Quality of life assessment in elderly with dizziness complain

Avaliação da qualidade de vida em idosos com queixa de tontura

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ABSTRACT

Introduction: Elderly individuals have in general a global involvement to health and therefore in the quality of life. One of the symptoms closely related to this loss is the dizziness. **Aim:** The Dizziness Handicap Inventory (DHI) is a scale widely used in research to evaluate the quality of life in patients with dizziness complaints. It was used in this study to assess the impact of dizziness on the quality of life of elderly community residents. **Method:** We interviewed 18 patients with dizziness from a group of elderly that works in service station of the Brazilian public health system, the Unified Health System (SUS). We performed a bivariate statistical analysis from the Kruskal-Wallis and Mann-Whitney test for a confidence interval of 95%. **Results:** Prospective study. The mean age of patients was 73.6 years. We found statistical significance when related to the functional aspects of DHI with dizziness and duration of dizziness, and presence of neurovegetative symptoms with emotional aspects and the total score of DHI. There was no statistical significance when comparing the DHI in the presence of tinnitus, hearing loss and co-morbidities. **Conclusion:** Despite the small sample, it appears that dizziness, as well as its duration and the presence of neurovegetative symptoms negatively affected the quality of life in the elderly.

Key words: Elderly, Dizziness. Tinnitus. Hearing loss.

RESUMO

Introdução: O idoso apresenta comprometimento global de saúde e, consequentemente, da qualidade de vida. Um dos sintomas que estão relacionados a esta perda é a tontura. **Objetivo:** O Dizzness Handicap Inventory (DHI) é uma escala amplamente usada em pesquisas para avaliação da qualidade de vida de pacientes com queixas de tontura, e foi este trabalho utilizada para avaliar o impacto desta tontura na qualidade de vida de idosos

residentes n comunidade. **Material e Método:** Foram entrevistados 18 pacientes com queixa de tontura, de um grupo de idoso de um centro de referência do Sistema Único de Saúde (SUS). A análise estatística foi bivariada a partir dos testes de Kruskal-Wallis e Mann-Whitney, para um intervalo de confiança de 95%. **Resultados:** Estudo prospectivo. A média de idade dos pacientes foi de 73,6 anos. Foi encontrada significância estatística quando se relacionaram os aspectos funcionais do DHI com a o tipo e duração da tontura, a presença de sintomas neurovegetativos com os aspectos emocionais e o escore total. Não foi encontrada significância estatística quando comparamos o DHI com a presença de zumbido, de hipoacusia e de comorbidades. **Conclusão:** Apesar do pequeno número amostral, verifica-se que a tontura, assim como sua duração e a presença de sintomas neurovegetativos associados, interfere de forma negativa na qualidade de vida em idosos.

Descritores: Idoso. Tontura. Zumbido. Hipoacusia.

INTRODUCTION

The world is currently going through the process of population aging. It is estimated an increase of about 200% of the elderly in developing countries from 1996 until 2025[1]. This process is characterized by a decrease in the functionality and adaptability, affecting mobility, autonomy and health of aged population [2].

One of the most impaired functions by age advancing is the ability to keep the man standing in the orthostatic position[3,4]. Dizziness is a feeling of change in body balance, caused by conflicting sensory information coming from the visual, vestibular and proprioceptive systems[4]. Regarding to the elderly it is considered a multifactorial geriatric syndrome[5,6], which directly affects the quality of life, their activities and sometimes turning them to dependence[4].

For the World Health Organization (WHO) quality of life is "an individual's perception of their position in life in the context of culture and value systems in which they live and related to their goals, expectations, standards and concerns"[7] . Assessing quality of life (QOL) has become paramount, by verifying through patient's perspective the impact of disease and treatments[4]. Despite the high prevalence of dizziness among the elderly, there are yet few studies objecting to assess QOL in this population[4, 8].

The Dizziness Handicap Inventory (DHI), developed and validated in 1990 by Jacobson and Newman, specific for dizziness, aims to assess the perception of its disabling effects[9]. For specialists who treat elderly patients with dizziness, it is important to distinguish whether is the dizziness that really causes problems to their day-to-day, worsening their quality of life, or if other aspects of life of the elderly, such as other diseases and number of medicines they use, are responsible for the discomfort. In this sense, it is important to study the quality of life in terms of the aspects of dizziness specifically, how does the DHI.

The objective of this study was to evaluate the QOL through DHI questionnaire in elderly participants of a group of senior citizens with dizziness from a reference center of SUS from Natal-RN, Brazil.

METHODS

The present research is a cross-sectional study, approved by the Ethics and Research Committee of Federal University of Rio Grande do Norte (UFRN), by the document of No. 309/2012. All patients read and signed the informed consent form.

