The nursing diagnosis, impaired memory, in hospitalized elderly*

Diagnóstico de enfermagem memória prejudicada em idosos hospitalizados

Diagnóstico de enfermería memoria perjudicada en ancianos hospitalizados

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ABSTRACT

Objective: Identify and analyze the nursing diagnosis of Impaired Memory (IM) in hospitalized elderly. **Methods:** A quantitative, exploratory study was performed using a research protocol, leading to the identification of the nursing diagnosis, Impaired Memory, in 61 elderly inpatients in a university hospital in the state of Rio de Janeiro. **Results:** Among these seniors, 24 (39.4%) exhibited IM; 50% of these seniors were women, 33.3% were aged 71-75 years and 45.8% had completed elementary education. The study identified 125 defining characteristics, with the primary characteristic being: forgets to perform a behavior at a scheduled time. A total of 54 related factors were identified, with the primary factor (50%) noted to be: fluid and electrolyte imbalance. **Conclusion:** The need for trained nurses anticipating risks triggering admissions is necessary for accurate identification of nursing diagnoses in the hospital setting. It is especially important that nurses are able to identify memory loss and assess maintenance of functional capacity, with a view to rehabilitation after discharge and promotion of holistic treatment for these patients.
Keywords: Dementia; Nursing diagnosis; Geriatric nursing; Memory; Health of the elderly

RESUMO

Objetivo: Identificar e analisar o diagnóstico de enfermagem Memória Prejudicada (DEMP) em idosos hospitalizados. **Métodos:** Estudo quantitativo, exploratório, realizado com aplicação de um protocolo e identificação do diagnóstico de enfermagem Memória Prejudicada em 61 idosos internados em um hospital universitário do Estado do Rio de Janeiro. **Resultados:** Dentre esses idosos, 24 (39,4%) possuíam o DEMP, 50% eram mulheres; 33,3% com idades entre 71-75 anos e 45,8% cursaram o ensino fundamental incompleto. Foram encontradas 125 características definidoras, sendo a principal, esquecimento para efetuar uma ação em horário planejado. Evidenciou-se um total de 54 fatores relacionados e predominantemente (50%), desequilíbrio hídrico e eletrolítico. **Conclusão:** A busca pela identificação de diagnósticos de enfermagem no ambiente hospitalar justifica-se pela necessidade de enfermeiros capacitados anteciparam os riscos desencadeantes das internações e, sobretudo dos prejuízos de memória e manutenção da capacidade funcional. Com vistas à reabilitação pós-alta e promoção de um atendimento integral.
Descritores: Demência; Diagnóstico de enfermagem; Enfermagem geriátrica; Memória; Saúde do idoso

RESUMEN

Objetivo: Identificar y analizar el diagnóstico de enfermería Memoria Perjudicada (DEMP) en ancianos hospitalizados. **Métodos:** Se trata de un estudio cuantitativo, exploratorio, realizado con la aplicación de un protocolo e identificación del diagnóstico de enfermería Memoria Perjudicada en 61 ancianos internados en un hospital universitario del Estado de Rio de Janeiro. **Resultados:** De los ancianos, 24 (39,4%) poseían el DEMP, el 50% eran mujeres; el 33,3% tenían edades comprendidas entre 71 a75 años y el 45,8% cursaron primaria incompleta. Se encontraron 125 características definitorias, siendo el principal, el olvido para efectuar una acción en un horario planificado. Se evidenció un total de 54 factores relacionados y predominantemente (50%), desequilibrio hídrico y electrolítico. **Conclusión:** El afán por la identificación de diagnósticos de enfermería en el ambiente hospitalario se justifica por la necesidad de que los enfermeros capacitados se anticipen a los riesgos desencadenantes de los internamientos y, sobre todo de los perjuicios de memoria y manutención de la capacidad funcional. El objetivo es la rehabilitación post-alta y la promoción de una atención integral.
Descriptores: Dementia; Diagnóstico de enfermería; Memoria; Enfermería geriátrica; Salud del anciano

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INTRODUCTION

During the aging process, losses and important changes may occur in the organism, especially in the systems: central nervous, respiratory, musculoskeletal and cardiovascular, however, these may or may not be related to the signs and symptoms constituent of pathological conditions[1-3]. In terms of Gerontology, the losses become pathological when they occur as losses in functional capacity, i.e. in autonomy and independence[1,3-4]. Among these diseases, dementia syndromes take a position of prominence as they lead to progressive loss in functional capacity[5-6]. Two main conditions of dementia can be expected, the reversible ones, in which it is still possible to prevent or interrupt the disease course and even reverse the condition, also known as treatable; and a second type, named irreversible, without prevention, and with a inexorable progressive course[7-9].

