

# Nursing diagnoses of elderly patients using multiple drugs\*

DIAGNÓSTICOS DE ENFERMAGEM DE IDOSOS QUE UTILIZAM MÚLTIPLOS MEDICAMENTOS

DIAGNÓSTICOS DE ENFERMERÍA DE ANCIANOS POLIMEDICADOS

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## ABSTRACT

Considering that elderly people using multiple drugs are prone to a higher vulnerability of their health conditions, in this study we proposed to identify nursing diagnoses, according to NANDA's taxonomy II, in a group of elderly people who use five or more drugs. Sixty-seven elderly people were selected using the Wide Geriatric Evaluation (WGE), out of 301 elderly residents from a Family Health Program (PSF) unit. All of the 67 seniors presented a total 16 diagnostic categories, an average of 5.2 diagnostics/elderly: 59.7% of them having chronic pain; 58.2% with impaired physical mobility; 47.7% with unbalanced nutrition: more than the body needs; and 47.7% have an inefficient control of the therapeutic regimen, among others. These diagnoses reveal the need for measures involving changes in lifestyle, as well as a systematic following of these elderly people.

## KEY WORDS

Health of the elderly.  
Drug utilization.  
Nursing diagnosis.  
Family Health Program.

## RESUMO

Considerando que os idosos que utilizam múltiplos medicamentos são propensos à maior vulnerabilidade nas condições de saúde, propomo-nos, neste estudo: identificar os diagnósticos de enfermagem, segundo a taxonomia II de NANDA, de um grupo de idosos que utilizam cinco ou mais medicamentos. Foram selecionados 67 idosos, a partir da Avaliação Geriátrica Ampla (AGA) entre 301 residentes na área de abrangência de um Programa de Saúde da Família (PSF). Os 67 idosos apresentaram 16 categorias diagnósticas, em média 5,2 diagnósticos/idoso, sendo os mais frequentes a dor crônica, presente em 59,7% dos idosos; 58,2% têm a mobilidade física prejudicada; 47,7%, nutrição desequilibrada (mais que as necessidades corporais), e 47,7% têm um controle ineficaz do regime terapêutico. Tais diagnósticos revelam a necessidade de medidas envolvendo mudanças no estilo de vida, além do acompanhamento sistemático dessas pessoas.

## DESCRIPTORES

Saúde do idoso.  
Uso de medicamentos.  
Diagnóstico de enfermagem.  
Programa Saúde da Família.

## RESUMEN

Considerando que los ancianos que utilizan múltiples medicamentos son propensos a una mayor vulnerabilidad en sus condiciones de salud, nos proponemos en este estudio identificar los diagnósticos de enfermería según la taxonomía II de NANDA, de un grupo de ancianos que utilizan cinco o más medicamentos. Fueron seleccionados 67 ancianos, a partir de la *Avaliação Geriátrica Ampla (AGA)*, entre 301 residentes en el área comprendida por un Programa de Salud Familiar (PSF). Los 67 ancianos presentaron 16 categorías diagnósticas, con una media de 5,2 diagnósticos/anciano, siendo los más frecuentes el dolor crónico (afectando a un 59,7%), la movilidad física reducida (58,2%), nutrición desequilibrada –por encima de las necesidades corporales- (47,7%) y control ineficaz del régimen terapéutico (47,7%). Tales diagnósticos determinan la necesidad de medidas que implican cambios sustanciales en el estilo de vida, además del seguimiento médico sistemático de dichas personas.

## DESCRIPTORES

Salud del anciano.  
Utilización de medicamentos.  
Diagnóstico de enfermería.  
Programa de Salud Familiar.

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## INTRODUCTION

Profound changes have occurred in the age structure of the population, and, along with these, there are also epidemiological changes, characterized by the increase of chronic-degenerative diseases (Diabetes, Stroke, Neoplasias, Hypertension, Senile dementia, among others), which are long-lasting conditions and whose appropriate care demands high amounts of human and material resources<sup>(1)</sup>.

The many alterations shown by elderly patients make them consume a high amount of medication, which, although necessary in many occasions, could trigger serious complications when misused.

