

Doctoral School in Medical Sciences

With manuscript title

U.D.C: 615.1:614.253.8-053.9(043.2)

SCHIOPU Tatiana

**MANAGEMENT OF PHARMACEUTICAL CARE
FOR ELDERLY PERSONS**

316.01 PHARMACY

Summary of the doctoral thesis in pharmaceutical sciences

Chisinau, 2026

The thesis was developed at *Vasile Procopisin* Department of Social Pharmacy,
Nicolae Testemitanu State University of Medicine and Pharmacy

Scientific adviser:

Adauji Stela, Dr. hab. pharm., associate professor



Members of the guidance group:

Safta Vladimir, Dr. hab. pharm., professor



Brumarel Mihail, PhD pharm., associate professor



Soric Gabriela, PhD MSc, associate professor



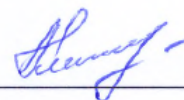
The thesis defense will take place on *June 18, 2026, at 14.00* in the premises of *Nicolae Testemitanu* State University of Medicine and Pharmacy, 165, Stefan cel Mare si Sfant Blvd., office 205 at the meeting of the Commission for the public defense of the doctoral thesis, approved by the decision of the Scientific Council of the Consortium no. 08 on *May 05, 2026*.

The Committee Members for the Public Defense:

Chair:

Uncu Livia,

Dr. hab. pharm., associate professor



Members:

Adauji Stela,

Dr. hab. pharm., associate professor, doctoral advisor

Brumarel Mihail,

PhD pharm., associate professor, reviewer

Taerel Adriana-Elena,

Dr. hab. pharm., professor, reviewer

Diug Eugen,

Dr. hab. pharm., professor, reviewer

Valica Vladimir,

Dr. hab. pharm. professor, reviewer

Lupu Mihail,

PhD pharm., associate professor, reviewer

Author: Schiopu Tatiana



CONTENT

INTRODUCTION	4
THESIS CONTENT	6
1. CONCEPTUAL ASPECTS OF GERIATRIC PHARMACEUTICAL CARE	6
2. RESEARCH MATERIALS AND METHODOLOGY	7
2.1. Overall characteristics of the research	7
2.2. Research methods	7
3. BEHAVIOR AND PERCEPTIONS OF ELDERLY PEOPLE REGARDING THE USE OF MEDICINES AND INTERACTION WITH THE PHARMACIST	8
3.1. Socio-demographic and professional profile of elderly respondents	8
3.2. Interaction with the pharmacist and perceptions of pharmaceutical care	9
4. GERIATRIC PHARMACEUTICAL CARE – REQUIREMENTS AND CONTENT ...	11
4.1. Profile of pharmacists’ respondents	11
4.3. Professional practice and pharmacists perception of elderly person’s pharmaceutical care	11
4.4. Comparative evaluation of respondents’ answers to equivalent items in the study questionnaires	13
GENERAL CONCLUSIONS	16
RECOMMENDATIONS	18
SELECTIVE BIBLIOGRAPHY	19
LIST OF PUBLICATIONS ON THE THESIS TOPIC	20
ADNOTARE	27
ANNOTATION	28

INTRODUCTION

Against the backdrop of the accelerated aging of the population and the growing demand for tailored health care services, the pharmaceutical system of the Republic of Moldova bears the responsibility of providing accessible pharmaceutical services to all citizens, with special attention given to older adults [14, 15]. This trend is also evident in the Republic of Moldova, where, according to data provided by the National Bureau of Statistics (NBS), the older population is increasing both in absolute and relative terms [4]. For older patients, pharmacists often represent the most accessible professionals within the health care system [3]. Through empathetic dialogue, clear explanation of treatments, anticipation of adverse reactions, and monitoring of therapy adherence, the pharmacist directly contributes to improving the quality of life of older adults. This personalized approach transforms the community pharmacy into a space of trust and support, where the older patient feels heard, informed, and cared for.

In this regard, the **research objective** was established: development and implementation in community pharmacy practice of the concept and content of specialized geriatric pharmaceutical care in order to ensure efficient management of pharmaceutical assistance for the elderly persons.

To achieve the proposed purpose, the following **objectives** have been developed:

1. Review and analysis of bibliographic sources on specialized geriatric pharmaceutical care at both national and international levels.
2. Identification of the aspects and particularities that characterize pharmaceutical assistance for older adults and highlighting the determining factors in ensuring the quality of specialized pharmaceutical care.
3. Determination of the problems faced by older adults in medication administration, the factors contributing to irrational use of medicines, including medication errors, uncontrolled self-medication, and the level of treatment adherence.
4. Identification of principles and strategies for effective communication between pharmacists and older patients, with assessment of their interactions, to ensure appropriate pharmacist interventions in geriatric medication management.
5. Design of a pharmaceutical counselling algorithm aimed at supporting personalized interventions and enhancing treatment adherence in older adults.
6. Enhancing pharmacists' competencies in geriatric pharmaceutical care by developing educational programs across different levels of professional training.

Research hypothesis: The personalized implementation of pharmacists' interventions and the optimization of their communication with elderly patients through the application of the "Counselling and consultation algorithm for the geriatric patient in community pharmacy", including the development and delivery of specialized educational programs in the field of geriatrics, will contribute to improving the quality of pharmaceutical assistance and care provided to the elderly population.

Scientific research methodology. The study „Management of pharmaceutical care for elderly persons” falls within the category of descriptive and quantitative research, aiming to identify the role of the pharmacist in optimizing medication use among older adults, as well as to highlight the need for continuous training in the field of geriatric pharmaceutical care as a component of specialized pharmaceutical assistance management. Within the study on improving pharmaceutical assistance for older adults, two complementary questionnaires were used – one intended for practicing pharmacists in community pharmacies, and the other directed to elderly

patients. Both instruments were available in Romanian and Russian to facilitate respondents' understanding and participation.

The scientific novelty of the research The first-time elaboration of the „*Counselling and consultation algorithm for geriatric patients in community pharmacies*” provided the foundation for the development and updating of pharmacists' continuous training programs, while substantiating and proposing the definition of the concept of „*Geriatric Pharmaceutical Care*” – *a comprehensive framework of pharmacist-led interventions for elderly individuals in community pharmacies, aimed at identifying their specific needs, ensuring safe and effective use of medicines and medical devices, and promoting healthy lifestyles in outpatient settings*”, implemented in the training process of pharmacist-residents (through the introduction of specific topics on specialized pharmaceutical care for the elderly), of practicing pharmacists in continuing education courses (Continuing Professional Development / Continuing Education in Pharmacy), and of students enrolled in the integrated higher education program 0916.1 Pharmacy. Similarly, the concept of „*pharmaco-therapeutic communication*” was introduced – understood as an interpersonal process of conveying information through verbal and behavioural means, grounded in the pharmacist's professional knowledge, attitudes, and skills, fostering patient comprehension and active involvement in medication-related decision-making.

Practical significance of the work. “The research findings materialize in the design of professional development programs for community pharmacists, embedded within continuing training, with emphasis on specialized pharmaceutical care for older patients, such as:

- enhancing the competences of future pharmacists in geriatric pharmaceutical care during university education, by integrating the topic „Geriatric pharmaceutical care. Counselling and consultation algorithm for the geriatric patient in the community pharmacy” into the curriculum of the compulsory fifth-year course „Information Systems and Pharmaceutical Care”, into the study program 0916.1 Pharmacy beginning with the academic year 2025–2026;
- enhancing pharmacists' competences in geriatric pharmaceutical care through the professional development course „Specialized pharmaceutical assistance for high-risk patients” (approved by the Quality Management Council minutes no 04.03.2024);
- development of the „Guideline on the management of geriatric pharmaceutical care for community pharmacies”, approved by the Ministry of Health order no. **88 from 30.01.2026**, which will contribute to ensuring high-quality pharmaceutical care for older adults.

Approval of results.

The research findings were delivered as **oral presentations** at international scientific conferences – 10, national – 12, and as **poster presentations** at international scientific conferences – 3 and national – 7; and was awarded a **gold medal** at the 4th International Exhibition of Innovation and Technology Transfer EXCELLENT IDEA – 2025.

Keywords: pharmacists, community pharmacy, elderly, geriatric pharmaceutical care, rational use of medicines, uncontrolled self-medication, treatment adherence, communication, medication evaluation tools.

This study is carried out under the scientific research project „Management of Pharmaceutical Care for Older Adults”, with the favorable opinion of the Research Ethics Committee no. **52 from 18.06.2015**.

Publications on the subject of the thesis.

The scientific results on the thesis topic are presented in **12 articles**, inclusive, 1 – in a category A journal cited SCOPUS; 2 – in international peer-reviewed specialty journals, 3 – in

accredited national journals (category B); 3 articles in journals undergoing accreditation, 3 – in the proceedings of international and national scientific conferences; **24 thesis**, among which 7 – in the published proceedings of international scientific conferences, 6 – at national conferences with international participation, 11 – at national forums;

The practical value of the research results is confirmed by four **Implementation Acts** and two **Innovator Certificates**, a **Guide** for practicing pharmacists, approved and recommended by the Ministry of Health, two **Curricula** (for students, the discipline „*Information Systems and Pharmaceutical Care*”, and the thematic *continuing education course* for practicing pharmacists), participation in an international scientific project (Technicien contrôle de la qualité des produits de santé en Azerbaïdjan et en République de Moldova - *Qualite PHARMA*, Erasmus+).

Extent and structure of the thesis: introduction, four chapters, general conclusions and recommendations, bibliography of 161 titles, 4 appendices, 173 pages, 61 figures, 11 tables.

THESIS CONTENT

1. CONCEPTUAL ASPECTS OF GERIATRIC PHARMACEUTICAL CARE

The concept of pharmaceutical care represents one of the key topics addressed in the specialized literature. The foundations and directions of pharmaceutical care were established by researchers Hepler C.D. and Strand L.M., according to whom „ *Pharmaceutical care is the responsible provision of drug therapy with the aim of achieving well-defined outcomes that improve a patient’s quality of life*” [6]. In the Republic of Moldova, the concept is implemented in practice through pharmaceutical services, as regulated by the Order of the Ministry of Health entitled „On the Nomenclature of essential pharmaceutical services and quality indicators” [8, 10]. The importance of pharmaceutical services is also highlighted in the context of the approval and implementation of Good Pharmacy Practice (GPP) rules, which provide a coherent and predictable framework under which pharmacies can operate efficiently and deliver high-quality pharmaceutical services to the population [1]. As the complexity of managing diseases in the elderly increases, and their number continues to rise, the need for pharmacists with advanced training in geriatrics becomes more pronounced. According to the International Pharmaceutical Federation (FIP), interventions carried out by pharmacists in the management of drug therapies for older adults have had a significant impact on improving therapeutic outcomes and treatment adherence. Pharmacists are increasingly involved in specialized pharmaceutical care, being able to assess, interpret, and recommend therapies tailored to the physiological particularities of the elderly, as an integral part of the geriatric medical team. In this context, specialized training becomes not only an opportunity but a necessity in the pharmaceutical field, to effectively address the specific challenges of caring for older persons [7, 9, 11]. One of the major challenges pharmacists face when providing pharmaceutical services to elderly patients is that they represent a heterogeneous group compared to other visitors to the pharmacy [5]. For effective communication, identifying any communication barriers in community pharmacy and removing them through the pharmacist’s ability to ask questions, listen, and provide information will enable the elderly person to participate in the process of ensuring the rational use of their medicines [2]. The interpersonal relationship between the pharmacist and the elderly patient must be built on an empathetic, professional foundation, adapted to the individual characteristics of aging. Communication should not merely be a transfer of information, but a genuine interaction with

therapeutic value, supporting the patient in understanding their own treatment, in making informed decisions, and in improving their quality of life [12]. Thus, to ensure the quality of pharmaceutical care provided to the elderly, the need for pharmacists to undergo advanced training in geriatrics has been identified [13].

