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Nursing Diagnosis of Impaired Physical Mobility in Elderly People at Primary Health Care

ORIGINAL

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Abstract

Objective: To identify the *frequency* of the nursing diagnosis of Impaired Physical Mobility Impairment and its components in elderly population registered in a Primary Health Care Unit.

Method: Cross-sectional study conducted from November 2014 to February 2015, performed with 50 seniors at their homes. A questionnaire on patients´ identification, their health conditions and their mobility was used.

Results: The nursing diagnosis in question was identified in 71.4% of the population. The most present related factors were: lack of knowledge about the advantages of physical activity (66.7%), discomfort (76.9%), pain (82.1%), joint stiffness (76.9%) and sedentary lifestyle (82.1%). The defining characteristics were: limited capacity to perform gross motor skills (89.7%) and fine motor skills (56.4%), and engagement in substitution of movements (74.4%).

Conclusion: Participants showed difficulties related to physical mobility, evidencing a need for better care from health professionals.

Keywords
Nursing Diagnosis; Elderly; Nursing.

Introduction

Population aging is a worldwide phenomenon directly related to scientific and technological advances [1]. It is important to consider that with the increase in life expectancy, new health demands have arisen. Longevity is associated with the process of weakening, making

the elderly vulnerable to the development of several pathologies [1], such as those of physical nature, which interfere with the daily activities performed by the elderly.

When the advancing age is associated with the presence of chronic diseases, the mobility capacity of the elderly is influenced negatively, making them dependent on others to perform their daily activities. The progressive loss of functional capacity can affect the quality of life of this population, contributing that they feel undervalued and become susceptible to the development of psychological problems [2].

Among the more present restrictions among the elderly, the physical limitations stand out, considering that during the process of physiological aging, changes such as loss of mass, reduction of resistance and muscular function, joint stiffness, reduction of range of motion, alterations in gait and balance can significantly impair the physical mobility of the elderly, predisposing them to falls, pain and functional disability [3].

The nurse, being aware of the modifications that the aging process entails, needs to be attentive to identify them, as well as to perceive the needs of the elderly person, providing individualized care and trying to maintain the independence and autonomy of this public [4].

In order to contribute to the care provided by nurses, the NANDA International (NANDA-I) has as one of its nursing diagnoses the impaired physical mobility, defined as "limitation in independent and purposeful physical movement of the body or of one or more extremities". The existence of this nursing diagnosis facilitates the identification of difficulties related to mobility and enables a better planning and development of the care provided by nurses [5].

The nursing diagnosis Impaired physical mobility can be found in different clinical contexts [6]. It is important that health professionals, especially nurses, do not restrict care to the hospital environment, but they should also consider the elderly in the home environment.

The care provided by nurses at home is of great importance, since this environment is full of significant cultural aspects for its residents, besides being endowed with subjectivities, not always understandable for those who do not reside in that environment [1]. Knowing the context in which the elderly is inserted as well as their relation with the physical limitations inherent in the aging process is a possible measure to be adopted by nurses. When properly developed, it can prevent, delay and identify the appearance of physical problems, avoiding the worsening of the elderly's condition and contributing to the achievement of a higher quality of life.

In view of the physical limitations resulting from aging and the nurses' ability to identify and intervene in these limitations, there is need of a physical evaluation of the elderly in the home environment directed to their locomotion capacity in order to prevent, reduce and delay the development of losses related to their physical mobility. With this, the objective of the present study was to identify the frequency of the nursing diagnosis Impaired physical mobility and of its components in seniors enrolled in a Basic Health Care Unit.

Method

This is a cross-sectional study, carried out from November 2014 to January 2015 with fifty elderly people enrolled in a Basic Health Care Unit of the municipality of Redencao-Ceara. Data were collected at home, identified from the registry performed by community health workers in each area. In the home visit, the objectives and methodology of the study were explained and the verbal invitation for voluntary participation was made. In case of acceptance, the elderly were invited to sign the Free and Informed Consent Form.

The criteria for inclusion in the study were: being resident in the territory covered by the Basic Health Care Unit - Headquarters I of Redencao-Ceara, being 60 years of age or more, voluntarily accepting to participate in the study, having phy-

sical and mental conditions to answer questions, signing the Informed Consent Form and being in the home environment at the moment established for data collection. Thus, the study sample was established by convenience and was made up of all the elderly that met the previously established inclusion criteria.

