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ADVERSE REACTION MANAGEMENT FROM THE VIEW OF PHARMACISTS AND THE ELDERLY

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Rezumat. Gestionarea reacțiilor adverse din perspectiva farmaciilor și a persoanelor în vârsta.

Studiul investighează nivelul de conștientizare și atitudinile farmaciștilor și ale persoanelor vârstnice față de reacțiile adverse, precauțiile la medicamente, cunoașterea modalităților de raportare ale acestora, compatibilitatea medicamentelor și polipragmazia. Prin chestionarea respondenților din ambele loturi și aplicarea analizei statistice, au fost evidențiate diferențe relevante între percepția specialiștilor din domeniul farmaceutic și comportamentul real al pacienților în vârstă. Rezultatele subliniază o preocupare general redusă din partea pacienților față de riscurile asociate medicamentelor, precum și o cunoaștere limitată a modalităților de raportare a reacțiilor adverse. Discrepanțele constatate între mediul urban și rural indică nevoia unor intervenții educaționale specializate, mai ales în zonele rurale din partea farmaciștilor și se propune dezvoltarea unor programe de educație farmaceutică continuă întru ghidarea corespunzătoare a populației vârstnice.

Cuvinte cheie: farmacie comunitară, îngrijiri farmaceutice geriatrice, polipragmazie, medicamente.

Summary.

The study investigates the level of awareness and attitudes of pharmacists and elderly people towards adverse reactions, drug precautions, knowledge of their reporting methods, drug compatibility and polypharmacy . By questioning respondents from both groups and applying statistical analysis, relevant differences were highlighted between the perception of pharmaceutical specialists and the real behavior of elderly patients. The results highlight a generally low concern on the part of patients towards the risks associated with drugs, as well as a limited knowledge of the methods of reporting adverse reactions. The discrepancies found between urban and rural areas indicate the need for specialized educational interventions, especially in rural areas, by pharmacists and the development of continuing pharmaceutical education programs is proposed to properly guide the elderly population.

Keywords: community pharmacy, geriatric pharmaceutical care, polypragmasia , medications.

Резюме. Управление побочными реакциями с точки зрения фармацевтов и пожилых людей.

Исследование анализирует уровень осведомлённости и отношение фармацевтов и пожилых людей к побочным реакциям, мерам предосторожности при применении лекарств, знанию способов их регистрации, совместимости препаратов и полипрагмазии. Путём анкетирования респондентов из обеих групп и применения статистического анализа были выявлены значительные различия между восприятием фармацевтических специалистов и реальным поведением пожилых пациентов. Результаты подчёркивают общее низкое беспокойство пациентов по поводу рисков, связанных с приёмом лекарств, а также ограниченное знание о способах регистрации побочных реакций. Выявленные различия между городской и сельской средой указывают на необходимость специализированных образовательных вмешательств, особенно в сельских районах со стороны фармацевтов. Предлагается разработка программ непрерывного фармацевтического образования с целью надлежащего информирования пожилого населения.

Ключевые слова: общественная фармация, гериатрическая фармацевтическая помощь, полипрагмазия, лекарственные препараты.

Introduction.

Within the community pharmacy, the correct management of pharmacovigilance activities is a key element in ensuring the functionality of the national pharmacovigilance system. By carefully monitoring adverse reactions and reporting them to the pharmacovigilance section of the Medicines and Medical Devices Agency, it significantly contributes to increasing patient safety.

Adverse drug events represent a major challenge in pharmaceutical practice, especially in the care of the elderly. They can manifest in various forms, including adverse reactions, medication errors, therapeutic failures, complications upon discontinuation of treatment, or overdose. Adverse drug reactions are the most common, accounting for approximately three quarters of hospitalizations related to such events. The remaining hospitalizations are often the result of non-compliance with treatment, such as omission or discontinuation of medication [1].

Healthcare professionals, defined as medically qualified individuals such as physicians, pharmacists, nurses and forensic pathologists, have the necessary skills to identify, assess and report suspected adverse drug reactions [2]. This responsibility is all the more important in the case of elderly patients, a vulnerable group in which the risks of adverse reactions are significantly increased compared to other patient categories.

