



IJSRM

INTERNATIONAL JOURNAL OF SCIENCE AND RESEARCH METHODOLOGY

An Official Publication of Human Journals



Human Journals

Review Article

August 2020 Vol.:16, Issue:2

© All rights are reserved by Juliana Campos Pinheiro et al.

Educational Practices in Health for Elderly Patients



Rauana Kelly Francalino Pinheiro¹, Vega Vitória Maciel Lopes¹, Gabriel Coutinho Gonçalves¹, Dennys Ramon de Melo Fernandes Almeida², Juliana Campos Pinheiro*², Rafaella Bastos Leite², Gabriel Gomes da Silva², Agenor Francisco Ribeiro Neto², Ronnys Ruggery Gomes da Silva², Jabes Gennedyr da Cruz Lima², Anairtes Martins de Melo¹

¹ *Physiotherapy course, UniFanor / Wyden University Center, Fortaleza, Ceará, Brazil*

² *Dentistry Course, Federal University of Rio Grande do Norte, Natal, Rio Grande do Norte, Brazil.*

Submission: 20 July 2020

Accepted: 27 July 2020

Published: 30 August 2020

Keywords: Active Learning; Light Technology; University education; Physiotherapy

ABSTRACT

Aging is considered a set of changes with advancing age, contributing to factors that constitute a challenge for an independent and autonomous life for the elderly. Falls are considered a public health problem in Gerontology, given their prevalence and consequences for the health of the elderly. The present study aimed to investigate preventive measures based on educational activities, which aim to improve the health and quality of life of the elderly who may be exposed to falls in their homes. The study brought positive results related to the satisfaction and motivation to participate in the educational activity using games of errors and puzzles. The knowledge acquired by the elderly was perceived by the researcher with great efficiency through the information cited about the risks of falls and their prevention.



HUMAN JOURNALS

www.ijsrm.humanjournals.com

INTRODUCTION

Aging is considered a set of morphological, physiological, biochemical and psychological changes, which generate a progressive loss of the individual's ability to adapt to the environment and can be classified as a dynamic and progressive process. The Brazilian population aging is due to the decrease in the fertility rate in parallel to the increase in longevity. According to the last census, it is estimated that the elderly Brazilian population represents 10.8% of the total population, with Rio Grande do Sul being the state with the highest population aging rate in the country. This is due to the low levels of mortality and fertility, and because it is one of the states with the highest life expectancy at birth and one of the lowest fertility rates, bringing to an extremely aged age profile [1].

Therefore, it is emphasized that aging is a bio-psycho-socio-cultural process that demands individuality in care. It is a phase of life with characteristics and particularities, in which changes occur in the individual, both in the organic structure, as in the metabolism, in the biochemical balance, in the immunity, in the nutrition, in the emotional conditions, in the functional, intellectual mechanisms, and also, in communication itself [2].

With advancing age, numerous factors pose a challenge for the elderly to live independently and autonomously, and among them, falls stand out. They are considered one of the most disabling and worrying geriatric syndromes, as a single episode can have repercussions in the social, economic and health spheres. Falls are considered a public health problem, given their prevalence and consequences for the health of the elderly. People of all ages are at risk of falling, but for an older individual, the fall portrays a particularly relevant event, since it can present results in limiting daily activities, and also the fear of falling again, fractures and need for hospitalizations can lead to increased risk of disability and mortality [3].

There are multiple risk factors that predispose to falls, as being a multifactorial event, the fall involves extrinsic conditions associated with the environment in which these elderly people are inserted, and intrinsic, regarding the natural aging process. Among the extrinsic factors are the inadequate conditions of the elderly person, such as the home, public places, public transport environment, inadequate lighting, slippery surfaces, loose carpets, obstacles, improper shoes. It becomes opportune to adopt health education as a strategy to increase actions for the health of the elderly, as professionals must give importance to the phenomenon of healthy and successful aging [4].