The collection was performed by properly trained nursing students by using a validated and adapted form used in a previous study [7], consisting of questions regarding the identification of the patient, relating to demographic, social and health information. Then, the evaluation of the mobility of the elderly was carried out by physical examination.

The social and demographic characteristics investigated were: age, gender, marital status, schooling, individual income, family income and number of people residing with the elderly. Some scales were used to collect subjective data in order to facilitate the understanding of the elderly about the items of the form. The activities of daily living were analyzed through the Barthel scale, containing questions regarding the ability to feed, get dressed, bathe, use the bathroom and perform personal care. For each of these items the available options were: dependent, needing help, and independent. The aforementioned scale is validated and considered useful for assessing functional independence [8].

For pain evaluation, the scale used was the quantification of pain FACES, from Wong-Baker, considered easy to understand by the studied population [9]. Elderly people who reported pain were asked to choose one of the six options of facial expressions that best described their pain. The options available were: (0) no pain, (1) little pain, (3) slightly greater pain, (3) even greater pain, (4) quite a lot of pain and (5) worst pain.

The instrument proposed by COOP/WONCA was used to evaluate the maximum physical activity that the use could practice for at least two minutes in the last two weeks. This was organized in five options, being: (1) very intense, (2) intense, (3) moderate, (4) mild and (5) very mild. The instrument was used in a recent study [10] and is easy to apply.

Regarding the physical examination, this was directed to the diagnosis in question. For its accomplishment, it was requested a place in the senior's residence that was airy, with good lighting and that preserved their privacy.

In compliance with the recommendations of Resolution 466/2012 of the National Health Council concerning research involving human beings, the study was sent to the Research Ethics Committee (CEP) of the University of International Integration of Afro-Brazilian Lusophony and approved with under opinion number 830,262.

The study incorporated in all its phases the principles of the aforementioned resolution, assuring to the participating subjects the secrecy of their identities, and guarantee of voluntary participation, as well as the possibility to withdraw from the study at any time, according to their desire, without any financial and/or material burden or loss in collective activities with the group.

The collected data were organized in a spreadsheet of the Microsoft Excel 2010 software. For analysis, the descriptive statistic was adopted, performed through the Epi Info program version 3.5.2.

Results

The study was carried out with a population of 50 elderly residents in Redencao-Ceara, Brazil, and enrolled in the Basic Health Care Unit - Headquarters I.

In order to characterize the sample, the following table shows the distribution of the elderly population according to sociodemographic data.

As observed in **Table 1**, there was a predominance of female participation. When analyzing the individual and family income of the elderly, it is noted that this they play a role of financial support

Table 1. Sociodemographic data.

Variables	N°	%	CI	95%
Gender				
Male	16	32.0	19.5%	46.7
Female	34	68.0	53.3%	80.5
Marital status				
Single	6	12.0	4.5%	24.3
Married/living with partner	31	62.0	47.2%	75.3
Widowed	11	22.0	11.5%	36.0
Divorced	2	4.0	0.5%	13.7

Variables	Mean	Standard deviation	Median
Age	71.92	8.87	69.50
Schooling	3.02	2.62	2.00
Individual income	861.90	557.50	714.00
Family income	1546.91	684.04	1428.00
Number of people living with the senior	2.66	2.18	2.00

Source: Research data, 2015.

Table 2. Distribution of factors related to the nursing diagnosis Impaired physical mobility.

Related factors	N°	%	CI (%)	95%	Total of users
Poor knowledge about the advantage of physical activity	26	66.7	49.8	80.9	50
Discomfort	30	76.9	60.7	88.9	
Pain	32	82.1	66.5	92.5	
Joint stiffness	30	76.9	60.7	88.9	
Sedentary lifestyle	32	82.1	66.5	92.5	

Source: Research data, 2015.

Table 3. Distribution of the defining characteristics for the nursing diagnosis Impaired physical mobility.

Defining characteristics	N°	%	CI (%)	95%	Total of users
Limited ability to perform gross motor skills	35	89.7	75.8	97.1	50
Limited ability to perform fine motor skills	22	56.4	39.6	72.2	
Engagement in substitution of movements	29	74.4	57.9	87.0	

Source: Research data, 2015.

in the family, since they live, on average, with two people and their individual income corresponded to an average of R$ 861.90, while the referred family income was R$ 1,546.91.

Regarding the presence of the nursing diagnosis Impaired physical mobility, this was identified in 71.4% of the sample (n=35).

Next, the related factors and defining characteristics for the nursing diagnosis Impaired physical mobility will be presented in **Tables 2** and **3**, identified in at least 20% of the sample.

