LUMEN ET VIRTUS

Pharmaceutical care for the elderly in a school clinic in the city of Goiânia - Goiás

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ABSTRACT

Pharmaceutical care is an important attribution of the pharmacist professional, which consists of monitoring drug treatment, with guidance on the correct use of medications, in order to improve the patient's life. The objective of this work is to promote pharaceutical care to the elderly, users of a school clinic in Goiânia – Goiás, aiming to guide on the rational use of medications, as well as to identify, prevent and solve Negative Outcomes Associated with Medications. To this end, interviews were conducted with 10 polymedicated older adults, who voluntarily agreed to participate in the research. Data collection and analysis were carried out according to the Dáder Pharmacotherapeutic Follow-up methodology. During the research, 10 Negative Results Associated with Medicines were identified, among which 5 referred to non-quantitative ineffectiveness, 3 to untreated health problems and 2 to non-quantitative insecurity. The researchers also identified suspected Negative Results Associated with Medications, with 1 suspected non-quantitative ineffectiveness, 4 suspected untreated health problems, and 10 suspected effects of unnecessary medications. With the pharmaceutical consultation, it was possible to provide guidance on the rational use of medications, identify and prevent Negative Outcomes Associated with Medications, as well as carry out interventions and therapeutic recommendations, which were accepted by most participants.

Keywords: Pharmaceutical care, Pharmaceutical care, Elderly, Polypharmacotherapy, Dáder method.

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INTRODUCTION

The rapid aging of the Brazilian population has been emphasized, particularly with regard to its clinical, social, and public health implications. According to the World Health Organization (WHO, 2022), in 1960, the age group aged 60 and over represented only 5% of the population. Meanwhile, the latest report from the Brazilian Institute of Geography and Statistics (IBGE, 2022) states that Brazil in 2025 will have the sixth largest elderly population in the world, with approximately 32 million people and is expected to reach 229 million in 2050.

The elderly are more vulnerable to all diseases, especially degenerative, cardiovascular and cerebrovascular diseases, cancer, mental disorders, pathological states that affect the locomotor system. However, Chronic Non-Communicable Diseases (NCDs) can affect people's functional capacity, representing a greater demand for and use of health services, as well as a high consumption of medicines (GIACOMIN, 2023; VERAS, 2024).

The elderly present several transformations that alter pharmacokinetic reactions, for example: difficulties in the distribution and metabolization of medications, decreased renal and hepatic function, increased adipose tissue, decreased serum albumin and reduced water level in the body, which can lead to toxicity of the drugs administered (OLIVEIRA and SANTOS, 2016).

A significant tool in health care for the elderly is pharmaceutical care, which stands out for being one of the most important attributions in the interaction between pharmacists and drug users, involving in this practice the development of skills, communication, promotion and recovery of the health of the elderly, resulting in the achievement of drug therapy (CARDOSO; ABREU; NOGUEIRA, 2015; RADOVANOVIC et al., 2014).

Pharmaceutical care contributes to patient adherence to drug treatment, avoids possible negative outcomes associated with medications (MRI) and provides guidance on the risks of self-medication (PINHO; ABREU; NOGUEIRA, 2016). The pharmacist through pharmaceutical care can detect, prevent and resolve MRIs, as well as care for the patient and improve their quality of life (CONSENSUS COMMITTEE, 2007).

In the process of pharmaceutical care, the Dáder method has been widely used. This method is based on the patient's pharmacotherapeutic history and allows the identification and resolution of negative outcomes associated with the use of medications, in order to improve pharmacotherapy and the individual's quality of life. The method is divided into several phases ranging from the offer of the pharmaceutical service to the user to the intervention and evaluation of its results (CONSENSUS COMMITTEE, 2007).

