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**POLYPHARMACY IN THE ELDERLY OF BRAZIL:
REFLECTION IN THE LIGHT OF PROBLEMATIC
AND PROSPECTS**

Sara da Silva Khalil - Mestranda em Enfermagem, Universidade de Brasília (UnB)

Maria Cristina Soares Rodrigues - Professora Associada, Universidade de Brasília,
Pós-doutora em Ciências da Saúde

ABSTRACT

Objective: To put forward a discursive and descriptive text about polypharmacy in Brazil and perspectives to resolve this situation in the future. **Methods:** This is a narrative review conducted from the critical and reflective reading of scientific texts related to the polypharmacy in the elderly. **Results:** The polypharmacy in the elderly is a worrying issue in Brazil, a country that has faced fast-paced aging. Excessive use of drugs alone is a risk factor for patient safety and this problem worsens in vulnerable patients such as the elderly. Patient safety and drug use education activities should be encouraged. Health professionals should be aware of their role in solving this problem as well as in monitoring the emission of prescriptions. **Final Considerations:** It is expected for the next years educational measures and actions aimed not only to enter higher content on polypharmacy in the elderly in health courses, but also higher implementation and use of protocols or lists of drugs that should be analyzed and prescribed with utmost care and criteria to this age group.

Descriptors: Polypharmacy; elderly; patient safety

INTRODUCTION

The definition of elderly varies according to the country, but it is clearly centered on the age of the people. In Brazil, people aged sixty (60) years or older are considered elders. The number of elderly grows continuously throughout the world. For 2050, it is expected two billion people over the age of 60 years old, 80% of them living in developing countries. Brazil is going through a demographic transition phenomenon, owning more than 21 million seniors (Gomes, Santos & Dantas, 2013). Data from the Brazilian Institute of Geography and Statistics (IBGE, 2008) point to a population of more than 40 million of people over 60 years old in the next 15 years in this country.

The rapid growth of the elderly population brings an increase in the prevalence of chronic non-communicable disease and a concomitantly increased use of drugs to treat these diseases. Besides the greater susceptibility of the elderly to various factors associated with health (e.g.: iatrogenic, environmental, social, etc.), the medicines, resources widely used in the treatment of diseases, are also a risk factor for their safety and quality of life.

Patient safety is part of a broader concept, healthcare quality (Gouvêa & Travassos, 2010). Performing care in right manner and time to the right person is a principle underlying the

quality of ethical and respectful care, based on the needs of the patient and the family, on clinical excellence and on the best scientific information (Pedreira, 2009). The use of drugs is clearly involved in all these respects.

In this sense, in Brazil, the National Health Surveillance Agency (ANVISA) in partnership with the Oswaldo Cruz Foundation (FIOCRUZ) and the Hospital Foundation of Minas Gerais developed and approved in July 2013 the Security Protocol on Prescription, Use and Management of Medicines, which includes the National Patient Safety Program (PNSP), which aims to promote safe practices in the use of drugs in Brazilian health facilities.

Silva, Ribeiro, Klein and Acurcio (2012) show that the higher the age of the elderly the greater the amount of drugs used and, therefore, the greater the chances for problems related to drugs, such as adverse reactions. Polypharmacy - which refers to the use of various medications Abdulraheem (2013) and are usually associated to \geq five - is a typical phenomenon associated to the elderly and must be continually researched in face of the introduction of new drugs, in addition to significant negative consequences to this growing population.

Considering the relevance of this topic in the field of knowledge of human aging and health, especially in developing countries, the present study aimed at presenting a discursive and descriptive text on polypharmacy in Brazil and perspectives to resolve this situation in the future.

METHOD

This is a critical narrative and reflective review, prepared through analytical reading of scientific texts selected in the Coordination of Higher Education Personnel Training, of the Ministry of Education (CAPES) databases, ProQuest and in the virtual library Scientific Electronic Library Online (SciELO), using as selection criterion the relevant international and national articles that discuss the theme: elderly, medication use and polypharmacy.

Two categories emerged from the reflective analysis in the development of this article, "*Why polypharmacy should be treated with greater concern in Brazil?*" and "*How to approach this issue in the coming years?*". Then, we talk about the subject matter of this review.

