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The risks of self-medication in times of Covid-19 among university students in a municipality located in the Legal Amazon

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ABSTRACT

Self-medication, as defined by the World Health Organization (WHO), refers to the use of over-the-counter medications, based on the belief that over-the-counter medications are safe if used as directed. However, easy access to medications without professional guidance increases the risks of irrational use, leading to undesirable effects and health problems. This is exacerbated by the presence of pharmacies in households and the idea that medicines are solutions to various health problems, amplified by the placement of drug advertisements on social media. During the COVID-19 pandemic, there was a significant increase in self-medication, influenced by the dissemination of the "covid-kit", a combination of drugs promoted as an early treatment, despite the lack of conclusive scientific evidence. Pharmacist professionals play a crucial role in raising awareness about the proper use of medications, providing guidance, and ensuring safe dispensing. The promotion of Health Education is essential to alert the population about the risks of self-medication and to promote the rational use of medicines. The present research aims to report the risks of self-medication during COVID-19, especially among university students in the Legal Amazon, with the aim of highlighting the importance of responsible use of medicines.

Keywords: Self-medication, Covid-19 pandemic, Health education.

INTRODUCTION

It is considered self-medication by the World Health Organization (WHO) in which individuals, to treat their own symptoms, use approved and over-the-counter drugs (OTCs) without a medical prescription or pharmaceutical guidance, which would supposedly be safe as long as they are used according to the instructions on package inserts and labels (DO NASCIMENTO, 2020; DA COSTA GOMES, DA SILVA and BATALHA, 2021; CARALO, COLOMBI and SILVA, 2021).

Thus, the wide availability to acquire medicines and easy access increases the possibility of irrational use, through pharmacies the population has the idea that drugs are products that do not cause risks, however, if used indiscriminately, it exposes them to undesirable effects, which will increase according to the course of high use (DOMINGUES, 2015; FERREIRA and DE CARVALHO, 2021). Although studies in the health area are constantly advancing, there is still difficulty in accessing health services and the low quality of care, both in the public and private sectors.

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With this, the aspects of the dissemination of medication advertisements through social media, the presence of a pharmacy in homes and the certainty that medications solve everything without needing the instruction of a professional are united, favoring important factors for the practice of self-medication (ARRAIS, 2016; FRANCISCA DAS CHAGAS, 2021). During the COVID-19 pandemic, there was a large increase in the consumption of medicines in Brazil, this fact is attributed to several reasons and one of them is the fact that the so-called "covid-kit" has been widely disseminated: a combination of medicines being used as an early treatment without conclusive scientific evidence for the use of this purpose (MELO, 2021; NEDEL, ANTÔNIO and FILHO, 2021, CFF, 2021).

With this, the use of medications already used in the treatment of other diseases was proposed as a possible treatment for Covid-19, known as the Covid Kit, which contained the following medications: Azithromycin, Ivermectin, Dipyrone, Hydroxychloroquine or Chloroquine (SANTOS-PINTO et al., 2021; FURLAN and CARAMELLI, 2021). In view of the above, the pharmacist has an important role in the stage of raising awareness of the population regarding the correct use of medicines. In addition to working in various areas, such as hospital pharmacies, clinical analysis laboratories, compounding pharmacies and drugstores, they are responsible for guiding and safely dispensing the patient (SOTERIO, 2016; DOS SANTOS MIRANDA, MARQUES and DOS SANTOS, 2022).

Thus, one of the important ways to reduce self-medication is to promote Health Education, alert the population about the risks of inappropriate use of medicines without guidance and enable greater awareness about the rational use of drugs (SOTERIO and SANTOS, 2016, WIESE, LUIZ et al., 2020).

In this sense, the present research aimed to report the risks and possible consequences of self-medication in times of covid-19 among university students in a municipality located in the Legal Amazon, in order to address with the target audience the care related to the correct use of medications.

OBJECTIVE

To identify the risks and possible consequences of self-medication in times of covid-19 among university students in a municipality located in the Legal Amazon.

METHODOLOGY

TYPE OF RESEARCH

This study employed a descriptive field research with a quantitative approach, using the survey survey method. The objective was to report the risks and possible consequences of self-medication in times of covid-19, in order to highlight the problem and contribute to possible advances in the context of the theme addressed.

FIELD OF RESEARCH

The research was carried out in a private institution of Higher Education, called Centro Universitário FAEMA/UNIFAEMA, which offers 21 undergraduate courses and is located in the municipality of Ariquemes, in the state of Rondônia, in the region of Vale do Jamari, in the north of Brazil. The north of the country has 5,217,423 km², which corresponds to 61% of the Brazilian territory; in which it encompasses all the states of the northern region (BRASIL, 2014). According to data from the Brazilian Institute of Geography and Statistics (IBGE), the northern region of Brazil is the second in poverty concentration (26.1%), right after the northeast region (47.9%) (BRASIL, 2020).

DATA COLLECTION AND ANALYSIS PROCEDURES

Data were obtained through a quantitative questionnaire (APPENDIX I). The questionnaire was developed by the author of the present work, using the scientific literature to construct the questions that will be in the single answer category, and which contemplates a pre-test phase to be carried out before the application, making the necessary directions and duly presented in the research report.

To carry out the present study, the students were invited to participate in the study by the researcher who will be duly identified, the research was presented with the clarification of all doubts, if any. The informed consent form (ICF) was submitted, followed by the questionnaire, which was expected to last 10-15 minutes. The university students participated in the research voluntarily and answered the questionnaire that will be applied in the online format through Google Forms, where the access link via email was forwarded. All steps were carried out after a favorable opinion issued by the Research Ethics Committee (CEP) of the FAEMA/UNIFAEMA University Center.

After the application of the questionnaires, there was data analysis, which will be done by means of descriptive statistics in Microsoft Excel software, using the Chi-square test to establish relationships between the variables.

POPULATION

The target audience of the research consisted of 140 students regularly enrolled in undergraduate courses at the FAEMA/UNIFAEMA University Center, in the semester of 2022.1.

INCLUSION AND EXCLUSION CRITERIA

Regarding the inclusion criteria, the following were considered:

- Student who is of legal age;
- Be regularly enrolled in courses at the FAEMA/UNIFAEMA University Center in the 2022.1 semester.

The university student who expresses his acceptance to participate in the research by signing the ICF. The following were excluded from the study:

- Respondents who are not in the intended age group;
- Those who refuse to sign the ICF;
- Withdrawal from answering the questionnaire.

HEALTH DESCRIPTORS

Consequences of Self-Medication. Rational use of medicine. Adverse Reactions. 4.7

ETHICAL GUARANTEES

The confidentiality of the survey will be safeguarded based on the principles of the LGPD (General Data Protection Law). In addition, each participant will have total freedom to refuse to answer the research questionnaire, having the maximum ethical guarantee recommended by Resolution 466/12/CNS.

RISKS

The intended study was characterized by minimal risks to those involved, represented by possible discomfort when answering the questionnaire, or even the time required to carry out such activity.

BENEFITS

It enabled data regarding the importance of knowledge about the improper disposal of medicines, in view of the lack of information and measures about it;

It provided the intended target audience with the necessary information to know how to identify their realities, understand the risks of inappropriate disposal of medicines for health and the environment, as well as ways to transform their attitudes for the next generations.