The concept of MRI used in the Dáder method is classified according to the following categories: necessity, effectiveness, and safety. Needing MBIs are divided into untreated health problems and non-necessary drug effect, i.e., there must be a health problem that justifies the

administration of medications. Effectiveness MRI, on the other hand, is classified as quantitative ineffectiveness and non-quantitative ineffectiveness. Therefore, the drug, in order to be effective, must achieve the therapeutic objective. And the last, safety MRI, is classified into non-quantitative insecurity and quantitative insecurity. Therefore, in order to generate safety, health problems cannot be generated or aggravated (CONSENSUS COMMITTEE, 2007).

In this context, the objective of this study was to promote pharmaceutical care for the elderly, users of a school clinic in Goiânia, Goiás, aiming to provide guidance on the rational use of medications, as well as to identify, prevent and solve MRIs (consensus committee, 2007).

METHODS

In this work, an experimental study was carried out, with a qualitative and quantitative approach. Pharmacotherapeutic follow-up and interventions have been documented.

The study was carried out at the Life School Clinic of the Pontifical Catholic University of Goiás (PUC - Goiás), at the physiotherapy clinic (Fisioágua) in the city of Goiânia, Goiás.

The sample comprised 10 elderly volunteer participants, of any gender, users of the clinic's workshop, who were selected by convenience, according to the inclusion criteria.

The inclusion criteria were elderly people over 60 years of age, regardless of gender, linked to the school physiotherapy clinic and who agreed to participate in the research by signing the Informed Consent Form (ICF) and the exclusion criterion was the elderly who did not use five or more medications.

Three meetings were held with the elderly, which took place through the completion of four forms: clinical interview, pharmaceutical interview, pharmacotherapeutic profile and social habits. The forms were based on the Dáder Pharmacotherapeutic Follow-up methodology (Dáder et al., 2008). The MRI were classified according to the Dáder methodology, according to the third Granada Consensus, 2007 (DÁDER; HERNÁNDEZ; CASTRO, 2014; CONSENSUS COMMITTEE, 2007).

The project was approved by the Human Research Ethics Committee (CEP) of PUC – Goiás, under opinion number 1.230.173. The research participants were previously informed about the objectives of the study and signed the ICF in accordance with CNS Resolution No. 466/2012.

The interviews were conducted with the participants in reserved environments designated by the clinic itself before or after the physical therapy session, individually, and on scheduled days and times.

The clinical interview was divided into basic questions: what the patient is feeling; age, body weight, and height; use of polypharmacy; allergies; if you have arterial hypertension, you have *diabetes mellitus*; doubts about the use of medications; times of intake accessible to the routine and pharmacological presentation of the medication.

In the pharmaceutical interview, they were asked: what does he expect from his treatment; social, religious, psychological and genetic aspects that can affect the use of medications, emphasizing that, in cases of these aspects not being explained by the participant, but perceived by the researcher during the interview and the clinical history, they made their records, according to their observations.

In the stage referring to the pharmacotherapeutic profile, the name of the active ingredient or commercial name of the medications that the participant uses and the correlation between the participant's usual and daily dosage versus the minimum and maximum dosage indicated for the participant, according to age, weight, height and Body Mass Index (BMI) were noted. During this interview, blood pressure was measured and also capillary glucose (when necessary). The researcher used personal protective equipment necessary to perform this test. Values such as cholesterol and triglyceride levels were informed by the participant or included in the laboratory tests brought by them.

The blood glucose test was performed by capillarity with the aid of the Active device, together with the Active strips and with individual lancets for small perforation in the ring finger (SBD, 2024). To measure blood pressure, a manual device with a sphignomanometer was used, in which the participant remained seated at rest for 10 minutes and the researchers measured blood pressure (SBC, 2024).

Next, the form entitled social habits and systems review was applied, where parameters such as social habits were addressed, in which the researcher was able to detect possible drug interactions related to the use of vitamins, supplements, smoking, alcohol and/or coffee. By reviewing the system, it was also possible to identify in the participant some problem resulting from his disease and some unwanted effect related to the use of medications.

Based on the information collected, the cases were evaluated using official compendiums, analyzing the participant's problem, such as the type of MRI and its classification, the suspicions of MRI, as well as the most viable pharmaceutical interventions.

