

THE HIGH PREVALENCE OF IATROGENIA IN THE ELDERLY POPULATION LINKED TO THE USE OF POLYPHARMACY

*Maria Eloiza Pessôa Uchôa Cavalcanti
Ferreira*

Daiane Souza da Costa

Andressa Marinho Ferreira da Silva

Audivane Matias Barbosa

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Abstract: Polypharmacy is the accumulation of medication caused by five or more medications through pathologies and is often associated with the effects of other medications. In old age, this situation is very common due to the prevalence of diagnoses of chronic diseases. Through the importance of this issue as it interferes with the quality of life in old age due to high medication prescriptions without observing the side effects of the drugs, linked to iatrogenesis qualified as an unnecessary action by any health professional. Faced with senescence, the natural process of aging, changes in body composition are common, because with the drop at muscle mass and intracellular water, the body responds differently to medications when compared to people under 60 years of age. This effect increases the risk of malnutrition, fractures, hospitalizations and worsening of chronic diseases, not to mention psychological effects associated with high medications such as depression, social isolation, delusions. Refers to a literature review using SCIELO, MEDLINE and GOOGLE ACADÊMICO databases. Works published between 2020 and 2023 in English and Portuguese using the descriptors “iatrogenia”, “elderly” and “polypharmacies”. It is understood the importance of contact drug treatment that has a total evaluation of the already used observed effects that can cause in old age through its limitations and expected physiological changes, increasing the quality of life, reducing unnecessary expenses and risks for future diseases.

Keywords: “elderly”, “iatrogeny” and “polypharmacy”

INTRODUCTION

Senescence is a natural process that occurs throughout life, being more emphasized over the age of 60. In Brazil, the population over 65 years old represents 10.5% of the

population in 2022, according to data from the Continuous Household Sample Survey (Pnad Continua) released by the Brazilian Institute of Geography and Statistics (IBGE).

In a study released by the Ministry of Health in 2018, it was noted that 69.3% of Brazilian elderly people suffer from at least one chronic disease, the most common being hypertension, diabetes, depression, arthritis and back pain. Although there is no consistent data on iatrogenesis in the elderly population, its relevance is understood as it is a giant in geriatrics, affecting the functionality and quality of life of the elderly. Analgesics (NSAIDs), anticoagulants, antidepressants, antihypertensives, antihyperglycemics, diuretics and anxiolytics are the most used drug classes.

According to Ramos (1995), the aging process is an irreversible condition to which all human beings are subject. However, it requires a more detailed clinical look, observing the need for medication prescriptions during the changes expected in senescence, where the public is more likely to develop chronic diseases with lifestyle habits as one of the main factors.

From the perspective of Ferraz et al. (1982), from the perspective of professional competence, iatrogenesis is defined as negligence, when resulting from conduct that is below established standards, characterizing a professional error and, therefore, subject to penalties. From another point of view, according to Lima et al. (1998), iatrogenesis can be seen as an undesirable event, of a harmful or harmful nature to the patient, whether or not resulting from the failure of the professional involved in the care. The World Health Organization defines an adverse drug reaction (ADR) as being “any harmful or undesirable and unintentional response that occurs with medicines at doses normally used in man for prophylaxis, diagnosis, treatment of disease or

for modification of physiological functions”

This article aims to promote a detailed look at the patient, bringing a better quality of life, reducing expenses and unnecessary side effects.

METHODOLOGY

It refers to a literature review using SCIELO, VHL and MEDLINE databases. Works published between the period 1995 and 2023 in English, Spanish and Portuguese with an emphasis on observational studies, diagnostic studies and prevalence studies using the descriptors “iatrogenesis”, “elderly” and “polypharmacy”.

This study will follow the guidelines proposed by Souza, Silva and Carvalho (2010), which present the general concepts and steps for preparing an integrative review.