DEVELOPMENT

THE PRACTICE OF SELF-MEDICATION IN TIMES OF COVID-19 IN BRAZIL

Self-medication can be seen as a solution for immediate relief, but when used incorrectly, such as the abusive use of medications, it can have the consequences of irrational use of medications, undesirable effects, and masking of other pathologies (MELO, 2021, FERREIRA and RIBEIRO, 2020, JUNIOR, DE OLIVEIRA, and AMORIM, 2022).

With the increase in the number of COVID-19 cases in Brazil, there has been a great demand in pharmacies for various drugs in order to prevent or treat COVID-19, through a practice known as self-

medication. In the first half of 2020, there was an increase in the number of online searches about self-medication (ONCHONGA, 2020).

During the pandemic, an increase in access and data published on social networks was observed, which gave rise to an infodemic, a term adopted by the WHO that refers to the increase in the volume of information on a specific subject and that ends up multiplying rapidly in a short period of time due to a specific event (DA ROCHA PITTA, 2021).

The use of drugs for other pathologies with clinical proof, used unequivocally by patients who have symptoms of Sars-CoV-2, may bring high risks to the health of the population. In addition to making sure that medicines may be lacking for patients who use them for chronic disease, based on clinical protocols and therapeutic guidelines (SILVA, 2020).

Main pharmacological classes most used in self-medication

According to the World Health Organization (WHO), there is responsible self-medication, which is related to Over-the-Counter Drugs (OTCs). These medications are approved by health authorities to treat minor severities and symptoms and are found in drugstores. The acquisition can be made without a medical prescription, but it is of paramount importance that they are used according to the pharmacist's guidelines (AMORIM FILHO, 2022).

The ease and availability of (MIPS) increase the rate of self-medication, as they are indicated for pathologies of high incidence, but of low severity and without the requirement of a medical prescription, however, despite being proven safe and effective, if used incorrectly, they can cause health risks (PASSOS, 2020).

The medicines most used by the Brazilian population are: Contraceptives, Analgesics, Nasal Decongestants, Anti-inflammatories, Antacids, Anti-flu, Laxatives, Antiemetics and some antibiotics, purchased at the pharmacy counter without any difficulty (OLIVEIRA, 2020).

CARE REGARDING THE CORRECT USE OF MEDICINES

Therapeutic adherence, as well as the effectiveness and safety of medications, depend on a patient's good understanding of their pharmacotherapy. Nowadays, one of the biggest health problems is the incorrect use of medications with the inherent consequences for the user. In the various scenarios of action, such as dispensing services, health education, pharmacotherapeutic follow-up, management of the health condition and medication reconciliation, the pharmacist is a protagonist in ensuring the safe use of medicines (SILVA, 2015).

According to Álvares (2017), the National Policy on Pharmaceutical Services, regulated by Resolution No. 338 of May 6, 2004, the multidisciplinary activity "Pharmaceutical Services" (PS) aims to

promote access and rational use of essential medicines to the population, promotion, protection and recovery of health, both individual and collective. This set involves the research, development and production of medicines and inputs, their selection, programming, acquisition, distribution, dispensation, quality assurance of products and services, monitoring and evaluation of their use.

To minimize self-medication indiscriminately, it is of great importance to promote health education, through this technique, the knowledge produced in the health area is transmitted by professionals to ordinary people, reaching their daily lives, for the adoption of new habits and behaviors that promote well-being and quality of life. These initiatives are extremely important, since the increased risks of poisoning by self-medication results in a serious Public Health problem (SOTEIRO, 2016).

Transmitting guidance in an appropriate way provides the user with the development of autonomy and responsibility for the daily decisions involving their drug therapy, such as the correct use and effective adherence to therapy. In addition to verbal and written communication, health professionals can use didactic tools, such as images and symbols, to promote an effective understanding of the use of medications (GALATO et al. 2006).

From Pharmaceutical Care, the professional seeks to improve the quality of life of patients through the practice centered on this individual and the care that must be applied in relation to medications. Thus, pharmaceutical care, when performed efficiently, makes the pharmacist capable of increasing the success of the treatment and reducing undesirable effects. Care ranges from the selection of the drug to its proper guidance, specifying the correct dosage, the route of administration used, and pharmacotherapeutic follow-up (DE OLIVEIRA, 2021).

THE IMPORTANCE OF THE PHARMACIST IN THE DISPENSING AND CONTROL OF MEDICINES

One of the functions of the pharmacist is to prevent the inappropriate use of medications, evaluate prescriptions when there are errors and drug interactions, provide assistance through actions regarding the correct way to use medications in general, alerting about the importance of administering the medication at the right time and storing it in the correct place (ALMEIDA et.al, 2020).

The work of pharmaceutical care with the patient at the time of dispensing the medication is of great relevance, as the users' needs are identified in an individualized way, being effective, safe and adequate. The pharmacist will advise the patient on how to use the medication, the correct dose, the treatment time, risks and benefits, or depending on the case, being advised to seek a health unit (CAMPOS, 2019).

It is known that the pharmacist, as he is a professional who is directly responsible for the medication, also becomes one of the responsible, together with the other health professionals, for a better

therapeutic adherence of the patient, because, through the integrality of care, it is possible to achieve an improvement in the health of the patients. Their actions within this context are indispensable, especially with regard to counseling on the correct use of medicines (ARAÚJO and DE CASTRO FREITAS, 2022).

THE HEALTH RISKS OF SELF-MEDICATION

Self-medication is a very frequent reality in different age groups, as well as in different cultures in which the individual selects and chooses certain medications in order to treat a certain health problem. This practice is considered inappropriate and can cause health risks such as adverse reactions and also drug interactions (GAMA and SECOLI, 2017).

The population adhered to self-medication (TMJ) because it is a practice in which quick relief of symptoms is sought, however, when performed incorrectly it can mask serious diseases, cause intoxication and in more serious cases can lead to death. And one of the major concerns for the WHO is the bacterial resistance caused by the indiscriminate self-medication of antibiotics (DOMINGUES, 2017).

The act of self-medicating is associated with several risks, such as drug interactions, drug resistance, adverse drug reactions, growth of polypharmacy, and drug dependence on some drugs because they are easily accessible, becoming the main cause of poisoning that is considered a serious adversity due to irregular consumption, thus promoting deaths and hospital admissions (TEIXEIRA, 2022).

The pharmacist is seen as an easily accessible health professional and his performance can contribute to the improvement of the population, since self-medication is a very common conduct in Brazil. Its actions are based on the search for the patient's health through its guidelines and drug indications. To this end, pharmaceutical care meets this objective (PIMENTEL and ANDRADE, 2022).

According to the Federal Pharmacy Commission, pharmaceutical services can target drugs (acquiring, receiving, storing, storing, preserving, quality assurance, etc.) and patients (caring for pharmaceutical products, dispensing drugs, monitoring drug therapy, testing and reporting adverse drug reactions, health education, etc.) (FARIAS, 2022).

Resolutions No. 585 OF AUGUST 29, 2013 and No. 586 OF AUGUST 29, 2013 are important for the pharmacist, because through RESOLUTION No. 585 OF AUGUST 29, 2013, it regulates the clinical attributions of the pharmacist, which constitute the rights and responsibilities of this professional with regard to his area of activity. The activities correspond to the actions of the work process the different clinical pharmaceutical services, for example, pharmacotherapeutic follow-up, therapeutic conciliation or pharmacotherapy review are characterized by a set of specific activities of a technical nature.

