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Long-term care elderly residents in general hospitals

ABSTRACT

Long-term care facilities for the elderly have regularly to work together with general hospitals to provide care to acutely ill residents or when they require all together more complex diagnostic procedures and multi-specialty care. The decision to hospitalize a nursing home elderly resident is multifactorial and it is based on factors such as illness severity and care facility infrastructure. Hospitalizations have benefits and risks such developing iatrogenic diseases, delirium, and functional decline, which may deteriorate patients' general condition and their quality of life during and/or after hospitalization. This study aimed at addressing specific aspects of assessment, treatment and management of nursing home elderly who require to be hospitalized, especially focusing on their effective care. Common conditions such delirium, iatrogenic diseases, poor nutrition, functional decline, hospice care and special characteristics of nursing home elderly during their admission to general hospitals are discussed.

KEYWORDS: Aging health. Health of institutionalized elderly. Iatrogenic disease. Homes for the aged. Health services for the aged. Needs assessment.

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INTRODUCTION

Long-term care facilities for the elderly are often known by different names such as rehabilitation home, nursing home, and geriatric clinic. Most have regularly to work together with general hospitals when one of their residents needs to be hospitalized. Moving patients is backed by the fact that traditionally hospitals can treat acutely ill patients and are able to provide all together more complex diagnostic procedures and/or multi-specialty care. However, an attending physician who is well-trained and qualified to medical care for nursing home residents is able to manage a wide range of diseases and specific conditions found in this group.^{39,45} Nursing home staff should also be able to provide several different procedures to the elderly, from intravenous drug administration to hospice care.¹⁷

The decision to hospitalize a nursing home resident is multifactorial and it is based on factors such as illness severity, care facility infrastructure, family and/or patient's request and financial needs. It always requires a careful consideration of the hospitalization benefits and risks, such as iatrogenic diseases, delirium, and functional decline, which could aggravate the patient's general condition and quality of life during and/or after their admission. Bearing that in mind, the present article was aimed at addressing specific aspects of the assessment, treatment, and management of nursing home elderly residents during hospital admissions, especially focusing on their effective care.

HOSPITALIZED NURSING HOME RESIDENTS

Brazilian population aged 60 years or more have rapidly increased both numerically and in survival years in recent decades. This age group accounts for around 10% of the entire population and for about 20% of all Brazilian Health System (SUS) hospital admission authorizations (AIH). A gradually increasing need for hospital beds and long-term care facilities the elderly is expected in the years to come.*:**

Nursing home residents have a different profile compared to other hospitalized patients. They are usually much older than those elderly living in the community, aging on average about 80 years.^{9,30,37} They suffer greatly from diseases and physical and psychosocial disabilities.³⁷ Although they can sometimes be admitted due to vague complaints, symptoms such as fever and altered mental status (delirium) are re-

lated to precipitating diseases. Among common major causes for hospitalization of nursing home residents are cardiovascular, respiratory, and neurological diseases, traumas, bone fractures and infections, especially urinary infections and bronchopneumonias.^{15,21,33,36} These patients are likely to stay longer in hospital and usually have higher rates of complications and mortality.^{8,14,21,26,27,30,41}

Besides the management of the precipitating diseases, nursing home residents require more attention and care during their hospitalization. They have high risk of concomitantly developing processes of physical, functional, and psychosocial deterioration. Polypharmacy, other iatrogenic diseases and delirium are of major concern and their potential risk should always be assessed during hospitalization. States of functional decline are often seen and include clinical manifestations such as urinary incontinence and gait disturbances.³⁶ Poor nutrition and weight loss can occur and/or be detected during their admission. Hospital stay should also be used as an opportunity for planning subsequent treatments and/or hospice care. Periodic assessment of factors associated to these conditions helps the evaluation and management of nursing home residents while they are hospitalized.

Delirium

Acute confusional state or delirium is a syndrome commonly seen in hospitalized elderly, occurring in 5 to 55% of older hospitalized patients and around 16% of those patients admitted in emergency care services.³⁴ Delirium is characterized by acute changes of attention, cognition, and the level of consciousness, progressing with fluctuations and exacerbated symptoms during the night.⁶ Usually originated by multiple factors, delirium often goes misdiagnosed and/or mistreated, resulting in increased hospital stay and morbidity and mortality.^{25,30}

Assessment scales and semi-structured interviews have been developed to help health providers to diagnose and first approach delirium patients.⁴⁴ The Confusion Assessment Method (CAM) has become the most widely used instrument, and the Brazilian translated version shows 94.1% sensitivity and 96.4% specificity.^{13,28} The management of delirium patients includes identifying and treating precipitating conditions, such as infections, drugs, water and electrolyte disturbances, ischemic heart disease, pain and bone fractures.^{20,40} Preventive measures are aimed at identifying risk factors and minimizing pre-

*Ministério da Saúde, Secretaria de Assistência à Saúde. Redes estaduais de atenção à saúde do idoso: guia operacional e portarias relacionadas. Brasília (DF): 2002.

