

Older Adults' Perception of Iatrogenesis: A Sociological Phenomenological Approach

Percepção da Pessoa Idosa Acerca da Iatrogenia: Uma Abordagem Fenomenológica Sociológica
Percepción de las Personas Mayores Sobre la Iatrogenia: Un Enfoque Fenomenológico Sociológico

RESUMO

Objetivo: Esse trabalho visa compreender a percepção da pessoa idosa sobre os efeitos adversos dos medicamentos e outros eventos iatrogênicos decorrentes do uso de polifarmácia. **Método:** Estudo qualitativo com abordagem fenomenológica, realizado com pessoas idosas cadastradas em três equipes de saúde da família no norte do Espírito Santo. Os dados foram coletados com visitas domiciliares onde os participantes responderam a um questionário semiestruturado. **Resultados:** Participaram 16 idosos, sendo 75% mulheres, 76% se identificaram como pardos ou negros, 43,75% eram casados e 62,5% residiam com seus companheiros ou outros familiares. Emergiram quatro categorias: conhecimento sobre a iatrogenia; percepção em relação ao uso de múltiplos medicamentos; impacto da iatrogenia; acompanhamento pela atenção primária. **Conclusão:** A falta de conhecimento da pessoa idosa a respeito dos eventos iatrogênicos favorece a ocorrência de agravos, sendo necessários esclarecimentos e orientações adequadas para essa população, para uma melhor qualidade de vida.

DESCRIPTORES: Saúde da pessoa idosa; Polimedicação; Reações adversas a medicamentos; Atenção primária à saúde; Pesquisa qualitativa.

ABSTRACT

Objective: This study aimed to understand older adults' perceptions of adverse drug reactions and other iatrogenic events associated with polypharmacy. **Methods:** This qualitative study adopted a phenomenological approach and was conducted with older adults registered with three Family Health Strategy teams in northern Espírito Santo, Brazil. Data were collected through home visits, during which participants completed a semi-structured questionnaire. **Results:** Sixteen older adults participated in the study; 75% were women, 76% self-identified as Black or mixed-race, 43.75% were married, and 62.5% lived with their spouses or other family members. Four categories emerged: knowledge about iatrogenesis; perceptions regarding the use of multiple medications; the impact of iatrogenesis; and follow-up provided by primary health care. **Conclusion:** Older adults' lack of knowledge about iatrogenic events contributes to the occurrence of adverse outcomes, highlighting the need for appropriate education and guidance to promote better quality of life.

DESCRIPTORS: Health of the older adult; Polypharmacy; Adverse drug reactions; Primary health care; Qualitative research.

RESUMEN

Objetivo: Comprender la percepción de las personas mayores sobre las reacciones adversas a los medicamentos y otros eventos iatrogénicos asociados con la polifarmacia. **Método:** Estudio cualitativo con enfoque fenomenológico realizado con personas mayores registradas en tres equipos de la Estrategia de Salud de la Familia del norte de Espírito Santo, Brasil. Los datos se obtuvieron mediante visitas domiciliarias y un cuestionario semiestructurado. **Resultados:** Participaron 16 personas mayores; el 75% eran mujeres, el 76% se autoidentificó como personas negras o pardas, el 43,75% estaba casado y el 62,5% vivía con familiares o su pareja. Surgieron cuatro categorías: conocimiento sobre la iatrogenia, percepción del uso de múltiples medicamentos, impacto de la iatrogenia y seguimiento en la atención primaria de salud. **Conclusión:** Es necesario fortalecer la educación sanitaria para prevenir eventos iatrogénicos y mejorar la calidad de vida de las personas mayores.

DESCRIPTORES: Salud de las personas mayores; Polifarmacia; Reacciones adversas a los medicamentos; Atención primaria de salud; Investigación cualitativa.

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Received: 07/23/2026

Approved: 08/27/2026

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INTRODUCTION

As people age and develop chronic diseases, there is an increased need for the continuous use of medications, which contributes to polypharmacy and raises the risk of adverse effects and other iatrogenic events. Currently, the elderly population represents the the fastest-growing age group in Brazil and stands out as the primary consumer of medications, posing a public health problem ⁽¹⁻²⁾.

The most commonly reported definition of polypharmacy is the daily use of five or more medications. This generally occurs due to multiple comorbidities, consultations with different specialists, self-medication, and, above all, the use of medications beyond what is recommended during clinical care ⁽³⁾.