When drugs are prescribed to seniors, it is worth noting the importance of understanding the structural and functional changes of the age, which significantly alter the pharmacodynamics and pharmacokinetics of the drugs. The physiological modifications associated with age that affect drug use refer to absorption, distribution, metabolism and elimination<sup>(2)</sup>.

In the United States, it is estimated that 25 to 32% of all medication are consumed by seniors, who represent 12% of the population. The side effects of the drugs are two and a half times more frequent in seniors than in other age ranges<sup>(2)</sup>.

A study based in the National Household Survey Sample shows that 50% of the seniors' income amounts to have less than the minimum wage, and the average monthly spending with medication amounts to nearly one quarter of their income<sup>(3)</sup>. In addition, seniors represent 50% of drug multi-users, being common to find inadequate doses and indications, drug interactions, associations and redundancies and medications without therapeutic value<sup>(4)</sup>.

The complexity of the drug prescriptions, in addition to lack of understanding, forgetfulness, reduced visual acuity and manual dexterity that are common in elderly patients, contribute for the occurrence of many mistake in the administration of drugs<sup>(5)</sup>. Also, high illiteracy, present in Brazilian reality, causes the lack of understanding of the prescription and the incorrect usage of the medication.

In addition to all the difficulties that the elderly patients have when using medication, they may also not comply with the treatment, which makes the situation even more complex. Compliance is particularly jeopardized in situations requiring preventive treatment over long periods, and when the patient needs to promote changes in their lifestyle, which is frequent among the seniors<sup>(6)</sup>.

The correct use of the medication within this population and measures that will improve their conditions of life are a pressing necessity. For so, it is believed that the iden-

tification of the nursing diagnoses according to the classification proposed by NANDA (North American Nursing Diagnoses) could contribute for the improvement of healthcare quality, since it can direct care and strengthen the performance of the professionals in the aspects related to the specifics of the nursing activities<sup>(7)</sup>.

With our experience in using diagnosis according to the NANDA taxonomy, we can affirm that this taxonomy represents a form of logical reasoning that enables the interrelation of the causes and effects of the alterations presented, facilitating the definition of goals, the adoption of appropriate actions and the reliable assessment of the nursing care provided.

Also, the elaboration of diagnostics according to NANDA demands full data collection, covering the many aspects that involve the individual's state of health, promoting improvements of the quality of this stage in the nursing process, which is fundamental for the development of the others.

It should be added that nursing diagnoses are an instrument for creating a uniform language among nurses and for the improvement of healthcare quality, which can be applied to different theoretical references. However, our reality still reflects the lack of professional training for its utilization.

Considering that the senior patients who use multiple drugs may present complex health problems and that the identification of the nursing diagnostics may contribute for better knowing the necessities of the people who receive care, in addition to direct said care, the present study proposes the identification of the nursing diagnoses according to NANDA's taxonomy II, in a group of elderly patients using multiple medications living in the community.

## METHOD

The study was performed with elderly patients living in the area of coverage of a family healthcare program in the countryside of the state of São Paulo. This unit has 1012 registered families, totaling 4.256 people, with 461 of them aged 60 years or older.

The reference population was made up by the universe of elderly patients living in the aforementioned area. The ACS registry provided the identification. A total of 301 (65.3%) elders took part in the study, with another 96 (20.8%) refusing to participate and others could not be found after the second visit. Some had mental diseases and were alone at home.

A data collection instrument elaborated from data from geriatric and gerontologic literature was used, aiming at a multidimensional evaluation of the state of health, with