2. RESEARCH MATERIALS AND METHODOLOGY

2.1. Overall characteristics of the research

This observational, descriptive, cross-sectional, and selective study, conducted with two cohorts (pharmacists and elderly patients), investigates the appropriate use of medicines among older adults in outpatient settings, under the supervision of community pharmacists. To meet its objectives, the research was structured into three successive phases: planning and justification, development of the research protocol and methodology, and dissemination of findings. Data collection took place between 2022 and 2024, offering a comprehensive perspective on geriatric pharmaceutical services within community pharmacy practice.

The first cohort comprised elderly participants (aged 60 and above), regular visitors of community pharmacies and medicine users. The representative sample size was calculated using Cochran's formula, adjusted to the elderly population of 609,900 in 2016, yielding 246 respondents. To account for an anticipated 10% non-response rate, the sample was expanded to 274 participants. Inclusion criteria required participants to be at least 60 years old, to use community pharmacy services, and to consume medicines, with voluntary consent to participate. Exclusion criteria applied to individuals under 60, those not using community pharmacy services, or those unwilling or unable to complete the questionnaire.

The second cohort comprised pharmacists employed in community pharmacies, across different levels of experience and professional roles. Using the same calculation method, based on a population of 1,647 pharmacists, a representative sample of 312 respondents was determined, later expanded to 347 to account for the expected non-response rate. Inclusion criteria required active practice in a community pharmacy, irrespective of experience or position, and voluntary consent to participate. Exclusion criteria applied to pharmacists working outside community pharmacies (e.g., hospital pharmacists or those in other pharmaceutical institutions), as well as those unwilling or unable to complete the questionnaire.

No moral or ethical harm was inflicted upon the study participants, as all data were treated with strict confidentiality and personal information remained inaccessible to third parties. Respondents' perspectives shaped the course of the study and the recommendations formulated. Participants were not provided with any material incentives.

2.2. Research methods

The research methodology integrated multiple investigative approaches to ensure both complexity and rigor. The historical method, based on the critical review of 161 bibliographic sources, specialized literature, and pharmaceutical guidelines, traced the evolution of geriatric pharmaceutical care and the role of community pharmacy. The comparative method highlighted discrepancies between the needs of elderly patients and the competencies of community pharmacists. Complementary mathematical and statistical methods were employed, including Cochran's formula for sample size calculation and data analysis through descriptive indicators and comparative tests (Pearson correlation, Chi-square, and t-test), with statistical significance

established at the 95% confidence interval.

The pharmacist questionnaire investigated several dimensions: the frequency of over-the-counter medicine requests, the nature of inquiries made by elderly patients, symptoms prompting counselling, observed levels of treatment adherence, patients' sources of information, and the identification of medication errors and polypharmacy cases. Furthermore, it examined communication barriers, the extent of pharmacist engagement in counselling elderly patients, and perceptions of the necessity for continuous professional development in geriatric pharmacy.

The elderly patient questionnaire examined medication use behaviors, frequency of pharmacist consultations, retention of counselling information, adherence to recommendations, reporting of adverse effects, and use of medical devices. It also addressed challenges in treatment administration, reasons for therapy modification or discontinuation, self-medication practices, inappropriate or excessive medicine use, and trust in the pharmacist's expertise. Respondents were further asked to identify essential pharmacist competencies in geriatric care and to share their views on the need for continuous professional training. Correlating the findings from both questionnaires offers a nuanced perspective on pharmacist–elderly interactions, underscoring the challenges of practice and the opportunities for educational and professional interventions to enhance the quality of geriatric pharmaceutical care.

3. BEHAVIOR AND PERCEPTIONS OF ELDERLY PEOPLE REGARDING THE USE OF MEDICINES AND INTERACTION WITH THE PHARMACIST

3.1. Socio-demographic and professional profile of elderly respondents

The elderly sample analysed consists of 417 individuals, the majority being women (56.4%, 235, CI95%: 51.54–61.11), while men represent 43.6% (182, CI95%: 38.88–48.40). In terms of age, the mean age of respondents is 66.59 years, with a median of 66 years and a standard deviation of 5.46, indicating a moderate dispersion of ages within the sample. Half of the respondents are between 62 and 70 years old, according to the overall interquartile range. The distribution is concentrated around ages 60–69, with a gradual decrease in the number of participants as age increases, reflecting the demographic structure of the elderly population. The living environment is relatively balanced, with 52.5% (219, CI95%: 47.72–57.31) from urban areas and 47.5% (198, CI95%: 42.68–52.27) from rural areas. The level of education is diverse, but a significant proportion of respondents have higher education (22.1%, 92, CI95%: 18.08–26.04) and specialized secondary education (19.7%, 82, CI95%: 15.84–23.47), followed by those with a master's degree (11.5%, 48, CI95%: 8.44–14.57). About the working environment, the majority were employed in urban areas (57.1%, 238, CI95%: 52.32–61.82), while professional experience was very high, with 77.9% (325, CI95%: 73.95–81.91) having more than 21 years of service. At the time of completing the questionnaire, 61.6% (257, CI95%: 56.96–66.29) were still employed, whereas 38.4% (160, CI95%: 33.70–43.03) were retired. In terms of marital status, officially married individuals predominated (66.2%, 276, CI95%: 61.64–70.72), followed by widowed participants (22.5%, 94, CI95%: 18.53–26.55). Regarding the number of children, most respondents had two (33.8%, 141, CI95%: 29.27–38.35) or three (24%, 100, CI95%: 19.88–28.07). Occupations were diverse, with a significant proportion being retired or working in other fields (37.2%, 155, CI95%: 32.53–41.80), alongside notable representation in education (12.5%, 52, CI95%: 9.29–16.64), agriculture (12.9%, 54, CI95%: 9.72–16.17), and healthcare (10.6%, 44, CI95%: 7.60–13.50).

3.2. Interaction with the pharmacist and perceptions of pharmaceutical care

In Section 2, the interaction of elderly respondents with the pharmacist and their perception of the quality of communication and pharmaceutical counselling were evaluated. The 24 questions included addressed aspects such as the frequency of consulting the pharmacist, the types of information received, adherence to recommendations, the level of trust placed in the specialist, and the perceived need for continuous training in geriatrics (Table 1). It was determined that elderly patients frequently consult pharmacists and follow the recommendations provided, showing a high level of trust in the specialist. However, deficiencies were identified in the information regarding adverse reactions, drug compatibility, and reporting methods, highlighting the need to improve communication and counselling. Therefore, Section 2 provides a solid foundation for formulating practical recommendations on the development of communication skills and the continuous training of pharmacists in the field of geriatrics.

Table 1. Summary of the most frequent responses and aspects from Section 2 of the questionnaire for elderly participants

Evaluated aspect	Predominant values (n; CI95%)	Conclusions
Consulting the pharmacist	Often – 42.2% (176; 37.46–46.94)	Elderly patients frequently consult the pharmacist
Information provided about illness and medication	Often – 46% (192; 41.25–50.82)	Patients communicate quite often with the pharmacist
Purpose of medicine use	Often – 46.8% (195; 41.97–51.55)	Pharmacists frequently explain the purpose of treatment
Correct administration method	Often – 49.6% (207; 44.84–54.43)	This is the most frequently explained aspect
Duration of use	Often – 41.7% (174; 36.99–46.45)	Pharmacists clarify treatment duration
Storage of medicines	Rarely – 31.2% (130; 26.72–35.62)	Information on storage is insufficient
Adverse reactions	Rarely – 31.7% (132; 27.19–36.11)	Counselling on adverse reactions is limited
Precautions	Rarely – 31.2% (130; 26.72–35.62)	Precautions are rarely communicated
Drug compatibility	Rarely – 29.5% (123; 25.11–33.87)	Compatibility information is often missing
Food interactions	Rarely – 24% (100; 19.88–28.07)	Explanations are less frequently provided
Beverage interactions	Never – 29% (121; 24.66–33.37)	Many patients do not receive this information
Medicine substitution	Often – 39.3% (164; 34.64–44.01)	Pharmacists frequently substitute medicines
Warning about dangerous medicines	Often – 31.2% (130; 26.77–35.62)	Warnings exist but are not consistent
Level of information	Often – 43.6% (182; 38.88–48.40)	Patients feel well informed
Retention of information	Often – 44.8% (187; 40.07–49.61)	Information is largely retained
Adherence to recommendations	Often – 47% (196; 42.21–51.79)	Patients follow pharmacists' instructions
Additional instructions / accessories	No – 57.8% (241; 53.05–62.53)	Most do not receive medical accessories
Reporting adverse reactions	No – 80.3% (335; 76.52–84.15)	Few patients report adverse reactions
Knowledge of reporting procedures	No – 69.1% (288; 64.62–73.50)	Most are unaware of procedures

Evaluated aspect	Predominant values (n; CI95%)	Conclusions
Trust in pharmacist	High – 44.8% (187; 40.07–49.61)	High level of trust
Essential pharmacist competences	Geriatric pharmacotherapy knowledge – 65.2% (272; 60.65–69.79)	Considered the most important competency
Need for continuous training	Yes – 94% (392; 91.72–96.28)	Almost unanimously recognized
Use of medical accessories	No – 56.6% (236; 51.83–61.35)	More than half do not use organizers
Number of medicines used	1–5 medicines – 81.1% (338; 77.29–84.81)	Most use a moderate number of medicines

Section 3 analyses the behaviours and difficulties encountered by elderly patients in administering drug therapy, as well as the extent to which they adhere to specialists' recommendations. The 21 questions included (developed in accordance with the PCNE v9.1 classification document) highlight aspects such as the frequency of requests to modify the number of medicines, reasons for non-adherence to medication use recommendations, difficulties in administration, voluntary modification of treatment (dosage, duration, interruptions), excessive or insufficient use of medicines, improper storage, incorrect administration, use of expired medicines, sharing medicines with other individuals, and the level of knowledge regarding one's own medication (tab. 2). The results show that, although elderly patients do not encounter major difficulties and generally adhere to specialists' recommendations, frequent issues such as missed doses, treatment interruptions, improper storage of medicines, and self-medication are present. Even when these errors occur 'rarely' or 'very rarely,' they can have significant consequences for health and emphasize the importance of continuous pharmaceutical counselling and the promotion of rational medicine use in community pharmacies by pharmacists specialized in geriatrics.