Drug-induced iatrogenesis is defined as any intervention—whether correct or incorrect, justified or not—that results in harm to the patient's health ⁽⁴⁾.

It is worth noting that medications play a central role in the treatment, recovery, and management of most diseases. However, it is essential to recognize that no medication is entirely risk-free, since all of them, to a greater or lesser extent, can trigger adverse reactions. Their use varies according to factors such as age, sex, and health conditions, as well as social, economic, and demographic factors ⁽⁴⁻⁵⁾.

Iatrogenesis is responsible for health complications in older adults, such as falls, cognitive impairments, depression, malnutrition, drug-resistant infections, immobility, hearing and vision impairments, dizziness, and premature death, among others. It di-

rectly affects the quality of life of older adults, compromising their functional capacity, restricting their daily activities, and leading to social isolation ⁽⁶⁾.

Older adults are the primary users of health care services, and monthly spending on medications can be exorbitant, which highlights the need for greater training of health care professionals who provide care to older adults and for the development of policies that promote access to and the rational use of medications to prevent iatrogenic complications ⁽⁷⁾. Furthermore, it is essential that older adults be informed that drug interactions can have effects that compromise your quality of life.

Based on these assumptions, this study is justified by its aim to understand older adults' perceptions of iatrogenesis and the impact of iatrogenic events on their lives. Based on this knowledge, the study aims to contribute to improving care for this group of individuals, thereby promoting an improvement in their quality of life. To this end, the objective of this study was to understand older adults' perceptions of the adverse effects of medications and other iatrogenic events resulting from polypharmacy, as well as to describe the impact of iatrogenesis on their lives.

METHOD

This is a qualitative study employing Alfred Schütz's ⁽⁸⁾ comprehensive sociological phenomenological approach, conducted at a Basic Health Unit (UBS) that has three Family Health Strategy (ESF) teams, responsible for providing care to approximately 21,000 residents of the northern and southern parts of the Guriri resort area,

located in northern Espírito Santo. The UBS was selected for convenience and because it serves as a field site for curricular and extracurricular internships for the undergraduate nursing program at a public university.

We relied on the collaboration of Community Health Agents (ACS), who identified older adults and scheduled home visits so that the researchers could present the study and collect data, should the participants agree to take part. The visits took place in September 2022, on previously scheduled days, times, and locations, in order to ensure the privacy and confidentiality of the older adults, taking into account the visit schedules of each health agent assigned to any Family Health Program (ESF) and their willingness to collaborate.

Inclusion criteria were: older adults registered with the Family Health Program (ESF) who had been taking more than five medications for over four years and who had chronic diseases. Exclusion criteria were: older adults with cognitive impairment reported by family members and/or with difficulty understanding, as identified by community health workers.

For data collection, a semistructured questionnaire was administered, which included questions to identify the sociodemographic profile of the respondents—such as age, sex, marital status, race/ethnicity, education level, occupation, income, and housing status—followed by open-ended phenomenological questions.

For sample selection, the saturation criterion ⁽⁹⁾ was defined, which is used to establish or finalize the sample size when the data obtained begin to show, in the researcher's assessment, a certain

degree of redundancy or repetition.

The analysis was conducted using Alfred Schütz's sociological comprehensive phenomenology, given that the term "phenomenology" refers to the study of phenomena—that which appears to consciousness. This analysis is based on the categorization of data and the identification of "for" and "because" motives ⁽⁸⁾.

Those related to the achievement of goals, expectations, and plans are called "motives for," and those grounded as antecedents in the body of knowledge derived from lived experience within the person's biopsychosocial context are termed "motives because" ^(8,10).

To understand older adults' perceptions of iatrogenesis, where the "reasons for and because" indicate that the action interpreted by the subject based on their existential motives—derived from experiences embedded in subjectivity—constitute the guiding threads of action in the social world.

Therefore, based on the phenomenon of older adults' perceptions of iatrogenesis—that is, the social interaction of older adults in a face-to-face relationship with the researcher—gives them a voice, as these older adults bring to their statements a wealth of knowledge, life experiences, and subjective perspectives. This dialogue fosters intersubjectivity among the group members, expressed in their statements through the "reasons for" and "reasons why."