According to data published by Dogotari L. et all ., 2024, one of the priority aspects of pharmacovigilance within community pharmacy is patient education, carried out through direct communication, thematic sessions, information materials and other adapted forms of training. Thus, „the main communication methods used within community pharmacy include displaying information within the pharmacy (37%), direct communication with patients (33%) and distribution of information brochures (19%)" [3].

However, in the context of an aging population and the increasing incidence of chronic diseases, current community pharmacy strategies do not place sufficient emphasis on the prompt identification of adverse drug reactions and associated problems. The expansion of drug therapy among elderly patients creates an increasing demand for accurate and up-to-date data on drug safety, and direct contact of community pharmacists with the elderly allows the collection and provision of this information, thus contributing to the strengthening of the pharmacovigilance system.

The incidence of adverse drug reactions in the elderly may be underestimated, due to a high rate of under-reporting and insufficient recognition of early signs or symptoms as a possible adverse drug reaction [4]. Under-reporting of adverse reactions highlights the need to intensify pharmacovigilance activities, especially at the community pharmacy level.

The results of several studies have reported significant reductions in the incidence of adverse drug reactions following pharmacist-coordinated interventions, either as stand-alone interventions or as part of complex strategies [5].

It is noteworthy that inappropriate prescribing in elderly patients has decreased significantly as a result of collaboration between pharmacists and physicians within multidisciplinary teams operating in different sectors of the health system. Pharmaceutical care services have contributed to the optimal use of medicines both during hospitalization and in the post-discharge period [6]. Community pharmacists applying geriatric pharmaceutical care can solve problems related to the elderly's medication, including potentially inappropriate medicines [7].

The active involvement of the community pharmacist in reviewing the elderly's medication and managing adverse drug reactions will reduce the risks associated with drug therapies.

Experimental.

The study aimed to investigate the attitudes of pharmacists and elderly patients regarding adverse drug reactions, the level of knowledge of available detection and reporting procedures. To carry out this research, two distinct groups of participants were recruited: a group of 406 community pharmacists and a group of 417 elderly people, who visit community pharmacies and use medications.

The methodology used was a case series, descriptive in nature. The main data collection tool was the standardized questionnaire, administered anonymously to ensure objective responses. The questionnaires contained closed-ended items, and completion took approximately 10–20 minutes. Participation was voluntary, without financial or professional rewards.

The collected data were statistically processed using Excel software. Descriptive analysis included calculating percentages, confidence intervals, and applying the Pearson test and the „t-test" for equality of means ~~to~~ compare proportions between the two groups. These analyses allowed the identification of statistically significant trends in reporting behavior and awareness of adverse drug reactions among the subjects.

Results and discussion.

406 community pharmacists were surveyed, of whom 86.0% (95% CI: 83.12-89.78) work in urban areas, and 417 elderly people, of whom 52.5% (95%

CI: 47.72-57.31) live in urban areas, in order to assess the level of interest, awareness and behavior in relation to adverse drug reactions, precautions in use, as well as knowledge of reporting methods. The collected data revealed a low concern on the part of the elderly regarding adverse reactions: only 34.5% of them (combined "always" 7.9%, 95% CI:5.32-10.50 and "often" 26.6%, 95% CI:22.37-30.86) express interest in these aspects, while 65.5% (responses "rarely" 31.7%, 95% CI:27.19-36.11, "very rarely" 19.4%, 95% CI:15.62-23.22 and "never" 14.4%, 95% CI: 11.01-17.75) do not pay attention to them (Fig. 1). This lack of interest denotes a clear need for specialized pharmaceutical education and care among the elderly.

Similarly, interest in precautions is low: only 36% ask "often" (29.0%, 95% CI:24.66-33.37) or "permanently" (7.0%, 95% CI:4.51-9.39) about precautions in taking medications, and a much larger proportion (64%) are not interested: 31.2%, 95% CI:26.72-35.62 do so "rarely", 19.2%, 95% CI:15.40-22.96 "very rarely" and 13.7%, 95% CI:10.37-16.96 "never" (fig. 2). The general attitude indicates a low awareness of the potential risks associated with the occurrence of adverse reactions.