THEORETICAL REFERENCE

Brazilian legislation states that elderly people are any and all people aged 60 or over, the same understanding is present in the National Policy for the Elderly (established by federal law 8,842), of 1994, and in the Statute of the Elderly (law 10,741), of 2003 Gerontology is the science that studies this aging process that involves its physical, social and mental aspects, understanding that old age is a natural process of life in which your body progresses day after day. The way you prepare for this moment leads directly with your lifestyle, existing or acquired pathologies and physical limitations and this entire pathological process already established. In old age, the doctor specializing in geriatrics becomes responsible for caring for and preventing future illnesses. According to the W.H.O. (World Health Organization), the adverse effect of a medication is its harmful effect, which occurs in usual doses, when appropriately indicated in prophylaxis, diagnosis or therapy would be the concept of iatrogenesis. It will be the geriatrician's responsibility to understand how these

prescribed medications do or do not affect the patient's life.

RESULTS AND DISCUSSIONS

Adverse drug reactions are classified into different criteria. The currently most accepted classification of ADRs (adverse drug reactions) was proposed by Rawlins and Thompson 4, 5 which groups them into type A or predictable reactions and type B or unpredictable reactions.

Type A reaction is the effect of an exaggerated action depending on the dose taken after administration at the usual therapeutic dose. It occurs in any individual with high incidence and repercussions, however the lethality is low. Reactions produced by high relative dosage, side and secondary effects, cytotoxicity, drug interactions and specific characteristics of the pharmaceutical form used are included. These effects can be reduced by adjusting doses or changing the drug.

Type B reactions are considered those that are completely unexpected in relation to the pharmacological substances in the administered medication, being rare, regardless of the dose, occurring only in susceptible individuals and being frequently observed post-registration. They include hypersensitivity reactions, idiosyncrasy, intolerance and those resulting from changes in the pharmaceutical formulation, such as decomposition of the active substance and excipients 2, 4.

Given this classification, this article focuses on type A reactions, observing their long-term effects.

Medication prescription causes structural or functional changes in the various organs and body systems, being emphasized in old age by mechanisms expected from human physiology and the adaptive process of senescence, causing a greater change in pharmacokinetics (how the body acts in response to the medication) and pharmacodynamics

(physiological effects of the drug in the body). Given these characteristics, it must be observed as a consequence of the prescribed therapy and not as a new pathology. The act of medicating only symptoms can expose the patient to the condition of iatrogenesis. This risk is proportional to the quantities of drugs, their time of use together with the dosage with emphasis on the elderly population given the process having distinct metabolic characteristics.

Drug interactions are classified according to their action on the body and are divided into two categories. Synergistic where the combined effects of medicines are superior to the individual effects. Antagonistic when the resulting effect becomes inferior to that of the isolated medication or develops partial/complete nullification of the drug's action.

Adverse reactions are also subdivided into categories. Dose-related: generating excessive pharmacological effect. Not related to dose: due to pharmacogenetics (genetic changes in each individual) or immunological processes. Time or suspension of use: adaptive changes and rebound effect. Late effects: such as carcinogenesis, infertility. All of these effects are harmful later on. There are low-cost measures that can and must reduce this situation. The main one would be reception at all levels of the health sector. Even though public inclusion policies and health measures already exist in the SUS (Unified Health System), given the new population characteristics with the drop at fertility and mortality, we increasingly see an aging population in need of new offers for health services and situations that deserve a special accompaniment. One of them would be offers from geriatricians in greater quantities, making appointments easier and returning to observe dosage, medications and time of use, reducing side effects, polypharmacy and iatrogenesis. Access to preventive exams such

as bone densitometry between the ages of 40 and 50, preventing osteoporosis and thus falls and most importantly, listening to the patient. Due to the high demand, health professionals often do not look for the root of the problem, which could be a loss in the family that can lead to depression affecting your health and just an appointment with a psychologist would help much more than pharmacological prescriptions. Bodily changes such as decreased strength, vision and others that can cause shame as they lose some of their autonomy, generating social isolation and all these parameters must be observed because health, according to the WHO (World Health Organization) recommends health as a physical, social and mental well-being. And stimulus policies for body movement such as city gyms, specialized places for exercises for the elderly such as pilates, water aerobics and, in the case of existing pathologies, physiotherapy as an essential pillar in health rehabilitation. Information about nutrition and preventive care for falls through educational lectures.