And RESOLUTION No. 586 OF AUGUST 29, 2013, provides for good pharmaceutical practices for the sanitary control of the operation, dispensation and marketing of products and the provision of pharmaceutical services in pharmacies and drugstores and provides other provisions. Pharmacists were of

great importance and acted promptly at the beginning of the Coronavirus pandemic, by preparing a form describing emergency medications, monitoring and resolving cases of shortages, in addition to establishing remote pharmacy services, thus preventing direct transmission of infection (LIU et al., 2020).

Both community pharmacists and clinicians must be up-to-date with research on the treatment against Coronavirus, familiarizing themselves with the drugs that are used in patients. These professionals need to be aware of information such as dosage, drug interaction, adverse effects, and the pharmacokinetics of drugs (ALQUTEIMAT and AMER, 2021). In the Covid-19 pandemic, fake news about the medicines they cured were emerging.

Thus, the pharmacist had to take a position, intervening in a way that did not compromise the protocols or the indication of treatments. Even with difficulties, this professional did not stop exercising the profession, dedicating himself even more, giving support to the health team, even at the risk of being contaminated, he helped with the autonomy he has over the medications, guiding the society that self-medicated in order to compromise health with the adverse effects of medications, even with a lack of evidence that such drugs were effective (CANESCHI et al., 2021).

RESULTS AND DISCUSSION

Through the survey carried out, the response of 140 university students was obtained, from March to July 2022.

PROFILE OF TWO INDIVIDUALS INTERVIEWED:

Table 1 - Data that identifies age, gender, marital status and the number of people who live with the interviewees

Age	**Numbers searched**	**%**
17 – 20 years old	60	42,6%
21 – 30 years old	53	37,9%
31 – 40 years old	25	18,3%
41 or more	2	1,2%
Gender	**Numbers searched**	**%**
Female	109	77,9%
Male	31	22,9%
Other	0	0%
Civil status	**Numbers searched**	**%**
Single	96	68,6%
Married	30	21,4%
Stable union	12	8,6%
Divorced	2	1,4%
Widower	1	0,7%
How many people live in your household?	**Numbers Searched**	**%**
01 – 02 people	43	30,7%
03 – 04 people	71	50,6%
05 – 06 people	18	12,8%
More than 06 people	8	6%

Source: Authors (2022)

Through the research, it was possible to evaluate that the highest result was female (77.9%) and then male (22.9%). Costa (2022)[1], pointed out that the result of his research assessed that most participants were women with (61.9%), while men represented 38.1% of the total.

Ages range from 17 years to 57 years, with the highest number from 17 years to 20 years (42.6%), followed by 21 years to 30 years (37.9%), 31 years to 40 years (18.3%) and over 41 years or older (1.2%).

Regarding marital status, the largest numbers of participants were single (68.6%), followed by married (21.4%), stable union (8.6%), divorced (1.4%) and widowed (0.7%).

The number of people in which the interviewee lives varies from one (01) to eight (08) people. The highest percentage of people living with the interviewee was 03 to 04 people (50.6%), followed by 01 to 02 people (30.7%), 05 to 06 people (12.8%) and more than 06 people (6%).

Alves (2022), found approximate results in relation to the age group of the students there was a variation in the data, the highest percentage is between 19 and 26 years old, corresponding to a total of 51.5% of the sample. Regarding marital status and the number of people living with students, most 63.6% are single and the number of household residents varies between 2 and 9 people.

Table 2 - Identification of the undergraduate courses of the researched

Undergraduate course	Numbers searched	%
Nursing	37	26,4%
Pharmacy	31	22,1%
Right	23	16,4%
Agronomy	16	11,4%
Physiotherapy	13	9,3%
Psychology	10	7,1%
Civil Engineer	9	6,4%
Environmental Eng.	1	0,7%
Ed. Physics	0	0%
Pedagogy	0	0%

Source: Autosa (2022)

Regarding undergraduate courses, the largest number are studying nursing (26.4%), followed by pharmacy (22.1%), law (16.4%), agronomy (11.4%), physiotherapy (9.3%), psychology (7.1%), civil engineering (6.4%) and environmental engineering (0.7%).

IDENTIFY THE PERCENTAGE OF INDIVIDUALS WHO SELF-MEDICATED DURING THE COVID-19 PANDEMIC

Table 3 - Identification if respondents contracted Covid – 19

Did you contract covid – 19?	Numbers Searched	%
Yes	78	55,7 %
No	62	44,3%
Did you use any medication during the pandemic?	**Numbers Searched**	**%**
Yes	78	55,7 %

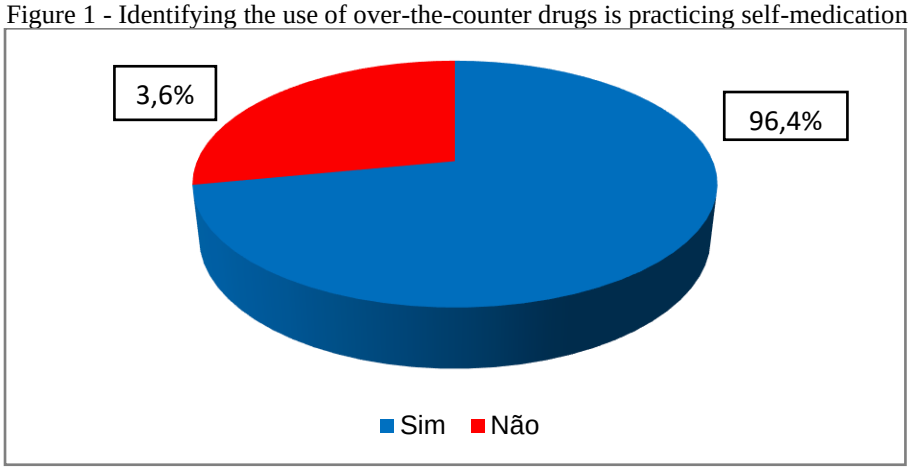
No	62	44,3%
Were the drugs prescribed?	**Numbers Searched**	**%**
Yes	72	51,4 %
No	33	23,6%
I didn't answer yes to the previous question	35	25%

Source: Authors (2022)

According to the 140 survey responses, (55.7%) contracted covid-19 and (44.3%) did not contract covid-19. (73.6%) used some medication related to Covid-19 and (26.4%) did not use it. And (51.4%) answered that they had a medical prescription, (23.6%) used the drugs without a medical prescription and (25%) did not use medication during the pandemic.