Table 2. Summary of the most frequent responses and aspects from Section 3 of the elderly participants' questionnaire

Evaluated aspect	Predominant value (n; CI95%)	Conclusions
Difficulties in medicine administration	No – 79.9% (333; 76.00–83.70)	Some elderly patients encounter difficulties
Request for fewer medicines	Never – 41% (171; 36.28–45.72)	There is a tendency to reduce prescribed treatment
Request for more medicines	Never – 46.8% (195; 41.97–51.55)	There is a tendency toward polypharmacy
Reasons for not using medicines	Adherence to recommendations – 60.6% (252; 55.88–65.27)	Good compliance
Reasons for using more medicines	Adherence to recommendations – 62% (258; 57.35–66.68)	Good compliance
Treatment interruption on own initiative	Very rarely – 32.6% (136; 28.11–37.11)	Cases of interruption exist
Dose reduction on own initiative	Never – 37.2% (155; 32.53–41.80)	Cases of dose modification exist
Dose increase on own initiative	Never – 48.4% (202; 43.64–53.23)	Cases of dose modification exist
Modification of treatment duration	Never – 38.8% (162; 34.17–43.52)	Cases of duration modification exist
Missed dose	Very rarely – 33.6% (140; 29.04–38.10)	Missed doses are a frequent error
Doubling dose after omission	Never – 59.7% (249; 55.00–64.41)	Tendency to double the dose exists
Additional administration without consultation	Never – 38.1% (159; 33.46–42.79)	Uncontrolled self-medication

Evaluated aspect	Predominant value (n; CI95%)	Conclusions
Administration of medicines with same composition	No – 68.1% (284; 63.63–72.57)	Polypharmacy
Administration of medicines from same group	No – 58.3% (243; 53.54–63.00)	However, 41.7% (174; 36.99–46.45) report concomitant use
Improper storage of medicines	No – 58.3% (243; 53.54–63.00)	A significant proportion (41.7%) store medicine incorrectly
Wrong route of administration	Never – 60.7% (253; 55.98–65.35)	A notable share reported errors in administration route
Physical inability to administer	Never – 42.2% (176; 37.46–46.94)	24.9% cumulatively report difficulties ('rarely' 21.3%, 'often' 3.6%)
Misunderstanding instructions	Rarely – 30% (125; 25.57–34.37)	A significant segment faces this issue
Administration of expired medicines	No – 85.4% (356; 81.97–88.76)	14.6% admitted use
Sharing medicines with others	No – 65% (271; 60.40–69.56)	Others shared treatment
Level of knowledge of medicines	Satisfactory – 47.7% (199; 42.92–52.51)	General medium level of knowledge

The analysis of these two sections highlighted the importance of pharmaceutical counselling for this category of community pharmacy visitors and the need to adapt communication to geriatric needs. The results demonstrate the potential of pharmacists to contribute, through the provision of geriatric pharmaceutical care, to the safety and rational use of medicines in this high-risk patient group.

4. GERIATRIC PHARMACEUTICAL CARE – REQUIREMENTS AND CONTENT

4.1. Profile of pharmacists' respondents

The pharmacists' cohort consists of 406 respondents, with a varied distribution by age, professional experience, qualification category, workplace environment, and position held. In terms of age, the 31–40 group predominates (42.6%, 173; CI95%: 37.80–47.42), representing the active core of the profession. The mean age of respondents is 38.73 years, with a median of 36 years and a standard deviation of 11.12, indicating relatively high variability. Half of the respondents are between 31 and 46 years old, according to the overall interquartile range, with a significant decline after the age of 50. Regarding work experience, nearly one quarter of respondents have more than 21 years of practice (25.4%, 103; CI95%: 21.13–29.60), reflecting a mature and experienced segment. From the perspective of workplace environment, 86.5% (351; CI95%: 83.12–89.78) are employed in urban areas, confirming the concentration of pharmacies in cities, and hold professional category II (33.5%, 136; CI95%: 28.90–38.08). The cohort also shows a balanced distribution of positions: pharmacists (36.5%, 148; CI95%: 31.77–41.13) represent the largest share, followed by branch managers (33.5%, 136; CI95%: 28.90–38.08).

4.3. Professional practice and pharmacists' perception of elderly person's pharmaceutical care

In Section 2 of the pharmacists' questionnaire, the interaction of elderly patients with pharmacists was analysed, including the types of requests, frequency of questions, sources of information used, adherence to recommendations, and communication barriers encountered. In

addition, frequent errors made by elderly patients in treatment administration and pharmacists' perceptions of the need for continuous training in geriatrics were investigated (tab. 3). Responses to the 25 questions revealed that the most frequent problems identified were non-adherence to treatment duration (80.3%), missed doses (70%), self-medication, and polypharmacy. Elderly patients' sources of information were diverse, including physicians' and pharmacists' recommendations, but also the influence of advertisements (77.6%), which may generate misleading information and risky decisions. Pharmacists believe that elderly patients only partially follow specialists' recommendations and that treatment adherence is generally 'good,' though not excellent. They also emphasize the importance of pharmaceutical counselling and effective communication, acknowledging the existence of communication barriers.

Table 3. Synthesis of the most frequent responses and key aspects from Section 2 of the pharmacists' questionnaire

Evaluated aspect	Predominant values (n; CI95%)	Conclusions
Request for Rx medicines	Often – 54.2% (220; 49.34–59.03)	Elderly patients frequently request Rx medicines without consultation
Request for OTC medicines	Often – 57.1% (232; 52.32–61.95)	OTCs are very often requested without consultation
Request for supplements	Rarely – 42.1% (171; 37.31–46.92)	Supplements are occasionally requested
Request for herbal preparations	Often – 49.5% (201; 44.64–54.37)	Herbal preparations are frequently requested without pharmacist advice
Questions about medicines	Often – 61.1% (248; 56.34–65.82)	Elderly patients often seek clarifications
Type of questions	Administration – 86.2% (350; 82.85–89.56); Price/alternative – 86% (349; 82.58–89.33)	Focus on administration and cost
Symptoms for which advice is sought	Joint pain – 92.4% (375; 89.78–94.94); Insomnia – 86.2% (350; 82.85–89.56); Constipation – 79.8% (324; 75.89–83.70)	Chronic and frequent problems
Adherence to recommendations	Partial agreement – 53.7% (218; 48.84–58.54)	Elderly patients partially follow instructions
Reporting adverse reactions	Yes – 61.3% (249; 56.59–66.06)	However, 38.7% do not report
Treatment adherence	Good – 48.5% (197; 43.66–53.38)	Compliance is moderate, not excellent
Sources of information	Physician – 81.5% (331; 77.75–85.30); Advertisements – 77.6% (315; 73.52–81.54); Pharmacist – 70% (284; 65.49–74.41)	Advertisements influence medicine use decisions
Polypharmacy	OTC – 54.9% (223; 50.08–59.76); Rx – 46.8% (190; 41.94–51.65)	Polypharmacy is frequent
Request for similar medicines	Often – 51% (207; 46.12–55.84)	Elderly patients often request products with the same composition
Following pharmacist's advice	Often – 75.6% (307; 71.43–79.79)	Most follow pharmacists' advice
Communication barriers	Rarely – 44.1% (179; 39.25–48.91)	Barriers exist but are not major
Interest in instructions	Often – 53.7% (218; 48.84–58.54)	Elderly patients read instructions, but not always

Evaluated aspect	Predominant values (n; CI95%)	Conclusions
Misinformation	Often – 47.3% (192; 42.43–52.14)	Many incorrect pieces of information circulate
Pharmacists' questions about medicines and conditions	Often – 56.7% (230; 51.82–61.47); Often – 57.1% (232; 52.32–61.95)	Pharmacists actively investigate treatment and conditions
Errors made by elderly patients	Non-adherence to duration – 80.3% (326; 76.42–84.16); Missed doses – 70% (284; 65.49–74.41); No medical consultation – 64.3% (261; 59.62–68.94)	Frequent and risky errors
Pharmacists' monitoring capacity	Partial agreement – 53.2% (216; 48.34–58.05)	Pharmacists consider themselves capable, but with limits
Quality of geriatric care	Full agreement – 48.8% (198; 43.90–53.63)	Depends on continuing professional development
Need for professional improvement	Often – 64% (260; 59.37–68.70)	Improvement is perceived as necessary
Continuous training topics	Potentially dangerous medicines – 72.8% (294; 68.43–77.11); Geriatric pharmacotherapy – 65.1% (263; 60.45–69.74); Interactions – 61.1% (247; 56.38–65.89)	Priority for treatment safety
Updating knowledge	Full agreement – 63.1% (256; 58.35–67.74)	Pharmacists acknowledge the benefit of continuing training

Pharmacists consider continuous professional development in geriatrics to be indispensable for improving the quality of pharmaceutical care and ensuring the safe and effective use of medicines in this vulnerable patient group.

4.4. Comparative evaluation of respondents' answers to equivalent items in the study questionnaires

For the comparison of results obtained from two distinct questionnaires, equivalent questions were selected, evaluating the same concepts or behaviours, with the aim of identifying whether significant differences exist. For these questionnaire items, proportions and mean responses were compared between the two groups – elderly participants (N=417) and pharmacists (N=406) (tab. 4). The table shows that in many cases there are statistically significant differences between the perceptions of elderly patients and pharmacists. Some questions yielded similar results ($p > 0.05$) – aligned perceptions. Others revealed significant differences ($p < 0.001$) – real discrepancies, indicating the need for intervention (e.g., counselling, education, communication).

The comparative analysis between elderly patients and pharmacists highlighted statistically significant differences for most of the variables studied. The Chi-square test ($df=1$) confirmed these differences through high test statistic values. For example, regarding the question on modifying treatment duration on one's own initiative, the result was $\chi^2=474.4$ ($p<0.001$), while for missed doses it was $\chi^2=261.05$ ($p<0.001$). Elderly patients frequently admit to modifying treatment duration and missing doses. Pharmacists confirm these errors and report them as common.

About misunderstanding instructions, the value $\chi^2=184.37$ ($p<0.001$) indicates a major gap between the perceptions of the two groups. Pharmacists perceive misunderstanding of instructions as frequent, whereas elderly patients tend to minimize this issue.

For adverse reaction reporting, $\chi^2=145.09$ ($p<0.001$) confirms significant underreporting by elderly patients. Pharmacists, however, believe that elderly patients do report adverse reactions (fig. 2), data from the elderly patients' questionnaire show that only one fifth of them actually do so. (fig. 1).

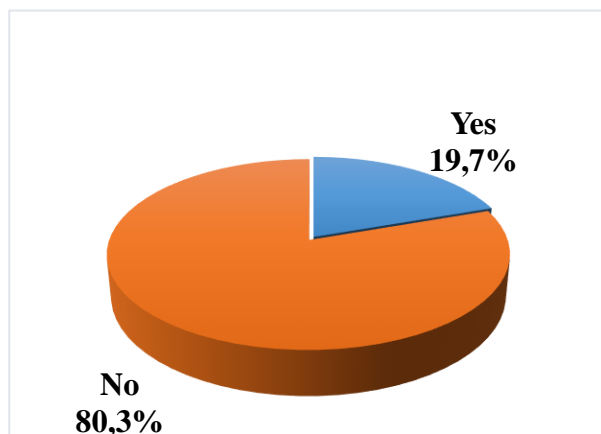


Figure 1. Elderly patients' perspective on adverse reaction reporting, %

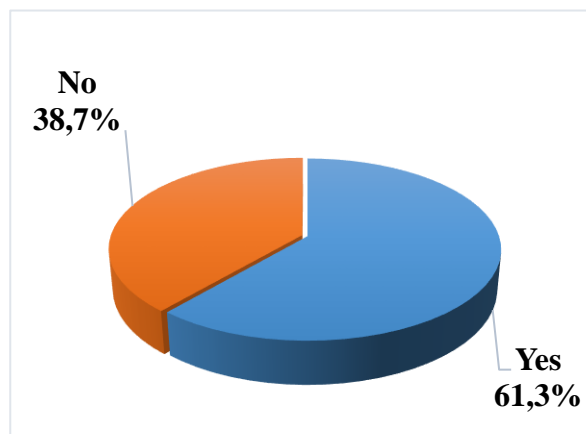


Figure 2. Pharmacists' perspective on adverse reaction reporting among elderly patients, %

Pharmacists reported adverse reactions ($\chi^2=7.1$, $p=0.008$) and precautions ($\chi^2=24.73$, $p<0.001$) more frequently than elderly patients acknowledged.