Health education encourages individuals to make decisions based on active, critical and transformative development, as they learn to build knowledge collectively, generating reflections and transformative actions for their life in society, causing changes in lifestyle and decreasing the risk of becoming ill and die. Educational practices encourage the sharing of health knowledge to build a greater capacity to cope with health problems and care in health problems, however, they can be practiced in different groups and of different age groups. In the third age, preventive measures based on educational activities aim to improve the health and quality of life of the elderly and not to reduce mortality rates, since the aging process generates natural dysfunctions that need to be known and targeted prevention actions, the risk of falls is one of them [5].

Where physiotherapy professionals promoted a health education strategy to promote knowledge, resolve doubts and share experiences of elderly people hospitalized in a hospital victim of falls, a home fall prevention booklet and a game model were used, errors to reinforce information on prevention and care on the theme of domestic accidents for the elderly. Educational, playful and interactive games behave as instruments to enhance the experiences and knowledge of participants, in addition to encouraging individual expression, in a group situation. Using games in health education represents an innovative pedagogical perspective in the sense of representing a model that brings the educator closer to the participants [6].

And they are also instruments that value the experiences and knowledge of the participants, rescuing the dialogue between educators and participants. Among the health areas that work in Gerontology, Physiotherapy appears seeking to maintain. The aim of the present study was to investigate the knowledge of the elderly about the theme of preventing home falls through a literature review.

LITERATURE REVIEW AND DISCUSSION

Population aging represents a worldwide fact that occurs in both developed and developing countries. It is believed that in the year 2025 Brazil will have 33 million elderly people, occupying the sixth place in the world. Formerly considered aging a phenomenon, today it is part of the reality of most societies. The world population is aging, so it is estimated that in 30 years' time there will be about two billion people aged 60 and over in the world, most of

them living in developing countries. In Brazil, it is estimated that there are currently around 17.6 million elderly people [7].

The World Health Organization (WHO) defines human aging as a very complex, variable and progressive phenomenon, which causes mechanisms and affects the competence to perform a number of functions, being characterized as a multidimensional and multidirectional method, in which there is already instability in the rate and direction of changes, enabling gains and losses in different approaches in each individual and between individuals [8].

For Oliveira (2017) [4] population aging is one of the greatest difficulties of contemporary public health, as it causes an increase in social demands and demonstrates a great political, social and economic challenge. The aging process stands out in the face of the challenge of distinguishing between disease-related changes, age-related changes and lifestyle interferences. According to Aveiro (2011) [2], as in Brazil, population aging is due, initially, to the Brazilian Sanitary Reform movement that developed the concept of health. In this sense, health started to be considered not only as the absence of disease but mainly as a process resulting from the conditions of food, education, housing, environment, income, transportation, employment, leisure, freedom, access to land and health services. Among these conditions, there is mainly the reduction of infant mortality due to the success of government programs aimed at children and mothers, the control of chronic-degenerative diseases, as well as the reduction in birth rates, through the rise of women in the labor market, are causes that directly impacted the aging population.

Aging establishes one of the greatest successes of the century, where it is understood as one of the present process motivated by several factors, such as gender, culture, social class, individual and collective health standards in society, among others. In addition, aging can be understood as a complex process and composed of different ages: chronological, biological, psychological and social [2].

In the search for the practicality of constitutional principles, it was implemented in Brazil by Law number 8,842, of January 4, 1994, which provides for the National Policy for the Elderly (PNI). This policy adheres as basic principles to guarantee the elderly the rights of effective citizenship in society, ensuring their autonomy and social integration, as well as the promotion of well-being and the right to life, making these principles as duties of the State and families. Therefore, after the advent of this law, the State prohibits any form of

discrimination against people of advanced age, as well as allowing the dissemination of knowledge about the aging process to the Brazilian population [9].

To achieve the purpose of the PNI, fundamental guidelines for the improvement of healthy aging of the population, maintenance of functional capacity, assistance to the health needs of the elderly, rehabilitation of impaired functional capacity, training of specialized human resources, were established as fundamental guidelines, support for the development of informal care and support for studies and research [2].

