Polypharmacy in the elderly and harm reduction

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ABSTRACT

Increasing life expectancy is a humanitarian achievement, however, rapid population aging brings numerous challenges. The increase in longevity is related to the growth of chronic non-communicable diseases, which are generally multicausal, and the concomitance of comorbidities, especially in the elderly, can lead to polypharmacy. The simultaneous use of several medications can cause adverse events and very harmful drug interactions in the elderly, generating new health problems or aggravations to existing ones, which can result in unnecessary hospitalizations and death. Deprescribing aims to reduce harm and costs to patients, in addition to increasing their quality of life, and borders on the performance of person-centered care. It is a practice that is part of the essential care of family and community medicine, both because of the mode of care provided and because of the large elderly population assisted by this specialty. The withdrawal of inappropriate medications in elderly patients with multiple comorbidities is part of comprehensive patient care and can only be performed without the occurrence of iatrogenic events and with a person-centered approach. Therefore, a shared decision of care is necessary, in addition to health education for patients and their families, as well as continuing education for health professionals.

Keywords: Elderly health, Public health, Polypharmacy, Deprescribing, Family medicine and community.

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INTRODUCTION

The increase in life expectancy is a humanitarian achievement associated with better nutritional, sanitary, and economic conditions, as well as advances in the areas of health and education. Diagnostic technologies have also acted in this scenario due to the possibility of early diagnosis, improving the prognosis of diseases (CAREZZATO, 2016). However, the rapid aging of the population brings numerous challenges, especially in Latin America, due to the high socioeconomic inequality among its populations. Therefore, public policies are needed to guarantee the rights of older persons, as well as to achieve adequate levels of sustainable and equitable development (UNFPA, 2024).

It is known that population aging occurs due to an increase in life expectancy and a decrease in fertility and mortality rates (BNDES, 2017), and an inversion of the age pyramid is observed, since there is an increase in the number of elderly people and a decrease in the number of young people, as evidenced in Figure 1. This is a phenomenon present in several countries with an impact on the health sector and other diverse areas: labor market, social security, and social assistance (SBGG, 2023). Corroborating the literature, according to IBGE data from 2022, the Brazilian population is aging and this demographic transition impacts almost all aspects of society (IBGE, 2024; WHO, 2024). Thus, it is necessary to take a closer look at the care of the elderly.

The increase in longevity is related to the increase in the incidence and prevalence rates of chronic non-communicable diseases, usually multicausal, influenced by genetic factors, environmental issues and lifestyle habits of a community. Diabetes, hypertension, dyslipidemia, cancer, neurological, psychiatric, pulmonary and orthopedic diseases are increasingly common and have a wide range of treatment possibilities. The concomitance of comorbidities in any patient often leads to polypharmacy, which becomes frequent in elderly patients due to their susceptibility to various diseases. Defined as the use of five or more medications, polypharmacy has a multifactorial etiology, being mainly associated with chronic diseases and clinical manifestations resulting from the aging process (SECOLI, 2010).

The prescription of medications aims at their beneficial effects in relation to the condition that the patient presents. However, cognitive decline, vision problems, difficulties with packaging, and memory issues affect the correct use of medications by the elderly. A cross-sectional study conducted by Marin et al. (2008) in Marília showed that 59.8% of the elderly complained of difficulties related to the use of medications, while Beckman et al. (2004) in a study conducted in Sweden point out that 66.3% of the elderly had some limitation related to the management of the treatment. Allied to this, the drug response of each individual, according to Moraes (2018, p.33 and 34) "varies over time and becomes progressively more difficult to be fully defined, due to the physiological variability among the elderly, combined with the higher prevalence of comorbidities and polypharmacy". In addition, it

is common to prescribe medications to treat the side effect caused by another, such as antidepressants that can cause insomnia, headache and nausea, thus causing the need to prescribe various symptomatic patients.