Regarding the related factors, the most frequent were sedentary lifestyle (82.1%), pain (82.1%), discomfort (76.9%), joint stiffness (76.9%) and poor knowledge about the advantage of physical activity (66.7%).

The most present defining characteristics were: limited ability to perform gross motor skills (89.7%), engagement in substitution of movements (74.4%) and limited ability to perform fine motor skills (56.4%).

Discussion

As observed in the analysis of the results, the female population was predominant in relation to the male population. The literature indicates that a greater participation of women in health-related activities is something that is expected and their predominance is attributed to demographic factors and their longevity [11]. The fact that men are more resistant to participating in health-related activities, especially those that promote healthy habits and prevent diseases, is concerning, considering that this population is also subject to the development of limitations inherent to the aging process.

It is important that the male public raises awareness towards a greater participation in health services and activities in order to prevent and control diseases and improve the quality of life of this population, especially the elderly. Advanced age is related to a greater wear and presence of chronic pathologies, thus contributing to increased depen-

dence, since there are progressive physical, mental and social losses [12], which reinforces the importance of direct follow-up in the elderly of both genders.

Another important fact concerns the financial profile of these elderly people, since the individual income was on average R$ 861.90 and the family income was R$ 1,546.91 for an average of 2.66 residents living together with the elderly, revealing that the elderly play a role of economic family support. According to the literature, numerous factors contribute to this dependence, such as: unemployment, health status and addictions, which cause that family members, especially children and grandchildren, become, to some degree, financially dependent on this population [13].

There is also highlight to the low level of schooling observed, which corresponded to 3.2 years of study. It is known that low schooling is closely related to the lower learning capacity and understanding of new information [14]. In view of this, there is need for a more intense follow-up directed to this population, especially in concerning the participation in educational actions in health, that require from the old person the understanding of new information that can promote adherence to a healthy lifestyle. Low instructional levels associated with unfavorable socioeconomic and cultural factors can make it difficult to obtain information and raise awareness about the relevance of health care throughout life, the need for adherence to treatment and maintenance of healthy life habits, indirectly contributing to the occurrence of mobility disorders [11].

Regarding the presence of the nursing diagnosis Impaired physical mobility, which is central in this study, this is defined as "limitation in independent and purposeful physical movement of the body or of one or more extremities" (NANDA-I). Its defining characteristics are: Limited range of motion; Limited ability to perform fine motor skills; Limited ability to perform gross motor skills; Difficulty in turning around; Dyspnea on exertion; Engagement in substitutions of movements; Postural instability; Uncontrolled movements; Slow movements; Uncoordinated movements; Changes in gait; Decreased reaction time and Tremor induced by movement [5].

In addition to the defining characteristics, there are the following related factors for the diagnosis of Impaired Physical Mobility: Anxiety; Developmental delay; Poor knowledge about the advantage of physical activity; Contractures; Decreased muscle control; Cultural beliefs regarding appropriate activity for the age; Deconditioning; Discomfort; Malnutrition; Disuse; Decreased muscle mass; Ache; Depressive mood state; Sedentary lifestyle; Lack of socio-environmental support (e.g. physical or social); Body mass index above 75% appropriate for the age; Intolerance to activity; Medicines; Altered cellular metabolism; Loss of integrity of bone structures; Cognitive impairment; Musculoskeletal damage; Neuromuscular impairment; Sensory-perceptual impairments; Decreased resistance; Reluctance to start the movement; Prescribed restrictions of movement; Limited cardiovascular resistance; Joint stiffness [5]. However, in the present study, the defining characteristics and related factors were present in at least 20% of the sample.

Mobility includes the ability to move around, crouch down, climb stairs, perform household chores, and other activities [15]. The person with the nursing diagnosis Impaired physical mobility may have a mild limitation of mobility and be incapacitated only to perform some activities that require greater physical conditions or, in most situations, in case of more severe mobility difficulties, the person may be dependent on care for locomotion or even to perform daily life activities [6].

Elderly people are more likely to lose physical mobility due to the aging process, since there are muscle and musculoskeletal weakening, decreased motor coordination and balance, loss of muscle mass, among other changes [11]. It also impairs the

efficiency of the locomotor system, negatively interfering with the gait pattern, which can lead to falls [16].