ESTABLISH THE PERCENTAGE OF UNIVERSITY STUDENTS WHO USED MEDICATIONS WITHOUT A MEDICAL PRESCRIPTION AND THE DURATION OF USE

Figure 1 - Identifying the use of over-the-counter drugs is practicing self-medication

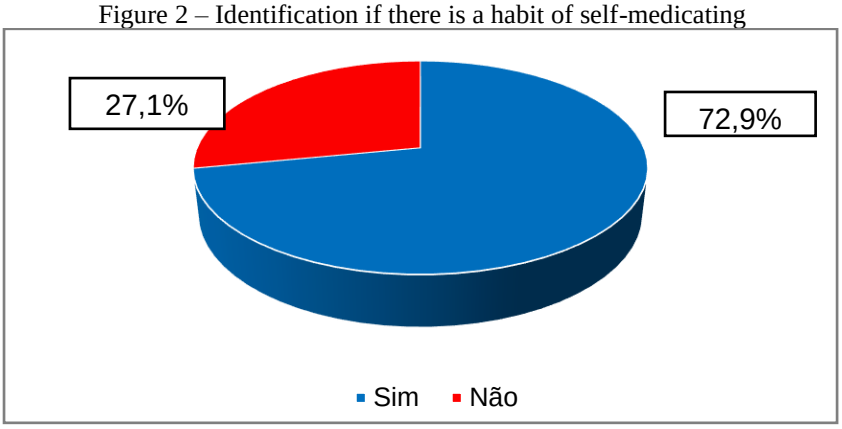


Source: Author (2022)

Through the answers obtained from the respondents about the knowledge of the use of medications without a medical prescription or guidance from a qualified professional, it was possible to obtain results of (3.6%) stating that they were not aware, and (96.4%) stating that they know about the practice of self-medication.

There was a high rate of students who reported being aware of the risks of self-medication, indicating that students have the confidence to use medications on their own (BOHOMOL and ANDRADE, 2020).

Figure 2 – Identification if there is a habit of self-medicating



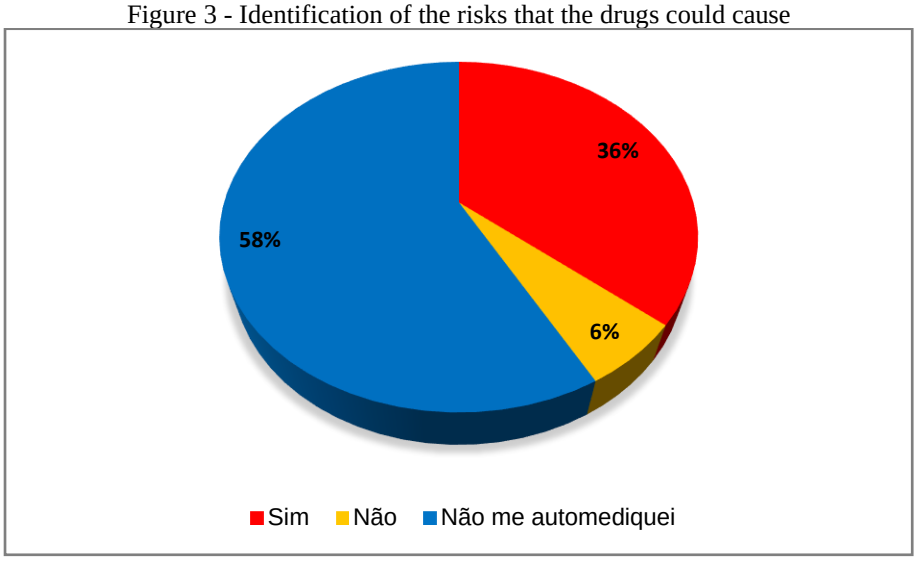
Source: Authors (2022)

When asked about the practice of self-medication, the interviewees answered that yes, they are in the habit of self-medicating (72.9%) and (27.1%) answered that they are not in the habit of self-medicate.

The frequent and indiscriminate ingestion of medications is common among Brazilian university students from different fields of training. This conduct is even higher for students in the health area who study the pharmacokinetics and pharmacodynamics of drugs in depth in undergraduate courses.

Health professionals should promote the rational handling and consumption of medicines among the population, so it is important to pay attention to this practice when they are still students so that they can serve as an example in the conscious use of medicines (ALBUQUERQUE, 2015; LOPES and DA MATA, 2017).

Figure 3 - Identification of the risks that the drugs could cause

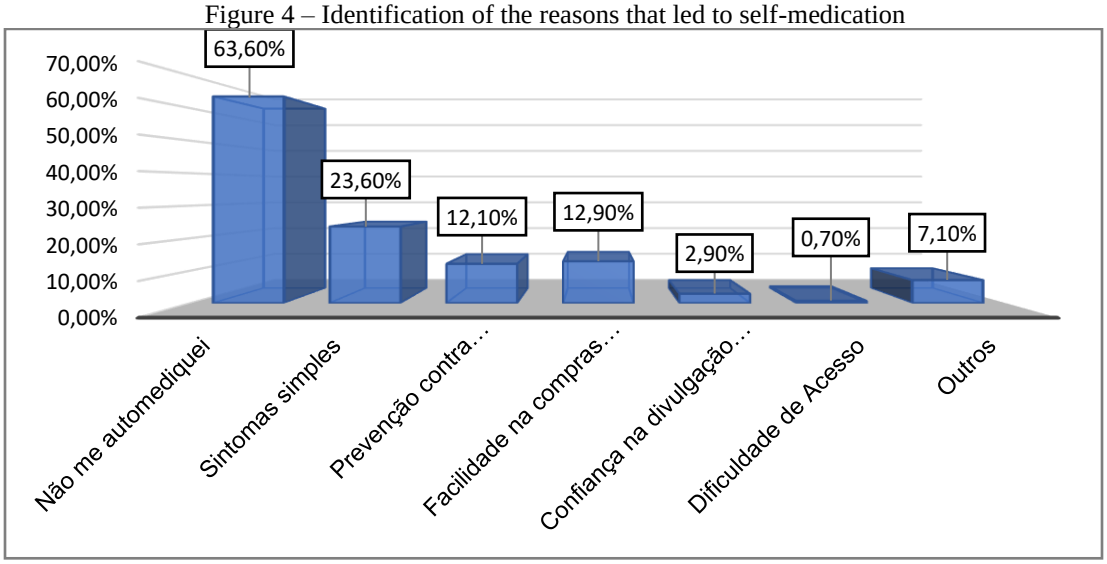


Source: Authors (2022)

Regarding whether the interviewee is aware of the risks that the medications with which he self-medicated could cause (58%) answered that he did not self-medicate, (36%) answered that yes, he is aware of the risks and (6%) answered that he is not aware of the risks.

The main risks entailed by the practice of self-medication are the undue accumulation of drugs in the body, potential drug interactions, dosage error, inadequate treatment time, serious adverse effects, and incorrect self-diagnosis (GOMES, 2020).