Considering the increasing number of hospitalized elderly people, with rates of almost 50% of the daily occupation of hospital beds, dementia syndromes constitute a major cause of hospitalization in people over 60 years[5]. These can present as primary causes, when an individual is hospitalized due to a deficit in nutrition because of dysphagia, for example; or as secondary, as in the treatment of pneumonia caused by a dysphagic process over a long period[3-4,7]. An elderly person considered frail, or who presents a risk of developing adverse conditions or geriatric syndromes, often has multiple health problems. Thus, the disease in the acute or chronic stage may result from various pathological factors rather than a single cause[1,4]. The geriatric syndromes, i.e. problems caused by multiple etiological factors, should be frequently evaluated by nurses with a multidisciplinary team, seeking prevention and promotion of care to the 5 'I's of geriatrics: immobility, instability, iatrogenic complications, intellectual impairments and incontinence[4]. Thus, the complexity of geriatric care and above all that relevant to the geriatric syndromes, such as dementia syndrome and consequent loss of memory and cognition, highlight the need to investigate the presence of the nursing diagnosis Impaired Memory in hospitalized elderly.

From this, the research problem was constructed: What is the incidence of the nursing diagnosis Impaired Memory in hospitalized elderly? With the aims: To identify the nursing diagnosis Impaired Memory (NDIM) in elderly inpatients in the internal medicine and surgery wards of a university hospital in the state of Rio de Janeiro; To classify the defining characteristics present in the NDIM for the application of the protocol with the hospitalized individuals; To verify the main related factors present in the NDIM found by searching the documentary evidence.

Impaired memory is by definition the inability to remember or to recall pieces of information or behavioral skills. Their defining characteristics (DCs) are: forgetting to perform an action at the time planned; experiences of forgetfulness, inability to learn and retain new skills and information; inability to determine whether an action was taken; inability to perform a previously learned skill; inability to recall factual information. Related factors are anemia, decreased cardiac output, fluid and electrolyte imbalance, excessive environmental disturbances, neurological disorders and hypoxia[10]. Thus, in the search to identify the nursing diagnosis in the hospital environment, the aim was to contribute to the formation of knowledge and practices that help nurses to anticipate and minimize the risks triggered by hospitalization in the elderly population, especially memory loss and maintenance of daily activities in the elderly in the acute process, to enable them to rehabilitate after discharge and to promote integrated care.

METHODS

This quantitative, exploratory study was developed with 61 elderly patients hospitalized in the Antônio Pedro University Hospital, of the Fluminense Federal University (HUAP/UFF), located in Niterói - Rio de Janeiro, in the internal medical-surgical sector. Initially, in order to highlight the DCs of the NDIM and due to the need to validate, in the hospital environment, the applicability of the tests: Mini-Mental State Examination (MMSE), Geriatric Depression Scale (GDS), the Lawton Instrumental Activities for Daily Living Scale (IADL), and the Katz Activities of Daily Living Scale (ADL). Instruments used internationally in elderly health care[11-13]. A pilot test was conducted and resulted in the creation of a protocol for the identification of the NDIM. To standardize the data analysis and results to be obtained, there was a need for a prior correlation between the DCs and the tests applied, in order to develop a protocol. Subsequently, in order to improve the comprehension of the items and to analyze the correlation of cognitive evaluation instruments to the DCs of the ND under study, the protocol of NDIM was assessed by five experts in the systematization of nursing care and health of the elderly, who gave a favorable opinion for their use.

Data collection was performed in August 2007, from the admission register of elderly people in the internal medicine and surgery wards. Thus, the selection of participants occurred by simple random sampling. Constituted from the following inclusion criteria: people over 60 years of age, able to express themselves verbally and with the exclusion criteria: life-threatening clinical conditions and no legal guardian. Simple and varied descriptive analytical statistical treatment was applied to the charts with absolute values and/or percentages. The research project was approved by the Research Ethics

Committee of the Center of Medical Sciences of UFF, CAAE nº. 0041.0.258.000-07 in accordance with Resolution nº. 196/96 of the National Health Council of the Ministry of Health. The terms of free prior informed consent were signed by those legally responsible for the elderly participants of the study.

