




Practice of self-medication among nursing academics during the covid-19 pandemic

Prática da automedicação entre acadêmicos de enfermagem durante a pandemia de covid-19

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ABSTRACT | OBJECTIVE: To evaluate the practice of self-medication among students of the nursing course during the COVID-19 pandemic.

METHODS: This is a study with a quantitative approach, carried out with students in the last year of the nursing course at a university center in Acre, who acted on the front line of the fight against COVID-19 in hospital units as a result of the mandatory curricular internship. **RESULTS:** the majority were between 18 and 28 years old (80.8%), female (80.8%), single (84.6%), brown skin color (69.2%), and family income of one to three minimum wages (73.1%). They used to self-medicate (61.5%) and were not influenced by the practice of self-medication (34.6%). The main medicines used were supplements (65.4%), natural medicines (42.3%), and azithromycin (38.5%). Most felt overwhelmed during the internship period (61.5%), however, they did not self-medicate with specific medications in order to avoid contracting COVID-19 or performed early treatment (69.2%). Most did not become infected with the disease during the development of practical activities (69.2%). Concerning the risks of self-medication, the majority demonstrated knowledge (92.3%), standing out as the main ones, intoxication (34.6%), drug dependence (26.9%), and microbial resistance (26.9%). **CONCLUSION:** the practice of self-medication occurred during the pandemic period in the studied population, but it was not influenced by the overload of hospital practices, as it was already a common behavior among them. In this sense, it is necessary to raise awareness through educational activities introduced in institutions of teaching so that it results in the rational use of medicines.

KEYWORDS: Self-medication. Nursing Academics. COVID-19.

RESUMO | OBJETIVO: Avaliar a prática da automedicação entre acadêmicos do curso de enfermagem durante a pandemia de COVID-19.

MÉTODOS: trata-se de um estudo de abordagem quantitativa, realizado com acadêmicos do último ano do curso de enfermagem de um centro universitário do Acre, que atuaram na linha de frente do combate ao COVID-19 nas unidades hospitalares, em decorrência de estágio curricular obrigatório. **RESULTADOS:** a maioria se encontrava na faixa etária de 18 a 28 anos (80,8%), do sexo feminino (80,8%), solteiros (84,6%), cor da pele parda (69,2%), renda familiar de um a três salários mínimos (73,1%). Costumavam se automedicar (61,5%) e não foram influenciados quanto a prática da automedicação (34,6%). Os principais medicamentos utilizados eram os suplementos (65,4%), medicamentos naturais (42,3%) e azitromicina (38,5%). A maioria se sentiu sobrecarregado durante o período do estágio (61,5%), no entanto, não se automedicaram com medicamentos específicos a fim de evitar contrair COVID-19 ou realizaram o tratamento precoce (69,2%). A maior parte não se infectou com a doença durante o desenvolvimento das atividades práticas (69,2%). Frente aos riscos da automedicação a maioria demonstrou possuir conhecimento (92,3%), destacando-se como principais a intoxicação (34,6%), a dependência medicamentosa (26,9%) e a resistência microbiana (26,9%). **CONCLUSÃO:** a prática da automedicação ocorreu no período pandêmico na população estudada, porém não foi influenciada pela sobrecarga das práticas hospitalares, pois já era uma conduta comum entre eles. Nesse sentido, se faz necessário a conscientização através de atividades educativas, introduzidas nas instituições de ensino, para que resulte no uso racional de medicamentos.

PALAVRAS-CHAVE: Automedicação. Acadêmicos de Enfermagem. COVID-19.