The comparative analysis shows that the elderly's responses regarding adverse reactions and precautions are proportionally similar in the categories „rarely" (31.7% vs. 31.2%), „very rarely" (19.4% vs. 19.2%) and „never" (14.4% vs. 13.7%). The „permanently" category is close (7.9% vs. 7%), suggesting that the level of vigilance is consistently low, and the interest in these aspects is limited to a minority group of informed patients.

On the other hand, pharmacists believe that 61.3% (95% CI:56.59-66.06) of the elderly report adverse reactions (Table 1). This perception is contradicted by the actual behavior of the elderly, with only 19.7% (95% CI:15.84-23.47) of them reporting adverse reactions (Table 2). The difference

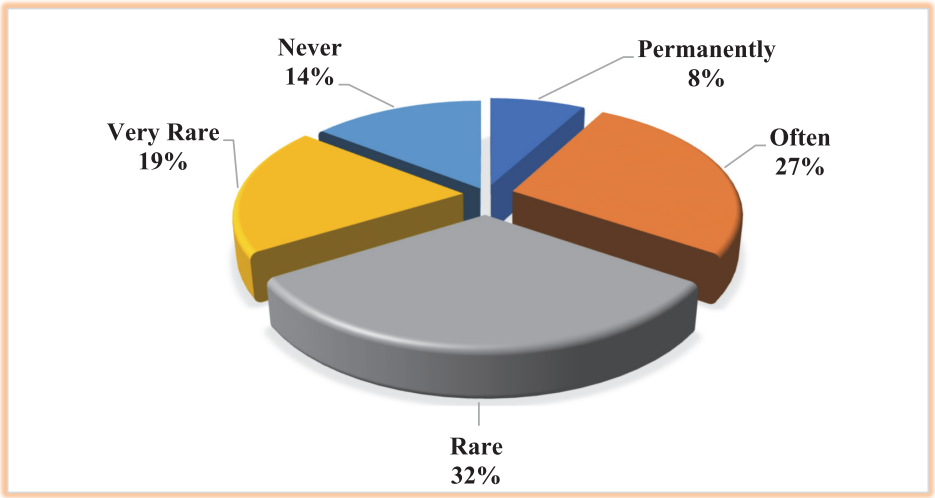

Figure 1. Frequency of questions asked to the pharmacist about possible side effects of the requested medication

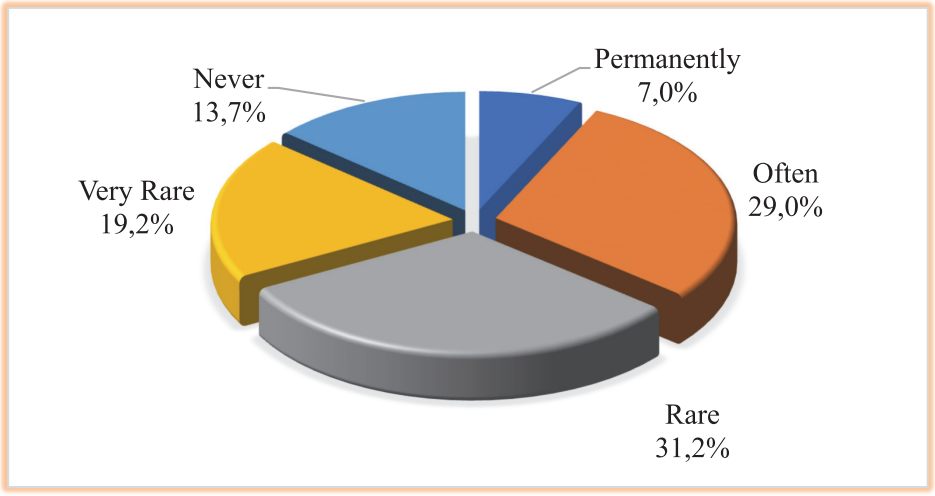

Figure 2. Frequency of questions asked to the pharmacist about precautions for using the requested drug

is statistically significant (t=13.41, p<0.001), highlighting a discrepancy between professional and patient assessment.

Table 1.

Pharmacists' opinions on elderly people's reporting of adverse drug reactions

The answer	Frequency	Percent	CI 95%
Not	157	38.7	33,93-43,40
Yes	249	61.3	56,59-66,06
Total	406	100.0	

Table 2.