RESULTS

Sociodemographic characteristics

During the period of data collection, 123 elderly were hospitalized in the wards studied and the data collection instrument was administered to 61 elderly, approximately 50% of the sample. The result is relevant because it presents a considerable value in a particular age range of clientele which is constantly growing. From the 61 protocols applied, it was concluded that 24, or 39.4%, of the elderly patients presented the NDIM, consisting of 12 (50%) women and 12 (50%) men, who required specific and specialized nursing care in the promotion of effective care. Regarding the homogeneity of the NDIM by sex, its presence was established at random and only with studies of prevalence is it possible to clarify the existence of an increased risk for one of the genders.

The data in Table 1 show the main sociodemographic characteristics and the main results of the scales and tests. The ages ranged between 60 and 92 years, predominantly aged between 71 and 75 years with (33.3%) of the participants. In relation to the level of schooling, 11 (45.8%) of the participants had incomplete elementary education. Regarding the scales and tests used, from the application of the Mini-Mental State Examination (MMSE), a relationship was identified between symptoms of cognitive impairment of the elderly patients and the results found in the NDIM. The MMSE, a screening test for dementia diagnosis, helps the evaluator to quantitatively estimate the cognitive impairment of patients[12-13]. The cutoff points, according to educational level are: 13 points for illiterates, 18 for an average level of schooling (up to 8 years of formal education), and 26 for individuals with a higher level of schooling (more than 8 years)[12-13].

Thus, 11 (45.8%) participants scored below 13 points (severe cognitive impairment), nine (37.5%) presented mild cognitive impairment and only four (16.7%) elderly patients had no cognitive impairment. According to the data presented, it should be possible to establish a relationship between those elderly patients with maximum levels of schooling with complete elementary education (80%) and those with values below 18 points in the MMSE (83%). Thus, the low schooling level helps in the comprehension of the degree of cognitive impairment existing in the majority of the participants

with NDIM.

Table 1 – Sociodemographic variables and results of the cognitive testing in 24 elderly inpatients with NDIM in the HUAP/UFF. Rio de Janeiro, 2009.

Variables	n	%
Gender		
Female	12	50
Male	12	50
Age group		
60 - 65	3	12.5
66 - 70	2	8.3
71 - 75	8	33.3
76 - 80	5	20.8
81 - 85	3	12.5
86 - 90	2	8.3
91 - 95	1	4.2
Schooling		
Illiterate	5	20.8
Incomplete elementary education	11	45.8
Complete elementary education	3	12.5
Incomplete high school education	2	8.3
Complete high school education	2	8.3
Complete further education	1	4.2
Results MMSE		
<13	11	45.8
<18	9	37.5
<26	4	16.7
ADL*		
A		
Female	3	12.5
Male	-	-
B		
Female	2	8.3
Male	1	4.2
C		
Female	1	4.2
Male	3	12.5
D		
Female	1	4.2
Male	2	8.3
E		
Female	1	4.2
Male	-	-
F		
Female	-	-
Male	1	4.2
G		
Female	4	16.7
Male	5	20.8
GDS		
<5	18	75.0
>5	6	25.0

* The greater progression of the letter indicates higher dependence of the elderly patient.