. To this end, reports were prepared by the researcher and delivered to the physician in charge at a new consultation with the participant. Pharmaceutical interventions were based on the amount of medication, pharmacological strategy, and participant education.

RESULTS

10 elderly people participated in the research, all female, aged between 60 and 79 years, with an average age of 66 years. It was observed that 3 participants were widowed, 3 married, 3 divorced and 1 single.

Widowed participants used an average of 6 continuous use medications, as did married participants. In the divorced women, an average of approximately 7 medications was observed, while the single participant made continuous use of 3 medications.

Regarding social habits, 3 participants consumed alcoholic beverages, 2 of which rarely consumed alcohol and 1 consumed it every weekend. The participant who consumed alcohol every weekend was also a smoker.

Among the 9 elderly women who used coffee, only 1 drank coffee 3 times a week, while the others drank it every day, at frequencies ranging from 1 to 5 times a day. For the three participants who reported consuming teas, diversity was observed among them, being used as tranquilizers and in pain relief. All three reported using teas every day at a frequency of approximately three times a day.

All 10 participants performed physical activity in the physiotherapy workshop. In addition to this physical exercise, some participated in other exercises, and one participant reported walking three times a week. Three elderly women participated in massage and stretching sessions, twice a week, at a university in Goiânia, one participated in rhythmic dance through the health plan and another participant also did pilates.

The parameters analyzed, either by collection during the interviews (blood pressure and blood glucose) or by evaluation of laboratory tests (triglycerides and total cholesterol) were presented, with emphasis on those considered altered.

Observing the results of the evaluation of altered biological parameters, only one participant presented alteration in capillary glucose, according to the Guidelines of the Brazilian Diabetes Society, that is, with a value above 200 mg/dL (SBD, 2024). Regarding blood pressure, three participants had blood pressure classified as borderline (systolic pressure between 130mmHg and 139mmHg and diastolic pressure between 85mmHg and 89mmHg) and one participant with blood pressure classified as hypertension stage 1 (systolic pressure between 140mmHg to 159mmHg and diastolic pressure between 90mmHg and 99 mmHg) (SBC, 2024). Regarding cholesterol and triglycerides, one participant had altered triglyceride levels above the reference values (above 149mg/dL) and three participants had altered cholesterol levels (above 200mg/dL) (SBC, 2024).

After the interviews and analysis of the collected data, 10 MRI were detected, which were classified according to the Dáder method (Chart 1). It was observed that 8 out of the 10 participants had some type of MRI, among which the MRI of effectiveness (non-quantitative ineffectiveness), necessity (untreated problem) and safety (non-quantitative insecurity) were detected.

Table 1. Classification and frequency distribution of Negative Drug-Associated Outcomes identified during the pharmaceutical consultation (n = 11)*.

Classification of Negative Outcomes Associated with Medications		**Quantity (n)**
Effectiveness	Non-quantitative ineffectiveness	5
Need	Untreated problem	3
Safety	Non-quantitative uncertainty	2

Source: The authors, 2024
*n= number of MRI detected in the participants.

Tables 2, 3, 4 and 5 show the types of MRI and their respective frequencies.

Table 2. Description and frequency distribution of Negative Results associated with Effectiveness drugs identified during the Pharmaceutical Consultation (n = 5 MRI)*.

Negative Outcomes Associated with Effectiveness Drugs (non-quantitative ineffectiveness)		**Quantity (n)**
Drug Interaction	Omeprazole and simvastatin	1
	Dipyrone, Orphenadrine Citrate, Caffeine and Metformin	1
Drug-food interaction	Atenolol with food	1
	Losartan potassium, hydrochlorothiazide and coffee	1

Source: The authors, 2024
*n= number of MRI detected in the participants.

Table 3. Description and frequency distribution of Negative Outcomes Associated with Necessary Medications identified during the Pharmaceutical Consultation (n = 3 MRI)*.