Aging is a privilege and its protection behaves as a social right, therefore it is the duty of the State to ensure the protection of life and health for the elderly through the elaboration and execution of actions in public policies that enable healthy aging and encourage conditions of human dignity. The guarantee of the rights of elderly people is established in the legislation with the Elderly Statute from Law number 10.741, dated October 1, 2003, and has become one of the greatest achievements of the Brazilian elderly population. The number of elderly people increased in all units of the federation between the years 2012 and 2017, with the states with the highest number of elderly people being Rio de Janeiro and Rio Grande do Sul, both with 18.6% of their populations compared to the group 60 years or older. Amapá, in turn, is the state with the lowest percentage of elderly people, with only 7.2% of the population [10].

In 2025, it is estimated that about ten countries with the largest elderly population, five will be developing countries, including Brazil. In the year 2000, the elderly (over 60 years old) represented 9% of the population, about 14 million individuals, and it is emphasized that, in 2020, it will reach 32 million [5].

According to the Ministry of Health (MS), (2013) about 30% of the elderly population falls every year, this rate increases to 40% among the elderly over the age of 80 and 50% among institutionalized elderly. The Brazilian demographic transition shows peculiar characteristics and demonstrates great social inequalities in the aging method. This process impacted and led to changes in the demographic and epidemiological profile across the country, generating demands that involve responses from social policies, resulting in new forms of care, especially long-term care and home care. Women aged up to 75 years are more likely to suffer falls than men, from that age onwards the frequency of falls between men and women

is equal, of the elderly who fall, about 25% require hospitalization and, of these, only half will survive after one year [7].

Aging is a universal, gradual, dynamic and slow process, for which a variety of genetic factors act: social, biological, environmental, psychological and cultural. This process can be determined, based on a generalized and progressive decline in vital functions, providing a loss of response to stress and an increasing risk of age-related illness, which can impair the individual's daily activities, and it is essential to discern the natural process (senescence) and the occurrence of common pathologies in this age group (senility). Thus, healthy and disease-free aging results, in part, from the choices made during the process [5].

The advancement of age gives rise to complex demands and requires differentiated care, as this process results, among other factors, from physiological changes that occur in the various systems of the human body. One of them, the musculoskeletal system, undergoes several changes, such as the decrease in muscle fibers, muscle mass and strength, limiting the physical and motor performance of individuals with their environment (Figure 1) [2].

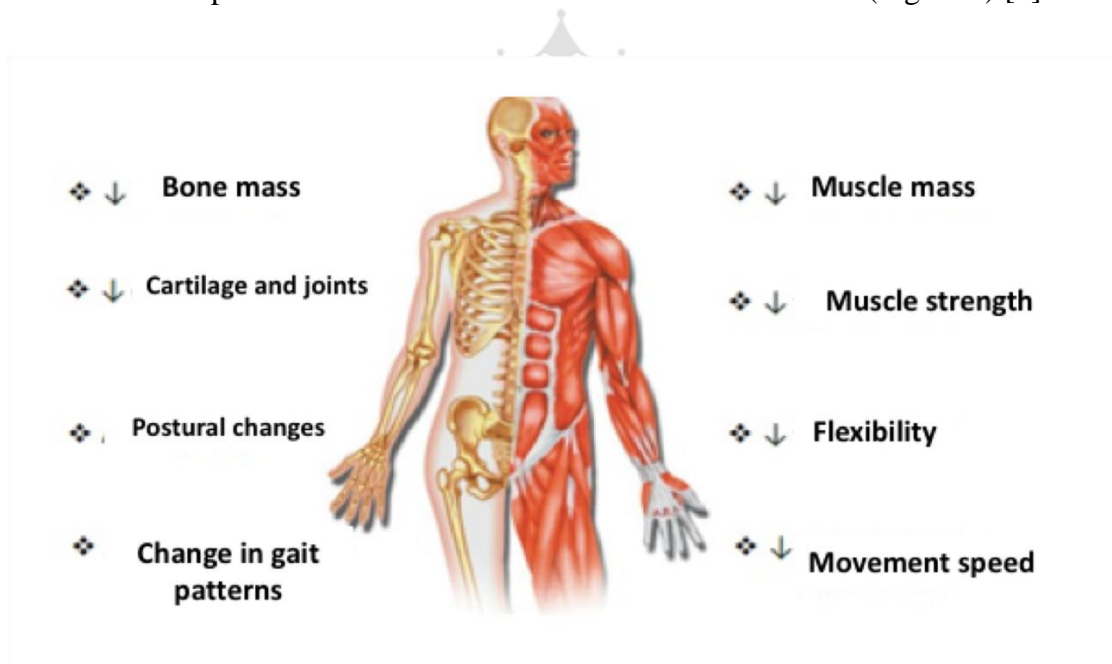


Figure No. 1: Changes in the elderly skeletal muscle system.