Significant differences were also identified in knowledge of the reporting procedure ($\chi^2=75.32$, $p<0.001$), in the concomitant administration of similar medicines ($\chi^2=11.82$, $p<0.001$), as well as in the improper storage of medicines ($\chi^2=5.35$, $p=0.021$). Elderly patients tend to minimize or fail to acknowledge polypharmacy, whereas pharmacists identify it much more frequently in daily practice (fig. 3). Polypharmacy is more evident in the category of OTC medicines, where self-medication and the influence of advertisements are determining factors (fig. 4).

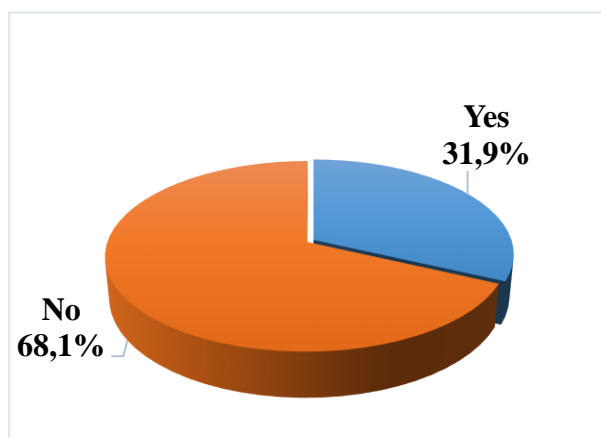


Figure 3. Concomitant administration of medicines with the same composition but different brand names, %

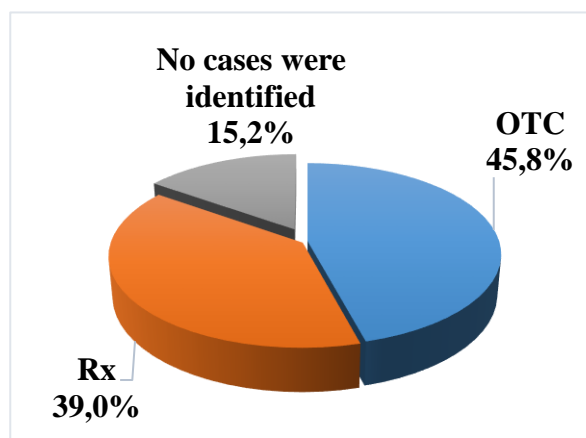


Figure 4. Medicine categories associated with polypharmacy in the elderly, %

On the other hand, for several variables no significant differences were identified: the purpose of the medicine ($\chi^2=0.1$, $p=0.748$), treatment duration ($\chi^2=0.01$, $p=0.91$), medicine storage ($\chi^2=0.09$, $p=0.769$), and adherence to recommendations ($\chi^2=0.17$, $p=0.679$).

It is also relevant to emphasize that there is convergence between the perceptions of pharmacists and elderly patients: both groups acknowledge the importance of continuous training in geriatrics.

Table 4. Comparative analysis of elderly patients' versus pharmacists' responses to equivalent questionnaire items

Question asked	Elderly, %	Pharmacists, %	Statistical results	Interpretation
Information provided to the pharmacist about illness and medication administered	63,31	89,14	t=9,14, p < 0.001	Significant difference – elderly patients provide less information than pharmacists estimate
Questions about the purpose of the requested medicine	66,19	67,24	t=0,32, p=0,749	No significant difference – similar perception
Questions about the correct mode of administration	72,90	86,21	t=4,80, p<0,001	Significant difference – elderly patients ask less frequently
Questions about treatment duration	59,71	60,10	t=0,11, p=0,910	No significant difference
Questions about proper storage at home	36,45	35,47	t=0,29, p=0,769	No significant difference
Questions about adverse reactions	34,53	43,60	t=2,67, p=0,008	Significant difference – elderly patients ask less frequently
Questions about precautions in use	35,97	53,20	t=4,80, p<0,001	Significant difference – elderly patients ask less frequently
Compliance with the pharmacist's recommendations	88,25	89,16	t=0,57, p=0,568	No significant difference
Modification of treatment duration on one's own initiative	5,28	80,30	t=33,94, p<0,001	Significant difference – pharmacists perceive the phenomenon much more frequently
Missed dose	14,39	69,95	t=19,46, p<0,001	Significant difference – pharmacists report more often
Doubling the dose after omission	3,36	33,74	t=12,10, p<0,001	Significant difference – pharmacists perceive the phenomenon more frequently
Misunderstanding of usage instructions	19,66	66,50	t=15,36, p<0,001	Significant difference – elderly patients acknowledge difficulties less often
Adverse reaction reporting	20,0	61,0	t=13,41, p<0,001	Significant difference – pharmacists overestimate reporting
Knowledge of adverse reaction reporting procedures	31,0	61,0	t=9,16, p<0,001	Significant difference – elderly patients have lower knowledge levels
Concomitant administration of medicines with the same composition	42,0	54,0	t=3,60, p<0,001	Significant difference – elderly patients may administer without being aware of risks
Improper storage of medicines at home	42,0	50,0	t=2,31, p=0,021	Significant difference – pharmacists perceive the phenomenon more frequently

Pharmacists admit that they need frequent professional development (fig. 6), and elderly patients also acknowledge that they expect this to be provided (fig. 5). This alignment shows that both professionals and patients perceive training as a fundamental element for the safety and effectiveness of geriatric pharmaceutical services.

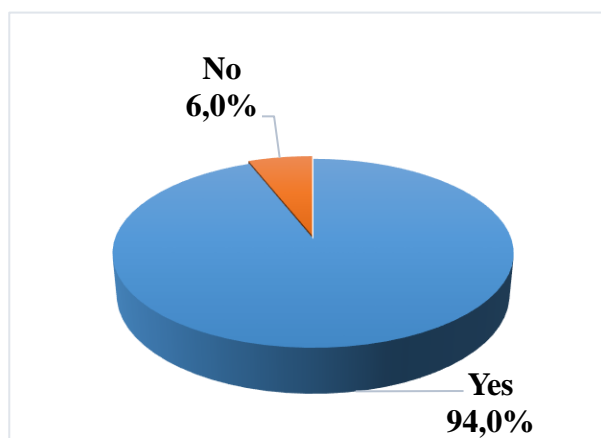


Figure 5. The need for specialization and continuing professional training of pharmacists in delivering geriatric pharmaceutical care, as reflected in the perspectives of elderly patients, %

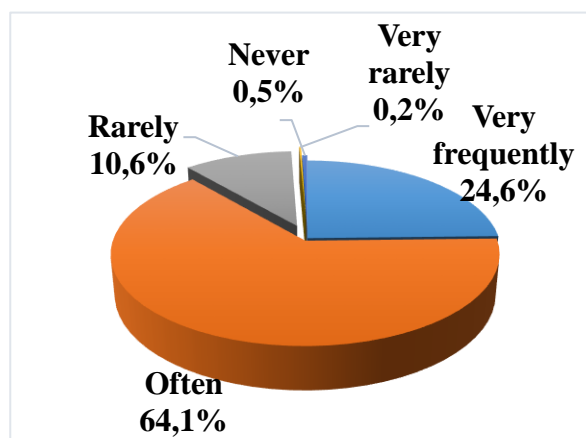


Figure 6. The frequency of continuing education in geriatrics, as perceived by pharmacists, %

The results obtained indicate that continuous training is not only a professional necessity but also a social expectation, which justifies the development of education and training programs in geriatric pharmaceutical services. The research confirmed that there is a real and acknowledged demand for continuous training in geriatrics, and the measures implemented (updated curriculum, continuing education courses, practical guidelines) demonstrate that the pharmaceutical system is responding to this need.

Starting with the 2025–2026 academic year, students in the Pharmacy program will address the topic „Geriatric pharmaceutical care. Algorithm for counselling and consulting geriatric patients in community pharmacies”, within the mandatory course „Information systems and pharmaceutical care”. This ensures the early development of geriatric competencies.

The course „Specialized pharmaceutical assistance for patients at increased risk”, provides pharmacists with the opportunity for professional development and adaptation to the real needs of elderly patients.

The practical guide „Management of geriatric pharmaceutical care in community pharmacies”, approved by the Ministry of Health of the Republic of Moldova, serves as a reference tool for standardizing practices and improving the quality of geriatric services.

GENERAL CONCLUSIONS

1. The entire corpus of 161 analyzed sources indicates that pharmaceutical care in geriatrics is a complex yet indispensable field for public health. At the international level, the literature emphasizes that polypharmacy represents the primary challenge in elderly patients, being associated with morbidity, mortality, and adverse reactions. Another highlighted aspect is treatment adherence, with studies underlining that it depends on cognitive, emotional, and social factors, as well as the quality of specialist-patient communication, while personalized counseling, social support, and pharmacist involvement increase treatment compliance and persistence. A transversal

element is communication and trust. Patients demonstrate a high level of trust in pharmacists, as confirmed by international surveys, and age-adapted counseling along with an ethical approach are decisive factors for the success of specialized pharmaceutical care. At the international level, training programs and certifications for pharmacists in geriatrics exist, and clinical studies and meta-analyses confirm that pharmacist interventions reduce polypharmacy, optimize therapy, and improve clinical outcomes. At the national level, conducted studies highlight the development of the local framework through practical guidelines, the assessment of drug interactions, counseling for rational medication use, and the promotion of a healthy lifestyle.

2. The research results highlighted the particularities of pharmaceutical assistance provided to elderly patients, establishing that the determining factors of the quality of specialized pharmaceutical care are the patient's level of information, the complexity of treatments, the degree of adherence, and the effectiveness of communication with the pharmacist.
3. The analysis of data collected through the surveying of elderly patients allowed the identification of major difficulties in treatment administration: medication errors, uncontrolled self-medication, voluntary modification of treatment, excessive or incorrect use of medications, and insufficient reporting of adverse reactions. The study results demonstrate that living environment and sex are determining factors in medication use and in the perception of the role of the community pharmacist. These results underscore the need for differentiated interventions: intensification of pharmaceutical counseling in rural areas, adaptation of educational messages to gender-specific characteristics, and strengthening of the pharmacist's role as a specialist in geriatrics.
4. The evaluation of data collected from the pharmacist survey revealed communication barriers and differences in perception between pharmacists and elderly patients regarding treatment adherence and adverse reaction reporting. Statistical data indicate a real gap between the perceptions of elderly patients and pharmacists. Elderly patients tend to underestimate risks (adverse reactions, precautions, administration errors), while pharmacists perceive these issues as occurring considerably more frequently; the greatest differences were identified in the modification of treatment duration ($\chi^2 \approx 474$, $p < 0.001$), dose omission ($\chi^2 \approx 261$, $p < 0.001$), and misunderstanding of instructions ($\chi^2 \approx 184$, $p < 0.001$).
5. The necessity of developing, approving, and implementing a pharmaceutical counseling algorithm was argued, designed to support personalized interventions and contribute to improving treatment adherence. It integrates both the initial assessment and the actual intervention, with the objective of optimizing treatment safety and efficacy. The algorithm encompasses a comprehensive framework for evaluation, communication, and monitoring, aimed at ensuring effective pharmaceutical counseling adapted to the particularities of the geriatric patient. The innovation cycle "Specialized pharmaceutical care for high-risk patients" (Geriatric pharmaceutical care. Algorithm for counseling and consultation of the geriatric patient in community pharmacy) was awarded the Gold Medal at the 4th Edition of the International Exhibition of Innovation and Technological Transfer EXCELLENT IDEA – 2025.
6. The existence of a clear need for the continuous training of pharmacists in the field of pharmaceutical geriatrics was demonstrated. Investment in professional development and the enhancement of effective communication skills will contribute to reducing the phenomena of uncontrolled self-medication, administration errors, and polypharmacy, thereby optimizing treatment safety and efficacy in elderly patients.

