participants were identified by a numeric code containing three digits, being previously informed on the study's objectives and expressing their acquiescence by signing the Informed Consent Form.

Design, period, and place of study

This is a mixed methods study of convergent parallel type[15], which used concomitant triangulation from two approaches (descriptive sectional study and structural approach of TSR)[11-13,16-17], structured according to the Mixed Methods Appraisal Tool (MMAT) protocol, version 2018[18]. It was carried out from April to September 2018, which, by adding different methodological approaches, allows the results to converge to explain the phenomenon of falling in elderly people.

The research setting was a area covered by a Primary Health Care Unit (PHCU) in a city in Minas Gerais, which had 563,769 inhabitants, approximately 15% elderly people, whose scenario eligibility criteria were: being a Strategy Unit Family Health Program registered in the e-SUS electronic system; having a significant elderly people population; having programs aimed at elderly people, evidenced by the execution of a project that serves people who are bedridden and difficult to get around; valuing the link with teaching and research.

Sample, and inclusion and exclusion criteria

For the quantitative approach, a random sample by cluster in two stages was used: 1) random drawing of elderly people living in the geographic area circumscribed by the PHCU (n=602); 2) random drawing of a subgroup of elderly people that included a list of people served in research and extension projects (n=250). The sample calculation was based on the size of the average effect, α of 0.05 and β of 0.80, making 134 participants. No replacement of losses was foreseen. For the qualitative approach, the parameters recommended for studies using the structural approach of TSR were adopted, that is, not less than one hundred participants[19]. The two criteria were reconciled, which allowed the sample to be estimated at 134 participants.

Eligibility criteria were: being ≥60 years old and being included in an extension project aimed at people who are bedridden and with limited mobility attached to an area covered by the PHCU, with verbal and mental capacity compatible with an

individual interview. Elderly people not found after three visits to the residence were excluded, those who were aged between 60 and 79 years old, who were not part of the extension project and those who were away for treatment of illness or who died during data collection.

Potential participants, in their homes, were individually invited by the researchers accompanied by the PHCU health agent to join the investigation. After applying the inclusion and exclusion criteria, there were 34 losses justified by: death (4), refusal (12), not found (11), verbal and/or mental impairment (6), and withdrawal (1). There was no forecast of replacement of losses, totaling 100 participants.

Data collection process

The data collection instrument was structured in: characterization of participants (gender, age, self-declared skin color, marital status, presence of children, education, retirement and occurrence of falls); the Free Word Association Technique, a method based on psychoanalysis, allowing access to content, behaviors and information that integrate participants' psychic lives that may have been blocked from consciousness by self-protection mechanisms[13,17,19]; structured questionnaire addressing factors that indicated frailty and risk of falling (age ≥80 years, comorbidities, medications in use, recent hospitalization or discharge, instability for locomotion, need for help with daily activities, osteoporotic fractures, family failure, immobility, urinary incontinence or fecal and cognitive disability); Medical Outcome Study 36 questionnaire - short-form health survey (SF-36)[20].

Four interviewers, previously trained to carry out individual home interviews with privacy and adequate language for elderly people, had their own respondents as respondents. The information was corroborated by a relative/companion, when present, with cursive records being made in printed forms at the time of the interview, in order to reduce the information or registration bias. The data collection process took place in a single meeting, with the qualitative approach being preceded by the qualitative one to avoid information bias.

To carry out the structural approach to TSR, elderly people were asked to evoke the first five words that came to mind after verbally mentioning the inductive term "fall"[13,17,19]. In the structural approach, the evoked words were registered, cursively, in the order in which they were mentioned. None of the participants failed to evoke at least one word, with a minimum of evoked words, one and a maximum of five.

The SF-36 questionnaire, an instrument originally in English, translated into Portuguese, contains 36 closed questions, covering eight components: functional capacity; physical aspects; social aspects; emotional aspects; pain; general health status; vitality; mental health. QoL was classified as: poor (0), fair (1 to 25), good (26 to 60), very good (61 to 84), and excellent (84 to 100)[20].