Figure 4 – Identification of the reasons that led to self-medication

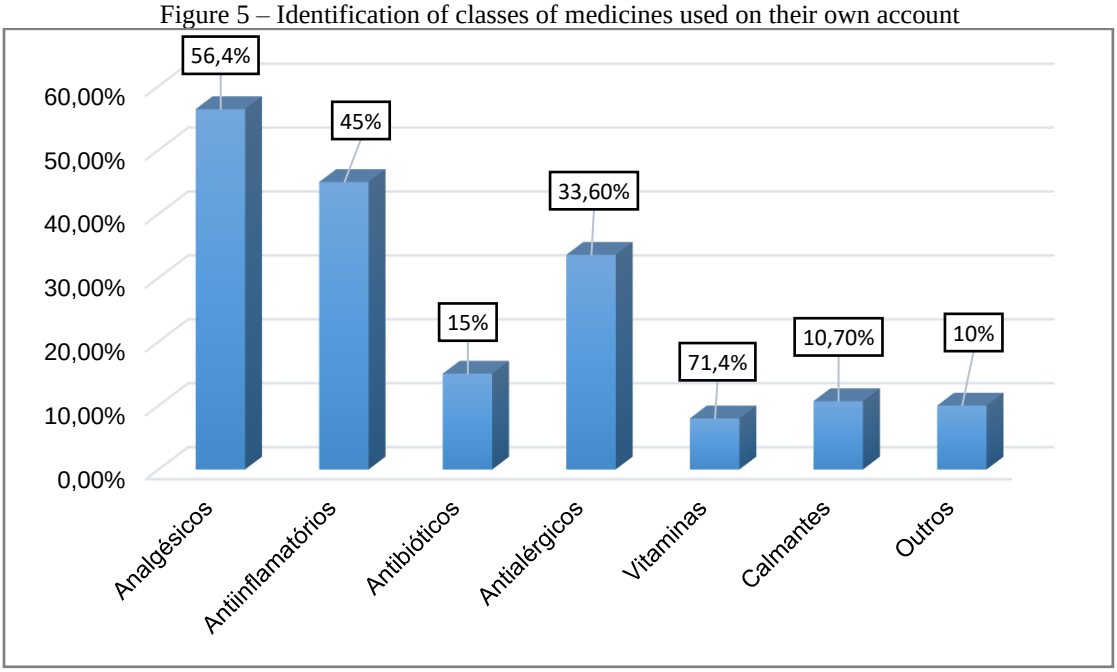


Source: Authors (2022)

Observing the answers of the respondents about the reasons that justify self-medication in the case of confirmation or suspicion of Covid-19 or flu-like symptoms, it was possible to identify that the (63.60%) claimed that they did not self-medicate, then the reason for simple symptoms (23.60%), (12.90%) answered for the ease of purchasing medicines, (12.10%) was for prevention against Covid-19 infection, (7.10%) said it was for other reasons, (2.90%) answered that the reason was because of confidence in the dissemination made by the media and (0.70%) said it was because of the difficulty of access to health systems.

The difficulty of access to public service has been suffering from the lack of doctors and medicines, and also a large part of the population does not have the financial conditions to pay for a private health plan, so it becomes more feasible to self-medicate, causing a public alert for the health of the population. This practice has been passed down from generation to generation, through homemade recipes such as medicinal plants, or even through the opinion of friends and family, social media also enter through advertisements that encourage the individual to self-medicate (DE OLIVEIRA ALVIM and CARVALHO, 2019).

Figure 5 – Identification of classes of medicines used on their own account

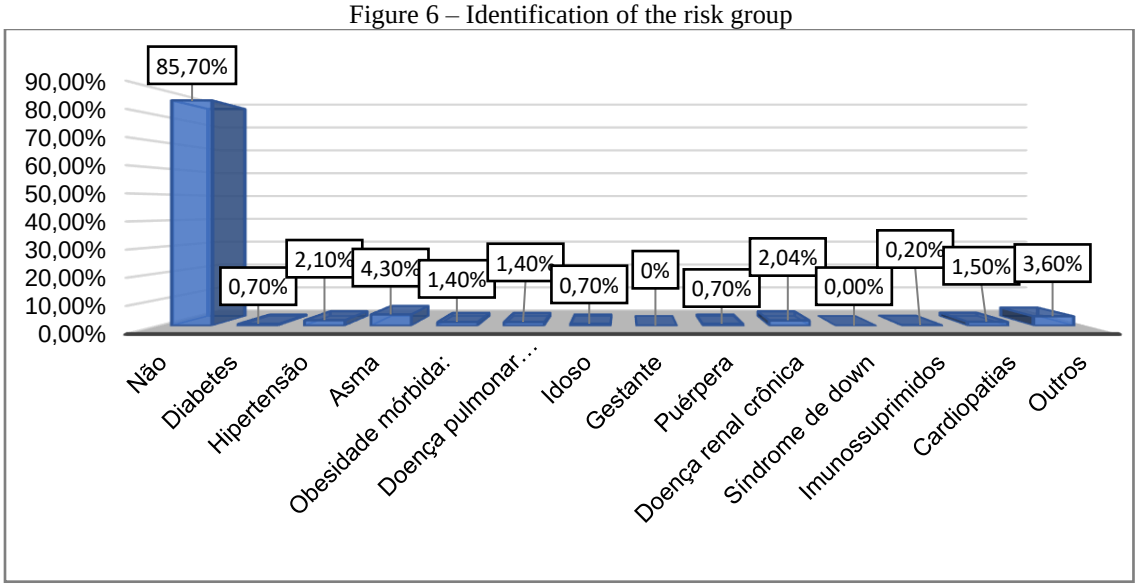


Source: Authors (2022)

It was observed that the classes most described by the students were Vitamins (%), followed by Analgesics (56.4%), Anti-inflammatories (45%), Anti-allergic (33.6%), Antibiotics (15%), Tranquilizers (10.7%) and others (10%).

Costa (2022)[2], stated that self-medication is a very common practice in Brazilian society, especially for vitamins, analgesics, antipyretics, nasal decongestants, antibiotics, and others.

Figure 6 – Identification of the risk group



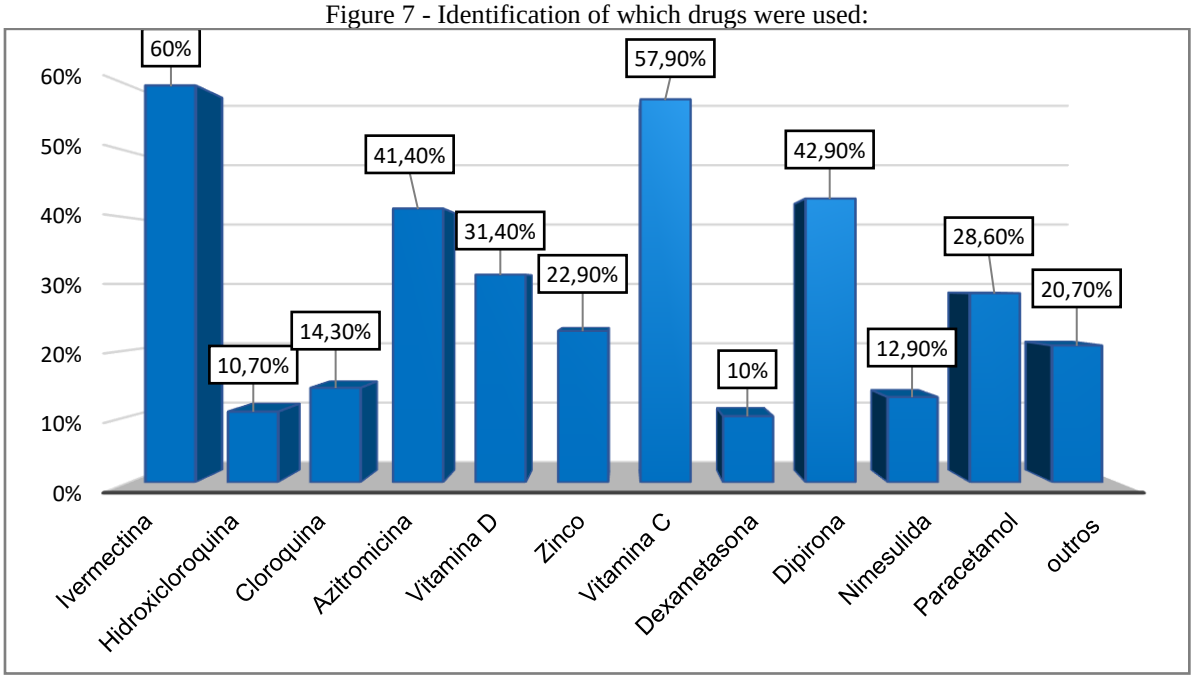
Source: Authors (2022)

According to the interviewees in the risk group, the highest percentage did not have any comorbidity (85.70%), (4.3%) of the interviewees had asthma, (3.60%) answered that they had another type of comorbidity, (2.4%) had chronic kidney disease, (0%) down syndrome, (2.10%) hypertension, (1.5%) immunosuppressed, (1.40%) obesity, (1.40%) lung disease, with the same percentage of (0.70%) elderly, diabetics and pregnant women and (0.2%) immunosuppressed. Xavier (2021) exposed in his work that self-medication is a dominant problem among the elderly and the approach to the risk factors associated with the practice in this population is scarce.