RECOMMENDATIONS

1. It is recommended to increase the level of information among elderly patients through the development of adapted educational materials, such as brochures, visual guides, and interactive sessions, designed to support treatment comprehension and reduce administration errors. Within the framework of pharmaceutical counseling of the geriatric patient, referred to as DRIP (Dosage, Results, Information, Precautions), the pharmacist must employ pharmaco-therapeutic communication techniques to provide elderly patients with support and information, followed by the "teach-back" method to verify the degree of understanding and retention of information by the elderly patient.
2. To reduce the phenomena of uncontrolled self-medication and voluntary modification of treatment, it is recommended to organize community awareness campaigns dedicated to elderly persons, focused on the risks associated with uncontrolled medication use. In parallel, community pharmacies must introduce standard procedures for monitoring treatment adherence, with the aim of preventing unjustified interruptions and incorrect medication use, in accordance with the requirements of Good Pharmacy Practice (GPP).
3. Pharmaceutical counseling must be adapted to sex-related differences and living environment, taking into account the particularities identified in the study. In rural areas, educational interventions must be more intensive, with an emphasis on preventing treatment discontinuation and increasing the level of patient information, while in urban areas the higher level of education can be leveraged to deepen knowledge about medications.
4. To improve communication between the pharmacist and the elderly patient, it is recommended to apply the algorithm for counseling and consultation of the geriatric patient in community pharmacy, which standardizes the interaction and increases treatment adherence. Furthermore, it is necessary to organize training sessions for pharmacists, focused on developing empathic communication skills adapted to geriatric particularities, so that counseling is effective and centered on the needs of the patient.
5. In order to strengthen interdisciplinary collaboration, it is recommended to periodically organize joint conferences and workshops between physicians and pharmacists, oriented toward the rational use of medications in elderly patients. These events must facilitate the exchange of professional experience and contribute to the development of common protocols for reporting and managing medication-related problems faced by elderly patients, with the aim of optimizing treatment safety and efficacy.
6. It is recommended that the **Dean's Office of the Faculty of Pharmacy** strengthen the undergraduate and postgraduate training process through the integration of topics dedicated to specialized pharmaceutical care. This measure will ensure the preparation of students for addressing geriatric particularities in pharmaceutical practice. In parallel, it is recommended to expand and promote the continuing pharmaceutical education course "Specialized pharmaceutical assistance for high-risk patients", intended for practicing pharmacists, with the aim of developing advanced competencies in the management of complex treatments and in the prevention of medication errors in elderly patients.
7. It is recommended that community pharmacies apply and comply with the provisions of the Practical guide on the management of geriatric pharmaceutical care, developed for the standardization of pharmaceutical services intended for elderly patients. The implementation of

this guide involves the application of the standard operating procedure for geriatric patient counseling, the criteria for the evaluation of drug therapy, the measures for preventing medication errors specific to elderly patients, as well as the concept of pharmaco-therapeutic communication in community pharmacy. By adhering to the provisions of the guide, community pharmacies will be able to ensure safe, effective, and accessible medication, reducing the risks associated with polypharmacy and administration errors, and contributing to the enhancement of medication safety and the active involvement of the elderly patient in their own treatment.

SELECTIVE BIBLIOGRAPHY

1. ADAUJI, S. Activitatea farmacistului comunitar în Republica Moldova prin prisma regulilor GPP. În: *Provocări ale Farmacoterapiei Contemporane*, 2017, ediția a 2-a, pp. 36–39.
2. ADAUJI, S.; BRUMĂREL, M.; BULIGA, V.; ROTARI, M. Utilizarea sistemelor informaționale în eficientizarea comunicării farmacistului. În: *Direcții de reformare a sistemului farmaceutic din perspectiva cursului european al Republicii Moldova*. 2023, pp. 77–80. ISBN: 978-5-88554-205-0.
3. BAKERJIAN, Debra. Pharmacists and Older Adults. [online] MSD Manuals. Revizuit în octombrie 2022. Disponibil la: <https://www.msmanuals.com/professional/geriatrics/providing-care-to-older-adults/pharmacists-and-older-adults>.
4. Biroul Național de Statistică al Republicii Moldova. Vârșnicii în Republica Moldova în anul 2022. [online] Disponibil la: https://statistica.gov.md/ro/varstnicii-in-republica-moldova-in-anul-2022-9578_60729.html.
5. COLEMAN, E. A. Falling through the cracks: challenges and opportunities for improving transitional care for persons with continuous complex care needs. In: *Journal of the American Geriatrics Society*, 2003, vol. 51, nr. 4, pp. 549–555.
6. HEPLER, C. D.; STRAND, L. M. Opportunities and responsibilities in pharmaceutical care. In: *American Journal of Hospital Pharmacy*, 1990, vol. 47, nr. 3, pp. 533–543. PMID: 2316538.
7. MORBITZER, K. A.; McLAUGHLIN, J. E.; DEVANATHAN, A. S.; et all. How-to guide for overcoming barriers of research and scholarship training in Pharm.D. and pharmacy residency programs. In: *Journal of the American College of Clinical Pharmacy*, 2021, vol. 4, nr. 6, pp. 743–753.
8. Nomenclatorul serviciilor farmaceutice esențiale și indicatorii de calitate: nr.489 din 15 iulie 2010. [online] Disponibil la: <https://farmaciasociala.usmf.md/wp-content/blogs.dir/168/files/sites/168/2014/05/ordin489.pdf>.
9. Preparing our workforce to care older adults. Federația Internațională A Farmaciștilor (FIP). 2019. [online] Disponibil la: <https://www.fip.org/search?page=preparing-our-workforce-to-care-for-older-adults>.
10. SAFTA, V.; ADAUJI, S.; COZMIC, O.; DONCIU, O. Repere științifico-practice ale stimulării calității serviciilor farmaceutice. In: *Revista Farmaceutică a Moldovei*, 2013, nr. 5-6, pp. 8-14. ISSN 1812-5077.
11. SCHIOPU, T., SIBII, L., ZGIRCU, E., BRUMAREL, M., SAFTA, V., ADAUJI, S. (2025). Areas of continuing education for pharmacists on the care of high-risk patients. In: *One Health & Risk Management*, 2025, vol. 6, nr. 3, pp. 31–43. ISSN 2587-3458. DOI: <https://doi.org/10.38045/ohrm.2025.3.03>
12. ȘCHIOPU, T., ADAUJI, S., ȘORICI, G. Managementul asistenței farmaceutice geriatrice în

farmaciile comunitare. Ghid practic. Chișinău, 2026, 73 p. ISBN 978-9975-89-341-1.

13. **ȘCHIOPU, T.;** ADAUJI, S. Farmacistul comunitar specializat în geriatrie – cerințe și oportunități. In: Revista Farmaceutică a Moldovei, 2021, vol. 46, nr. 2, pp. 6–7. ISSN 1812-5077.
14. **ȘCHIOPU, T.;** SÎBII, L. Pharmaceutical care offered to elderly and pediatric patients in community pharmacy. In: Revista de Științe ale Sănătății din Moldova, 2022, vol. 29, nr. 3, An. 1, p. 469. ISSN 2345-1467.
15. World Health Organization. Global strategy and action plan on ageing and health 2016–2020. UN Decade of Healthy Ageing (2021–2030). [online] Disponibil la: <https://www.who.int/health-topics/ageing#tab=tab1>.

LIST OF PUBLICATIONS ON THE THESIS TOPIC

• Articles published in journals from abroad:

✓ articles in peer-reviewed international journals.

1. **Schiopu, T.,** Brumărel, M., Aduji, S. The primary assessment of prescribing drugs for the elderly people conducted by pharmacists. В: Соціальна Фармація в охороні здоров'я. Харків. 2016, 2(3), pp. 18-22. ISSN: 2413-6085.
https://ibn.idsi.md/sites/default/files/imag_file/V2_3_2016.pdf
2. **Șchiopu, T.,** Brumărel M., Peschin A., Aduji S. Participation of pharmacists in managing the use of herbal medicines by the elderly. In: Social Pharmacy in Health Care. 2022, 4(8), pp. 23-30. ISSN: 2518-1564 (Online). ISSN: 2413-6085 (Print).
<http://sphhcj.nuph.edu.ua/article/view/273071>

• Articles in accredited national scientific journals:

✓ articles in category A journals (SCOPUS)

3. **Șchiopu, T.,** Sîbii, L., Zgîrcu, E., Brumărel, M., Safta, V., Aduji, S. Areas of continuing education for pharmacists on the care of high-risk patients. In: *One Health&Risk Management*. 2025; 6(3), pp. 31-43. ISSN: 2587-3458. e-ISSN: 2587-3466. doi: 10.38045/ohrm.2025.3.036 (9): 8-13.
<https://journal.ohrm.bba.md/index.php/journal-ohrm-bba-md/article/view/841>

✓ articole in category B journals

4. **Șchiopu, T.** Brumărel, M., Safta, V., Aduji, S. Adverse reaction management from the view of pharmacists and the elderly. In: *Bulletin of the Academy of Sciences of Moldova. Medical Sciences*, no. 2(82)/2025, pp. 197-202. ISSN: 1857-0011.
DOI: <https://doi.org/10.52692/1857-0011.2025.2-82.30>
5. **Șchiopu, T.** Principles of effective communication with elderly patients in community pharmacy practice. *Revista de Științe ale Sănătății din Moldova*. 2025 Jun 19(2):38-44. ISSN: 2345-1467. EISSN: 1857-4696. <https://mjhs.md/article/principles-effective-communication-elderly-patients-community-pharmacy-practice>.
6. **Șchiopu, T.,** Brumărel, M., Safta, V., Aduji, S. Rolul farmacistului în revizuirea tratamentului medicamentos al vârstnicului cu medicamente potențial inadecvate. În: *Sănătate Publică, Economie și Management în Medicină*. 2020, nr. 3 (85), 54-59. ISSN: 2587-3873.
https://ibn.idsi.md/sites/default/files/imag_file/54-59_16.pdf

✓ articles in journals undergoing accreditation

7. **Șchiopu, T.,** Sîbii, L., Brumărel, M., Safta, V., Dogotari, L., Buliga, V., Aduji, S. Percepția conceptului de utilizare rațională a medicamentelor de către vârstnici din mediile urban și rural.