In a survey conducted in another region, some reasons referred for impaired physical mobility were, pain, weakness and the presence of musculoskeletal problems among the elderly. Accordingly, musculoskeletal diseases such as arthritis, osteoporosis and osteoporosis are common in the elderly population and lead to musculoskeletal impairment [11], thus contributing to locomotion difficulties. This is similar with the results found in this study, in which there was a greater reference of pain, weakness, as well as limited ability to perform gross and fine motor skills.

Pain, identified in the study as a related factor for the nursing diagnosis in question, is associated with lower functional capacity and when it evolves to a chronic stage, it is associated with disabilities that interfere with daily life, instrumental life activities and cause changes on mobility [17]. It was observed that pain was among the most related factors present in the study (82.1%), together with the sedentary lifestyle (82.1%). It is believed that the non-adherence of the elderly to the regular practice of physical activities is not only influenced by the deficient knowledge about it, as observed in 66.7%, but also directly related to the presence of pain.

In a study carried out previously with fifty elderly participants of activities in a Social Assistance Referral Center (CRAS) of Redencao-Ceara, it was observed that 48% of the participants were sedentary, and 36% reported never having practiced any type of physical activity. Relating to the theme, the findings of the present study suggest that a sedentary lifestyle may be deriving from impaired physical mobility.

It is indispensable that nurses encourage the practice of regular physical exercises among seniors, since it provides the increase and maintenance of health and physical fitness [18]. In addition to improving conditioning, physical activity promotes the reduction of bone and muscle mass loss, increased strength, coordination, balance, reduction of functional disability, of intensity of negative thoughts, of physical illness and it promotes well-being and good humor [18].

Attention is also drawn to the high percentage of discomfort observed among the elderly (76.9%), which was also present in the studied population, interfering negatively in their locomotion capacity. Another related factor was the joint stiffness, identified in 76.9% of the elderly. Aging leads to degradation of articular connective tissues, which are considered one of the important factors that promote limitations of muscular and tendinous flexibility in the elderly. In turn, it leads to progressive loss of joint amplitude and possible gait abnormalities [16].

Regarding the defining characteristics, one of the most observed was the engagement in substitution of movements, present in 74.4% of the sample. Musculoskeletal degeneration causes the elderly person to show greater difficulty in breaking the lower limb, predisposing to slipping [16]. It is considered important to raise awareness of this public regarding the need for greater care when performing the substitution of movements in the daily routine, in order to avoid the occurrence of falls and other injuries.

Regarding the defining characteristic related to gross motor skills (89.7%), the literature indicates that the reduction of muscle strength and power of the lower limbs together with the increase in joint stiffness negatively affect the gait of the elderly. To intervene under these conditions, it is necessary to emphasize large muscle groups through the practice of rhythmic and aerobic physical exercises, such as swimming, cycling, walking, water aerobics, among others, which improve the physical capacity of the elderly [19].

Concerning the Limited ability to perform fine motor skills present in 56.4% of the elderly, the-

re is also evidence of improvements in performing them with sports practices, such as adapted volleyball [20], which suggests that a physical exercise routine favors both gross and fine motor skills.

A study carried out with a population of sixty elderly in a family health center showed that 71.2% of the elderly did not perform regular physical activities, which was statistically associated with all the demands of moving and maintaining a proper posture [3]. The reduction of activities is an indicator of frailty, contributing to the decline of functional capacity. Thus, the practice of physical activities by the elderly is of fundamental importance for the preservation of mobility and, consequently, for the maintenance of independence and autonomy [3]. Therefore, health professionals should stimulate it among the old people.

Identifying changes in the physical mobility of the elderly is a necessary measure to be performed by nurses. These professionals should be aware of the clinical manifestations presented by the elderly person in order to avoid the occurrence of accidents, progression of diseases and, above all, to improve their quality of life.

As limitations, there was the reduced sample, which brings the importance of replicating the study with a greater number of elderly people.

Conclusion

The functional changes resulting from aging are a commonly observed reality. The nurse, as a member of the health team, has the technical competence and effective tools to identify these changes. The results obtained by this study revealed that the elderly living in Redencao-Ceara and enrolled in the Basic Health Care Unit - Headquarters I have social conditions and clinical indicators that predispose to the development of greater complications related to the locomotion capacity. Therefore, there is need of a more effective and targeted monitoring of this population.

The establishment of a sociodemographic profile of the population, the orientation of care and of focus of nursing research on the real needs of the elderly, and the greater knowledge about their health conditions contribute for nurses to identify the nursing diagnosis Impaired physical mobility and its components. In addition, the accomplishment of this study allowed the academic improvement in relation to nursing care and diagnostic inference.

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