Analysis of results, and statistics

Quantitative data (characterization and sectional study) were analyzed in the Statistical Package for Social Sciences (SPSS), 20.0. Afterwards, they were treated by descriptive statistics (measures of central tendency and dispersion) and correlational (association between exposure variables and outcome for p value ≥0.05).

The evoked words-expressions were treated by the prototypical analysis after going through the dictionary technique according to lexicographic and semantic criteria. There was structuring of contents evoked for the format of the *Ensemble de Programmes Permettant l'analyse des Evocations* (Evoc)[13,16-17,19], being created a four-quadrant technique where the cognemes were allocated in four quadrants following the parameters of frequency and order of evocation (minimum frequency 12 and intermediate frequency: 20 and rang 2.7). Thus, 408 evoked words-expressions were obtained, 146 of which are distinct, with 42.9% of the corpus adopted under the Zipf Law.

In the four quadrants, the upper left quadrant (ULQ) - cognemes emitted more frequently, more readily, i.e., lower *rang* and lower Average Order of Evocation (AOE) depicting consensual content among social actors; 2) Lower Left Quadrant (LLQ) - cognemes mentioned more readily and less frequently, i.e., low AOE and low frequency; 3) first periphery (Upper Right Quadrant - URQ)- cognemes mentioned more frequently and higher AOE, i.e., later; 4) second periphery (Lower Right Quadrant - LRQ) - cognemes issued late (AOE major) and less frequently, which portrayed personal experiences[13,16-17,19].

Analysis of similarities was treated using the IRAMUTEQ program, version 0.7 alpha 2, to identify co-occurrences of cognemes that, simultaneously, were mentioned more frequently by social subjects. The calculation parameters used were the proximity index (variability: 0-1), made possible by the construction of a tree in community and focus that portray the links in dynamic presentation according to *layout* by Fruchterman-Reinglod, expressed by a graph that included all the contents of *corpus* from the word dictionary technique[21].

Results analysis of the qualitative approach was based on the General Theory of Social Representations[11,17] and on the Central Core Theory[12-13,16,19], being triangulated with the quantitative approach results and discussed in the light of scientific evidence. It should be added that the following steps have been taken: 1. Data reduction; 2. Data show; 3. Data transformation; 4. Data correlation; 5. Data consolidation; 6. Data comparison; 7. Data integration[15]. A picture was presented synthesizing the findings of the two approaches, showing their relationships, congruences and convergences.

RESULTS

The profile of the participants was female (76%), aged ≥75 years (51%), white (72%), with a partner (42%), with children (89%), low education (78%) (≤ 5 years of study) and retirees or pensioners (78%). Fall was present in 32% of participants (n=32).

The risk factors for fall, which showed fragility in elderly people, were age ≥80 years (36%), more than five comorbidities (38%), polypharmacy (five or more medications in use) (61%), frequent hospitalization (21%), recent hospital discharge (20%), instability for locomotion (50%), need for assistance for activities of daily living (40%), osteoporotic fractures (32%), family insufficiency (30%), immobility (15%), urinary incontinence (17%), fecal incontinence (8%), and cognitive disability (10%). Five variables were identified as statistically significant (p-value ≤ 0.05) (Table 1).
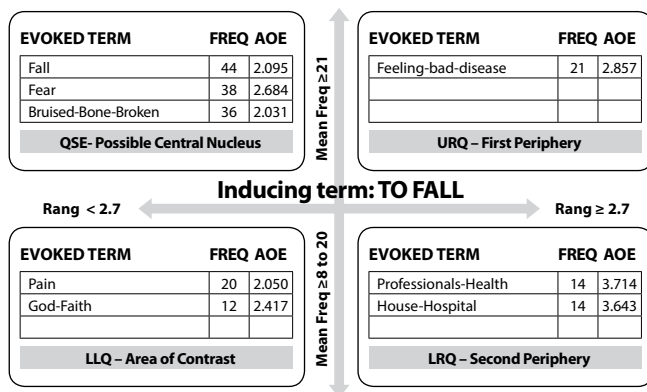
Table 1 – Association between risk factors and falls in participants, Juiz de Fora, Minas Gerais, Brazil, 2019 (N=100)