In: *Revista Farmaceutică a Moldovei*, 2023, vol. 52, nr. 2, pp. 10-18. ISSN: 1812-5077
https://ibn.idsi.md/sites/default/files/imag_file/10-18_13.pdf

8. Aдаuji, S., Safta, V., Brumărel, M., Dogotari, L., **Șchiopu, T.** Utilizarea rațională a medicamentelor în viziunea consumatorilor. În: *Revista farmaceutică a Moldovei*. 2023, nr. 1(51), pp. 5-8. ISSN: 1812-5077. https://ibn.idsi.md/ro/vizualizare_articol/213889
9. **Șchiopu, T.**, Dogotari, L., Sîbii, L., Brumărel, M., Safta, V., Peschin, A., Cheptanari-Bîrta, N., Aдаuji, S. Asistența cu suplimente alimentare a diverselor categorii de pacienți în farmacia comunitară. În: *Revista farmaceutică a Moldovei*. 2022, nr. 2(50), pp. 8-13. ISSN: 1812-5077. https://ibn.idsi.md/ro/vizualizare_articol/179932

- **Articles in the proceedings of scientific conferences:**

- ✓ **international**

10. Aдаuji, S., Peschin, A., Safta, V., Brumărel, M., **Schiopu, T.**, Sîbii, L., Dogotari, L., Buliga, V. The pharmacist's view regarding the services provided to the drug consumer. In: *mater. IX Міжнар. наук.-практ. Конференції „Соціальна фармація: стан, проблеми та перспективи”* Ed. 9, 25 aprilie 2024, Kharkiv, Ukraine, pp. 27-39. https://socpharm.nuph.edu.ua/wp-content/blogs.dir/10/files/2024/05/sotsialna-farma_tsiia_materialy-2024.pdf

- ✓ **national**

11. **Șchiopu, T.**, Brumărel, M., Aдаuji, S. Rolul farmacistului în asigurarea utilizării sigure a medicamentelor de către vârstnici. În: *Materialele Conferinței „Farmacia etică: istorie, realități și perspective.” dedicată memoriei Vasile Procopișin - Patriarhul farmaciei Moldave, doctor habilitat în științe farmaceutice, profesor universitar și Nadejda Ciobanu, doctor în științe farmaceutice, conferențiar universitar.* Chișinău, 19-21 aprilie 2018, pp. 111-117. ISBN 978-9975-3159-5-1.
12. Bădărău, M., Safta, V., Brumărel, M., **Șchiopu, T.**, Aдаuji, S. Analiza atribuțiilor de funcție ale farmacistului comunitar. În: *Materialele Congresului al X-lea al farmaciștilor din RM cu participarea internațională „Facultatea de Farmacie – șase decenii de inovație și progres” dedicat aniversării de 60 de ani de la fondarea Facultății de Farmacie a USMF „Nicolae Testemițanu” și 90 de ani de la nașterea profesorului universitar, dr. hab. șt. farm., m.c. al AȘM Vasile Procopișin.* Chișinău, 22-23 noiembrie 2024, pp. 81-83. ISBN: 978-9975-3619-8-9. https://ibn.idsi.md/ro/vizualizare_articol/220294.

- **Abstracts/theses in the proceedings of international scientific conferences**

13. Aдаuji, S., **Șchiopu, T.** Oportunități în asistența farmaceutică a persoanelor de vârstă înaintată. Volum de rezumate. În: *Volum rezumate Conferința națională de Farmacie clinică, prima ediție „Farmacia clinică – noi frontiere”.* București, România, 2016, pp. 23-26. ISBN 978-973-0-21752-0.
14. **Șchiopu, T.** Elderly people and OTC medicines: perception and drug consumption pattern. In: *Abstract book. MedEspera: International Medical Congress for Students and Young Doctors, Ed. 7th edition.* Chișinău, 3-5 mai 2018, pp. 272-273.
15. Țurcanu, C., **Șchiopu, T.** Evaluation of nonsteroidal anti-inflammatory drugs use in the elderly. In: *Abstract book. MedEspera: International Medical Congress for Students and Young Doctors, Ed. 7th edition.* Chișinău, 3-5 mai 2018, pp. 271-272.
16. **Șchiopu, T.**, Zgîrcu, E., Demciuc, N. Opportunities for community pharmacists in evaluating OTC medications use among older adults. In: *Abstract book. MedEspera: International Medical Congress for Students and Young Doctors, Ed. 9th edition,* Chișinău, 12-14 mai 2022, p. 321. ISSN: 978-9975-3544-2-4.

17. Buliga, V., Aduji, S., **Schiopu, T.** Assessment of the level of social wellbeing of the elderly through the prism of elderly people. В: *Матеріали VIII Міжнародної науково-практичної дистанційної конференції «Соціальна Фармація: Стан, Проблеми, Перспективи»*. Ed. 8, Kharkiv, Ukraine, 27 aprilie 2023, c. 322-324.
 18. **Șchiopu, T.**, Groian, A., Diaconu, A., Sîbii, L., Zgîrcu, E., Dogotari, L., Aduji, S. Medication administration errors by the elderly at home. In: *Abstract book. The National Section from the Republic of Moldova of the Balkan Medical Union*. Chisinau, 2023, p. 271 Print: ISSN: 1584-9244 ISSN:-L 1584-9244 Online: ISSN: 2558-815X.
 19. Groian, A., Diaconu, A., **Șchiopu, T.**, Aduji, S. The pharmacist's role in the management of the elderly's medication at home. In: *Abstract book. MedEspera: International Medical Congress for Students and Young Doctors, Ed. 10th edition*, Chisinau, 24-27 mai 2024, p. 355. ISBN: 978-9975-3544-2-4.
 20. Diaconu, A., **Șchiopu, T.**, Groian, A., Aduji, S. The pharmacist's role in the therapeutic partnership relationship with the elderly patient. In: *Abstract book. MedEspera: International Medical Congress for Students and Young Doctors, Ed. 10th edition*, Chisinau, 24-27 mai 2024, p. 356. ISBN: 978-9975-3544-2-4.
- **Abstracts/theses in the proceedings of national scientific conferences**
21. **Schiopu, T.** Automedicația cu antiinflamatoare nesteroidiene în rândul vârstnicilor. În: *Materialele Congresului consacrat aniversării a 75-a de la fondarea Universității de Stat de Medicină și Farmacie „Nicolae Testemițanu”*. Chișinău, 21-23 octombrie 2020, p. 678.
 22. **Șchiopu, T.**, Aduji, S. Farmacistul comunitar specializat în geriatrie – cerințe și oportunități. În: *Materialele conferinței științifico-practice „Abordare sistemică - metodologică în cercetarea farmaceutică”*, *Revista Farmaceutică a Moldovei. nr. 2(46-S)*. Chișinău, 16 aprilie 2021, pp. 6-7. ISSN: 1812-5077.
 23. **Șchiopu, T.**, Aduji, S. Rolul farmacistului în evaluarea interacțiunilor medicamentoase la vârstnici. In: *Materialele conferinței științifice cu participare internațională „Perspective în cercetarea produselor farmaceutice de origine sintetică și naturală”*, *Revista Farmaceutică a Moldovei nr. 2(46-S)*. Chișinău, 14 mai 2021, pp. 30-31. ISSN: 1812-5077.
 24. **Șchiopu, T.**, Aduji, S., Brumărel, M., Safta, V. Profilul fitoterapeutic al vârstnicului din perspectiva farmacistului comunitar. In: *Materialele conferinței științifico-practice cu participare internațională „Actualități și perspective în studiul farmaceutic al plantelor medicinale.”* Chișinău, 01-02 octombrie 2021, p. 114. ISBN: 978-9975-56-909-5.
 25. **Șchiopu, T.**, Sîbii, L. Îngrijiri farmaceutice oferite pacienților vârstnici și pediatrici în farmacia comunitară. În: *Culegere de rezumate ale Conferinței științifice anuale „Cercetarea în biomedicină și sănătate: calitate, excelență și performanță”*. Chișinău, 2022, p. 469. ISSN: 2345-1467.
 26. **Șchiopu, T.**, Aduji, S., Brumărel, M., Corobcean, A. Riscurile păstrării necorespunzătoare a medicamentelor la domiciliu de către vârstnici. În: *Materialele conferinței științifico-practice cu participare internațională „Direcții de reformare a sistemului farmaceutic din perspectiva cursului european al Republicii Moldova”*. Ediția a 2-a. Chișinău, 28 aprilie 2023, pp. 81-82. ISBN: 978-5-88554-205-0.
 27. **Șchiopu, T.**, Aduji, S., Brumărel, M., Gheorghian M. Particularitățile de promovare a modului sănătos de viață la vârstnici. În: *Materialele conferinței științifico-practice cu participare internațională „Direcții de reformare a sistemului farmaceutic din perspectiva cursului european al Republicii Moldova”*. Ediția a 2-a. Chișinău, 28 aprilie 2023, pp. 85-86. ISBN 978-5-88554-205-0.
 28. **Șchiopu, T.** Intervenția farmacistului comunitar în minimizarea riscurilor privind administrarea

medicamentelor de către pacientul geriatric. In: *Materialele conferinței științifico-practice „Importanța consilierii pacientului în utilizarea rațională a medicamentelor” Ed. 12.* Chișinău, 28 octombrie 2023, pp. 15-18. ISBN: 978-9975-89-295-7.

29. **Șchiopu, T.**, Bejenari, M., Brumărel, M., Aduji, S. Consilierea vârstnicilor privind selectarea suplimentelor alimentare în farmacia comunitară. In: *Materialele conferinței științifico-practice „Importanța consilierii pacientului în utilizarea rațională a medicamentelor”.* Chișinău, 28 octombrie 2023, pp. 48-51. ISBN: 978-9975-89-295-7.
30. **Șchiopu, T.**, Gheorghian, M., Buliga, V., Aduji, S. Consilierea vârstnicilor privind promovarea modului sănătos de viață în farmacia comunitară. In: *Materialele conferinței științifico-practice „Realizări și perspective ale industriei farmaceutice în Republica Moldova”, dedicată comemorării a 80 de ani de la nașterea dlui Ion Barbăroșie. Revista Farmaceutică a Moldovei, vol 53(S).* Chișinău, 05 aprilie 2024, pp. 98-99. ISSN: 1812-5077.
31. **Șchiopu T.**, Bejenari, M., Buliga, V., Aduji S. Îngrijiri farmaceutice în procesul de utilizare de către vârstnici a produselor cu conținut de vitamine și minerale. In: *Materialele conferinței științifico-practice „Realizări și perspective ale industriei farmaceutice în Republica Moldova”, dedicată comemorării a 80 de ani de la nașterea dlui Ion Barbăroșie. Revista Farmaceutică a Moldovei, vol 53(S).* Chișinău, 05 aprilie 2024, pp. 90-91. ISSN: 1812-5077.
32. **Șchiopu, T.**, Othman, M., Aduji, S. Îngrijiri farmaceutice oferite vârstnicilor în prevenirea insomniilor. În: *Culegere de rezumate ale Conferinței științifice anuale „Cercetarea în biomedicină și sănătate: calitate, excelență și performanță. USMF „Nicolae Testemițanu”.* Chișinău, 2024, p. 716. ISSN: 2345-1467.
33. **Șchiopu, T.**, Aduji, S. Asistența farmaceutică specializată la vârstnici cu insomniile. In: *Materialele conferinței științifico-practice „Reguli de bună practică în farmacie – de la teorie la practică”, Ed. 13.* Chișinău, 28 noiembrie 2024, pp. 12-13. ISBN: 978-9975-3619-7-2.
34. Plucci, V., **Șchiopu, T.**, Aduji, S. Riscuri și beneficii în asistența farmaceutică a vârstnicilor cu afecțiuni dermatologice. In: *Materialele conferinței științifico-practice „Reguli de bună practică în farmacie – de la teorie la practică”, Ed. 13.* Chișinău, 28 noiembrie 2024, pp. 16-17. ISBN: 978-9975-3619-7-2.
35. **Șchiopu, T.**, Garizan, N., Sîbii L., Buliga V., Aduji, S. Consilierea vârstnicilor cu obezitate privind utilizarea suplimentelor alimentare. In: *Materialele conferinței științifico-practice naționale „Plantele medicinale – actualități în cercetare și utilizarea terapeutică”, dedicată aniversării a 80 de ani a USMF „N. Testemițanu”.* Chișinău, 12-13 septembrie 2025, p. 54. ISSN: 1812-5077.
36. **Șchiopu, T.**, Șcetina, S., Sîbii L., Buliga V., Aduji, S. Consilierea vârstnicilor cu afecțiuni minore ale pielii în farmacia comunitară. In: *Materialele Congresului aniversar cu participare internațională „Creăm sănătatea viitorului prin educație, cercetare și inovare”, organizat cu ocazia celebrării a 80 de ani de la fondarea Universității de Stat de Medicină și Farmacie „Nicolae Testemițanu”.* Chișinău, 20-22 octombrie 2025, p. 251, ISSN: 2345-1467. e-ISSN: 1857-4696.