RESULTS AND DISCUSSION

Why polypharmacy should be treated with greater concern in Brazil?

The introduction of new drugs in the pharmaceutical market and of new drug regimens associated with the increase in the elderly population are factors that make this issue a mandatory investigative strategy on the national scene, for rational planning of guidelines that lead to actions aimed at making decisions and actions to reduce drug related problems (DRP) in the elderly.

Professionals working in health care should be alert to the fact that there are structural and functional factors of the age itself that increase the vulnerability of the elderly, due to significant changes in the pharmacokinetics and pharmacodynamics of the active ingredients of drugs (Marin et al., 2010). Therefore, the elderly, in general, is a population that requires more care and attention from family and professionals. It is clear the increased risk of adverse drug reactions (ADR) in this age group, so it is of utmost importance the search for information on the main medicines responsible for the worsening of health of the elderly and that are associated with increased risk for their safety.

Beers (1997), for example, published an updated work mainly based in studies on drug use among the elderly, and it has since been a theoretical framework widely used around the world to address this issue, including modifications, such as the study of Filho, Marcopito, and Castelo (2004), in which cathartic laxative agents were inserted in the list of inappropriate medications. The Beers criteria allow applications for increased patient safety, including dental prescriptions (Skaar & O'Connor, 2012). The Beers criteria are updated regularly, and so should continue so that the use of medications in elderly we can be managed, considering the dynamic complexities of health systems Criteria Update Expert Panel (AGS, 2012).

Other criteria have been developed in different countries of the world as different criteria, Screening Tool of Older Persons' Prescriptions (STOPP) and Screening Tool to Alert Doctors to Right Treatment (START) demonstrated by Gallagher, Ryan, Byrne, Kennedy and O'Mahony (2008), which are tools for analysis of potentially inappropriate prescriptions and tools to alert and correct treatment detection, respectively. Other authors, such as Holt, Schmiedl, and Thürmann (2010), also published study on drug use criteria in the elderly. They built a list of potentially inappropriate medications (PIM) in the elderly, called PRISCUS, which Gorzoni, Fabbri, and Pires (2012) considered most updated and comprehensive than the Beers criteria, although both are not suitable to the Brazilian reality.

Given the above, there are easy explanations for this assertion: the Brazilian Unified Health System (SUS) uses a list of drugs to combat the most common diseases that affect the population, the National List of Essential Medicines (RENAME). States and municipalities draw on the RENAME to build the lists of products for basic pharmaceutical care. Study of Silva, Gondim, Monteiro, Frota, and De Meneses (2012) pointed out that in northeastern Brazil there are PIM available through SUS for the elderly with the aggravation of the presence of drugs not listed by RENAME, which leads to the need for readjustment of the local pharmaceutical assistance in order to make effective and safe medicines available to this population.

Research by Beijer and De Blaey (2002) found that the hospitalization of seniors due to ADR is up to four times higher than in people under 65 years old. This highlights and confirms studies that show the usefulness of using the pointed criteria STOPP/START as a guide to reduce elderly hospitalization frequency in emergencies due to inappropriate use of medicines (Grace et al., 2014). Although there is no such data in Brazil, one can expect higher values due to the ease of obtaining drugs, even prescribed, in the local retail trade (Bortolon, Medeiros, Naves, Karnikowski, & Nóbrega, 2008). It is pointed out that self-medication is a common practice among the elderly and even in units of the Family Health Program in the country (Marin et al., 2008).

The use of medication without guidance should be avoided, even of non-prescription drugs, especially since, in general, the population uses them based on empirical criteria or simply on suggestions. About this important problem of public health in Brazil, ANVISA has regulated the sale and advertisement of drugs that can be purchased without a prescription. However, one should not confuse responsible self-medication with self-prescription (use of controlled drugs without prescription), since prescription-free drugs cannot be understood as guidance-free drugs.

Reflective analysis of the issues shows that the studies already undertaken and in progress are clear and similar on the damage from excessive use of drugs among the elderly in Brazil. It is hoped that future research on the subject continues to point these facts in different regions of the country, and proposing actions to resolve the problem and encouraging continuous education on elderly patient safety.