Risk factors for fall	Fall n (%)	No fall n (%)	*p* value
With partner			
present	14 (14)	47 (47)	0.02
absent	18 (18)	21 (21)	
Over 80 years old			
present	16 (16)	20 (20)	0.045
absent	16 (16)	48 (48)	
Need assistance in activities of daily living			
present	24 (24)	16 (16)	0.000
absent	8 (8)	52 (52)	
Fecal incontinence			
present	6 (6)	5 (2)	0.007
absent	26 (26)	66 (66)	
Instability for locomotion			
present	25 (25)	25 (25)	0.000
absent	7 (7)	43 (43)	

In QoL assessment, the results were analyzed by each category of the scale. Functional capacity (34%), pain (41%), general status (84%), vitality (73%) and mental health (52%). QoL in the physical aspect was classified as poor (48%), in the social aspect, as very good (38%) and in the emotional aspect, as excellent (45%). The greatest impairments in QoL were in the aspects of physical, physical and emotional capacity. Overall, elderly people focused more on rating good QoL (Table 2).

Table 2 - Frequency obtained from the Short Form-36 quality of life questionnaire, Juiz de Fora, Minas Gerais, Brazil, 2019 (N=100)

	SF-36 Quality of Life Scale Categories							
	Functional capacity	Physical	Pain	General status	Vitality	Social	Emotional	Mental health
Score Obtained								
Poor	19%	48%	4%	1%	2%	5%	36%	0%
Fair	33%	12%	8%	4%	13%	11%	0%	7%
Good	34%	6%	41%	84%	73%	22%	10%	52%
Very good	6%	4%	24%	8%	7%	38%	9%	34%
Excellent	8%	30%	23%	3%	5%	24%	45%	7%

EVOKED TERM	FREQ	AOE
Fall	44	2.095
Fear	38	2.684
Bruised-Bone- Broken	36	2.031
QSE- Possible Central Nucleus		

EVOKED TERM	FREQ	AOE
Feeling-bad-disease	21	2.857
URQ – First Periphery		

Inducing term: TO FALL

Rang < 2.7   Rang ≥ 2.7

EVOKED TERM	FREQ	AOE
Pain	20	2.050
God-Faith	12	2.417
LLQ – Area of Contrast		

EVOKED TERM	FREQ	AOE
Professionals-Health	14	3.714
House-Hospital	14	3.643
LRQ – Second Periphery		

Mean Freq ≥21 / *Mean Freq ≥8 to 20*

Note: FREQ: frequency; AOE: average order of evocations; RANG: average evocation order value; ULQ: upper left quadrant; URQ: upper right quadrant; LLQ: lower left quadrant; LRQ: lower right quadrant.

Figure 1 – Four-quadrant technique with the inducing term "fall", Juiz de Fora, Minas Gerais, Brazil, 2019 (N=100)
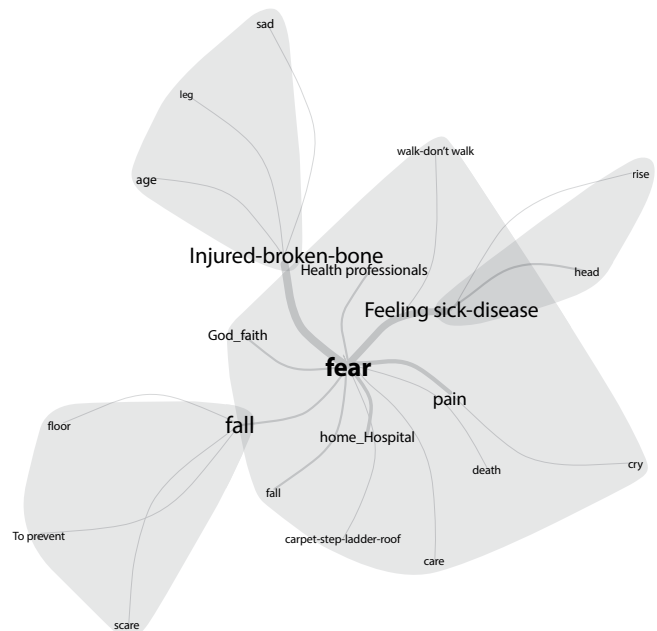
Figure 2 – Similarity tree graph using co-occurrence of cognemes evoked from the inducing term "fall", Juiz de Fora, Minas Gerais, Brazil, 2019 (N=100)

The structural approach of TSR allowed to obtain the following four-quadrant technique triggered by the inducing term "fall" (Figure 1).