Defining characteristics

In the study population a total of 125 DCs were

evidenced, with a mean of five DCs for each elderly patient (Figure 1). These data confirm previous studies on the presence of multiple cognitive impairments in elderly hospital patients, the frequent identification of more than one DC per individual, and also highlights the complexity of care offered[4,9]. The elderly patients were also evaluated using the IADL scale, which estimates dependence in the instrumental activities of daily living, classifying as independent those with values above 21 points and dependent those with below 21 points[13]. With respect to the participants with NDIM and the relationship between gender and mean values of the IADL, both women and men demonstrated dependence. However, men had lower scores, suggesting a greater degree of dependence in the performance of IADL. Thus, it was observed that the mean IADL score among the men was 9 points, and among the women, 12 points. The result indicates a deficit in the male population 25% higher than the female. Regarding the results of the ADL scale of evaluation of the degree of dependency of the elderly patients in the realization of activities of daily living, it was determined that, conforming to the progression of the letters, the more dependent the elderly patient will be[6-7,13]. Relating to gender and estimates of the ADL, there were no male participants with the result "A" (totally independent), but 3 (25%) elderly women presented this profile[13].
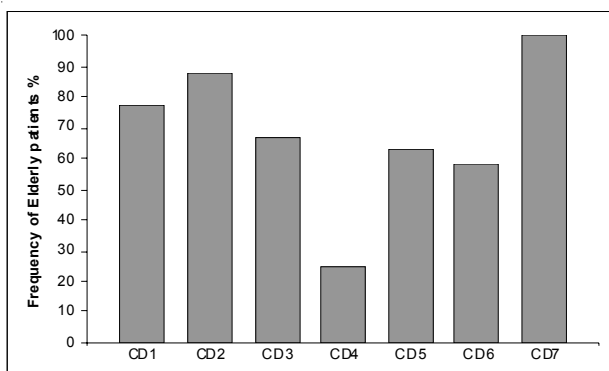

DC1 – Inability to recall passed or recent events; DC2 – Inability to retain factual information; DC3 – Inability to learn or retain new skills or information; DC4 – Experiences of forgetfulness; DC5 – Inability to determine if an action has been performed; DC6 – Inability to execute a skill previously learned; DC7 – Inability to perform an action at the planned time

Figure 1 – Defining characteristics identified in 24 elderly patients with NDIM HUAP/UFF. Rio de Janeiro, 2009.

Among the DCs identified, 24 (100%) patients presented DC7 - forgetting to perform an action at a planned time, observed on the basis of the ADL and IADL scales. Secondly, with 21 (87.9%), DC2 - inability to recall factual information, was more incident, identified from the tests of language, attention, calculation, drawing and clock. The distribution of the

DCs can be observed in Figure 1. In third position, with 18 elderly patients (75%), was DC1 - inability to recall past or recent events, this DC was analyzed from the MMSE, IADL, ADL and clock test. Sixteen (66.7%) had DC3 - inability to learn new skills, inability to learn new information, inability to retain new skills, inability to retain new information. These characteristics were identified based on the completion of the MMSE, from the tests of registration, language, memory recall and word recall.

With DC5 - inability to determine whether an action was taken, 15 individuals (62.5%) were identified. This characteristic was evidenced from the application of the IADL scale and also from the ADL scale. Regarding DC6 - an inability to perform previously learned skills, this was present in 14 elderly (58.3%). This DC evaluates motor capacity, the execution of commands and writing. The analysis of DC6 was performed through the clock test, word recall and drawing of a pentagon. Concerning DC4 - experiences of forgetfulness – this was found in six elderly patients (25%) who reported such perception when questioned specifically about the functioning of the memory and also presented relevant results (a score greater than or equal to 5 points) in the evaluation using the Geriatric Depression Scale (GDS)[14]. The GDS, evaluation scale that assists in the identification of cases suggestive of depression, constitutes a differential to avoid confusion between conditions of dementia and depression. Results from 5 to 7 should be investigated and above 7 indicate probable depression[14]. Although not diagnosed as clinical depression, its occurrence varies between 10% to 25% in the elderly living in the community, between 12% to 16% in elderly residents of long-term care institutions and over 20% to 30% for institutional residents with depressive symptoms[7,9,14-15].
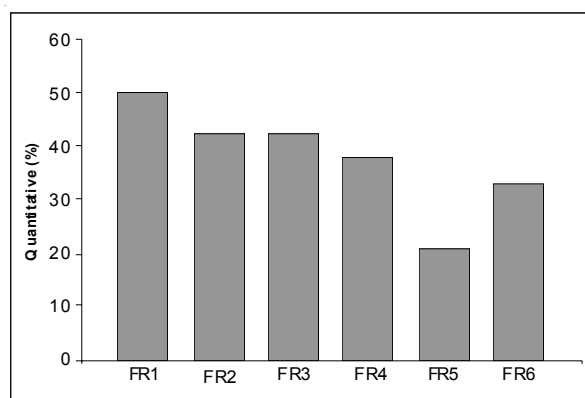
RF1 - Fluid and electrolyte imbalance; RF2 – Neurological disturbance; RF3 – Environmental disturbance; RF4 – Anemia; RF5 – Hypoxia; RF6 – Decreased Cardiac Output

Figure 2 – Related factors according to elderly patients with NDIM. HUAP/UFF. Rio de Janeiro, 2009.