How to approach this issue in the coming years?

The rational use of drugs for the growing elderly population is a major challenge for public health in Brazil. It is a complex parameter that involves the responsibility of health professionals, patients and other professionals dealing with the drug issue.

It is clear the influence of socioeconomic issues, morbidity and health habits on the quality of pharmacotherapy in the elderly, which makes them more vulnerable to drug use (Oliveira & Novaes, 2011).

Low safety in health care of patients cause suffering to individuals and entails substantial problems in health-related costs, as it increases the demand in health care. This problem is not caused by lack of routine or administrative control systems, but due to stress and poor psychosocial working environment. Research on patient safety area indicates that the focus on technology, routines, control systems and individual care are not enough (Eklöf, Törner & Pousette, 2014).

Educational and administrative measures are necessary to ensure a quality pharmacotherapy to the elderly population (Carvalho et al., 2012). Thus, promoting rational use of medicines is a responsibility of professionals working with health and nurses should contribute to aspects related to their field. In this sense, one can cite among their actions: education of users, guidance on the risk of interruption, change, replacement or addition of drugs without knowledge of health professionals, and attention to the schedules of prescription and monitoring of ADR (Secoli, 2010).

The safe use of drugs is the main aspect of medical therapy in deciding which drug should be administered to the patient. It is worth analyzing the risk-benefit in this choice. Much has been learned from historical tragedies in medication use, as in the case of sulfanilamide in 1937 and thalidomide in the late 1950. Although all categories of patients should be protected from the misuse of drugs, most vulnerable patients, such as the elderly, need more care (Alshammari, 2014).

Currently, situations related to tragedies of great proportionality in the use of medicines worldwide occur much rarely due to the increase in the quality of clinical trials. However, there is an increasing arsenal of available drugs and their combinations in multi-drug therapies are endless. It is urgent to adopt drug prescribing guidelines for the elderly based on available criteria, widely studied. Such criteria or minimum guidelines could be initial and primarily processed in the framework of national public programs of drug distribution.

A significant proportion of elderly people in Brazil depends on drugs freely provided by the SUS. It is common for states and municipalities to modify the list of RENAME, suiting to their needs or characteristics. This action should be carried out by a multidisciplinary team of health care, who should discuss the insertion, deletion or substitution of drugs based on cost and mainly on clinical criteria and on more recent literature. These actions can arise from the federal or state governments, but it is essential for professionals involved in the use of medications by the elderly in a city or in a basic health unit to meet

and discuss the issue, and seek improvement and continuing education. These measures should be addressed with greater concern by municipal managers, especially by the Health Secretaries, who can promote policies aimed at educational activities among public servants who work in municipal health care.

The adoption of the practice of holding drug prescriptions can contribute to minor problems related to self-medication of products that should be used with supervision (Bortolon, Medeiros, Naves, Karnikowski & Nóbrega, 2008). This is a cultural and supervisory challenge. It is a cultural challenge because people view the pharmaceutical retail sector as an alternative to the harmful care provided by SUS (Santos, 2013). The purchase of drugs recommended by professionals working in the pharmaceutical retail sector (pharmacies) is common. Besides the convenience, as it avoids going to the doctor, much of the population has a trust relationship with these institutions, usually with the professionals who work there long ago and in small and medium-sized cities. It is also a supervisory problem because there is not an effective program and even real concern in the implementation of a control system for the sale of prescription drugs, with the exception of antibiotics and controlled drugs.

FINAL CONSIDERATIONS

It is expected that in the coming years health education in patient safety is strengthened by actions aimed at implementing more time and space in the training of health professionals about the topics related to polypharmacy in the elderly. This is an age group that requires more specialized care and training, and in larger number, not only because of its rapid growth, but also for its most vulnerable nature.

Issues related to criteria and medication lists used in the country, to which greater attention should be given due to the more harmful nature of the elderly, might gain greater emphasis on the drug prescription, dispensing and use/administration, which will guarantee greater safety due to lower probabilities of adverse reactions.

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Correspondence: sahra.silva@gmail.com