Since this was a study involving human subjects, the following resolutions were taken into account: CNS/MS Resolution No. 466/2012 and, because the study was conducted within the framework of a Basic Health Unit of the SUS, CNS/MS Resolution No. 580/18. The study was approved by the Research Ethics Committee of the Centro Universitário Norte do Espírito Santo (Ceunes), part of the Federal University of Espírito Santo, in accordance

with the opinion expressed in the Certificate of Submission for Ethical Review (CAAE) No. 5,579,221. After the participants signed the Informed Consent Form (TCLE), data collection began. Participants were identified by the acronym PI (Elderly Person), followed by sequential numbering, starting with the number 1 and following the order of the interviews, in order to maintain confidentiality and anonymity.

RESULTS

Sixteen older adults registered at the UBSs were interviewed, although data saturation occurred after the twelfth interview.

According to the sociodemographic data, the majority of participants were women (75.00%) and individuals who self-identified as mixed-race or Black (75.00%), with ages ranging from 60 to over 80 years (100.00%). Regarding marital status, 43.75% were married, 43.75% were widowed, and 12.5% were divorced or separated. In addition, 37.50% lived alone, while 62.50% lived with partners, children, or other family members.

All participants in this study relied on retirement benefits as their primary source of income, with earnings ranging from one to six minimum wages. The majority (75.00%) received a monthly income of 1 to 3 minimum wages. In addition, nearly half (43.75%) had not completed elementary school, and one participant had no formal education.

After characterizing the participants' sociodemographic profiles and reviewing the interviews, we conducted an analysis based on Alfred Schütz's comprehensive phenomenology. Four categories emerged from the participants' statements, which allowed us to understand the older adults' perceptions of iatrogenesis and to identify the reasons for and behind these perceptions as follows:

Category 1—Knowledge of iatrogenesis

It is evident that older adults lack knowledge regarding the term "iatrogenesis." Of the 16 participants, only one reported knowing its meaning.

"Iatrogenesis refers to illnesses caused by medications or by the treatment itself, such as side effects [...]" (PI 10).

Based on their everyday experiences, the older adults provided responses reflecting their understanding and knowledge of iatrogenic events. Thus, it was noted that when asked if they had experienced any adverse effects from taking medications, some participants believed they had encountered problems due to drug interactions, as demonstrated in the following statements.

[...] but it's happened to me before; I had to be hospitalized for 30 days because of medication—one didn't mix well with the other and caused stomach pain [...]" (PI 6).

"[...] when I started taking the medications, something strange happened, but I talked to the doctor, and it gradually subsided. I even fainted once, breaking out in a cold sweat [...]" (PI 8).

Regarding the use of multiple medications, it was possible to identify the participants' perceptions of their own aging, as well as how excessive and inappropriate medication use can lead to serious health complications.

I don't think it's very good, but what can I do, son? Aging is part of life [...]" (PI 2).

It's not a good thing, because how long am I going to keep taking these medications? I can't stop [...]" (PI 6).

Category 2—Perceptions Regarding the Use of Multiple Medications

When asked about the significance of these medications for health, the responses highlighted an awareness of the importance of drug treatment in regaining health.

[...] they help a lot; my blood pressure was very high, fluctuating, going up and down; I went to the cardiologist, and now that I'm taking them, it's getting better [...] (PI 8).

The statements also demonstrated an understanding of the negative impact of incorrect medication use and the notion that using medications improperly can harm one's health.

[...] if you take it wrong, it can lead to complications [...] (PI 1).

[...] I check the package insert to make sure I'm taking it correctly [...] (PI 2).

[...] it's really hard for me to take medication on my own, to self-medicate [...] (PI 9).

Perceptions regarding the complications that can result from the inappropriate use of medications highlight the "reasons for."

The elderly participants expressed concern about the possible consequences of improper medication use. This concern leads them to follow the treatment prescribed by their doctor, as evidenced by their responses, in which they confirmed taking their medications correctly. Only one woman mentioned having forgotten to take her medication.

[...] I take it exactly as prescribed; sometimes I'm not sure if I've taken it, but then I was told not to take it that day [...] (PI 9).

Category 3—Impact of Iatrogenesis

Participants reported that iatrogenic events negatively affected their quality of life, impairing their functional capacity, hindering daily activities, and

contributing to social isolation, as stated by one older adult.

I used to like to read for about three to four hours—reading the Bible—but now it's 20 minutes at most, and then I ask to go to bed [...] (PI 10).

[...] another blood pressure medication that I don't take anymore, because it makes me feel bad; there were times when I took it, and I felt kind of [...], so I stopped—it made me feel a little dizzy [...] (PI 1).