- **Patents, invention certificates, registration certificates, materials presented at invention exhibitions**

1. **Șchiopu T.**, Aduji S., Safta V., Brumărel M. Algoritm de consiliere și consultare a pacientului geriatric în farmacia comunitară. *Certificat de inovator nr. 6366, 2025.05.25.*
2. **Șchiopu T.**, Aduji S., Safta V., Brumărel M. Îngrijiri farmaceutice geriatrice. *Certificat de inovator nr. 6367, 2025.05.25*

- **Participation with presentations at scientific forums:**

✓ **international**

1. **Șchiopu, T.,** Adauji, S. Oportunități în asistența farmaceutică a persoanelor de vârstă înaintată. Conferința națională de farmacie clinică din România, ed. a I-a. București, 17-18 iunie 2016.
2. Țurcanu, C., **Șchiopu, T.** Evaluation of nonsteroidal anti-inflammatory drugs use in the elderly. *MedEspera: International Medical Congress for Students and Young Doctors*, 7th edition, Chișinău, 3-5 mai 2018.
3. **Șchiopu, T.,** Groian, A., Diaconu, A., Sîbii, L., Zgîrcu, E., Dogotari, L., Adauji, S. Erori de administrare a medicamentelor de către vârstnici la domiciliu. *Săptămâna Medicală Balcanică, ediția a XXXVII-a „Perspective ale Medicinii Balcanice în era post Covid-19”, Secțiunea Farmacie „De la dezvoltarea medicamentului până la bunele practici farmaceutice”*. Chișinău, 7-9 iunie 2023.
4. **Șchiopu, T.,** Adauji, S. Probleme privind utilizarea medicamentelor întâlnite la vârstnici. *Congresul Național cu participare internațională pentru Studenți, Farmaciști, Medici Rezidenți, Medici Dentiști, Asistenți Medicali Generaliști și Moașe „GALMED”, ediția a VIII-a*. Universitatea „Dunărea de Jos”. Galați, România, 23-26 noiembrie 2023.

✓ **national with international participation**

5. **Șchiopu, T.,** Brumărel, M., Adauji, S. Rolul farmacistului în asigurarea utilizării sigure a medicamentelor de către vârstnici. *Conferința cu participare internațională „Farmacie etică: istorie, realități și perspective”*. Chișinău, 20-21 aprilie 2018.
6. **Șchiopu, T.** Rolul farmacistului în revizuirea tratamentului medicamentos al vârstnicului cu medicamente potențial inadecvate. **Raport în plen**. *Primul Congres Național de geriatrie și Gerontologie cu participare internațională*. Chișinău, 23-24 septembrie 2021.
7. **Șchiopu, T.;** Adauji, S. Rolul farmacistului în evaluarea interacțiunilor medicamentoase la vârstnici. *Conferința științifică cu participare internațională „Perspective în cercetarea produselor farmaceutice de origine sintetică și naturală”*. Chișinău, 14 mai 2021.
8. Sîbii, L., Cheptanari-Bîrta, N., **Șchiopu, T.** Riscuri în utilizarea rațională a medicamentelor la copii și vârstnici. *Conferința științifico-practică națională cu participare internațională “Sistemul de asigurare a calității medicamentului – probleme și soluții”*. Chișinău, 29 septembrie 2021.
9. **Șchiopu, T.,** Adauji, S., Brumărel, M., Safta V. Profilul fitoterapeutic al vârstnicului din perspectiva farmacistului comunitar. *Conferința științifico-practică națională cu participare internațională “Actualități și perspective în studiul farmaceutic al plantelor medicinale” USMF „Nicolae Testemițanu”*. Chișinău, 01-02 octombrie 2021.
10. **Șchiopu, T.,** Adauji, S., Buliga, V., Corobcean, A. Riscurile păstrării necorespunzătoare a medicamentelor la domiciliu de către vârstnici. Conferința științifico-practică cu participare internațională *„Direcții de reformare a sistemului farmaceutic din perspectiva cursului European al Republicii Moldova”*, ediția a 2-a. Chișinău, 28 aprilie 2023.
11. **Șchiopu, T.,** Șcetinina, S., Sîbii, L., Buliga, V., Adauji S. Consilierea vârstnicilor cu afecțiuni minore ale pielii în farmacia comunitară. *Congres aniversar „80 de ani de inovație în sănătate și educație medicală”*. Chișinău, 20-22 octombrie 2025.

✓ **national**

12. **Șchiopu, T.,** Adauji, S. Aspecte etice ale asistenței farmaceutice a persoanelor de vârstă înaintată. *Conferința științifico-practică cu genericul “Farmacie etică – prezent și viitor”, Expoziția Internațională Specializată MoldMEDIZIN&MoldDENT*, ediția a XXI-a, Chișinău, 8-11 septembrie 2015.
13. **Șchiopu, T.,** Adauji, S. Managementul asistenței farmaceutice a persoanelor de vârstă înaintată.

Conferința științifică consacrate Jubileului de 70 de ani de la fondarea Universității de Stat de Medicină și Farmacie „Nicolae Testemițanu”. Chișinău, 5 octombrie 2015.

14. **Șchiopu, T.,** Aduji, S., Brumărel, M., Safta, V. Strategii de eficientizare a comunicării dintre farmaciștii comunitari și pacienții vârstnici. *Conferința științifico-practică on-line dedicată memoriei profesorului universitar Vasile Procopișin “Farmacistul și rolul lui în sistemul de sănătate”* în contextul Anului Lucrătorului Medical 2020 și Aniversării a 75-a de la fondarea USMF „Nicolae Testemițanu”. Chișinău, 2020 noiembrie 20.
15. **Șchiopu, T.,** Aduji, S. Farmacistul comunitar specializat în geriatrie – cerințe și oportunități. Conferința științifico-practică „*Abordarea sistemică – metodologie în cercetarea farmaceutică*”. Chișinău, 2021 aprilie 16
16. **Șchiopu, T.,** Aduji, S., Safta, V., Brumărel, M. Asistența cu suplimente alimentare a vârstnicilor cu maladii cronice în condiții de ambulator. Conferința științifico-practică națională „*Relația medic-farmacist în promovarea serviciilor farmaceutice avansate*”. Chișinău, 2021 noiembrie 26
17. **Șchiopu, T.,** Sîbii, L., Cheptanari-Bîrta, N., Aduji, S., Brumărel, M. Rolul farmacistului comunitar în evaluarea calității serviciilor farmaceutice avansate prestate copiilor și vârstnicilor. *Conferința științifico-practică națională „Relația medic-farmacist în promovarea serviciilor farmaceutice avansate”*. Chișinău, 2021 noiembrie 26.
18. **Șchiopu, T.,** Sîbii, L. Îngrijiri farmaceutice oferite pacienților vârstnici și pediatrici în farmacia comunitară. Conferința științifică anuală „*Cercetarea în biomedicină și sănătate: calitate, excelență și performanță*”. Chișinău, 19-21 octombrie 2022.
19. **Șchiopu, T. Comunicare în plen** „Intervenția farmacistului comunitar în minimizarea riscurilor privind administrarea medicamentelor de către pacientul geriatric”. *Conferința științifico-practică „Importanța consilierii pacientului în utilizarea rațională a medicamentelor”, ediția a XII-a*. Chișinău, 28 noiembrie 2023.
20. **Șchiopu, T. Comunicare în plen** „Particularitățile vârstnicului ca consumator de medicamente în viziunea farmacistului”. Conferința științifică anuală „*Cercetarea în biomedicină și sănătate: calitate, excelență și performanță*”. USMF „Nicolae Testemițanu”. Chișinău, 17-18 octombrie 2024.
21. **Șchiopu, T. Othman, M.** Îngrijiri farmaceutice oferite vârstnicilor în prevenirea insomniilor. Conferința științifică anuală „*Cercetarea în biomedicină și sănătate: calitate, excelență și performanță*”. USMF „Nicolae Testemițanu”. Chișinău, Republica Moldova, 17-18 octombrie 2024.
22. **Șchiopu, T. Comunicare în plen** Asistența farmaceutică specializată la vârstnici cu insomnii. *Conferința științifico-practică „Reguli de bună practică în farmacie – de la teorie la practică”, ediția a XIII-a*. Chișinău, 28 noiembrie 2024.
23. **Șchiopu, T.,** Garizan, N., Sîbii, L., Buliga, V., Aduji, S. Consilierea vârstnicilor cu obezitate privind utilizarea suplimentelor alimentare. *Conferința științifico-practică națională „Plantele medicinale – actualități în cercetare și utilizarea terapeutică”, dedicată aniversării a 80 de ani a USMF „N. Testemițanu”*. Chișinău, 12-13 septembrie 2025.

● **Participation with posters at scientific forums:**

✓ **international**

24. **Șchiopu, T.** Elderly people and otc medicines: perception and drug consumption pattern. *MedEspera: International Medical Congress for Students and Young Doctors*, 7th edition, Chișinău 3-5 mai 2018.

✓ **national with international participation**

25. **Șchiopu, T.,** Demciuc, N. Aduji, S. Îngrijiri farmaceutice privind medicația OTC la vârstnici. Conferința științifico-practică cu participare internațională „*Sistemul de asigurare a calității*

medicamentului – probleme și soluții". Chișinău, 29 septembrie 2021.

26. **Șchiopu, T.**, Aduji, S., Brumărel, M., Gheorghian M. Particularitățile de promovare a modului sănătos de viață la vârstnici. *Conferința științifico-practică cu participare internațională „Direcții de reformare a sistemului farmaceutic din perspectiva cursului european al Republicii Moldova”*. Ediția a 2-a. Chișinău, 28 aprilie 2023.