Over 10% of the referred elderly population had at

least five or more chronic diseases[9,15]. As is the case of the DCs, the related factors (RFs) also have the possibility of more than one RF occurrence per study participant. Thus, 54 related factors were found in the 24 elderly patients with NDIM, or 2.2 RFs for each elderly patient. The most frequent was RF1, fluid and electrolyte imbalance, encountered in half of the individuals, conforming to the data in Figure 2 which shows the distribution of the RFs.

Therefore, RF2 and RF3, neurological disturbance and frequent excessive environmental disturbances respectively, were observed in ten participants (41.7%). It should be noted that of the total of elderly patients with NDIM, five (20.8%) had a diagnosis of cerebral vascular accident and four (16.7%) a diagnosis of Alzheimer's disease. However, only two of the elderly patients presented the primary diagnoses reported above as the main reason for hospitalization. The third most prevalent RF identified was RF4, anemia, in 9 (37.5%) of the elderly patients. Decreased cardiac output, RF6, was found in 8 (33%) of the elderly patients, composing one of the leading causes of mortality among the elderly in Brazil.

DISCUSSION

When performing a simple analysis, it was concluded that within a 30 day period, each day, at least four new elderly were hospitalized in the wards studied, corroborating studies in which rates of hospitalization of patients over 80 years were found to be four to five times higher than those for the group between 40-49 years[11,15]. This situation demands specific and specialized nursing care for the promotion of effective care.

It has been observed that the prevalence of dementia increases exponentially with age, doubling approximately every five years, from 60 years of age until 93 years of age. In addition, with the increase in age, every five years, rates tripled until 63 years, doubling between the ages of 64 and 75 and increased one and a half times around 84 years[1-3]. Studies comparing the prevalence and incidence of dementia syndromes conducted in two populations of Boston USA residents, obtained results that were not significantly different between men and women[8-9]. Therefore, a greater number of women with dementia syndrome could be caused by the greater life expectancy of women and not by a specific factor linked to gender. For this assertion, additional studies will be required to clarify the influence of gender on prevalence rates. From the results of the ADL scale, it was observed that the vast majority of elderly patients remain totally dependent. When analyzing the percentage of elderly males, a higher the percentage of totally dependent individuals was observed.

In Brazil, the score of the validated MMSE ranges from 0 to 30 points and has, as an aid in its classification of results, the level of schooling[5-8]. Thus, the percentage of elderly patients with NDIM who presented low levels of schooling and scored below 18 on the MMSE are very close (approximately 80%), justifying the identification of a direct relationship between cognitive reserve capacity and the level of schooling[11-12]. The high prevalence of DC7, forgetting to perform an action at the planned time, is related to low scores in the ADL and IADL scales, the clock test and reports of the participants and caregivers. These data reinforce the relationship of the hospitalization process and its influence on the functional capacity of the elderly. Regarding DC2 - deficit of registration of factual information – there are a number of causal factors. Among these, the process of disorientation, impairment of memory and of cognitive functions through which the institutionalized elderly pass, adverse reactions, iatrogenisis, dependence developed during hospitalization and lack of environmental stimuli can be considered.

The potential risks (falls, infections, incontinence, pressure ulcers, dehydration, delirium, immobility, depression) may interfere directly in memory impairment, and memory impairment may exacerbate these risks, as seen in Figure 3. As a consequence of these complications, the hospitalization of the elderly can occur through the process of exacerbation of a chronic condition. With this, the nurse must be able to identify the cause of the complications that may be presented as problems secondary to the primary causes.
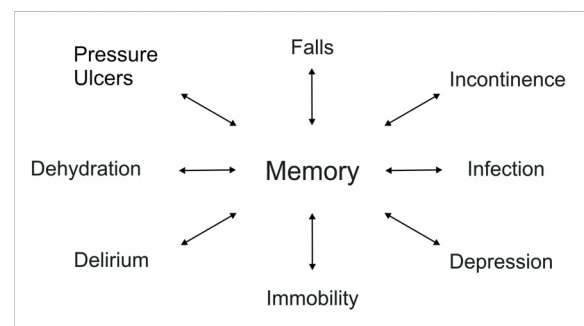
Figure 3 – Diagram of potential risks for memory deficits. Rio de Janeiro, 2009.