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the following items: 1. Socio-demographic characteristics; 2. Leisure, family life and social interaction; 3. Lifestyle habits – smoking, alcohol, breast/uterus cancer prevention and physical activity; 4. Number of hospital admissions in the past year, cognitive state, emotional state, level of dependence and diseases reported. The level of dependence was verified with a scale using 12 indicators, which considers the instrumental activities of daily life (shopping, taking the bus, managing finances and taking medication adequately) and the basic activities of daily life (continence, dressing, bathing, eating, grooming, toileting, going to bed and leaving it), organized hierarchically<sup>(8)</sup>. The cognitive capacity of the elderly patients was measured with the *Mini-Mental State Examination (MMSE)*, with the purpose of characterizing the presence of cognitive damage<sup>(9)</sup>. A simplified version of the Yesavage Geriatric Depression scale was used in the evaluation of the emotional state, with 15 questions, which has been shown to be reliable in clinical practice<sup>(10)</sup>. For the assessment of the presence and intensity of pain, a unidimensional scale was used – the Behavioral Scale – which is based on the person's behavior. A grade is attributed to the algic behavior, directly questioning the person about their memories of pain due to their daily activities<sup>(11)</sup>. 5. Functional alterations were identified by interrogating the patients about the many systems of the human body. 6. Reported diseases. 7. Compliance to prescriptions. 8. The risks of falling were assessed for the elderly patients, considering the main intrinsic and extrinsic factors<sup>(8)</sup>. Balance and march, essential aspects related to the risk of falling and physical mobility were verified with the instrument *Performance Oriented Mobility Assessment - POMA*, culturally adapted for Brazil<sup>(12)</sup>. In the assessment of the nutritional status, the aspects considered were the body mass index (weight and height) and the distribution of body fat (waist circumference). According to this data collection procedure, it was possible to obtain information about the main functional, emotional, environmental and social conditions of the elderly patients.

Data collection was performed at the elderly patients' households by students of the second and third year of the Nursing and Medicine courses of Faculdade de Medicina de Marília, as they have been developing skills and knowledge for the performance of interviews and clinical exams since the first year. For the use of the instrument, they were trained and monitored by the researcher. The study was approved in March 27, 2006, by the Review Board for research on human beings of Faculdade de Medicina de Marília, file # 090/06.

Of the elderly patients interviewed, 186 (61.8%) are female and 115 (38.2%) are male. Among them, 43 (14.3%) used no medication, while the others used the following amounts: 49 (16.2%) one; 53 (17.7%) two; 52 (17.2%) three,

37 (12.4%) four, 25 (8.4%) five, 19 (6.3%) six, 11 (3.6%) seven, 5 (1.7%) eight, 5 (1.7%) nine and 2 (0.7%) ten.

In the present study, the elderly patients were selected according to those using multiple medications. Considering that the average number of drugs used by elderly patients ranges from two to five, the elderly patients who used more than five drugs were selected, as they were believed to be more vulnerable to the many risks of the use of multiple drugs. According to such criteria, 67 elderly patients were selected, or 22.3% of the total of respondents.

In order to produce the nursing diagnostics, the data about the health state of the elderly patients were submitted to a process of diagnostic reasoning<sup>(13)</sup> developed in two stages. In the first stage, the data undergo analysis and synthesis. The analysis made it possible to categorize the findings, and, later, the data were analyzed according to congruence, gaps and the necessity of being collected again. In the process of synthesis, the data were grouped in standards and compared with concepts, norms and models existing in geriatric and gerontologic literature, leading to hypotheses about the situation and the establishment of causes related to inference. In the second stage, the diagnostics were established according to NANDA's taxonomy II, including diagnostic category, related factors/risk factors and defining characteristics.

The nursing diagnostics were produced by two of the researchers with experience in the utilization of the proposed diagnostic classification as professors at the nursing department. The diagnostics were analyzed by another nurse in the geriatrics and gerontology field, proficient in teaching and research of NANDA's nursing diagnostics for over ten years, along with a specialist nurse in the Family Healthcare Strategy field, with the purpose of validating the diagnostics. In case there were gaps, the elderly patients were visited again by the researchers themselves, in order to provide the information needed.

The Secretary of Health of the city and the healthcare team of the unit authorized the study. The sample consisted of elderly patients who agreed to take part in the study after being informed about it and who provided written consent, according to the Review Board of Faculdade de Medicina de Marília.

## RESULTS AND DISCUSSION

Regarding the socio-demographic characteristics found in Table 1, 45 (67%) of the elderly patients are female, and, in the same table, it is worth noting the number of women aged 60 to 69 years who use five drugs or more (40%), while males in the same age range amount to 27.3%.