In ULQ, possible central core, *fall*, *fear* and *bruised-broken-bone* cognemes are allocated, portraying the objective dimensions, behavioral/attitudinal and behavioral/attitudinal respectively, linking the *fall* to *fear* and the possibility of getting hurt and breaking bone. In the area of contrast is the objective dimension expressed by *pain* and by the bond to belief in *God-faith*. In the first periphery, the *feeling-bad-disease* cogneme refers to the behavioral/attitudinal dimension as a cause or consequence that binds it to falls. In the second periphery, *professionals-health* and *house-hospital* cognemes refer to professional and institutional support network that they use at the time of a fall. It is worth mentioning that the *house-hospital* cogneme links one of the places of occurrence of fall with place of treatment (Figure 2).

As this is a mixed methods study, the following study (Figure 3) includes a synthesis of analyses synthesizing the convergence of qualitative (structural approach to TSR), quantitative (cross-sectional study) and Betty Neuman's concept of stressors.

DISCUSSION

The female profile, presented by elderly people, shows the process of feminization that has been happening in this population. One of the reasons that help to understand the lower number of elderly people men and their lower life expectancy in relation to women is the stereotype of frailty[1,5]. The increase in age can be perceived by men as threatening by referring to the finitude of life to the point of being a stressor of chronological-biological origin capable of impacting on psychological, sociocultural and spiritual variables, unbalancing the flexible lines of defense[10].

Design of the Mixed Method study
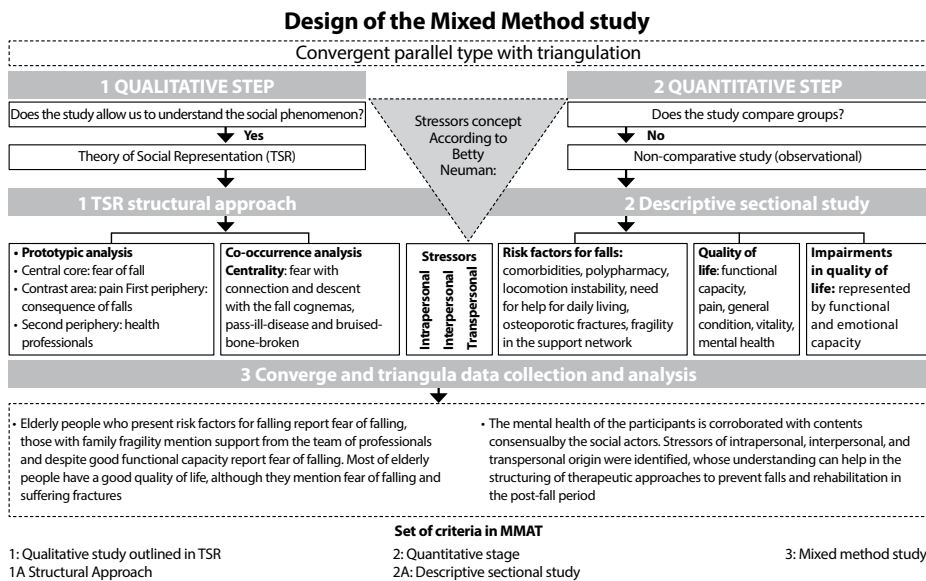
Figure 3 - Synthesis of the Mixed Methods study results with explanation of convergence and triangulation of data and analysis, Juiz de Fora, Minas Gerais, Brazil, 2019 (N=100)

Analysis of the cognemes allocated in ULQ, possible central nucleus, were *fall*, *fear* and *bruised-broken-bone*. The *fall* cogneme, in co-occurrence analysis of cognemes, is linked to *fear*, portraying the justifying function to the extent that it explains conducts and positions that are incorporated into the daily life of social actors. Although with consistent links between the *fear* and *fall* cognemes, they derive from distinct situations, namely: the fall derives from the very concept of going to *floor* by an unintentional displacement, to the *scare* that this event generates and to the need to prevent it. It is noticed that the consequences of falls are present in elderly people's daily lives, such as fractures that account for 70% of accidental deaths in elderly people over 75 years old[3,22].