Elderly people's responses regarding their experience with adverse drug reactions and reporting them to the pharmacist

The answer	Frequency	Percent	CI 95%
Not	335	80.3	76,52-84,15
Yes	82	19.7	15,84-23,47
Total	417	100.0	

Discrepancies are also evident between living environments: 75.3% of urban and 85.9% of rural elderly people say they have not reported adverse reactions, with a statistically significant difference (χ^2=7.27, gl =1, p=0.007). Also, only 21.7% of rural elderly people know the reporting methods, compared to 39.3% in urban areas (χ^2=14.99, gl =1, p<0.001), which reveals a sharp information gap in rural areas.

Regarding pharmacovigilance, only 30.9% (95% CI: 26.49-35.37) of the elderly know how to report adverse reactions, compared to 61.3% (95% CI: 56.59-66.06) of pharmacists who believe that the elderly report such effects. The difference is statistically significant (t=9.16, p<0.001) highlighting an overestimation of the professionals' perception of the level of information of elderly patients.

Since only a third of respondents say they are informed about existing reporting methods, this percentage remains low and suggests that the information process offered within the pharmaceutical act is insufficient.

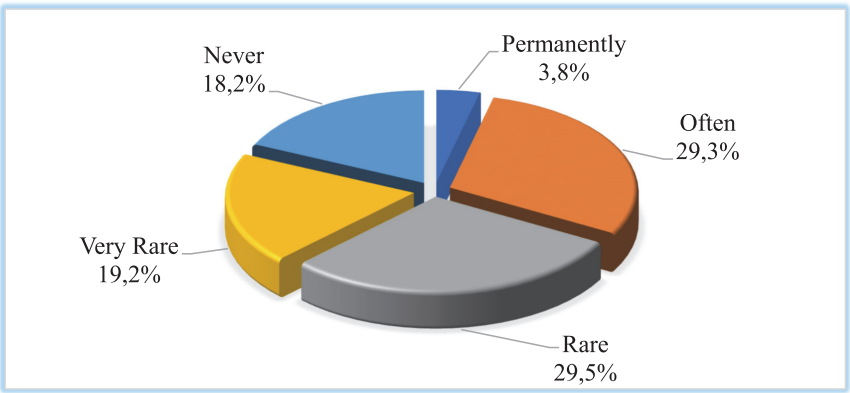

Figure 3. Frequency of questions asked to the pharmacist about the compatibility of the drugs used

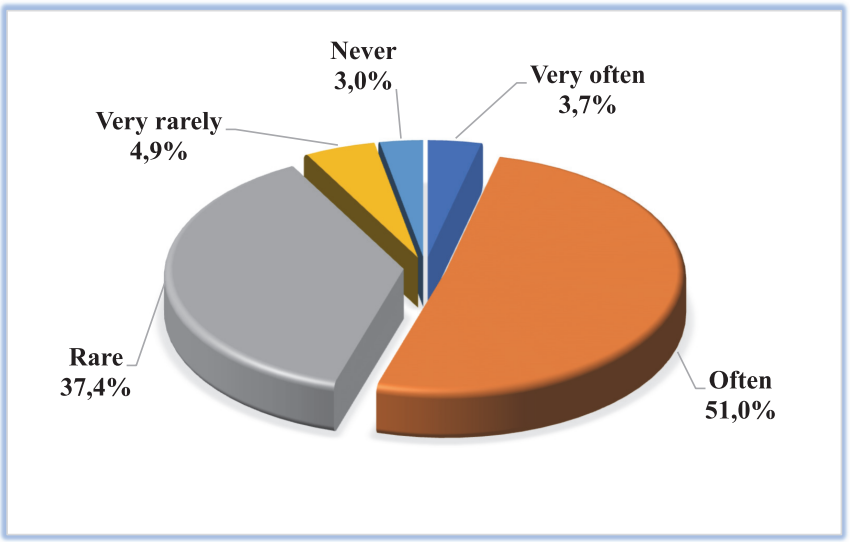

Figure 4. Pharmacists' opinions on the elderly patients requesting medicines with the same composition or from the same pharmacotherapeutic group

Only 33.1% (3.8%, 95% CI: 1.99-5.68 „permanently" and 29.3%, 95% CI: 24.89-33.62 „often") are actively involved in checking drug compatibility (fig. 3). A proportion of 18.2% (95% CI: 14.52-21.93) are exposed to the risks associated with drug interactions, having a passive behavior in this regard, indicating that they never request such information.