The risk of contamination by the covid-19 virus exists in the entire population, however, there are risk factors among individuals that make them more prone to developing the severe condition of COVID-19, including patients with chronic kidney and liver diseases, cardiovascular diseases, diabetes, and lung diseases (ALVES *et al.*, 2021).

POINT OUT THE CLASSES OF DRUGS MOST USED BY UNIVERSITY STUDENTS IN THE TREATMENT OF COVID – 19

Figure 7 - Identification of which drugs were used:

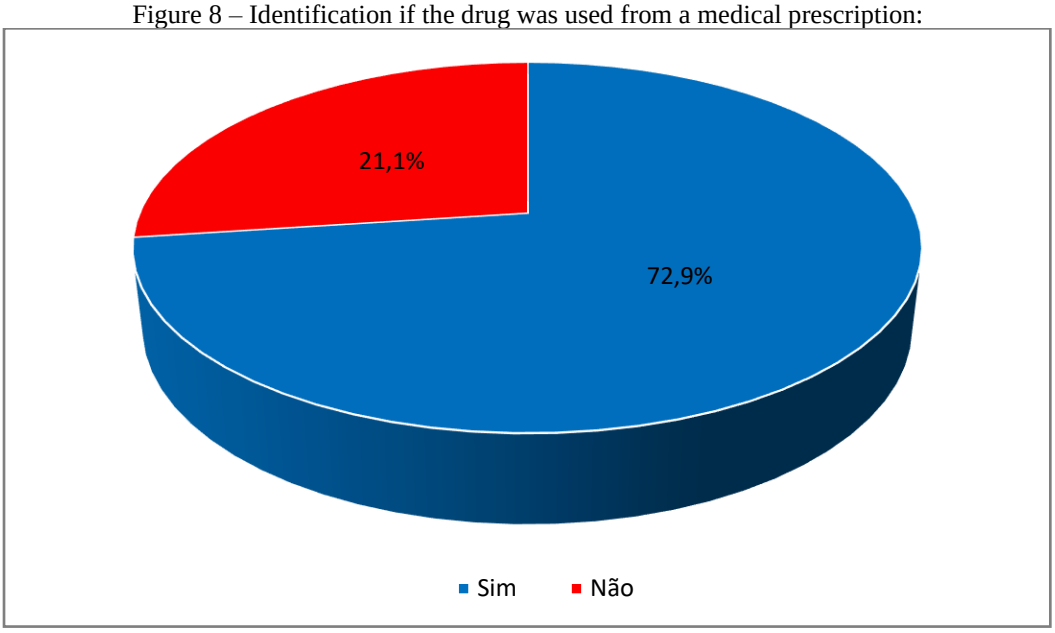


Source: Authors (2022)

Regarding the drug profile presented by the study participants, among the drugs listed in the questionnaire, the most used for self-medication was Ivermectin with a percentage of (60%), followed by Vitamin C with a percentage of (57.9%), Dipyrone (42.9%), Azithromycin (41.4%), Paracetamol (28.6%), Zinc (22.9%), Chloroquine (14.3%), Nimesulide (12.9%), Hydroxychloroquine (10.7%), Dexamethasone (10%) and others (20.7%).

According to the Federal Council of Pharmacy (CFF) (2021), it is worth mentioning that the number of sales of medicines that were part of the "Covid Kit" more than doubled from the first year of the pandemic (2020) compared to the previous year. The consumption of hydroxychloroquine, which in 2019 was 963 thousand across the country, increased to 2 million the following year, with a growth of 113%. Ivermectin, on the other hand, had sales of approximately 8.1 million in the previous year, expanding to more than 53 million sales in the first year of the pandemic, with a growth of 557%.

Figure 8 – Identification if the drug was used from a medical prescription:

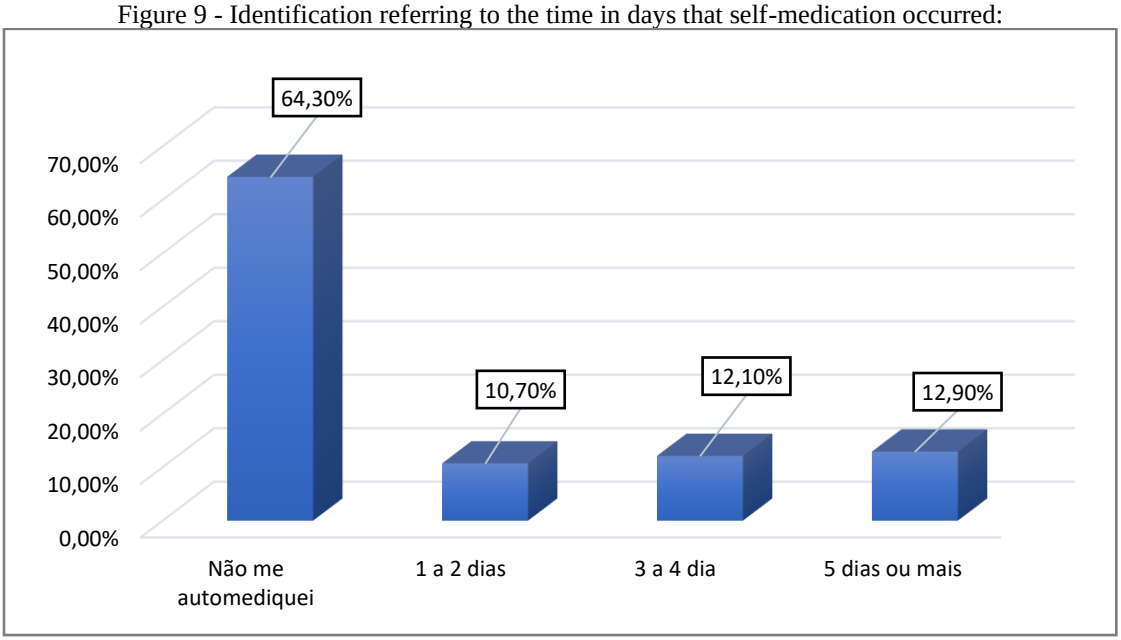


Source: Authors (2022)

As observed in figure (8), in relation to the use of prescription medications, (72.9%) answered yes, and (21.1%) it was not based on medical prescription.

Through the pharmacist in the care of self-limited health problems and in the prescription of medications, the demand for primary health care services will be reduced, contributing to extend the time for medical care in more complex clinical conditions. In addition, it will collaborate in the transformation of the pharmacy/drugstore into a health establishment and the pharmacist into a patient-centered professional. Pharmaceutical consultation and prescription will introduce a new routine of pharmaceutical counseling and pave the way for the provision of other pharmaceutical services, such as patient monitoring (MARTINS, 2019).