Negative Outcomes Associated with Necessity Medications (untreated health problem)	**Quantity (n)**
Anxiety, without the use of medication	1
Dyslipidemia, without the use of medication	1
Reflux, without the use of medication	1

Source: The authors, 2024
*n= number of MRI detected in the participants.

Table 4. Description and frequency distribution of Negative Outcomes Associated with Safety Medications identified during the Pharmaceutical consultation (n = 2 MRI)*.

Safety/Drug MRI Detected (non-quantitative uncertainty)	**Quantity (n)**
Adverse Reaction (Convulsions) /Vytorin	1
Adverse reaction (vomiting) /Tapazol	1

Source: The authors, 2024
*n= number of MRI detected in the participants.

Table 5. Classification and frequency distribution of the types of pharmaceutical interventions performed on participants during the Pharmacist consultation (n = 12)*.

Types of interventions	**Subtypes of interventions**	**Quantity (n)**
Participant education	Increase Membership	7
	Educating with non-pharmacological measures	1
	Reduce self-medication	1
Amount of medicine	Modify the frequency of dosing	3

Source: The authors, 2024
*n = number of pharmaceutical interventions.

Based on the MRI detected, pharmaceutical interventions were classified in order to seek the resolution of the health problem evidenced by the use of medications. In all, 12 interventions were carried out, with emphasis on educational interventions, such as: providing guidance to participants on non-pharmacological measures (smoking and alcoholism), as well as how to use and administer medications. Problems arising from self-medication were treated with emphasis.

Chart 5 reports the interventions performed by the researchers according to the MRI reported in Chart 1.

The participants used the following therapeutic classes: antidepressants, muscle relaxants, antilipemics, hormone replacements, antiemetics, food supplements, antiulcers, anti-inflammatories, anti-vertigo, anti-allergic, analgesics, benzodiazepines, herbal medicines, antihypertensives, ocular hypotensives, hypoglycemic agents, antiarrhythmics and anticoagulants. Of these, the therapeutic classes of the most commonly used drugs were described in Figure 1.

DISCUSSION

According to Pereira et al (2017), in Brazil, the prevalence of polypharmacy in the elderly population is associated with female gender, age 75 years or older, low education, widowhood, self-rated health, living with a partner, having private health insurance, and hospitalization in the 12 months. Because the elderly use many medications, they are more exposed to the risk of adverse reactions, lack of adherence, self-medication, drug interactions, and drug-food interactions.

One of the drug-food interactions observed in the elderly women was related to the concomitant use of coffee and antihypertensive drugs. Coffee consumption can raise blood pressure

and heart rate (RUIZ; POLITO, 2010). Studies indicate that regular coffee intake contributes to a significant and continuous increase in blood pressure (RUIZ; POLITO, 2010). However, there are controversies in the literature regarding the interaction of caffeine and blood pressure. Based on the literature review, there are few studies on the acute effects of coffee on blood pressure, and there is a need to develop new studies in this area (MACHADO et al., 2013).

The consumption of tea represents a habit of the elderly, however, some harm may occur to these users, such as: undesirable effects and toxicity (BEZERRA et al., 2016). These effects are a public health problem (OLIVEIRA; LEHN, 2015). In addition to toxicity, these plants can generate hypersensitivity reactions, such as dermatitis. Drug interactions associated with the use of herbal medicines may also occur, resulting in damage to health (GHIZI; MEZZOMO, 2015).

The elderly self-medicate because they have easy access to medicinal plants. Therefore, educational campaigns on the popular use of medicinal plants should take place, and it should be reinforced that, due to pharmacokinetic changes, the elderly are more likely to present damage to health from the use of such plants (OLIVEIRA; LEHN, 2015; SILVA et al., 2015).

It was observed that the participants practiced regular physical activities, contributing to a healthy lifestyle. Physical activity is beneficial for the elderly. One study pointed out that of the ten elderly people who performed physical activity, seven showed positive results with a decrease in falls. To this end, activities were carried out to work on muscle strength, balance and activities of daily living functionality (BENTO et al., 2010).