**Sociedade Brasileira de Geriatria e Gerontologia - Seção São Paulo. Instituição de longa permanência para idosos: manual de funcionamento. São Paulo: 2003.

precipitating events. Visually- and/or hearing-impaired patients, those with cognitive impairments, severely decompensated diseases, and high blood nitrogen urea/serum creatinine ratio should be considered more susceptible to developing delirium.^{25,26} Precipitating factors are frequently seen during hospitalizations and they include drug side effects, procedures, infections, sleep deprivation and forced immobilization.²⁰ Patient's escorts should be familiarized with delirium, thus making early diagnosis more likely and reducing common knowledge that confusional states are common among the elderly. Having their acquaintances to stay with them during the day and the night will help prevent and/or reduce the course and severity of patient's delirium.

Delirium signs and symptoms can linger on after patient's hospital discharge and many of them are misdiagnosed as senile dementia patients. Increased disability in activities of daily living such as dressing, showering/bathing or eating is also common.

A significant proportion of delirium patients have behavioral disorders, for instance, restlessness. In these cases, initial treatment should include support measures, guidance, and management and/or reduction of risk factors and precipitating conditions. Symptomatic treatment may be necessary when support measures have no effect.

Drugs and other iatrogenic diseases

The elderly show high risk of drug side effects either resulting or not from drug interactions. Drug side effects are twice to three times more likely to occur in the elderly than in young adults as well as more frequently seen and severe during hospitalizations.³¹ Increased side effects are due to the aging process that causes changes in body buildup, drug kinetics and dynamics and high prevalence of polypharmacy, i.e., concomitant use of five or more drugs.^{19,22} Systematic review of drug history and careful introduction of new drugs are good clinical practices, especially when there is a temporal association between medication and symptom onset. Another alternative is to follow the guidelines for drug selection to elderly treatment, such as Beers',² and Beers et al¹ criteria updated by Fick et al,¹⁶ bearing in mind that they do not comprise all Brazilian pharmacopeia.²³ Dose changes or discontinuation of medication taken by nursing home residents can precipitate side effects but can be reduced through a collaborative elderly care program between institutions.⁵ The actual need of each drug prescribed should be assessed to avoid polypharmacy during and after hospitalization.^{22,35}

Iatrogenic complications in hospitalized elderly generally occur due to both inadequate medication treatment and diagnostic and therapeutic procedures. Iatrogenic diseases can be preventable in many patients as their definition also includes events related to the length of hospital stay and/or hospital environment, such as bed sore ulcers, falls, and bone fractures.⁸

Decreased functional ability, such as eating and walking without assistance, is frequently seen among hospitalized elderly and is associated to cognitive deficits, delirium and low functional ability at the time of hospital admission, very common finding in nursing home residents.^{10,11,41} As decreased functional ability is also strongly associated to iatrogenic complications, its early detection is thus the best preventive action to reduce inadequate procedures and treatments.³²

Nutritional assessment and poor nutrition

Nutritional status of elderly patients needs to be regularly evaluated, especially during hospitalizations. Poor nutrition, a common severe condition in this age group, usually goes underdiagnosed. Protein-energy undernutrition among hospitalized elderly leads to longer hospital stay, increased mortality and complications such as infections and bed sore ulcers. At admission, nutritional evaluation of nursing home elderly frequently show significantly poorer markers – history of weight loss, signs of dehydration, low body mass index, serum albumin and cholesterol, hemoglobin and lymphocyte counts – compared to elderly living in the community. Poor nutritional status in this population is likely to result from their high rates of co-morbidities, polypharmacy, and disability in activities of daily living.^{24,29,38,42}

Functional decline

A significantly high proportion of nursing home residents show difficulties in activities of daily living, such as dressing, walking and being continent.^{37,43} On the other hand, functional declines during hospitalizations occur not only as a result of their diseases per se but also due to iatrogenic interventions, immobilization and loss of physical fitness. Hospitalizations tend to increase their level of disability and extend their rehabilitation afterwards.⁴¹

Elderly functional ability should be assessed at hospital admission and regularly during hospital stay to identify and prevent disabilities and implement early rehabilitation. Their functional assessment includes activities of daily living as well as cognitive dysfunctions, urinary incontinence and signs of lack of mobility, for example, bed sore ulcers, balance and

gait disturbances. An existing association between these signs and symptoms implies greater risk of deteriorating their inability during and after hospitalization. Ideally, these problems require a multidisciplinary approach where each provider would develop preventive and therapeutic actions to reduce the average hospital stay, and mortality and disability during and after hospitalizations.