Figure 9 - Identification referring to the time in days that self-medication occurred:

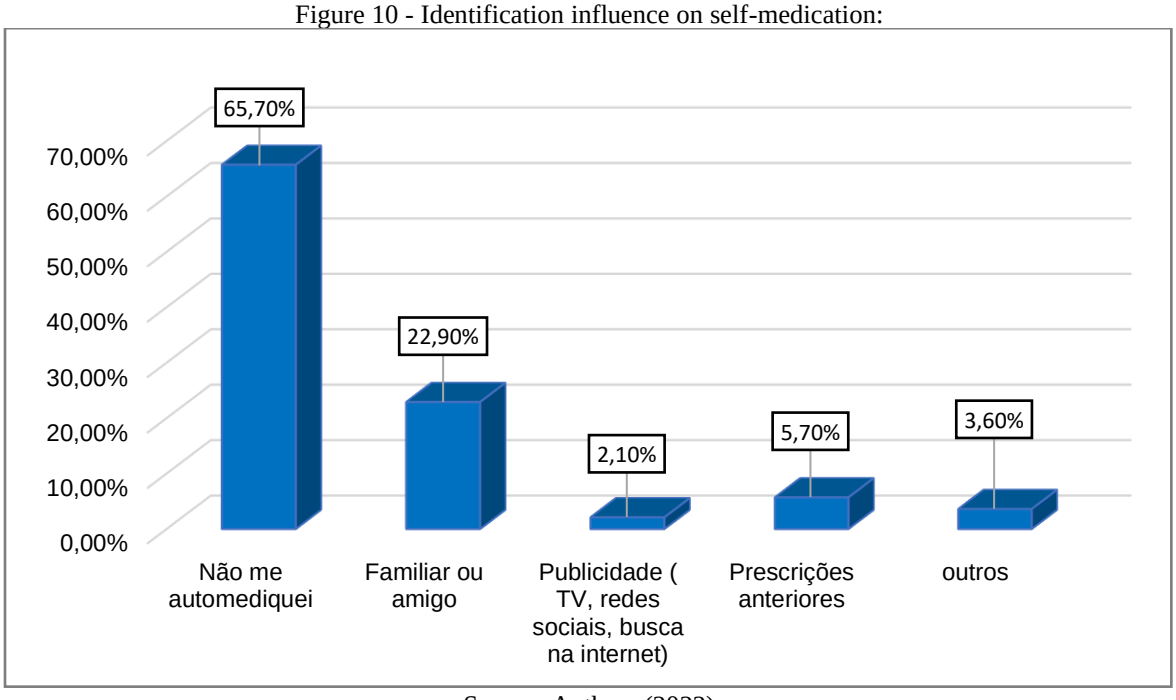


Source: Authors (2022)

It was observed that (64.30%) did not self-medicate, (12.90%) used the medications for 5 days or more, (12.10%) used them for 3 to 4 days and 10.70% for 1 to 2 days.

Errors regarding medication are constant, as they are sometimes made in large doses, and in some cases do not match the treatment. In addition, there is inappropriate use in taking medications at inappropriate times or not following the treatment time, not understanding that interactions may exist (SILVA, 2022).

Figure 10 - Identification influence on self-medication:



Source: Authors (2022)

Regarding the influence on self-medication, (22.90%) answered that it was influenced by a family member or friend, (5.70%) self-medicated through previous prescriptions, and (3.60%) answered that it was for other reasons.

In the family environment, the conditions that circumvent the culture of self-medication are generally linked to behaviors based on "guesswork", which are influenced by individuals in their own home, neighbors, the internet and television advertisements. Thus, self-medication is practiced by sharing medications by family members, reusing medications from old treatments, and reusing medical prescriptions (DE MELO NUNES, VILELA and DE PAIXÃO SEIQUEIRA, 2022).

CONCLUSION

The present research evaluated the risks of self-medication in times of Covid-19 among university students in a municipality located in the legal Amazon, in which it was possible to identify that most of the students interviewed were female, aged between 17 and 20 years, single and that most did not have any disease, described in the questionnaire.

The rate of self-medication among university students was (72.9%). Of the drugs mentioned in the questionnaire, Ivermectin was the most used during the covid-19 pandemic, followed by Vitamin C and Azithromycin. The classes most cited by the students were Analgesics, Vitamins, Anti-Inflammatories and Anti-Allergy Drugs.

Regarding the use of medicines based on medical prescription or from a qualified professional, (51.4%) answered that it was based on the medical prescription and (23.6%) answered that it was not based on the medical prescription. The majority answered that they used the measurements for 05 days or more (12.9%), followed by 03 to 04 days (12.1%) and 01 to 02 days (10.7%).

According to the answers of the respondents about the reasons that justify self-medication in the case of confirmation or suspicion of Covid-19 or flu-like symptoms, it was possible to identify that (63.60%) claimed that they did not self-medicate, then (23.60%) the reason for simple symptoms, (12.90%) answered for the ease of purchasing medicines, (12.10%) was for prevention against COVID-19 infection, (7.10%) said it was for other reasons, (2.90%) answered that the reason was because of confidence in the dissemination made by the media and (0.70%) said it was because of the difficulty of access to health systems.

In view of the above, the practice of self-medication has as its main consequence the irrational use of medications, which leads to intoxication, low resoluteness of treatments, abusive use and even the need for more complex treatments.

Thus, in order to reverse this situation, it is necessary to incorporate educational practices among students regarding the correct use of medications, risks involved, benefits, overdose, intoxication and adverse reactions.

REFERENCES

Al-Quteimat, O., & Amer, A. M. (2021). SARS-CoV-2 outbreak: How can pharmacists help? Research in Social and Administrative Pharmacy, 17(2), 480–482.

Albuquerque, L. M. A. et al. (July 2015). Evaluating self-medication among medical students at the Federal University of Paraíba (UFPB). Revista Medicina & Pesquisa, João Pessoa, 1(1), 39–50.

Alves, R. C., Cordeiro, A., & Carneiro, V. M. S. (2021). Self-medication during the COVID-19 pandemic. Ibero-American Journal of Humanities, Sciences and Education, 7(10), 2903–2911.

Álvares, et al. (2017). National Survey on Access, Use, and Promotion of Rational Drug Use: Methods. Revista de Saúde Pública.

Amorim Filho, H. O. L. et al. (2022). Clinical roles of pharmacists in reducing medication-related problems concerning self-medication with over-the-counter drugs sold in pharmacies. Brazilian Journal of Science, 1(8), 24–32.

Almeida, R. da C., & de Miranda, C. V. (2020). The importance of pharmacists in the dispensing and control of antimicrobial drugs. Revista Saúde Multidisciplinar, 7(1).

Araújo, M. O. S., & de Castro Freitas, R. M. (2022). Pharmaceutical care for elderly patients using antihypertensives. Brazilian Journal of Development, 8(6), 43983–44001.

Brazil. Federal Council of Pharmacy (CFF). (2021). Sale of drugs with no proven efficacy against COVID-19 skyrockets. Brasília-Ministry of Health.

Bohomol, E., & Andrade, C. M. (2020). Self-medication practice among nursing students in higher education institutions. Ciência, Cuidado e Saúde, 19.