Regarding the use of vitamins and food supplements, 1 used vitamin D, 2 used omega 3 and 1 participant administered vitamin C and magnesium chloride. Studies show that from the age of 60 onwards, nutritional needs increase, in which vitamins and supplements contribute to the quality of life and health of the elderly population. It is worth mentioning that food supplements are defined as substances that help in diet, being composed of vitamins, minerals and amino acids that also help to improve performance during physical exercise (LOPES; SOUZA; QUINTÃO, 2014).

Thus, it is important that the consumption of dietary supplements be prescribed, since self-medication can also cause health risks in the elderly, which can lead to the appearance of MRI. Analyzing the schooling, it was observed that the illiterate participants with incomplete elementary school were the ones who most expressed doubts about the medications. Self-medication is a common habit of Brazilians, which can affect health risks, such as: intoxication. In this research, participants with incomplete and complete higher education, as well as those with complete 2nd degree, expressed fewer doubts about medications, but all practiced self-medication, unaware of the risks they could entail (ARAUJO et al., 2015).

Regarding the results of the evaluation of the altered biological parameters, it was observed that the participant with a blood glucose of 257mg/dL did not follow a diet to control *diabetes*

mellitus. Educational interventions are needed to reduce the development and complications of the disease. It is necessary for diabetic patients to carry out a meal plan so that the control of the disease can be effective (MENEZES; LEE; NOGUEIRA, 2016). During the interviews, the researchers informed the participant about the need for this control and the reduction in carbohydrate consumption, in addition to advising her to monitor capillary glucose in a drugstore with a pharmacist and inform the doctor about the results obtained (FÉ et al., 2016; MUNHOZ et al., 2014). It is of paramount importance that the elderly monitor capillary blood glucose to reduce the development of acute and chronic complications of diabetes mellitus (AUGUSTO et al., 2014).

The researchers also informed the elderly women about the importance of healthy eating in order to avoid the emergence and complications of diseases. Especially the diabetic patient so that she can avoid complications such as diabetic ketoacidosis, retinopathy and nephropathy, in addition to helping to maintain body weight control and reduce the development of cardiovascular diseases (SBC, 2024).

Still on the biological parameters evaluated, the researchers advised the participants who presented the classification of borderline blood pressure and hypertension stage 1, to maintain the practice of physical activity and lifestyle changes, such as changes in diet with reduced salt intake, consumption of fruits and vegetables, also avoiding foods rich in sodium, saturated fats and maintenance of the stimulus to weight reduction. In other words, the practice of physical activity represents a fundamental measure for the health of the elderly, helping in the treatment of arterial hypertension and *Diabetes mellitus* (MARTYRS; COAST; SANTOS, 2013).

In this way, it was possible to inform about the adoption of a healthy lifestyle for better blood pressure control and reduction of the risks of developing cardiovascular diseases (RADOVANOVIC et al., 2014). One study showed positive results in blood pressure control in hypertensive elderly patients through non-pharmacological therapy, such as body weight reduction and sodium intake, resulting in effective control of hypertension in this age group (SOUZA, 2014).

Regarding the evaluation of altered laboratory parameters, the participants who presented dyslipidemia received recommendations such as changes in eating habits by reducing the consumption of carbohydrates and fatty acids, in addition to consuming more foods rich in soluble fibers and performing physical exercises more frequently to reduce triglyceride and cholesterol levels and control body weight (SBC, 2024). It is known that eating habits such as the intake of saturated and unsaturated fatty acids and low consumption of dietary fiber are dietary characteristics of the elderly population, contributing to dyslipidemia in these individuals. It is important to monitor lipid profiles due to high mortality rates, due to the development of cardiovascular diseases (SOUZA, 2014).

Among the MRI detected and classified, those referring to effectiveness (non-quantitative ineffectiveness) deserve to be highlighted, since they were the majority. All were related to interactions, 2 between drugs and 3 between drugs and food.