The inability to recall events – DC1 – was related to the short-term memory, as it is one of the first sites of information storage to suffer damage. Consequently, signs of memory loss and/or some cognitive alteration already installed are manifested, which can be caused by either a reversible or irreversible dementia. The DCs identified - incapacity: to learn new skills; learn new information; to retain new skills; and retain new

information can contribute to delays in carrying out quotidian activities. Although the ability to record information, attention and concentration decrease, the ability to learn is retained. Therefore, there is a need for an accurate evaluation by the nurse to avoid myths and stereotypes of aging.

The elderly patients with advanced stage cognitive impairment, when hospitalized due to the condition of reduction of environmental stimulus, tend to have an exacerbation of the disease, increasing, consequently, their degrees of dependence[6-7,13]. Thus, DC5, corresponding to the inability to determine whether an action was performed, was present in most individuals as considerable dependence in performing their daily activities. The experiences of forgetfulness - DC4, may present relationships with the onset of the condition of depression in the elderly, a complex disorder, with different manifestations. Although the depressive episodes may have been a problem throughout the life of the individual, it is not uncommon for this disorder to be a new problem in old age. It can be associated with biopsychosocial and sociocultural factors, and other variables[6,14]. It is therefore important that nurses develop a careful evaluation in order to increase diagnostic accuracy in the correct identification of the various complaints of cognitive impairment.

In depressed patients, memory complaints are more often presented when compared to patients with dementia syndrome, but may be detailed, even without cooperation and willingness[12,14]. However, in dementia, there is no complaint, and when it occurs, takes place without the possibility of detailing. In depression, there is loss of sociability, whereas in dementia this process is initially maintained, especially in the early phase[5-7].

The low number of diseases identified in the elderly patients and, consequently, of RFs highlights an important issue that can occur in the hospital environment, the provision of care only to the factor of hospitalization, i.e. the main complaint, because it is the more evident pathological condition. There needs to be a holistic approach which addresses the individual in their pathophysiological, social and psychological context, ensuring quality care. The prevalence of RF1 - fluid and electrolyte imbalance, can be explained by the ability to present itself as a potentializer of chronic cognitive impairment and of the development of acute conditions. The sudden onset of confusion may be the first symptom of dehydration or an alteration in physical function, caused, for example, by pneumonia, urinary tract infection or dehydration[5-6].

Decreased cardiac output (RF6) occurs without specific cause, however, can be prevented. The neurological disorders, RF2, have as their leading cause the increased risk of cerebral irrigation deficit,

consequently triggering injuries harmful to the cognitive functions. Smoking, obesity, ineffective stress management, high cholesterol and hypertension constitute major risk factors for the development of neurovascular diseases[1-3,5]. Anemia (RF4) was also found in patients with cognitive impairment. Therefore, examinations were needed to assist in identifying differential diagnosis, such as: biochemical, research on vitamin B12 deficiencies and liver disorders, since these factors can confound the clinic and superimpose themselves over the primary degenerative process, leading to cognitive loses, such as concentration deficit or slowness of movement, usually secondary to the dementia[4]. In relation to RF5, hypoxia, it is important to note that, during oxygen therapy, the retention of carbon dioxide may trigger carbon dioxide narcosis in the elderly, a serious complication, which presents conditions ranging from confusion, agitation, hypotension, circulatory failure to cerebral depression, which can progress to drowsiness or coma[1,4]. Therefore, this therapy should be used prudently, monitoring the blood gases and observing the elderly and their clinical symptoms.

CONCLUSION

The identification of 24 elderly patients (39.4%) with NDIM in the internal medicine and surgery wards, which represents approximately 20% of the elderly clientele of this site, highlights the need for training of professionals with a view to multidimensional evaluation of the hospitalized elderly and their care network. The protocol developed has contributed greatly to the identification of the DCs related to the evidence of cognitive impairments presented in the tests and scales used. Its prior validation provided greater security and applicability to the study, in addition to indicating the possibility of its implementation in the hospital environment and the effectiveness of use of the tests to the hospitalized client, encouraging the development of diagnostic accuracy and reducing the chances of developing an inaccurate nursing diagnosis.