**Table 1** - Distribution of the 67 elderly patients using five drugs or more, according to age range, education, marital status and gender. Marília - 2007

Socio-demographic characteristics	Female		Male		Total	
	Nº	%*	Nº	%*	Nº	%**
<b>Age range</b>						
60 – 69 years old	18	40	6	27.3	24	35.9
70 – 79 years old	18	40	9	40.9	27	40.3
80 – 89 years old	9	20	6	27.3	15	22.3
>= 90 years old	0	0	1	4.5	1	1.5
<b>Total</b>	<b>45</b>	<b>100</b>	<b>22</b>	<b>100</b>	<b>67</b>	<b>100</b>
<b>Education</b>						
Illiterate or incomplete elementary school	20	44.4	10	45.5	30	44.8
Full elementary school	15	33.4	6	27.2	21	31.4
Full primary school	1	2.3	4	18.2	5	7.4
High school	7	15.5	2	9.1	9	13.5
College	2	4.4	0	0	2	2.9
<b>Total</b>	<b>45</b>	<b>100</b>	<b>22</b>	<b>100</b>	<b>67</b>	<b>100</b>
<b>Marital status</b>						
Lives with partner	24	53.4	5	22.8	29	43.3
Lives without partner	21	46.6	17	77.2	38	56.7
<b>Total</b>	<b>45</b>	<b>100</b>	<b>22</b>	<b>100</b>	<b>67</b>	<b>100</b>

\* Percentage was calculated from the total of elderly patients per gender. \*\*Calculated according to the total amount of elderly patients N=67.

Females were predominant in the study population. Among seniors, when females are compared with males, they are considered more vulnerable in the health state regarding the risk of falls, presence of multiple diseases, use of multiple drugs, obesity, poverty and assorted dependences<sup>(14)</sup>. Some hypotheses to explain this difference suggest that men have higher death rates related to violence, traffic accidents and chronic diseases. Women have higher rates of morbidity in almost all non-fatal chronic diseases. In addition, they are more inclined to pay attention to signs and symptoms and to seek out healthcare services more frequently than males<sup>(15)</sup>.

The high level of illiteracy should also be noted for both genders, 30 (44.8%), a concerning issue, since it can hinder the comprehension of the prescription of multiple medications.

Among the 67 elders using five drugs or more, 16 diagnostic categories and a total amount of 352 diagnostics were found, averaging at 5.2 diagnostics per elderly patient. The diagnostics are real and show risks, and are related both to functional and emotional, social and environmental aspects.

The nursing diagnostic *visual sensory perception alteration*, associated with the changes in the ability to perform activities, present in 42 elderly patients (62.7%), deserves attention, as it is almost always underestimated, considered as a characteristic of aging by the elderly patient's relatives and healthcare professionals, with few solutions. In addition, they often have difficulties to acquire corrective

lenses or specialized treatment such as cataract surgery. Such a condition, associated to the use of multiple drugs may lead to confusion regarding the names of the drugs due to the difficulties found in reading them.

*Chronic pain* represents a condition that is present in 40 elderly patients (59.7%), which reveals that they live their daily routine under great suffering, prevented of performing activities and interacting with other people and even maintain their sleeping patterns and eating, conditions that are considered fundamental for survival. Pain is one of the most frequent complaints among the elderly patients. The high prevalence of pain in elderly patients is associated to chronic conditions, especially muscle-skeletal diseases such as arthritis and osteoporosis<sup>(11)</sup>. This condition makes elderly patients use drugs even without a prescription.

*Impaired physical mobility* is present in 39 elderly patients (58.2%), making deambulation and march difficult and hindering the performance of daily activities such as bathing and hygiene, and, especially, managing their needs. High prevalence of impaired physical mobility was also observed in institutionalized elderly patients, and the most frequent related factors were sensorial-perceptive damage, muscle-skeletal damage, neuromuscular disorders, intolerance to activity/strength and reduced resistance<sup>(16)</sup>. Such a condition leads to the reflection about the promotion of practices that aim at encouraging movement, deambulation, stretching, balance and muscular strength.