On the other hand, fear refers to the fact of walking-not walking, that the event may have as an outcome *death*, the emergence of *pain* and the behavior of *crying*, the need to receive *care* and seek a professional support network (*professionals-health*) and institutional (*house-hospital*), to resort to their belief (*God-faith*) and some possible triggers of the fall, such as *carpet-step-ladder-ceiling*. The identity function, in this context, allows identifying the social group investigated as being vulnerable to this event[12,16-17]. There is evidence that previous falls, balance problem and walking are strong predictors for fall in elderly people[22].

Elderly people, over 80 years of age, are more likely to suffer falls, having a significantly higher prevalence of occurrence of this event[23], a fact corroborated by the data of this investigation ($p \leq 0.045$). In a mixed-method study, it was found, in elderly Korean people, that conditions such as reduced physical function, assessment of changes in the social support network, anxiety, restrictions for acceptance, coping and management of the disease were factors of impact on health and QoL[26]. Fear, in this context, consists of a feeling that can be present both in elderly people who have suffered a fall and in the one who has never fallen. Even without suffering a fall, elderly people are afraid that this event will occur by observing its consequences on other individuals[24].

Home and peridomiciliary environments, over the years, may prove unsafe and threatening to the person in the aging process,

especially considering that, over the years, elderly people perceive themselves as more fragile individuals and prone to falling[3-6].

Fear, in this sense, can translate as a stressor of intrapersonal and extrapersonal origin[10], which is manifested by the restlessness that precedes the moment of a fall, still imaginary, generating expectation, anxiety in elderly people and an unwanted wait for the moment of fall, as if this event were to inevitably happen. There is evidence that the fear of falling is positively related to the occurrence of fall, and can be seen as a predictor of this event[3,5-7,9].

The *bruised-broken-bone* cogneme depicts the function of knowledge. This function allows us to explain what the fall can generate for elderly people. The *fall* cogneme, in turn, refers to the functions of knowledge, identity and guidance[12,16-17] in that it contributes to explain an occurrence that impacts morbidity and mortality to the point of compromising lifestyle. Moreover, this cogneme portrays how the increase in years make them vulnerable to fall, explaining the filter that elderly people use to see their daily lives to the point of directing their concerns to the possibility of fall. Suffering a fracture can mean, for this elderly, the loss or reduction of their autonomy, which, as discussed, directly influences QoL reduction. There is evidence that conditions such as advanced age, depressive symptoms, low income, poor sleep quality were significantly associated with low QoL and that restriction in social support, number of previous falls and walking pain may compromise elderly people reintegration into their context[5,24-26]. Such conditions constitute a potential stressor of intrapersonal, interpersonal and extrapersonal origin[10] which may justify a dullness and psychic retracting[8] capable of impacting on interpersonal relationships[26].

It is worth mentioning that the terms evoked in the possible central nucleus of this study confirm the findings of another investigation, which presented similar cognemes in the possible central nucleus, such as *fear* and *bruised-broken-bone*[3,6].

In the sample, more than one third were identified with age over 75 years and a few years of study, variables that predispose the individual to an increase in frailty and the degree of dependence[27], although these variables did not show statistical significance for the group investigated. Elderly people, in general, have, throughout their lives, losses in functional capacity and physical aspect, such as reduced mobility, difficulty in balance and reduction of strength, which can make them more restricted and dependent. A study[28] similar conducted with elderly people assessing QoL identified greater deficits in physical, emotional and functional aspects.

Another factor identified was the degree of dependence represented by a reduction in daily activities, and the need for assistance in daily activities was a statistically significant factor in the investigated group ($p \leq 0.000$). The increase in dependency in

elderly people is related to the physiological changes resulting from the aging process such as reduced muscle tone, difficulty in walking and loss of visual acuity[2,29]. The ambiguity between needing and recognizing a person's need to provide for their care and trying to autonomously seek to meet their own demands can generate health threats, portraying the presence of interpersonal stressors capable of affecting the lines (flexible, defense or resistance) of the energy system[10].