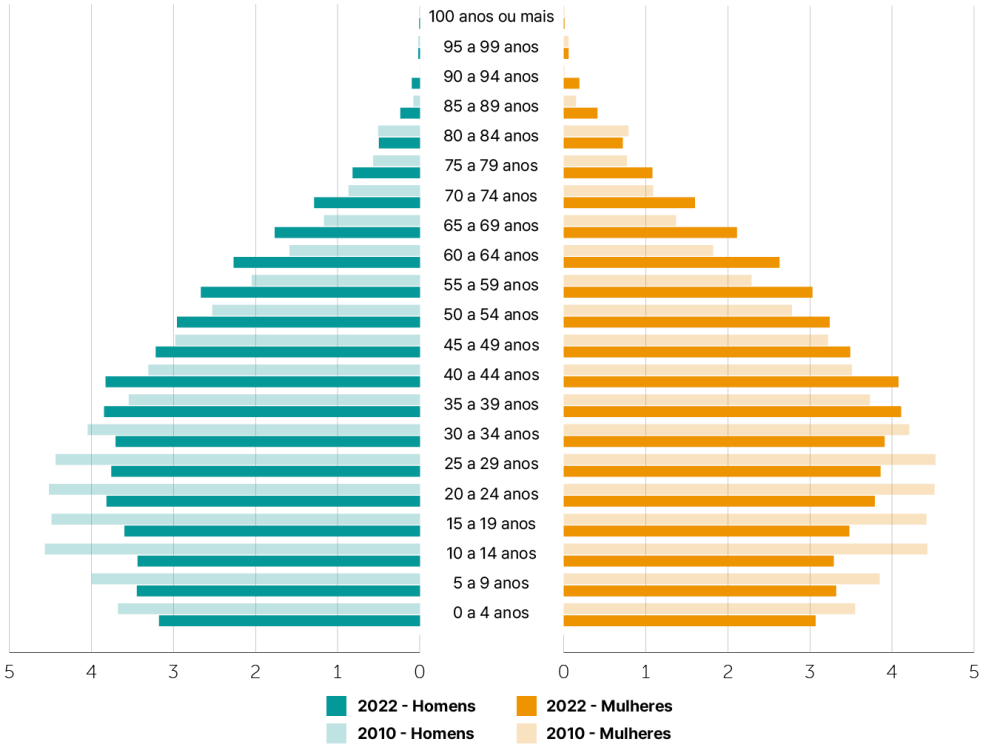
Polypharmacy in the elderly can cause adverse events, generating new health problems or aggravating existing ones, leading to hospitalization and death (SCOTT et al., 2015). Associated with this, the overprescription of medicines for elderly patients has become an epidemic, in the context of the colossal increase in chronic diseases, the influence of the pharmaceutical industry, marketing actions and the training of part of health professionals focused on medicalization (SECOLI, 2010). For Moraes (2018, p. 258) "the focus in clinical trials continues to be on the effect of the drugs and not on their discontinuation. The lack of interest of the pharmaceutical industry may justify, at least partially, this reality."

According to the NHS (2017), deprescribing aims to reduce harm and costs to the patient, in addition to increasing quality of life, and is defined as a "planned and supervised process of dose reduction or interruption in the use of the drug that may cause harm or have no benefits if used in the long term". There is a relationship between deprescribing and the degree of frailty, so that deprescribing cannot be applied uniformly in all contexts, but rather evaluated individually. As a strategy for the management of care in geriatric patients, Baldoni et al., 2020 suggest the development of protocols for deprescribing inappropriate medications.

In the literature, a 5-step protocol for deprescribing in the elderly is described, which consists of: (1) verifying the medications that the patient is using and their indications; (2) consider the overall risk of drug-induced harm on an individual basis and the need for prescription intervention; (3) consider individual risk-benefits for each medication and patient; (4) prioritize discontinuation drugs that are least likely to have an adverse withdrawal reaction or rebound effect and that have the lowest benefit-harm ratio; (5) implement a discontinuation regimen and monitor the patient in order to observe outcomes or onset of adverse effects (SCOTT et al., 2015).

Thus, it is more than evident that we need to turn our attention to polypharmacy in the elderly in Brazil, aiming at deprescribing and reducing harm.

Figure 1. Resident population in Brazil according to sex and age groups, in 2010 and 2022.



Source: Demographic census, IBGE (2022).

DISCUSSION

Elderly individuals have different responses to medications than other age groups due to pharmacokinetic and pharmacodynamic changes intrinsic to aging (PASSARELI, 2006) and are liable, for example, to substance accumulation and drug intoxication, as in the case of the benzodiazepine class, potentially inappropriate for the elderly population (BALDONI et al., 2020), which are strongly related to mental confusion, falls, fractures and, consequently, unnecessary hospitalizations. Or even antihistamines, a class in which all the options available in the National List of Essential Medicines (RENAME) of the Ministry of Health show potent anticholinergic properties, with the risk of prolonged sedation (PASSARELI, 2006).