Source. <http://physioclem.blogspot.com/2013/03/alteracoes-fisiologicas-nivel-muscular.html>

This system is significantly influenced by the quality of life of the elderly, because with the aging process, gradual changes occur and influence other changes in other systems, such as

the loss of strength and muscle mass results in the decrease of muscle fibers, in the decrease of motor neurons and motor units, in the deficiency of strength and muscle mass chaining the aging process of several systems reducing functionality [11].

The aging process naturally generates changes in the body, it is common to observe reduced parameters of muscle mass that decrease strength, as well as those of bone density, which weaken the skeletal component of the individual, weakening it. These aspects reflect in your posture (Figure 2), in the way you walk, in balance, factors that can facilitate the fall event [10].



Figure No. 2: Postural changes in the elderly.

Source.<https://www.colegioweb.com.br/curiosidades/voce-lida-bem-com-sua-postura-corporal.html>

The development of changes is considered to follow a pattern that is specific to each individual, which take precedence as age advances. For this reason, it makes us rethink the repercussions of age on function, which can lead to the fall of the elderly, among which are observed: decreased muscle strength, spontaneous gait speed, flexibility of reflexes, visual acuity and vestibular function [7].

For De Andrade (2017) [12], aging is characterized by a compromise in the performance and functionality of all body systems, with the Central Nervous System being one of the most affected with the development of changes in the neurotransmitter system and cerebral hypotrophy. These changes occur preferentially in the regions responsible for cognitive functions and, therefore, it is common to observe from minimal to important impairments of this function among elderly individuals.

According to De Carvalho (2012) [13], he mentions that the slowness of central integration mechanisms is significant for postural reflexes and with aging the possibility of processing and the ability to divide attention seems to decrease.

With aging, most motor gestures become less and less safe and can impair the performance of activities of daily living (ADLs) and instrumental activities of daily living (IADL's). Locomotor, sensory and cognitive functionalities are intrinsically related to mobility. There is a decrease in the adaptation of homeostatic function in the face of overload, resulting in changes related to proteins that make up the organism, the most evident cause of this process. Regardless of the biological process, a decrease in oxygen consumption is observed in the elderly, a gradual loss of connective tissue elasticity, a reduction in the amount of water, a concentration of fat and muscle weakness [14].

The imbalance and deficit in body functionality is one of the main factors that limit the life of the elderly. In most cases, it cannot be attributed to a specific cause, but to an impairment of the balance system as a whole. Falls are the most serious consequences of the imbalance, followed by fractures, hospitalization, psychological complications, fear of new possible falls, loss and reduction of independence, autonomy and mortality [15].

About 20% of the elderly population falls each year. These falls can occur in fractures and cause serious consequences, such as permanent injuries, functional impairment and subsequent hospitalization, as well as being fatal [8]. Falling is characterized as the unintended relationship with the support surface, resulting from the individual's position changing to a level lower than their initial position, unless there was a definite intrinsic factor or an inevitable accident. The fall is an episode of multifactorial etiology, which is capable of involving the interaction between the various risk factors [16].

The fall event is considered as one of the main problems during the aging process, as it is continuous and limiting, being able to generate great and progressive insecurity in the elderly

population and consequently the reduction of daily activities resulting from the fear of a new one fall [14].

The occurrences of falls among the elderly require importance and constitute a public health problem due to the high presence with which they occur, the morbidity and mortality resulting from this event, the great social and economic cost resulting from the injuries caused and because they are preventable episode [9].