The sample consisted of 18 subjects aged over 60 years, with dizziness in the last year. These seniors were recruited from a Senior group in a service station of the Brazilian public health system, the Unified Health System (SUS), located in Natal-RN, Brazil.

The study included all seniors who attended meetings of the Group during the two months of collection. Individuals with cognitive impairment, significant deficit of memory and attention, as well as wheelchair users were excluded of the research. This is a group of seniors of a SUS health unit, where they participate of a prevention programs, and have regular appointments with geriatrician, cardiologist, endocrinologist and psychiatrist, so we attempted to homogenize the sample with elderly without uncontrolled illnesses.

The data collection instrument was the Brazilian version of DHI, completed by trained interviewers, and a questionnaire directed to otoneurological history. The DHI is a validated scale for the Brazilian population, composed of twenty-five questions, which aims to evaluate the effect of dizziness on the physical (7 questions), emotional (9 questions) and functional aspects (9 questions) of individuals activities of daily living[10]. Each "yes" answer worth 4 points, "sometimes" worth 2 points, and the answer "no" score zero[9, 10]. The responses were analyzed in groups of each aspect separately and by the total score of DHI. The higher the final score, the worse was the perception of QOL of patients with dizziness.

The DHI values were related to the type of dizziness according to the classification of Drachman and Hart[11], duration of dizziness (seconds, minutes, hours and days), the presence of neurovegetative symptoms (nausea and sweating), tinnitus (unilateral or bilateral), hearing loss (unilateral or bilateral), of ear fullness (unilateral or bilateral) and the number of co-morbidities and medications.

The results were analyzed by bivariate statistics from the Kruskal-Wallis and Mann-Whitney tests for a confidence interval of 95%.

RESULTS

The mean age of patients was 73.6 years. The majority of the sample was female (17 women and 1 man).

The most common type of dizziness found was presyncope, which lasted seconds, had nausea and sweating, otoneurological symptoms, and up to three diseases and three drugs. (Table 1).

Table 1 – Distribution of the number of elderly in relation to type of dizziness, dizziness duration, presence of neurovegetative symptoms, tinnitus, presence of ear fullness, presence of hearing loss, number of medications and number of comorbidities. Natal-RN, 2012.

	N	%
Type of dizziness		
Vertigo	3	16,7
Desequilibrium	3	16,7
Floating sensation	2	11,1
Presyncope	4	22,2
More than one type	6	33,5
Dizziness duration		
Seconds	8	44,4
Minutes	5	27,8
Hours	1	5,6
Days	4	22,2
Neurovegetative symptoms		
Yes	10	55,6
No	8	44,4
Tinnitus		
Unilateral	8	44,4
Bilateral	6	33,3
Não	4	22,2
Plenitude aural		
Unilateral	5	27,8
Bilateral	5	27,8
Não	8	44,4
Hearing loss		
Unilateral	4	22,2
Bilateral	6	33,3
None	8	44,4
Comorbidities		
None	1	5,6
1 a 3	11	61,1
4 ou more	6	33,3
Number of medications		
None	1	5,6
1 a 3	10	55,6
4 ou mais	7	38,9

We found statistical significance when were related the functional aspects of DHI with the type of dizziness, however, due to the reduced sample, when the post-test and the data penalty were done , no difference was found between the pairs. Regarding the duration of dizziness it was observed statistical significance when "seconds or minutes" were compared to "hours and days", related to the functional aspects of DHI (p = 0.014). When neurovegetative symptoms were associated with the emotional aspects and with the total score of DHI, p values were significant. (Table 2). There was no statistical significance when comparing the DHI with tinnitus (p = 1.000), hearing loss (p = 1.000), ear fullness (p = 0.314), number of comorbidities (p = 1.000) and number of medicines in use (p = 0.635).

Table 2 – Association between functional and emotional aspects and total DHI score with the type of dizziness, the duration of dizziness and the presence of neurovegetative symptoms.