According to Moraes (2018, p. 89):

> "In the elderly, the higher prevalence of comorbidities, polypathology, polypharmacy, frailty, and the physiological changes of aging itself, combined with the scarcity of scientific studies in this age group, contribute to the more frequent occurrence of problems associated with the use of medications."

Deprescribing borders on the realization of care centered on the person and not on the disease. It is a practice that is part of the essential care of family and community medicine, both because of the mode of care provided and because of the large population assisted.

Overall, the entire elderly population can benefit from deprescribing. However, the frail elderly, due to vulnerability and lower homeostatic reserve that makes them more susceptible to adverse drug effects, may be the greatest beneficiaries (MORAES, 2018).

The withdrawal of inappropriate medications in elderly patients with multiple comorbidities is part of comprehensive patient care and can only be performed without the occurrence of iatrogenic events and with a person-centered approach. This, according to Stewart et al. (2017), consists of four interactive components: "exploring health, disease, and the experience of disease", "understanding the whole person", "developing a joint problem management plan", and "intensifying the relationship between person and doctor".

As part of a family and community physician's (FCM) clinical practice tools is care coordination, which involves managing a person's health care according to treatment indications from specialists. Thus, the elderly with polymorbidities, after being evaluated by specialist physicians, will have a professional responsible for managing their care and administering which changes, especially in medical prescription, should be made, according to the principles of deprescribing. And, in addition to avoiding the addition of inappropriate medications, the MFC should evaluate medications in order to mitigate the chance of harmful drug interactions.

Since the practice of FCM involves knowing the patient's context, their insertion in the family, in the community, in part of their social values and psychological condition, this specialist is able to carry out their global assessment of their health. This allows deprescribing to be individualized, considering, for example, deprescribing medications that the family has difficulty accessing or using, or that are causing unwanted effects, or even medications that the patient refuses.

At the end of the adequacy of the prescription and adjustments made by the FCM, it is important to educate the elderly and their families, providing them with tools to expand their knowledge regarding the use of the indication or the need to deprescribe such medication, as well as the side or harmful effects of certain medications. . In other words, deprescribing considers the patient's desires and values, thus being able to be defined through a shared decision of their therapeutic plan, allowing them to be the subject of their care, as well as enabling patient-family education so that knowledge is expanded regarding the indications, contraindications and effects of medications.

As for health professionals, continuing education is important to disseminate the concept of inappropriate use of medications, enabling the adoption of practices and protocols related to medications and doses appropriate for the geriatric population, often still unknown to the medical community, reducing the possibility of potentially inappropriate practices (PASSARELI, 2006; FAUSTINO et al., 2011).

FINAL THOUGHTS

In view of all the changes in the Brazilian and world population structure, as evidenced by the increase in the number of elderly people, it is undeniable that public policies should focus on more specific care for this age group. As mentioned, the increase in life years can invariably be accompanied by the addition of morbidities in individuals, as well as being susceptible to polypharmacy.

When the use of several medications by a patient culminates in deleterious effects and there is the use of inappropriate drugs, the deprescribing process becomes indispensable, since the use of these drugs presents potential risks that outweigh the benefits. Deprescribing is therefore a fundamental approach to optimize the health care of the elderly, seeking the maxim "*Primum non nocere*", which means first to do no harm.

It is important to mention that, although the data presented frame the importance of deprescribing in the elderly and especially the frail, a large part of the medical community ignores it or does not have enough aptitude to perform it, as well as there are obstacles caused by the marketing of new drugs appearing in the market and the influence of the pharmaceutical industry. Thinking about the factors that hinder deprescribing, combined with the knowledge of the beneficial effects of deprescribing, there is an urgent need to change paradigms about the focus of scientific research to be conducted in the future.

Continuing education, especially for the medical profession, becomes important as deprescribing techniques are disseminated, presenting effective instruments for their more effective application, quaternary prevention and health promotion in the population. It is also crucial in the care of the elderly because it aims to encourage the promotion of a healthier life.

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