Falls are a cause of morbidity among the elderly and can have disastrous consequences. In addition to the risk of fractures, there is loss of confidence to walk, due to the fear of new falls, causing the elderly to decrease their mobility, having a vicious circle, because with the restriction of activities there is a decrease in muscle strength, weakening of the lower limbs, leading to the condition of dependence and social isolation [7].

Falls in the elderly are due to the association and interaction of several factors, such as the degradation of balance mechanisms, the reduction of proprioceptive function and muscle strength, hearing and vision, vestibular function, causing the slowness of adaptation mechanisms and central interaction in central cognitive processing and motor response [8].

The elderly who are affected by falls are afraid to perform their daily activities and may be affected by depression. Otherwise, fear can also influence as a protective factor, in the attitude in which the elderly, in relation to the fall, assume preventive behaviors. The fear of falling again or “post-fall syndrome” can lead not only to the fear of new fall events, but also to being injured and being hospitalized, suffering immobilizations, having health compromise, being dependent on other people for the self-care, or perform activities of daily living, revealing the fear and insecurity of the consequences inherent to the fall [14].

The occurrence of falls tends to increase since we experience a process of growth of the elderly population due to the growth in life expectancy. They become alarming mainly in the elderly over 80 years of age due to the possible consequent injuries that cause a higher risk of complications in this age group, as they are frail elderly. The main cause occurs at home or in its surroundings, often during the performance of daily activities, such as walking, changing positions or going to the bathroom, especially at night, and most of the injuries within the home are secondary to the causes intrinsic [2].

The process involving falls needs to be recognized as an extremely important problem for public health, since it compromises society, health services and, mainly, the quality of life of the elderly population. In view of the relevance of episodes of falls in the elderly as a public health problem, steps must be taken, such as actions that direct basic safety and prevention care, especially in situations where they are linked to environmental factors. The elderly must be carefully evaluated so that the main causes of risk for the occurrence of potential events can be identified in the case of the elderly without a history of falls and new episodes for those who have already suffered some facts, with the objective of reducing, through prevention, the chances of falling [2].

The fall, in addition to being a factor external to the adult individual, happens in old age from the combination of all the causes already mentioned, as these include the so-called "functional disability". These episodes of falls become relevant in the population aging scenario, as they generate a negative result for this group. Its recurrence (which is also common) generates deficits that physically impact the frailty process and compromises psychosocial aspects of the elderly individual [10].

The physiotherapeutic approach has shown significant results in this population, providing an increase in range of motion (ROM), improving performance and carrying out activities of daily living (ADL), strengthening muscle strengthening, improving gait speed, balance, and contributing to a reduction in the number of falls and a consequent improvement in general well-being. It is essential that during the aging process, the greatest possible accumulation of muscle mass occurs in order to delay the inevitable loss resulting from it and thus allow less impact on the quality of life of the elderly. There are several risk factors that predispose to falls, that is, falls are a multifactorial episode and relate extrinsic conditions, associated with the space in which these elderly people are inserted, and intrinsic, related to the natural aging process [2].

According to Aveiro (2011) [2], intrinsic factors are the consequence of the development of the individual, corresponding to the slow tendency of central body mechanisms, relevant to postural reflexes. Being related to cardiac arrhythmias, strokes, labyrinthitis, arthritis, osteoporosis, neoplasms and some lung diseases, neurological, Parkinson, Alzheimer, genitourinary. The consumption of a certain type of drugs with adverse effects of medications or polypharmacy are characterized as intrinsic risk.

Intrinsic factors are those arising from physiological changes resulting from age and pathological factors, in addition to psychological reasons and side effects of medications. Among the intrinsic causes, there are mainly cardiovascular, neurological, sensory, rheumatology and endocrinological diseases [17].

In view of the intrinsic risk factors, biological ones involve characteristics of individuals that are conducive to their organism and some of them cannot be modified, such as age, ethnicity and gender. Biological risk factors are similarly associated with physiological changes and conditions specific to the elderly, for example, decline in physical strength, decreased cognitive and affective capacities, chronic neurological, psychiatric, cardiovascular, pulmonary, endocrine and metabolic disorders, changes in the locomotor system and joint degeneration [18].