Campos, A. M. P. et al. (2019). Pharmaceutical care in optimizing antihypertensive treatment adherence: A literature review. Mostra Científica da Farmácia, 6(1).

Caneschi, C. A. et al. (2021). The pharmacist on the front line against the COVID-19 pandemic: Prevention measures adopted by pharmacies in the center of Ubá-MG. Brazilian Journal of Health and Pharmacy, 3, 15–24.

Caralo, C. B., Colombi, L. C., & Silva, T. (2021). Self-medication in adolescence. Cadernos Camilliani, 16(2), 1197–1211.

Carvalho, W., & Guimarães, Á. S. (2020). Misinformation, denialism, and self-medication: The population's relationship with “miracle” drugs during the COVID-19 pandemic. InterAmerican Journal of Medicine and Health, 3.

Cavalcante, J. R. et al. (2020). COVID-19 in Brazil: Evolution of the epidemic until epidemiological week 20 of 2020. Epidemiologia e Serviços de Saúde, 29.

Costa, A. V. de L. M. et al. (2022). Evaluation of irrational drug use by residents of a neighborhood in Vitória-PE during the new coronavirus pandemic. Research, Society and Development, 11(9), e35211932012.

Costa, J. S. et al. (2022). Self-medication. Scientific Electronic Archives, 15(9).

Da Costa Gomes, J., da Silva, J. C. A., & Batalha, S. S. A. (2021). Occurrence of self-medication during the COVID-19 pandemic: An integrative literature review. Research, Society and Development, 10(16), e308101624049.

Da Rocha Pitta, M. G. et al. (2021). Analysis of self-medication profile during COVID-19 in Brazil. Research, Society and Development, 10(11), e28101119296.

de Oliveira Alvim, H. G., & Carvalho, M. J. P. (2019). The importance of pharmacist guidance in the correct use of medications. Revista JRG de Estudos Acadêmicos, 2(4), 172–179.

de Oliveira, F. S. (2021). Pharmaceutical guidance on the use of over-the-counter drugs: A literature review.

de Melo Nunes, A. L., Vilela, S. S., & da Paixão Siqueira, L. (2022). Self-medication in children and adolescents through parental influence: An integrative review. Research, Society and Development, 11(14), e534111436741.

Domingues, M. P. S. et al. (2017). Self-medication among health area students. Visão Acadêmica, 18(2).

do Nascimento, A. M. N., Fernandes, V. R. S., & Rodrigues, G. (2020). Risks of self-medication in the elderly.

dos Santos Miranda, J., Marques, J. F. B., & dos Santos, W. L. (2022). The role of pharmacists during the COVID-19 pandemic. Revista JRG de Estudos Acadêmicos, 5(10), 124–135.

Farias, L. (2022). Impact of pharmaceutical services on the health of the population of Parnamirim/RN: Perception of pharmacists.

Ferreira, I. S., & de Carvalho, C. J. S. (2021). The influence of drug advertising on the practice of self-medication: A public health problem. Brazilian Journal of Development, 7(5), 47642–47652.

Ferreira, H., & Ribeiro, B. (2020). The dangers of self-medication in Brazil.

Francisca das Chagas, G. F. et al. (2021). The impact of self-medication practice in Brazil: A systematic review. Brazilian Applied Science Review, 5(3), 1505–1518.

Furlan, L., & Carameli, B. (2021). The lamentable history of the “COVID Kit” and “Early Treatment of COVID-19” in Brazil. The Lancet Regional Health–Americas, 4.

Galato, D., Madalena, J., & Pereira, G. B. (2012). Self-medication among university students: The influence of field of study. Ciência & Saúde Coletiva, 17(12), 3323–3330.

Galato, F. et al. (2006). Development and validation of pictograms for the correct use of medications: Description of a pilot study. Acta Farmaceutica Bonaerense, 25, 131–138.

Gama, A. S. M., & Secoli, S. R. (2017). Self-medication among nursing students in the State of Amazonas, Brazil. Revista Gaúcha de Enfermagem, 38(1), e65111.

Gomes, A. H. D. et al. (2020). Risks of self-medication during the COVID-19 pandemic: The dilemma between media and scientific information. Editora Amplla, p. 40.

Junior, V. S. C., de Oliveira, A. L. R., & Amorim, A. T. (2022). Self-medication influenced by the media in Brazil. Research, Society and Development, 11(8), e11011830678.

Liu, S., Luo, P., Tang, M., Hu, Q., Polidoro, J. P., Sun, S., & Gong, Z. (2020). Providing pharmacy services during the coronavirus pandemic. International Journal of Clinical Pharmacy, 42(2), 299–304.

Lisboa, L. A. et al. (2020). The dissemination of misinformation promoted by state leaders during the COVID-19 pandemic. In Proceedings of the I Workshop on the Implications of Computing in Society (pp. 114–121). SBC.

Lopes, A. D. M., & da Mata, L. C. C. (2017). Self-medication among students in health and exact sciences at the Faculty of Life Sciences in Sete Lagoas/MG. Revista Brasileira de Ciências da Vida, 5(1).

Martins, L. de P. (2019). Rational criteria guiding pharmaceutical prescription of over-the-counter medications. Postgraduate in Health Science.

Melo, J. R. R. et al. (2021). Self-medication and indiscriminate use of medications during the COVID-19 pandemic. Cadernos de Saúde Pública, 37.

Nedel, W. L., Antônio, A. C. P., & Filho, E. M. R. (2021). Ineffective therapeutic strategies in COVID-19: Why the use of “COVID Kit” or “early treatment” is misguided and unjustified. Revista da AMRIGS, 65(1), 115–122.

Onchonga, D. (2020). A Google Trends study on the interest in self-medication during the 2019 novel coronavirus (COVID-19) disease pandemic. Saudi Pharmaceutical Journal, 28, 903–904.

Passos, A. R. et al. (2020). The importance of pharmaceutical care in the prevention of self-medication.

Pimentel, J. B. R., & Andrade, L. G. (2022). The importance of the pharmacist in self-medication by the elderly. Ibero-American Journal of Humanities, Sciences and Education, 8(4), 1554–1568.

Soterio, K. A., & Santos, M. A. (2016). Self-medication in Brazil and the importance of pharmacists in guiding the rational use of over-the-counter medications: A review. Revista da Graduação, 9(2).

Silva, J. P. da, & Batista, L. O. (2020). Impacts of self-medication during the COVID-19 pandemic.

Silva, C. V. (2015). Pictograms in the pharmaceutical care process. Tópicos em Ciências da Saúde, 26, 37.

Silva, C. E. da. (2020). Pharmaceutical care and the management of homeopathic medicines. Unpublished undergraduate thesis, Federal University of Rio Grande do Norte.

Silva, B. (2022). Pharmaceutical care with self-medication during the pandemic: A literature review.

Teixeira, M. de J. (2022). Profile of medication use during the COVID-19 pandemic by multidisciplinary team professionals at a hospital in Santo Antônio de Jesus, BA.

Wiese, L. et al. (2020). Extension project on the risks of self-medication: Experience report in health education. Extensão Tecnológica: Revista de Extensão do Instituto Federal Catarinense, 7(13), 64–88.

Xavier, M. S. et al. (2021). Self-medication and health risks: A literature review. Brazilian Journal of Health Review, 4(1), 225–240.