Hospice care

Hospitalization of acutely ill elderly provides an opportunity to reassess the patient's general condition, prognosis, and treatment plans and goals. If a diagnosis of an advanced end-stage disease is made, the assumption of cure is shifted to hospice care. Hospital team can develop care plans based on these patient's conditions and subsequently discuss their continuation at the time these patients are being moved to long-term care facilities.

EVALUATION AND CARE OF HOSPITALIZED NURSING HOME RESIDENTS

Nursing home residents have special needs during hospitalizations. Their clinical evaluation and care process can make a difference in the quality of in-hospital care provided to them.

Anamnesis

Obtaining a complete medical history from nursing home residents can be troublesome, and requires additional investigations and patience. Admitted patients are often unable to provide adequate information due to cognitive and/or mental state impairment. Others are not able to provide information on medication use and therapeutic schedules. In this context, medical records are a major source of information and should contain additional information obtained from providers originally caring for these patients at their nursing home facilities. The interaction between hospital and nursing home staff is essential to determine the reasons for moving the patient to the hospital as well as defining treatment plan. Relevant information, such as the patient's prior physical and cognitive abilities, recent changes in medications and history of falls can be obtained from nursing home staff and medical providers. In any circumstance, it is advisable to get in touch with the patient's family. One should bear in mind that family members frequently experience feelings of guilt and neglect and can potentially actually display aggressive behaviors towards the hospital and nursing home care team, and make threats and carry out verbal, physical, and legal actions.

Physical examination and additional evaluation

Vital signs should always be compared to those previously recorded in the nursing home records. A helpful example is the elderly basal temperature, which often ranges around 36°C, so an increase of one degree or more may indicate febrile states and support the investigation of infectious processes.³ Orthostatic hypotension can be a sign of water or blood losses or even drug side effects.²¹ Heart arrhythmias require an ECG, which can show acute atrial fibrillation, drug poisoning, and myocardial ischemia.

There are important physical examination findings in these patients. Skin should be inspected for bed sore ulcers, which may help to establish the source of many febrile states and the patient's functional status. Similarly, continuity solution, ecchymosis, and bruising are suggestive of falls or abuse. Oral lesions can be a source of infections and poor nutrition. Other signs of poor nutrition such as reduced subcutaneous tissue and muscle mass should be also examined as they are highly prevalent among dementia patients and nursing home residents.^{29,38,42} A complete neurological examination can help identify previously undetected stroke and Parkinson's disease manifestations. Assessment scales such as CAM^{13,28} and the Mini Mental Status Examination (MMSE)^{4,7,18} help the diagnosis and first approach of patients in confusional states and their cognitive assessment.

Diagnostic hypotheses and abnormalities associated to aging and the level of vulnerability of nursing home residents direct the need for additional case-by-case examinations.¹² Blood and urine cultures and chest X-rays are indicated in febrile states as well as in suspected cases of delirium together with biochemistry tests such as electrolytes and kidney and liver function tests. Thyroid hormone measurements should often be performed given the high prevalence of thyroid disorders in this age group. The likelihood of inappropriate drug ingestion and poisoning, which may require drug screening in the blood and/or urine, should be also considered.

Care

During the management and treatment of the cause for hospitalization and control of preexisting diseases, permanent care should be taken to minimize functional disabilities and reduce iatrogenic diseases. Whenever possible, patients should be encouraged to stay out of bed, which can help them to keep their mobility and independence. This is also an opportunity for patients to reestablish their activities of daily living such as eating and to reduce their risk of ortho-

static hypotension. Other actions can be taken to prevent deep venous thrombosis, bed sore ulcers, and intestinal constipation. According to the anticipated date of discharge, the attending hospital team should help the patient, together with the nursing home team, plan the required arrangements for the patient's move back and continuation of the treatment and care provided during hospitalization.

CONCLUSIONS

Nursing home elderly comprise a special segment within this age group. Even in the event of acute and/or severe conditions requiring the infrastructure of a general hospital, preventive actions to reduce complications and functional inabilities can be imple-

mented by hospital care team. Similarly, early diagnoses and treatments of nursing home residents can help avoid many hospitalizations. Population aging is a well-known ongoing process and elderly care and interventions will be progressively required in hospital and nursing home facilities. These settings and their care teams do not have much time left to prepare to care for the growing elderly population in the fast approaching future.

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