The *feeling-bad-disease* cogneme, allocated in the first periphery, refers to two functions. The first is the function of knowing that portrays the information and knowledge that social actors access cognitively, enabling them to explain the occurrence of fall and the second function is the justification that makes it possible to explain and justify the presence of fear and the fact of getting hurt and breaking bone[12,16-17]. Co-occurrence analysis (Figure 2) allows identifying that the *feeling-bad-disease* cogneme has as derivation the concern of whether *raise* after a fall and the possibility of trauma in the *head*, body structure that is perceived by social actors as a situation with gravity potential.

Information gathering from the social actors mentioned above, when approximated by those provided by the majority of elderly people regarding polypharmacy in their routine is corroborated by evidence. This evidence interprets the use of several medications, linking to a high number of comorbidities, in particular chronic diseases of high prevalence in the elderly population[2,30-31], making them susceptible to drug interactions, triggering hypotension and drowsiness, which compromise reflexes and other conditions that are predictors for falls[24-32]. These are situations that evidence interpersonal stressors[10].

Such evidence is corroborated among the social actors investigated explaining why the *bruised-broken-bone* cogneme, allocated in the possible central nucleus (ULQ), refers, in co-occurrence analysis, to age, to the place where there is the fracture (*leg*) and to the feeling triggered by a fracture in this phase of life (*sad*). The emotional factor in elderly people has great relevance and influence to QoL, and the insertion of this individual in leisure and social activities favors increased cognitive capacity and improved QoL[23-25].

Concerning the emotional aspects of QoL, a significant portion of elderly people were classified as poor QoL, while a similar number of participants were described with excellent QoL[24,33]. Self-perception of skills, limitations and social context are stressors of intrapersonal and extrapersonal origin to the extent that elderly people need to adapt the environment and the support network that have[10]. This fact was evidenced in a study[26-28] conducted with elderly people, in which a positive association was observed between Qol and support network presence for elderly people. There is evidence about the fact that the support network favors individuals' emotional and affective support, providing appreciation of themselves, and relationships present in the network function as easing of negative events, improving elderly people's well-being and QoL[34-35].

In articulation of the intermediate elements of the area of contrast with the first periphery, the terms pain, *God-faith* and *feeling-bad-disease*, were present. These two quadrants are related to the central nucleus, manifesting past experiences and knowledge related to the inducing term. It was noticed that, once

again, the cognemes refer to the consequences of a fall, such as pain, injury and the feeling of having a health problem. This fact portrays the behavioral/attitudinal and objective dimensions, referring to the justifying function[12,16-17] of a fall to the extent that social actors explain the illness or the fact that they are sick when the fall happens to them, justifying the presence of *pain* as an undesirable manifestation of fall[9-11].

A study[36] conducted with elderly people showed that 52% of participants had suffered falls, resulting in injuries and bruises, along with the sensation of pain. The presence of pain and limitation, caused by injuries, can cause a reduction in autonomy by increasing dependence to perform activities of daily living. This fact portrays the presence of interpersonal stressors[10].

In the contrast area, the *God-faith* cogneme, which refers to spirituality, explaining the presence of the guiding function of the content represented to the point of guiding behaviors of search for protection in God and allowing access to faith as a strategy for self-protection[36]. A study[35] shows that faith creates a sense of divine protection and acceptance that helps overcome adverse everyday situations. The evocation of this term shows us how important the event of fall in elderly people's lives, so that they feel the need to seek spiritual help for their recovery or protection. This spiritual support provides well-being and generates hope, being a good form of coping that helps in maintaining QoL[4-6]. There is a study that shows the positive correlation between spirituality and improvement in health indicators[36]. The support of practices and resources to meet spiritual needs in this context can be a strategy to reduce stressors and assist in energy system rebalance[10].