During the application of the protocol, associated diseases not registered in medical records were found, this could be associated with the low number of RFs identified, evidencing a trend in caring for the primary complaint of hospitalization, decreasing the possibilities of attention to the different responses presented by elderly with geriatric syndrome. From the classification of 125 DCs present in the NDIM, their high frequency in hospitalized elderly patients can be inferred, with an average of five in each diagnosis performed. That is, individuals present more than one evidencing characteristic of NDIM, justifying the complexity of

caring for the elderly patient with a diagnosis of impaired memory, as well as the need to develop skills and competencies in such diagnostic evaluation. Therefore, the identification of the nursing diagnosis indicates the need to formulate a plan of interventionist measures, using mnemonic techniques, training of caregivers and therapeutic communication, thus, contributing to integral care and the promotion of the quality of life, autonomy and independence of the elderly.

REFERENCES

1. Berger LM. Relação de ajuda em gerontologia. In: Berger LM, Mailloux-Poirier M. Pessoas idosas: uma abordagem global. Lisboa: Editora Lusodidacta; 1995. p. 21-61.

2. Carvalho Filho ET, Netto MP. Geriatria: fundamentos, clínica e terapêutica. 2a ed. São Paulo: Atheneu; 2006.

3. Eliopoulos C. Gerontological nursing. 7th ed. Philadelphia: Lippincott Williams and Wilkins; 2010.

4. Touhy TA, Jett KF. Ebersole and Hess' gerontological nursing and healthy aging. 3rd ed. St. Louis: Mosby; 2010.

5. Lopes MA, Bottino CMC, Hototian SR. Epidemiologia das demências: análise crítica das evidências atuais. In: Bottino CM, Laks J, Blay SL. Demência e transtornos cognitivos em idosos. Rio de Janeiro: Guanabara Koogan; c2006. p. 23-30.

6. Souza PA, Bastos RCR, Santana RF, Sá SPC, Cassiano KM. Oficinas de estimulação cognitiva para idosos com demência: uma estratégia de cuidado na enfermagem gerontológica. Rev Gaúch Enferm. 2008;29(4):588-95.

7. Santana RF, Santos I, Caldas CP. Cuidando de idosos com demência: um estudo a partir da prática ambulatorial de enfermagem. Rev Bras Enferm. 2005;58(1):44-8.

8. Hebert LE, Scherr PA, McCann JJ, Beckett LA, Evans DA. Is the risk of developing Alzheimer's disease greater for women than for men? Am J Epidemiol. 2001;153 (2):132-6.

9. Pereira RS, Curioni CC, Veras R. Perfil demográfico da população idosa no Brasil e no Rio de Janeiro em 2002. Textos Envelhecimento. 2003;6(1).

10. North American Nursing Diagnosis Association. Diagnósticos de enfermagem da NANDA: definições e classificação 2009-2011. Porto Alegre: Artmed; 2010.

11. Sakano LM, Yoshitome AY. Diagnósticos e intervenções de enfermagem em idosos hospitalizados. Acta Paul Enferm. 2007;20(4):495-8.

12. Brucki SMD, Nitrini R, Caramelli P, Bertolucci PHF, Okamoto IH. Sugestões para o uso do mini-exame do estado mental no Brasil. Arq Neuropsiquiatr. 2003;61(3B):777-81.

13. Bustamante SEZ, Bottino CMC, Lopes MA, Azevedo D, Hototian SR, Litvoc J. Jacob Filho W. Instrumentos combinados na avaliação da demência em idosos: resultados preliminares. Arq Neuropsiquiatr. 2003;61(3A):601-6.

14. Almeida OP, Almeida SA. Confiabilidade da versão brasileira da Escala de Depressão em Geriatria (GDS) versão reduzida. Arq Neuropsiquiatr. 1999;57(2B):421-6.

15. Carvalho JAM, Garcia RA. O envelhecimento da população brasileira: um enfoque demográfico. Cad Saúde Pública = Rep Public Health. 2003;19(3):725-33.