Category 4—Follow-up Care in Primary Care

Based on the analysis of the interviews, it became clear that older adults understand the importance of regular follow-up through periodic appointments to review the list of medications prescribed by healthcare professionals.

I'm always followed up by the doctor here at the clinic [...] (PI 9).

There was a medication that made me too sleepy, so the doctor stopped prescribing it [...] (PI 12).

DISCUSSION

The sociodemographic profile found in this study was similar to that described in the literature, showing a predominance of females, low educational attainment, and an income between one and three minimum wages. Studies indicate that Brazilian women seek health care services more frequently than men, which may lead to greater exposure to the use of prescription and over-the-counter medications and, consequently, increase the risk of iatrogenic events. Furthermore, the low level of education observed among the participants constitutes an important factor associated with the development of chronic diseases and the use of multiple medications. This condition gen-

erally reflects an unfavorable socioeconomic context, contributing to greater vulnerability to iatrogenic events^(11–12).

The interpretation of the findings was based on Alfred Schütz's comprehensive phenomenology, which understands human action through "motives of why," related to lived experiences, and "motives of for," directed toward future intentions and goals

⁽⁵⁾. This approach allowed us to understand older adults' perceptions of iatrogenesis based on their lived experiences and the way they attribute meaning to medication use.

Regarding knowledge of iatrogenesis, it was found that most participants were unfamiliar with the term, although they demonstrated an understanding of situations related to adverse effects and drug interactions when asked about their experiences. This finding underscores the population's limited knowledge regarding self-care and medication safety. The literature emphasizes that health education is a right guaranteed by the Unified Health System and that educational strategies help expand the public's knowledge, contributing to the early identification of warning signs and the promotion of quality of life⁽¹³⁾. Similarly, authors⁽¹⁴⁾ state that drug interactions still are poorly understood by the general public, mainly due to the lack of adequate guidance during health care follow-up.

Lack of familiarity with the term "iatrogenesis" may be related to the use of technical language during the interview and to the participants' low level of education, constituting a possible methodological limitation. However, the accounts demonstrated that the older adults possessed empirical knowledge about the adverse effects of medications, acquired through their personal experiences. From Schütz's⁽⁸⁾ perspective, these experiences represent the "reasons why," since individuals' actions and perceptions are constructed based on experiences ac-

cumulated throughout their lives.

Regarding perceptions about the use of multiple medications, it was observed that participants recognized the importance of drug therapy for managing chronic diseases but also expressed concern about the excessive and inappropriate use of these medications. This finding is consistent with Conti, Sañudo, and Ramos⁽¹⁵⁾, who emphasize that older adults are often overprescribed, stressing that pharmacotherapy should be individualized and used only when truly necessary. Aging increases the risk of developing chronic diseases and, consequently, polypharmacy, making older adults more susceptible to iatrogenic events. Furthermore, self-medication represents a significant aggravating factor, as it increases the risk of drug interactions and adverse reactions⁽¹⁶⁾.

Still within this category, although most older adults reported using their medications correctly, some had difficulty identifying all the drugs they were taking and their respective therapeutic indications. This finding highlights that treatment adherence does not depend solely on following the prescription, but also on adequate understanding of medication use. Incorrect use can compromise treatment, aggravate pre-existing conditions, and significantly increase the risk of iatrogenic events⁽¹⁵⁾. From a phenomenological perspective, the attitudes of correctly following a medical prescription reflect the "motives for," as they represent actions aimed at maintaining health and preventing future complications⁽⁸⁾.

Regarding the impact of iatrogenesis, the reports highlighted impairments in quality of life, functional limitations, and treatment discontinuation due to the adverse effects of medications. These findings corroborate studies demonstrating that the indiscriminate use of medications compromises the functionality of older adults and reduces their quality of life. It is estimated

that older adults use, on average, between four and six medications daily, a number that tends to increase with advancing age and the presence of multiple comorbidities, thereby heightening the risks associated with polypharmacy⁽¹⁶⁾. Furthermore, adverse reactions can lead to the suspension or discontinuation of treatment, compromising its effectiveness and contributing to new health complications⁽¹⁷⁾.

With regard to follow-up by Primary Health Care, the results showed that participants recognize the importance of periodic visits and the review of medication prescriptions by health professionals. The literature emphasizes that monitoring prescriptions is the responsibility of the health care team and should be conducted on an individualized basis, contributing to the prevention of incidents related to patient safety and iatrogenic complications⁽¹⁸⁾. Although polypharmacy is part of routine care for older adults, especially in primary care, its use must be constantly reevaluated to avoid inappropriate prescriptions, particularly among individuals with lower levels of education and socioeconomic vulnerability⁽¹⁹⁾.