Difficulty in activities that require flexibility and mental speed in the course of processing information can often be observed throughout aging. This decline in memory may be related to genetic and environmental factors. The presence of comorbidities interferes with the cognitive performance of the elderly, such as motor, sensory and age-related impairments [19].

The extrinsic factors are the inadequate situations in which the elderly person travels, such as the home, inadequate lighting, the public places that they frequent, public transportation, slippery surfaces, loose carpets, obstacles, improper shoes. Extrinsic or environmental factors present a risk of falls, as they create challenges to balance. These involve messy or confusing environments; inadequate lighting; carpets on smooth surfaces; presence of irregular height or width steps; absence of handrails; bed and chair with inappropriate height; use of inappropriate slippers or shoes with slippery soles; among others [17].

Extrinsic risks are related to the activities, behaviors and social and economic conditions of elderly individuals as well as to the environment. Behavioral risk factors deal with human actions, daily choices or emotions and are potentially modifiable; such as the use of various medications, sedentary behavior, obesity or overweight, use of inappropriate shoes, and fear of falling. Socioeconomic risk factors are those associated with the individual's social conditions and economic situations, for example, as they are related to the community's ability to challenge them. They involve factors such as low income, inadequate housing situations, low education level, impaired social interaction and limited access to health and

social assistance. And, environmental factors relate the coexistence of the individual's physical conditions with the surrounding environment, containing domestic and public environment hazards such as slippery surfaces, poor lighting, carpets, lack of support and support bars in bathrooms and corridors, irregular public roads [18].

Providing health education practices for the elderly population aims to guarantee the enjoyment of healthy aging, with dignity and freedom, favoring the ability to choose, think and have a critical look at the world. In educational practices, the elderly are seen as subjects of the prevention and cure process. That is, health knowledge is shared in order to develop a greater capacity for coping with health problems and health precautions, based on the adoption of a healthy lifestyle, therefore the main objective of preventive activities in the elderly is not decrease mortality rates, but improve the health and quality of life of the elderly so that their activities are less affected by chronic diseases [5].

The activities practiced for the purpose of teaching must be present at the time of the intervention or health care, as this way the professional can apply relevant strategies in the approach to the elderly aiming to promote knowledge, solve doubts or share experiences providing greater knowledge of their health status, as well as prevention and care for health problems, with the possibility of domestic accidents being addressed. Technological innovations emerge in modern times and can contribute to the elderly to remain active in society. It is still possible to think and verify the performance of technologies in health care, as many individuals can receive health care at home with the help of technologies and thus avoid or reduce the length of hospital stay [15].

Gerontechnology is defined not only as a service or product that includes technology aimed at individuals over 60 years of age. It refers to an area of knowledge that is developing in Brazil and carrying out a lot of research with the purpose of contributing to longevity with quality of life. Therefore, gerontechnology is the study of the needs that arise from aging and seeks solutions through technology to provide an improvement in the quality of daily life for the elderly. Gerontotechnologies can be understood and inserted through folders, games, booklets, software, in addition to educational calendars, encouraging new health promotion actions [10].

The game can be considered a promoter of knowledge in the area of health, acting as an educational device eventually capable of helping both for the development of education and

for the construction of knowledge in health. For the participants, the game is seen as a recreational, stimulating, interactive, innovative and illustrative activity, which responds to the dual task of clarifying doubts and providing learning[20].

Educational, playful and interactive games are instruments that estimate the experiences and knowledge of the participants and stimulate individual expression, in a group situation, with a dialogue between educators and participants [20]. Group tasks that highlight health promotion among this population is another important approach. The physiotherapist will be able to work with the principles related to the prevention of falls in this population, making the aspects mentioned above and adapting them to the collective [14].

Oliveira (2017) [4], it is mentioned that the practice of health education is pointed out as a component content at the three levels of care (primary, secondary and tertiary), considering that health education activities and actions are aimed at disease prevention. In view of this, Health Promotion, in carrying out popular education actions, assumes that individuals increase control over their lives through working in groups, with the purpose of transforming social and political reality.