✓ **national**

27. **Șchiopu, T.**, Aduji, S. Medicamente potențial periculoase utilizate de către vârstnici. *Conferința științifică anuală în cadrul Zilelor USMF „Nicolae Testemițanu”*. Chișinău, 20 octombrie 2016.
28. **Șchiopu, T.** Evaluarea factorilor de risc ai non-compliancei la tratament la vârstnici. *Conferința științifică anuală în cadrul Zilelor USMF „Nicolae Testemițanu”*. Chișinău, 19 octombrie 2017.
29. **Șchiopu, T.** Automedicația cu antiinflamatoare nesteroidiene în rândul vârstnicilor. *Congresul consacrat aniversării a 75-a de la fondarea Universitatea de Stat de Medicină și Farmacie „Nicolae Testemițanu”*. Chișinău, 21-23 octombrie 2020.
30. **Șchiopu, T.**, Bejenari, M., Brumărel, M., Aduji, S. Consilierea vârstnicilor privind selectarea suplimentelor alimentare în farmacia comunitară. Conferința științifico-practică „*Importanța consilierii pacientului în utilizarea rațională a medicamentelor*”, ediția a XII-a. Chișinău, 28 noiembrie 2023.
31. **Șchiopu, T.**, Bejenari, M., Buliga, V., Aduji, S. Îngrijiri farmaceutice în procesul de utilizare de către vârstnici a produselor cu conținut de vitamine și minerale. Conferința științifico-practică „*Realizări și perspective ale industriei farmaceutice în Republica Moldova*” dedicată comemorării a 80 de ani de la nașterea Dlui Ion Barbăroșie. Chișinău, 5 aprilie 2024.
32. **Șchiopu, T.**, Gheorghian, M., Buliga, V., Aduji, S. Consilierea vârstnicilor privind promovarea modului sănătos de viață în farmacia comunitară. Conferința științifico-practică „*Realizări și perspective ale industriei farmaceutice în Republica Moldova*” dedicată comemorării a 80 de ani de la nașterea Dlui Ion Barbăroșie. Chișinău, 5 aprilie 2024.
33. Plucci, V., **Șchiopu, T.** Aduji, S. Riscuri și beneficii în asistența farmaceutică a vârstnicilor cu afecțiuni dermatologice. Conferința științifico-practică „*Reguli de bună practică în farmacie – de la teorie la practică*”, ediția a XIII-a. Chișinău, 28 noiembrie 2024.

ADNOTARE

Șchiopu Tatiana. MANAGEMENTUL ASISTENȚEI FARMACEUTICE A PERSOANELOR DE VÂRSTĂ ÎNAINȚATĂ

Teză de doctor în științe farmaceutice, Chișinău, 2026

Actualitatea cercetării. În Republica Moldova, ponderea populației vârstnice continuă să crească constant, generând o cerere sporită pentru sistemul farmaceutic în adaptarea prestării serviciilor farmaceutice la nevoile reale ale acestei categorii de pacienți. Complexitatea și specificitatea problemelor întâlnite la persoanele vârstnice în utilizarea medicamentelor evidențiază lipsa unui cadru unitar și standardizat a îngrijirilor farmaceutice geriatrice. În acest context, devine evidentă necesitatea formării și perfecționării farmaciștilor specializați în geriatrie, capabili să ofere consiliere personalizată, să monitorizeze tratamente complexe și să contribuie la utilizarea rațională a medicamentelor.

Scopul lucrării. Elaborarea și implementarea în practica farmaciilor comunitare a conceptului și conținutului de îngrijire farmaceutică specializată geriatică în vederea asigurării unui management eficient al asistenței farmaceutice a persoanelor de vârstă înaintată.

Obiectivele cercetării. Fundamentarea teoretică și practică a îngrijirilor farmaceutice geriatrice prin analiza bibliografiei, identificarea problemelor și particularităților utilizării medicamentelor de către pacienții vârstnici, dezvoltarea strategiilor de comunicare și consiliere personalizată prin elaborarea unui algoritm de consiliere farmaceutică, precum și formarea continuă a farmaciștilor în asistența farmaceutică a acestui grup cu risc sporit, în vederea creșterii aderenței la tratament și a calității serviciilor farmaceutice.

Noutatea și originalitatea științifică. Elaborarea în premieră, a „Algoritmului de consiliere și consultare a pacientului geriatric în farmacia comunitară”, și a fost argumentată și propusă definiția concepției de „Îngrijiri farmaceutice geriatrice” și noțiunii de „comunicare farmaco-terapeutică”.

Rezultatele majore noi obținute. Prin analiza rezultatelor chestionării a 406 farmaciști și 417 vârstnici, a fost argumentată necesitatea elaborării, aprobării și implementării unui algoritm de consiliere farmaceutică oferită persoanelor vârstnice în farmacia comunitară și a fost demonstrată existența unei nevoi evidente de instruire continuă a farmaciștilor în domeniul geriatriei farmaceutice.

Semnificația teoretică. Rezultatele cercetării s-au materializat prin actualizarea curriculumului la disciplina „Sisteme informaționale și îngrijiri farmaceutice”, elaborarea și implementarea cursului de perfecționare „Asistența farmaceutică specializată la pacienții cu risc sporit” și aprobarea Ghidului practic „Managementul asistenței farmaceutice geriatrice în farmaciile comunitare” (Ord. MS nr. 88 din 30.01.2026), pentru a asigura dezvoltarea competențelor farmaciștilor în domeniul dat.

Valoarea aplicativă. Studiul are un impact direct asupra domeniului asistenței farmaceutice geriatrice, contribuind la identificarea și reducerea cauzelor care generează erori de administrare și automedicație necontrolată. Rezultatele cercetării se concretizează în instrumente aplicative, cum ar fi evaluări, algoritmi de consiliere personalizată, strategii de comunicare și intervenții farmaceutice, menite să crească aderența la tratament și calitatea îngrijirii. Totodată, studiul susține perfecționarea continuă a farmaciștilor practicieni, integrată în formarea profesională, cu accent pe îngrijirea farmaceutică a vârstnicilor.

Implementarea rezultatelor științifice. A fost actualizat materialul didactic pentru instruirea studenților programului de studii Farmacie prin includerea temei „Îngrijiri farmaceutice geriatrice. Algoritm de consiliere și consultare a pacientului geriatric în farmacia comunitară”, în curriculum la disciplina „Sisteme informaționale și îngrijiri farmaceutice”; a fost elaborat, aprobat și implementat cursul de perfecționare „Asistența farmaceutică specializată la pacienții cu risc sporit”; și a fost elaborat Ghidul practic „Managementul asistenței farmaceutice geriatrice în farmaciile comunitare”, aprobat prin Ordinul MS RM nr. 88 din 30.01.2026. Rezultatele științifice au fost confirmate prin 4 Acte de implementare, un Ordin al MS RM, 2 *Certificate de inovator și o mențiune - Medalia de Aur*, în cadrul Expoziției Internaționale de Inovație și Transfer Tehnologic EXCELLENT IDEA – 2025, ediția a IV-a.

Structura tezei: introducere, patru capitole, concluzii generale și recomandări, bibliografie din 161 titluri, 4 anexe, valorificarea rezultatelor cercetării expuse pe 173 pagini, 61 figuri, 11 tabele. Rezultatele științifice la tema tezei sunt expuse în 12 articole publicate în reviste naționale și internaționale, 24 teze, 23 comunicări orale la conferințe științifice naționale și internaționale și 10 postere la conferințe științifice naționale și internaționale.

Cuvinte-cheie: farmaciști, farmacie comunitară, vârstnici, îngrijiri farmaceutice geriatrice, utilizare rațională a medicamentelor, automedicație necontrolată, aderență la tratament, comunicare, instrumente de evaluare a medicației.

ANNOTATION

Schiopu Tatiana. MANAGEMENT OF PHARMACEUTICAL CARE FOR ELDERLY PERSONS Doctoral thesis in pharmaceutical sciences, Chisinau, 2026

Research relevance. In the Republic of Moldova, the proportion of the elderly population continues to grow steadily, generating increased demand for the pharmaceutical system to adapt the provision of pharmaceutical services to the real needs of this category of patients. The complexity and specificity of problems encountered by elderly persons in the use of medicines highlight the absence of a unified and standardized framework for geriatric pharmaceutical care. In this context, the need for training and continuous development of pharmacists specialized in geriatrics becomes evident, enabling them to provide personalized counselling, monitor complex treatments, and contribute to the rational use of medicines.

Research goal. Development and implementation in community pharmacy practice of the concept and content of specialized geriatric pharmaceutical care in order to ensure efficient management of pharmaceutical assistance for the elderly persons.

Research objectives. Theoretical and practical substantiation of geriatric pharmaceutical care through literature analysis; identification of problems and specific aspects of medicine use among elderly patients; development of communication strategies and personalized counselling by elaborating a pharmaceutical counselling algorithm; and continuous training of pharmacists in pharmaceutical care for this high-risk group, aiming to increase treatment adherence and the quality of pharmaceutical services.

Scientific novelty and originality. For the first time, the “Algorithm for counselling and consulting the geriatric patient in the community pharmacy” was elaborated. The definition of the concept of “Geriatric pharmaceutical care” and the notion of “pharmaco-therapeutic communication” were argued and proposed.

Major new results obtained. Based on the survey of 406 pharmacists and 417 elderly patients, the necessity of elaborating, approving, and implementing a pharmaceutical counselling algorithm for elderly persons in community pharmacies was demonstrated, along with the evident need for continuous pharmacist training in geriatric pharmaceutical care.

Theoretical significance. The research results materialized in the updated curriculum of the discipline Information Systems and Pharmaceutical Care, the elaboration and implementation of the training course Specialized pharmaceutical care for high-risk patients, and the approval of the practical guide Management of geriatric pharmaceutical care in community pharmacies (Order of the Ministry of Health No. 88 of 30.01.2026), ensuring the development of pharmacists’ competencies in geriatric pharmaceutical care.

Applicative value. The study has a direct impact on geriatric pharmaceutical care, contributing to the identification and reduction of causes leading to administration errors and uncontrolled self-medication. The results are reflected in practical tools such as evaluations, personalized counselling algorithms, communication strategies, and pharmaceutical interventions, designed to increase treatment adherence and quality of care. The study also supports continuous professional development of practicing pharmacists, integrated into professional training, with emphasis on specialized pharmaceutical care for elderly patients.

Implementation of scientific results. Teaching materials for pharmacy students were updated by including the topic Geriatric pharmaceutical care. Algorithm for counselling and consulting the geriatric patient in the community pharmacy in the curriculum of Information Systems and Pharmaceutical Care. The training course Specialized pharmaceutical care for high-risk patients was elaborated, approved, and implemented. The practical guide Management of geriatric pharmaceutical care in community pharmacies was approved by Order of the Ministry of Health No. 88 of 30.01.2026. Scientific results were confirmed by 4 implementation acts, 1 ministerial order, **2 innovator certificates, and one distinction – Gold Medal**, within the framework of the International Exhibition of Innovation and Technology Transfer EXCELLENT IDEA – 2025, 4th Edition.

Thesis structure: Introduction, four chapters, general conclusions and recommendations, bibliography of 161 titles, 4 annexes. Research results are presented across 173 pages, with 61 figures and 11 tables. Scientific findings were published in 12 articles in national and international journals, 24 abstracts, 23 oral communications at national and international scientific conferences, and 10 posters at national and international scientific conferences.

Keywords: pharmacists, community pharmacy, elderly, geriatric pharmaceutical care, rational use of medicines, uncontrolled self-medication, treatment adherence, communication, medication evaluation tools.