After this discussion, it is necessary to observe drugs that have the most iatrogenic risks, such as antihypertensives, vitamins and minerals, diuretics, hypnotics and anxiolytics, non-steroidal anti-inflammatory drugs, laxatives, beta-blockers and analgesics. Given the therapeutic need and the physical condition of the patient, thinking about how long it will take to respond to symptoms and whether the body can handle this amount of exposure, considering the best route of administration, long-term effects together with drug interactions, observing the need for replace some treatment or even suspend it, prioritizing a treatment that fits into the patient's routine and is effective. It is the health professional's responsibility to put the patient's well-being first and not cause other pathologies. During the geriatric consultation there is a need to evaluate the physical, social,

functional and environmental aspects by parameters of balance and mobility, cognitive function, emotional conditions, sensory deficiencies, nutritional status and risk, socio-environmental conditions, polypharmacy and inappropriate medications, comorbidity and multimorbidity. And all of these aspects interfere with drug therapy. If the elderly are malnourished, new pathologies may occur and the drugs do not have their effect. The patient who has a cognitive limitation will not use the prescriptions correctly. Offering more geriatricians means reducing medication costs, emergency room visits and preventing new pathologies in the long term. Understand that health is carried out responsibly and with a multidisciplinary team including health professionals or not, such as psychology professionals and legal guardians of that elderly person.

REFERENCES

- GALVÃO, C. Idoso polimedicado – estratégias para melhorar a prescrição. *Revista Portuguesa de Clínica Geral*, v. 22, p. 747-52, 2006.
- GORZONI, M. L. Medicamentos como desencadeantes de sintomas em idosos. *Gerontologia*, São Paulo, v. 3, n. 2, p. 81-86, 1995.
- MOSEGUI, G. B. G. et al. Avaliação da qualidade de uso de medicamentos em idosos. *Rev Saude Publica*, São Paulo, v. 33, n. 5, p. 437- 44, 1999.
- PEREIRA, José Gilberto. Reações adversas a medicamentos. *fármaco*, v. 2, n. 4, p. 6-7, 2002.
- PADILHA, K G. Considerações sobre as ocorrências iatrogênicas na assistência à saúde: dificuldades inerentes ao estudo do tema. *Rev. esc. enferm. USP*, São Paulo, v. 35, n. 3, Set. 2001.
- BONAFÉ, Marina et al. Factors related to chronic pain in institutionalized elderly. *BrJP*, v. 3, p. 314-317, 2021.
- ORGANIZAÇÃO MUNDIAL DA SAÚDE. Conceito de envelhecimento. Disponível em: . Acesso em 03 de jun. 2010.
- FILHO, C.T.E.; NETTO P.M. *Geriatría: fundamentos, clínica e terapêutica*. 2ª edição. São Paulo: Atheneu, 2005.
- SALES, Wesley Barbosa et al. RELAÇÃO DA IATROGENIA E POLIFARMÁCIA EM IDOSOS: UMA REVISÃO INTEGRATIVA. *Revista Arquivos Científicos (IMMES)*, v. 6, n. 1, p. 1-8, 2023.
- DE CASTRO, Nayara Francielle et al. Polifarmácia na saúde dos idosos: revisão integrativa de literatura. *Research, Society and Development*, v. 11, n. 8, p. e31711830968-e31711830968, 2022.
- II Congresso Brasileiro sobre o Uso Racional de Medicamentos, 2007, Florianópolis. Os Centros de Informação sobre Medicamentos e os Centros de Informação e Assistência Toxicológica como estratégias para o uso racional de medicamentos: desafios para a informação confiável e independente [in Portuguese]. Oficina PréCongresso. Anais eletrônicos [CD-ROM]. Florianópolis: Ministério da Saúde/ ANVISA/OPS-OMS/UFSC; 2007.
- VERAS, Renato. Em busca de uma assistência adequada à saúde do idoso: revisão da literatura e aplicação de um instrumento de detecção precoce e de previsibilidade de agravos. *Cadernos de Saúde Pública*, v. 19, p. 705-715, 2003.

FINAL CONSIDERATIONS

Given the discussions and characteristics about iatrogenesis in the elderly population, we must understand its complexity and individualities taking into account their lifestyle, treating pathologies without focusing only on symptoms with the help of geriatricians, nutritionists, physical educators, physiotherapists aiming at movement, good nutrition and only treatments necessary to avoid drug interactions that contribute to the emergence of new diseases resulting in lower quality of life and more public spending.

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