Without a compatibility check, medications can interact negatively, causing severe side effects. Some combinations can cancel, reduce, or on the contrary potentiate the effectiveness of one or more medications, negatively affecting the health of the elderly.

According to pharmacists, one of the most common medication errors is the failure to report adverse reactions, indicated by 52.2% (95% CI: 47.35-57.07) of them (Table 3) [8]. This error can have a serious impact on patients' health, and underreporting contributes to difficulties in monitoring the effectiveness and safety of treatment.

Therefore, adverse drug reactions not only reflect errors made, but also emphasize the need for continuous and correct communication between the patient, doctor and pharmacist, as well as the importance of appropriate and adapted guidance from the pharmacist for the elderly.

Pharmacists, being in direct contact with elderly patients, can identify and manage polypharmacy within the pharmaceutical act. Of the total pharmacist respondents, 54.9% (95% CI:50.08-59.76) indicated polypharmacy for OTC drugs, reflecting the tendency of uncontrolled self-medication. For prescription drugs (Rx), 46.8% (95% CI:41.94-51.65) reported cases, possibly caused by complex treatments or consultation of several doctors. Also, 54.7% of pharmacists (3.7%, 95% CI: 1.85-5.52 „very often" and 51.0%, 95% CI: 46.12-55.84 „often") observed frequent requests for drugs with the same composition or from the same pharmacotherapeutic group , and 18.2% (95% CI 14.47-21.98) did not encounter such cases, while only 3% of respondents (95% CI: 1.30-4.60) indicated that they had never detected cases of polypharmacy (Fig. 4).

Analyzing the responses of the elderly, it was determined that a major share (68.1%, 95% CI:63.63-72.57) stated that they avoid the simultaneous administration of drugs with the same composition but different trade names, which is a positive signal regarding the awareness of the risks of overdose. However, 31.9% (95% CI: 27.42-36.36) admit that they practice this type of administration, which raises questions about safety. In addition, 41.7% (95% CI: 36.99-46.45) declare that they use drugs from the same pharmacotherapeutic group concurrently , suggesting greater attention to the exact composition than to the similar therapeutic effect.

Statistical analysis highlights a significant difference between the two groups ($t=3.60$, $p<0.001$) confirming that pharmacists' perception is significantly different from the behavior declared by the elderly.

These results reflect under-reporting by elderly patients and highlight the urgent need to intensify educational interventions and counselling in pharmacies to reduce the risks associated with polypharmacy.

It can be concluded that patient awareness regarding the reporting of adverse reactions needs improvement. Pharmacists should clearly explain to elderly patients the steps required for reporting such reactions, emphasizing the importance of this process for their health and for monitoring the safety of medications.

The collected questionnaires from both pharmacists and elderly patients revealed the main errors made by the elderly in relation to drug treatment (tab. 3).

Table 3.

Errors made by the elderly regarding medication treatment

errors	N	%
Double the dose	137	33.7
I skip the socket.	284	70.0
Does not comply with the duration of treatment	326	80.3
Does not report adverse reactions that occur	212	52.2
Not consulting a doctor before administering medication	261	64.3
Not consulting with the pharmacist regarding the correct administration of medications	181	44.6
Administer several drugs from the same therapeutic group simultaneously	220	54.2
Not storing medications correctly	202	49.8

The data in Table 3 suggest ideas regarding the content of the curriculum of the educational process of the elderly in the field of their attitude towards drug treatment.

Conclusions.

1. The opinions of pharmacists and the elderly regarding the management of adverse drug reactions in outpatient settings were highlighted.

2. „Medication errors specific to elderly patients. Patient-centered error minimization strategies" was argued, which focuses on the evaluation of the detection and reporting of adverse reactions in the course „Specialized pharmaceutical care for high-risk patients", within the continuing professional training cycles of pharmacists.

3. The findings emphasize the importance of applying narrow pharmaceutical care and the need to intensify education efforts among the elderly population to prevent the risks associated with adverse reactions, polypharmacy and inappropriate use of medications.

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