The first of these occurred between omeprazole and simvastatin. It is known that omeprazole promotes an increase in statin concentrations, which can cause muscle pain, fever, fatigue, malaise and weakness (PORTO; JACOMINI; SILVA, 2011). The participant reported using omeprazole at any time, when there was pain. Thus, she was advised by the researchers to administer omeprazole on an empty stomach or within a period of at least two hours before or after the administration of simvastatin (PELOSO, 2014).

The second MRI related to the drug interaction occurred between Dorflex® and Metformin 500mg, since according to the literature, Dorflex® increases the plasma levels of metformin, enhancing its pharmacological action, being classified as mild severity of interaction (PORTO; JACOMINI; SILVA, 2011; DIAS et al., 2012). Thus, the researchers informed the participant about the drug interaction, and she was instructed to seek medical consultation for the treatment of pain, thus avoiding self-medication.

On the other hand, MRIs related to drug-food interactions include atenolol with food, since food administered with this drug can decrease its serum concentrations (TAVARES; M; MENDES, 2012), and atenolol with coffee, since coffee is a stimulant and therefore can increase heart rate, which consequently can increase blood pressure (GODINHO, 2011; RUIZ; POLITO, 2010). These MRI (non-quantitative ineffectiveness) refer to the same participant, since she used atenolol after breakfast and her blood pressure measurementswere between borderline and hypertension stage 1 (SBC, 2024). Thus, she was instructed to use the medication at least 2 hours before or after meals and to drink coffee. The other MRI of non-quantitative ineffectiveness was related to the use of the antihypertensive drugs atenolol and losartan potassium 100 mg with hydrochlorothiazide 25 mg, also with coffee, as already mentioned.

Regarding the need MRI (untreated problems), 3 were detected. The MRI referring to untreated anxiety occurred because the participant reported having stopped using the drug Exodus® and was no longer being monitored by a medical professional. Thus, the researchers informed the participant that this is a controlled drug and to have a therapeutic effect, continuous use is necessary. Thus, she stated that she would look for another doctor in order to resume the treatment of anxiety and that, for the time being, she would no longer use the medication.

Another MRI of need occurred with a participant who had altered cholesterol and triglyceride levels, characteristic of dyslipidemia, and without drug treatment. The researchers informed the participant about the need to seek medical attention to investigate her condition, and if necessary, the insertion of a drug therapy, in addition to a change in her lifestyle, including the consumption of

fruits, vegetables, fibers, cereals, reduction of carbohydrates and fats and maintenance of the practice of physical exercises to reduce weight. All these recommendations aimed to prevent the development of cardiovascular diseases such as atherosclerosis (SOCIEDADE BRASILEIRA DE CARDIOLOGIA, 2007).

The last MRI of this same classification referred to a participant who had not been to her doctor for gastroesophageal follow-up for months. Thus, the researchers advised the participant to follow up with a gastroenterologist, informing her about the vomiting condition.

Safety MRIs classified as non-quantitative insecurity were detected in two participants. One of them reported symptoms of cramps after using Vytorin®10mg throughout treatment with it. Thus, the researchers informed the patient that it was an adverse reaction of the drug (MOSCA; CORREIA, 2012; ANVISA b, 2024). Vytorin® is composed of simvastatin and ezetimibe, both lipid-lowering drugs that have cramps as one of the undesirable effects, that is, this is a side effect of statins on the muscles (BERTOLAMI; BERTOLAMI, 2015). The participant informed her physician and he replaced the medication with simvastatin 10 mg, and it was confirmed that the adverse reaction was due to ezetimibe (PORTO; JACOMINI; SILVA, 2011).

The second participant reported that during the use of Tapazol® she presented vomiting. The researchers informed the participant that treatment with it can cause vomiting (ANVISA, 2024). So they asked him to go back to the gastroenterologist. In addition, the participant also presented a picture of gastroesophageal reflux, and she reported that she had not seen a specialist for a long time.