CONCLUSION

The educational activity proposed and carried out for the elderly with the theme of preventing falls at home, using educational resources facilitates learning by bringing benefits in knowledge about the risks of falls at home. From this, it is suggested that further studies can be carried out with a focus on Health Education for the elderly using educational games, as they contribute to the acquisition of knowledge and the exposure of learning in an attractive, motivating and charming way, leading to fun and group social interaction, and may also show social empowerment.

REFERENCES

- [1] Cordeiro J (2014). Efeitos da atividade física na memória declarativa, capacidade funcional e qualidade de vida em idosos. *Revista Brasileira de Geriatria e Gerontologia*. 17: 541-552.
- [2] Aveiro M.C (2011). Perspectivas da participação do fisioterapeuta no Programa Saúde da Família na atenção à saúde do idoso. *Ciência & Saúde Coletiva*. 16:1467-1478.
- [3] Pimentel W.R.T (2018). Quedas entre idosos brasileiros residentes em áreas urbanas: ELSI-Brasil. *Rev. Saúde Pública*. 52:10.
- [4] Oliveira F.A (2017). Estratégias educativas para promoção da saúde de idosos de um centro de convivência. *Revista Conexão UEPG*. 13:511.
- [5] Ribeiro A.M.V (2015). Educação em saúde para autonomia e independência no envelhecer: um relato de experiência na UATI. *Focando a Extensão*. 2: 29-36.

- [6] Fernandes A.M (2018). Metodologia de pesquisa de dissertações sobre inovação: Análise bibliométrica. *Desafio Online*. 6:10.
- [7] Piovesan A.C (2011). Fatores que predispõem a quedas em idosos residentes na região oeste de Santa Maria, RS. *Rev Bras Geriatr Gerontol*. 14: 75-84.
- [8] Dos Santos A.R (2010). Envelhecimento e quedas: a fisioterapia na promoção e atenção à saúde do idoso. *Revista Brasileira de Ciências do Envelhecimento Humano*. 7:10.
- [9] Cruz D.T (2011). Prevalência de quedas e fatores associados em idosos. *Revista de saúde pública*. 46: 138-146.
- [10] Gasparotto L.P.R (2014). As quedas no cenário da velhice: conceitos básicos e atualidades da pesquisa em saúde. *Revista Brasileira de Geriatria e Gerontologia*. 17: 201-209.
- [11] De Araújo A.P.S (2014). Alterações morfofisiológicas decorrentes do processo de envelhecimento do sistema musculoesquelético e suas consequências para o organismo humano. *Biológicas & Saúde*. 4.12.
- [12] De Andrade J.P (2017). Incapacidade cognitiva e fatores associados em idosos institucionalizados em Natal, RN, Brasil. *Revista Brasileira de Geriatria e Gerontologia*. 20:2.
- [13] De Carvalho F.F.M (2012). Quedas domiciliares: implicações na saúde de idosos que necessitaram de atendimento hospitalar. *Revista de Enfermagem*. 8: 17-30.
- [14] Macedo C (2008). Síndrome da fragilidade no idoso: importância da fisioterapia. *Arquivos brasileiros de ciências da saúde*. 33.3.
- [15] Bushatsky A (2019). Fatores associados às alterações de equilíbrio em idosos residentes no município de São Paulo em 2006: evidências do Estudo Saúde, Bem-Estar e Envelhecimento (SABE). *Revista Brasileira de Epidemiologia*. 21: 180016.
- [16] Nascimento J.S (2016). Prevalência e fatores associados a quedas em idosos. *Texto & Contexto Enfermagem*. 25:2
- [17] Lojudice D.C (2010). Quedas de idosos institucionalizados: ocorrência e fatores associados. *Revista Brasileira de Geriatria e Gerontologia*. 13: 403-412.
- [18] Jonas L.T (2015). Construção da escala avaliativa do risco de quedas para pessoas idosas não institucionalizadas. *Rev enferm UFPE on line*. 9:7977-7985.
- [19] De Souza V.P (2010). Perfil das habilidades cognitivas no envelhecimento normal. *Revista CEFAC*. 12:2.
- [20] Yonekura T (2010). O jogo educativo como estratégia de sensibilização para coleta de dados com adolescentes. *Revista Latino-Americana de Enfermagem*. 18:1-7.