The *therapeutic regimen: effective management*, present in 35 elderly patients (52.3%) considers that actions related to damage prevention and risks of disease are appropriate, and, although the utilization is appropriate, the vulnerability of the situation, imposed by the weaknesses of the elderly patients, assumes the necessity of systematic monitoring.

The *risk of falls*, present among 34 elderly patients (50.7%) is due to intrinsic factors such as the use of anxiolytic, anti-depressant and anti-hypertensive drugs, impaired vision, sleep disorders, marching difficulties, impaired balance and extrinsic factors, such as the presence of ladders and slippery floors, loose carpets and the use of inadequate shoes. Falls are noted among the factors that contribute to aggravate the conditions of life and health of the elderly population over 60 years of age<sup>(17)</sup>. However, they can be prevented, with the need of educational actions involving both the elderly patients and their relatives. Also, it is important to consider the careful prescription of medication.

The *nutrition: altered, more than body requirements* diagnostic reflects the ingestion of nutrients above the metabolic necessities and represents a condition that demands changes in the lifestyle, since obesity is considered a serious trigger for chronic-degenerative diseases, such as hypertension, diabetes and dyslipidemia, highly prevalent among this population group and that lead to the necessity of using medication.

The diagnostic *therapeutic regimen: inefficient management*, present in 32 (47.7%) of the elderly patients, usually occurs due to lack of knowledge, financial difficulties or the complexity of the therapeutic regimen, which is a concerning issue, as the situation focuses on elderly patients using multiple drugs. A study with 165 elderly patients in outpatient monitoring in a university hospital about the reasons for complying with drug treatment revealed the situation of living alone, and the side effects of the drugs are the main predictors for non-compliance to therapy, which, for the authors, shows the relevance of the support provided by other people in the care for this population group<sup>(18)</sup>.

*Chronic sadness*, present in 24 (35.8%) of the elderly patients, is related mainly to the difficulties in overcoming losses and is a reason for grief, with consequences for quality of life. In addition, since such a diagnostic leads to loss of self-esteem and hopelessness, it causes disinterest for self-care, and especially for the compliance to the therapeutic regimen.

Other diagnostics, less frequent among the elderly patients, were: *auditory sensory perception alteration* in 16

(23.8%) seniors; *sleeping pattern disturbance*, also in 16 (23.8%); *impaired dentition* in 13 (19.4%); *constipation* in nine (13.4%); *nutrition: altered, less than body requirements* in nine (13.4%); *functional incontinence* in six (8.9%); *olfactory sensory perception alteration* in three (4.4%) and *impaired skin integrity* in two (2.9%).

The identified nursing diagnostics, in addition to indicate the specifics of the profession, also make the necessity of actions involving the whole healthcare team. Therefore, to work with this share of the population, it is necessary to focus on the integrality of care and the logic of vigilance, as well as the promotion, prevention, cure and rehabilitation of the health conditions. In this context, the role of the nurse has a broadened dimension, often distinct from the bases of formation and performing of the healthcare professionals. These bases have been promoting technicism and leaving undefined borders for interdisciplinary work, whose consequence ends up being the reproduction of the traditional healthcare model.

## FINAL CONSIDERATIONS

This study had the purpose of knowing the characteristics of elderly patients using multiple drugs within a geographical area, since such a condition indicates higher vulnerability in the health state, and is a factor of risk due to undesirable possibilities for interaction.

It was possible to observe that most of the studied elderly patients are female, and that illiteracy is predominant. In addition, the elderly patients have an average of 5.2 diagnostics per patient, related to both functional and emotional, social and environmental aspects, in addition to some being real while others point to risk.

Among the most frequent nursing diagnostics, it should be noted that 59.7% of the elderly patients chronic pain; 58.2% have impaired physical mobility; 47.7% have nutrition: altered, more than body requirements; 47.7% have an inefficient management of the therapeutic regimen. Such diagnostics demonstrate the need for investment in changing the lifestyle of those people.

Working on this necessity, in addition to being a challenge for Brazilian nursing nowadays, also represents a significant advance for the profession, with members that integrate a multiprofessional team, considering the pressing necessity of outlining their role regarding the care provided for people, families and community.

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