In addition to the identified and classified MRIs, suspected MRI also require the pharmacist to perform excellently. These suspicions occur when there are no health problems resulting from the use of medications, but the future appearance of medication is suspected, considering the risk in relation to the action practiced, which may trigger some MRI (CONSENSUS COMMITTEE, 2007). These MRI suspicions were also discussed.

Chart 2 shows that all participants were using at least one medication for self-medication. Thus, the researchers informed the participants about the risks of self-medication and recommended that they stop using them. The factors that can increase the risk of adverse reactions in the elderly are self-medication (SILVA; SCHMIDT; SILVA, 2012). It is noted that the use of polypharmacy in the elderly is very frequent, thus, self-medication as well as inadequate descriptions can increase the risk of MRI in the elderly (PEREIRA et al., 2017).

According to the literature, the increased consumption of prescription or non-prescription drugs is typical of aging. In this group, there are changes such as changes in renal and hepatic function, increased adipose tissue, reduced water level in the body, and decreased albumin levels, contributing to alter the pharmacokinetics and pharmacodynamics of drugs, leading to greater

chances of developing adverse reactions, drug interaction, and increased drug effects (BIFFI; GERARDI, 2015, PEREIRA et al., 2017).

Another relevant problem is the adherence of drug users to treatment. Studies indicate that about 40 to 75% of the elderly population does not administer the drugs according to the dosage schedules. The elderly have some difficulties in administering medications, for example, complicated therapeutic regimens, absence of family members to help them take medications, and reduced memory are some of the factors that lead to low adherence to medication therapy (MANSO; BIFFI; GERARDI, 2015). Therefore, adherence to treatment is of paramount importance for the success of pharmacotherapy, and it is necessary for the pharmacist to have an active participation, through the adoption of strategies that improve the pharmacological treatment of the elderly (RIOS; OAK; RIOS, 2014).

It was observed during the evaluation of pharmacotherapy that some drugs were administered at inappropriate times. Thus, the participants were informed about the importance of administering the medications at specific times, such as fasting, after meals or at times away from them (DANTAS, 2016; PINE; ABREU; NOGUEIRA, 2016).

The most commonly used drug classes were analgesics (30%), antihypertensive drugs (27%), hypoglycemic drugs (22%) and muscle relaxants (21%), and among the participants, 50% were diagnosed with hypertension and 40% with *diabetes mellitus*. Among NCDs, cardiovascular diseases, diabetes, cancer, and chronic respiratory disease are the most prevalent and contribute most to morbidity and mortality, causing worsening quality of life, permanent clinical complications, loss of autonomy, and functional disability (COLET, BORGES, AMADOR, 2016; SILVA et al., 2022)

It was also observed that all participants self-medicated with analgesics, followed by vitamins, laxatives, muscle relaxants and antiasthmatics. Considering that no medication is 100% effective and totally safe, self-medication can be considered a potentially harmful practice to health and a problem associated with medications, especially in the elderly. Thus, the misuse of medication without careful evaluation by a qualified professional can cause adverse reactions, the appearance of nonspecific symptoms, and worsening of the health condition (SECOLI et al., 2018).

CONCLUSION

Elderly patients represent a significant portion of the Brazilian population and deserve to be highlighted for being the most medicalized group in society due to the number of chronic diseases. The elderly also present alterations in pharmacokinetics and pharmacodynamics that may contribute to the negative reaction to medications. Thus, in the research it is evident that pharmaceutical intervention is important in guiding the rational use of medications, in the identification, prevention and resolution of MRIs.

Studies on pharmaceutical care in the world in elderly patients are scarce. In Brazil, pharmaceutical care is still an incipient area. The lack of a model to guide it is one of the factors that has hindered its evolution. This model must be built in a multiprofessional way and its strategies must be adequate to the needs of the system and users.

However, pharmaceutical interventions have shown positive results such as: cost reduction, control of adverse reactions, promotion of increased patient adherence to treatment and reduction of their treatment and hospital admissions.

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