	N	Median (Q25 – Q75)	*P*
Functional DHI			
Vertigo	3	10 (7-11)	0,046
Desequilibrium	3	6 (5-7)	
Floating sensation	2	7 (0-14)	
Presyncope	4	25 (11-34)	
More than one type	6	23 (20-26)	
Functional DHI			
Seconds to Minutes	13	10 (4-18)	0,014
Hours to Days	5	24 (22-32)	
Total DHI score			
Presence of neurovegetative symptoms	10	69 (42-72)	0,043
Absence of neurovegetative symptoms	8	25 (18-36)	
Emotional DHI			
Presence of neurovegetative symptoms	10	21 (18-28)	0,034
Absence of neurovegetative symptoms	8	4 (3-8)	

DISCUSSION

Dizziness is more prevalent among the elderly who tend to have a worse body balance[12]. Mota et al[13] and Hain et al[14] showed, through their studies, that regarding to the elderly we should take into account the aging of the sensory systems, mainly the vision, proprioception, plantar pressure receptors and function of internal ear[13, 14]. Neuronal loss also occurs in the brain and cerebellum. Consequently, the neuronal apparatus designed to balance and vestibular-oculomotor function has gradual loss of speed and accuracy, manifesting itself by dizziness and vertigo[15]. In the present study, we observed the predominance of females, supporting the literature which states that dizziness is significantly higher in this gender[16, 17].

The dizzy patient usually reports difficulty in concentration, memory loss and fatigue. The insecurity caused by chronic dizziness and imbalance can lead to

irritability, loss of confidence, fear of going out alone and have a serious illness, feeling out of reality, in addition to anxiety, depression or panic[18, 19.20]. The disorders of the vestibular system can generate physical and emotional problems and cause incapacity for performing professional, social and domestic activities, worsening the QOL of the patients[21, 22].

The conventional tests used for diagnosis of vestibular disorders are insufficient to assess all limiting and / or disabling effects imposed by dizziness. Therefore, obtaining an instrument for assessing the quality of life of individuals suffering from vertigo and / or dizziness other is very important for health professionals involved in the treatment of these patients.

Jacobson and Newman[9], in 1990, designed and validated a dizziness specific questionnaire, the Dizziness Handicap Inventory (DHI), in order to evaluate the patient's own perception of the disabling dizziness effects. The DHI consists of questions that evaluate the physical, emotional and functional aspects[9, 10].

According to Castro and et al[10], the scores related to physical aspects evaluate the relationship between the onset and / or worsening of dizziness and its interference in some movements of eyes and head. The ability of the individual to perform professional, domestic, social, leisure, and his independence when performing certain tasks are evaluated by functional aspects. Yardley and Putman[18] say many patients with dizziness restrict their physical activities, trips and social meetings , in order to reduce the risk of occurrence of symptoms, agreeing with the results of this study, which demonstrated statistical significance when related functional aspects DHI with the type and duration of dizziness. The high median to dizzy lasting hours to days confirms that the longer the duration of dizziness, more disturbed becomes the patient, which reflects a worsening of quality of life, in their own perception.

Castro[10] further discloses that the emotional aspects of the DHI are used to investigate the possibility of affecting the QOL of patients generating frustrations, fear of going out alone or stay home alone, leading to concerns about self-image, disturbed concentration, feelings of failure, change in family or social relationships and depression[10]. These concerns may be associated also to the neurovegetative symptoms, which include, for example, nausea, sweating and palpitation. In this study was found statistical significance when related emotional aspects of DHI with the presence of these symptoms ($p = 0.034$), which demonstrates thereby the impairment of the quality of life in her routine.

Studies of Yardley and Putman[18] (1992) and Castro et al[10] (2007) corroborate the data we found in this study, which show to be related to the total scores of DHI with the presence of neurovegetative symptoms ($p = 0.043$). We know, therefore, that these variables directly influence the patient perception of quality of life, to conduct their activities and sense of well-being.

The high values of the medians for the presence of neurovegetative symptoms in relation both to the general questionnaire and in relation only to the emotional aspects, confirm that these symptoms significantly affect the patient's perception of well-being, interfering with their quality of life.

Other symptoms that are described as being of major importance in regard to interference in the quality of life of patients with dizziness are the presence of tinnitus, hearing loss and several comorbidities[23, 24] by interfering directly in sleep, concentration, emotional balance and social life[25]. Thus, they would bring harm to their perception of well-being. It was not found, however, any association in this study when these variables were compared with the DHI, although they are present in most patients. In other studies it was also found a high frequency of hearing complaints in older adults with dizziness[8, 26].

It is known that the number of comorbidities and polypharmacy greatly influence the onset of dizziness in the elderly[27, 28], however the data of this study show no association between the DHI, the number of comorbidities ($p = 1.000$) and medicines of uninterrupted use($p = 0.635$), indicating that the latter probably are not the reasons that cause poor quality of life, but properly the dizziness.

CONCLUSION

The DHI can be applied to the elderly population as a tool for assessing the impairment caused by dizziness in the patient's quality of life and, despite the small sample size of this study. It was seen that dizziness, as well as its duration and the presence of associate neurovegetative symptoms associated, negatively affects the quality of life in the elderly.

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