The elements present in the second periphery were *professionals-health* and *house-hospital*, which can translate individual experiences, since they were mentioned with lower readiness and at a lower frequency. It is possible that, by externalising the first two cognemes, individuals are referring to stories experienced by them. These experiences can be both the occurrence of fall itself and with someone close to them, but that has affected them in some way. These cognemes relate to health treatment, portraying the justifying function and knowledge to the extent that social actors present the places and people they access when they see the event of fall[2-3,8-9], and is explained by the high rate of hospitalization resulting from falls[2,8].

Connection and co-occurrence analysis of evoked cognemes allowed to identify four cognemes: *fear*, *fall*, *bruised-broken-bone*, and *feeling-bad-disease* (Figure 2), corroborating evidence from the literature that indicates to be the fear predictor for fall[2,7,37] and revealing that social actors link the place of the fall event (*house*) with the location that serve them as an institutional support network for treatment (*hospital*) when they have *bruised-broken-bone* or feel *pain*. It should be added that *feeling-bad-disease* corroborates the information of presence of more than five comorbidities, polypharmacies and fecal incontinence, which was identified as being statistically significant (p value ≤0.007), especially when elderly people present instability for locomotion (p ≤0.000).

A systematic review with meta-analysis, which included randomized studies or near-experiments, aiming to determine the effect of physical activities on the fear of people over 65 years of age falling, proved effective in periods of less than six

months, showing an effect of small to moderate intensity and evidencing a gap that requires deepening due to occurrence of possible biases[38].

By making an approximation between the findings of this investigation with the nursing professional, who integrates care for elderly people at Primary Health Care level, it was possible to identify stressors of intrapersonal, interpersonal and transpersonal origin, emphasizing the importance of their insertion in fall prevention and rehabilitation in the post-fall period[3,9,30], with the possibility of acting in the three levels of attention provided by Neuman[6].

The primary line of action provides for early recognition of stressful mechanisms to which elderly people are exposed, seeking to neutralize them in a way that did not interfere in individuals. Fall prevention should be carried out, especially in Primary Health Care, where the follow-up of elderly people allows the identification of those with greater fragility and risk for falls. In this process, home visits are an important way to identify the environmental risks and frailties to which elderly people are exposed[6,10].

At the secondary level, the fall and the consequent loss in QoL may already be installed. At this moment, the professional must create goals together with elderly people, aiming to alleviate the present symptoms and restore their health[10,32]. Finally, at the tertiary level, elderly people will perform the indicated treatment and nursing will act to guarantee well-being and health promotion, foreseeing aggravations in the recovery process of the elderly and promoting health education with their family.

Study limitations

The selection criteria may have been a limiting factor of this research because they were selected among elderly people who already had an increased risk of health problems, resulting in impairments in QoL, corroborated by some results obtained in the literature. Another limiting factor is the impossibility of generalizing the conclusions of qualitative findings from TSR for socially distinct groups, although it brings important reflections and contributions to the study on falls in elderly people.

Contributions to nursing

It was possible to verify that elderly people's QoL presented greater impairment in physical aspects and functional capacity, which alerts us to identifying the cause of such stressors and the need to commit actions to prevent and maintain elderly people's lives in these domains. Understanding where the greatest deficits in QoL and the impact on elderly people's lives allow nursing to perform assertive actions, contributing to the planning of care. Nursing, thus, becomes increasingly protagonist in health problem prevention, especially in fall prevention.

FINAL CONSIDERATIONS

Overall, QoL was positive in elderly people with most aspects in the good classification. However, it is worth mentioning that the losses in QoL were more evident in the aspects of physical, physical and emotional capacity, which may contribute to the incidence of falls.

The evocation of several terms related to fall shows us that this event is close to elderly people, but it worries us to realize that there were no cognemes related to fall prevention, but that most of them portrayed negative feelings. Conditions of vulnerability in elderly people, such as being long-distance, needing assistance for daily activities and instability for locomotion are potential stressors that can significantly impact elderly people's QoL.

The support network and spiritual support are coping tools that can help maintain QoL. In this context, nurses play a fundamental role in elder care, aiming at fall prevention of falls and QoL maintenance, thinking about reduction in intra, inter and extrapersonal stressors. Understanding the individual demands of elderly people allows planning actions.

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