In this context, insufficient guidance can lead to doubts, misinterpretations, and errors in medication use. Therefore, it is essential to strengthen communication between healthcare professionals and patients, establishing a bond and a relationship of trust that can facilitate the early identification of adverse effects and treatment-related difficulties^(17,19). Furthermore, the interdisciplinary approach of the Family Health Strategy teams helps distinguish symptoms resulting from the disease process from those caused by adverse drug reactions, enabling adjustments to treatment and continuous monitoring of older adults⁽¹⁹⁻²⁰⁾.

It is also important to emphasize the importance of training health professionals who care for older adults, as well as the development of public

policies that promote access to medications for this population, encouraging the rational use of these drugs to prevent iatrogenic harm⁽¹¹⁾.

Thus, the importance of monitoring and the sensitive, individualized approach of primary care health professionals becomes evident in preventing the exposure of older adults to multiple medications, which can lead to drug interactions and adverse reactions that affect their quality of life.

FINAL CONSIDERATIONS

Older adults are the patients most vulnerable to iatrogenic events and adverse drug effects due to changes resulting from the natural aging process, which require special care, particularly with the onset of chronic diseases.

It was found that older adults' lack of knowledge regarding iatrogenic events contributes to the occurrence of complications. In this regard, adequate explanations and guidance on iatrogenesis are necessary for this population in order to promote a better quality of life. Lack of knowledge is the main impact of iatrogenesis in the lives of older adults, as evidenced by their reported experiences.

Given this, it is essential to conduct periodic reviews of prescribed medications, providing clear guidance adapted to language that can be easily understood, always taking into account the unique characteristics and vulnerabilities of older adults.

It can be concluded that iatrogenesis can be understood as a public health issue, since errors in the team's conduct may occur when professionals do not fully understand the patient's unique circumstances. Such errors and/or omissions can occur from the moment an older adult is admitted through the multidisciplinary team's ongoing care.

References

1. Vitorino LM, Lopes Mendes JH, de Souza Santos G, Oliveira C, José H, Sousa L. Prevalence of polypharmacy of older people in a large Brazilian urban center and its associated factors. *Int J Environ Res Public Health* [Internet]. 2023 [cited 2025 May 30]; 20(9):5730. Available from: <https://doi.org/10.3390/ijerph20095730>
2. Brasil. Ministério da Saúde. Envelhecimento e saúde da pessoa idosa. Brasília: Ministério da Saúde, 2006. Available from: https://bvsms.saude.gov.br/bvs/publicacoes/envelhecimento_saude_pessoa_idosa.pdf
3. Doumat G, Daher D, Itani M, Abdouni L, Asmar KE, Assaf G. The effect of polypharmacy on healthcare services utilization in older adults with comorbidities: a retrospective cohort study. *BMC Prim Care* [Internet]. 2023 [cited 2025 May 30]; 24(120):1-9. Available from: <https://doi.org/10.1186/s12875-023-02070-0>
4. Rasool MF, Rehman Au, Khan I, Latif M, Ahmad I, Shakeel S, et al. Assessment of risk factors associated with potential drug-drug interactions among patients suffering from chronic disorders. *PLoS One* [Internet]. 2023 [cited 2025 May 30]; 18(1):e0276277. Available from: <https://doi.org/10.1371/journal.pone.0276277>
5. Hermes GB, Lange C, Lemões MAM, Castro DSP, Peters CW, Braga JNR. Demographic and socioeconomic analysis of medication use by elderly people living in rural areas. *Mundo Saúde* [Internet]. 2022 [cited 2025 May 30]; 46: 434–441. Available from: 10.15343/0104-7809.202246434441
6. Hoel RW, Connolly RMG, Takahashi PY. Polypharmacy management in older patients. *Mayo Clin Proc* [Internet]. 2021 [cited 2025 May 31]; 96(1):242–256. Available from: <https://doi.org/10.1016/j.mayocp.2020.06.012>
7. Bégaud B, Germa S, Noize P. Drugs and the elderly: A complex interaction. *Therapies* [Internet]. 2023, [cited 2025 Jun 8]; 78(5):559–563. Available from: <https://doi.org/10.1016/j.therap.2023.01.003>
8. Schütz A. Sobre a fenomenologia e relações sociais. 2 ed. Rio de Janeiro: Vozes; 2018.
9. Fontanella BJB, Ricas J, Turato ER. Amostragem por saturação em pesquisas qualitativas em saúde: contribuições teóricas. *Cad Saúde Pública* [Internet]. 2008 [cited 2025 June 06]; 24:17–27. Available from: <https://www.scielo.br/j/csp/a/Zbfsr8DcW5YNW-VkymVByhrN/?format=pdf&lang=pt>
10. Jesus MCP, Capalbo C, Merighi MAB, Oliveira DM, Tocantins FR, Rodrigues BMRD, et al. A fenomenologia social de Alfred Schütz e sua contribuição para a enfermagem. *Rev Esc Enferm USP* [Internet]. 2013 [cited 2025 June 06]; 47(3):736–741. Available from: 10.1590/S0080-623420130000300030
11. Malta DC, Bernal RTI, Lima MG, Silva AG, Szwarcwald CL, Barros MBA. Socioeconomic inequalities related to noncommunicable diseases and their limitations: National Health Survey, 2019. *Rev Bras Epidemiol* [Internet]. 2021 [cited 2025 June 07]; 24(Suppl 2):e210011. Available from: <https://doi.org/10.1590/1980-549720210011.supl.2>
12. Sales WB, Oliveira ASC, Paiva TA, Pereira LEA. Relação da iatrogenia e polifarmácia em idosos: uma revisão integrativa. *Rev Ar Cient* [Internet]. 2023 [cited 2025 June 07]; 6(1):1–8. Available from: <https://arqcientificosimmes.emnuvens.com.br/abi/article/view/561>
13. Marques VGPS, Santos AGP, Santos MP, Martins TM, Alves IT, Neca CSM, et al. A importância da promoção da saúde no âmbito da saúde pública. *Rev Cient Saúde Tecnol* [Internet]. 2022 [cited 2025 June 07]; 2(7):e27168. Available from: <https://doi.org/10.53612/recisatec.v2i7.168>
14. Assunção RFI, Alessandretti M, Pires GB, Morais DV de, Faria EA de, et al. Impact of polypharmacy on the health of elderly people: assessment and intervention strategies *EJHR* [Internet]. 2024 Aug. 21 [cited 2025 Jun. 27]; 5(2):e5235. Available from: <https://ojs.europubpublications.com/ojs/index.php/ejhr/article/view/5235>
15. Conti MSB, Sañudo A, Ramos LR. Prescription of medicines for the aged: quality indicators, their instruments and measures as indispensable strategies in the health system. *Res Soc Dev* [Internet]. 2022 [cited 2025 June 07]; 11(2):e55311225942. Available from: <https://doi.org/10.33448/rsd-v11i2.25942>
16. Negrão JADS. Os malefícios da automedicação na terceira idade. *Rev Saude Multidiscip* [Internet]. 2020 [cited 2025 June 08]; 5(1):5–14. Available from: <http://revistas.famp.edu.br/revistasaudemultidisciplinar/article/view/61/58>
17. Silva AF, Silva JP. Polifarmácia, automedicação e uso de medicamentos potencialmente inapropriados: causa de intoxicações em idosos. *Rev Med Minas Gerais* [Internet]. 2022 [cited 2025 June 08]; 32:e-32101. Available from: 10.5935/2238-3182.2022e32101
18. Cardoso G, Pereira JG. Prescrição (in)apropriada no idoso em cuidados de saúde primários. *Gaz Med* [Internet]. 2022 [cited 2025 June 08]; 9(3):215–220. Available from: <https://www.gazetamedica.pt/index.php/gazeta/article/view/598/383>
19. Coronado-Vázquez V, Gómez-Salgado J, Monteros JCE, Ayuso-Murillo D, Ruiz-Frutos C. Shared Decision-Making in Chronic Patients with Polypharmacy: An Interventional Study for Assessing Medication Appropriateness. *J Clin Med* [Internet]. 2019 [cited 2025 June 08]; 8(6):904. Available from: 10.3390/jcm8060904
20. Rodrigues DA, Plácido AI, Mateos-Campos R, Figueiras A, Herdeiro MT, Roque F. Effectiveness of interventions to reduce potentially inappropriate medication in older patients: a systematic review. *Front Pharmacol* [Internet]. 2022 [cited 2025 June 08]; 12:777655. Available from: <https://doi.org/10.3389/fphar.2021.777655>