Introduction

Over the years, self-medication has become a serious public health problem due to the ease of acquiring medicines and their indiscriminate use without medical advice. It is practiced regardless of the individual's social and economic class and can cause a series of risks to the health of the population, especially among those with a higher level of information, such as university students, who have become a very susceptible group to this practice.^{1,2}

Over time, literature data show the high medication consumption among university students from different courses — without proper guidance from a qualified professional — and the physical symptoms of stress and anxiety produced by academic demands and extensive hours of study can contribute strongly to the practice. In this group, students from health courses stand out, due to the greater knowledge they have about the mechanism of action of drugs, they are more prone to this practice.^{3,4}

Results of a study published on this topic showed that students in the health area had a higher rate of self-medication throughout the course, according to the subjects studied, which would be related to their knowledge load about which drug would be most recommended for each type of disease.⁵

The consequences of this act can be serious since making inappropriate combinations of drugs can lead to the aggravation of diseases, and the clinical picture itself, in addition to intoxication or even drug resistance. Some drugs tend to potentiate or cancel the effect of the other, cause allergic reactions, dependence, and even lead to death.⁶

With the advent of a new disease, popularly known as COVID-19, which is characterized as an infection that affects the respiratory tract, causing severe acute respiratory syndrome 2 (SARS-CoV-2), and that by the World Health Organization (WHO) was considered a pandemic, the practice of self-medication among the population has increased considerably, given the fear it caused in the world population.⁷

As a result, due to the epidemiological behavior of the disease, a large part of the population chose not to

seek face-to-face care for fear of being contaminated, leading to an increase in the practice of self-medication in this period. A study that demonstrated the increase in the search for medication information on the Google search network during the pandemic highlights that this act can result in unwanted effects and be harmful to the user.^{8,9}

On the other hand, health professionals, as well as students of the area in academic practices, who worked during the most critical periods of the pandemic, felt overwhelmed due to the overcrowding of health facilities and the intense and exhausting working hours. This, associated with the knowledge of the action mechanisms of the drugs, sometimes led to the practice of self-medication.¹⁰

In view of the above, considering that the analysis of the consumption of medicines without the proper medical prescription can contribute to the application and development of future intervention studies, mainly among university students, and allied to the fact that in Brazil, and in particular in the northern region, there are few studies on this topic, the present study justifies its relevance.

In this sense, the objective was to evaluate the practice of self-medication among nursing students during the COVID-19 pandemic.

Methodology

This is a study with a quantitative approach, carried out with students from the last year of the nursing course at a university center in Acre who worked on the frontline of the fight against COVID-19 in hospital units, as a result of the mandatory disciplinary internship.

The participants were previously identified by the list of enrolled students, whose information was obtained from the course coordinators after the ethics committee approved the research. Subsequently, the researchers scheduled a meeting with the students in the classroom in order to advise them about the purpose of the study and identify the students who agreed to participate in the research.

According to the coordination records, there were 35 students enrolled in the 9th period. After the meeting, only 26 agreed to participate in the research, with nine students refusing.

Therefore, the study population consisted of 26 nursing students of both sexes, aged 18 years or older, duly enrolled in the 9th nursing period, and who worked on the front line of combating COVID-19 during the mandatory curricular internship. The sample selection method was by convenience, where participants were invited to join the study. Nine who refused to participate in the study were excluded.

After accepting participation, participants were sent a link to google forms with the free and informed consent form, which was duly signed and returned electronically by the participants, as well as the link to the questionnaire prepared by the researchers themselves containing open and closed questions about the practice of self-medication and the sociodemographic data of the participants.

Ten individuals with good understanding, who were not part of the sample, tested the data collection instrument and data collection with the participants took an average of 20 minutes to complete.

Data were double entered in Excel spreadsheets, version 2019, in order to check for possible inconsistencies and then exported to the Statical Package for the Sciences (SPSS) version 20.0. Even though open questions were asked, they were compiled and the results were demonstrated quantitatively. The variables were organized in the form of tables, applying simple descriptive statistics with frequency distribution.

The research was based on the recommendations of Resolution nº 466 of December 12, 2012, of the National Health Council, which governs the conduct of research with human beings, and was submitted to the local ethics and research committee, having been approved through opinion No. 5.421.306.

Results

The data shown in Table 1, regarding the age of the participants, show that most were between 18 and 28 years old, 21 (80.8%), were female, 21 (80.8%), stated single marital status, 22 (84.6%), brown skin color, 18 (69.2%), and family income of one to three minimum wages, 19 (73.1%).

Table 1. Sociodemographic data of students in the last year of nursing at a university center in Acre in 2022 (n =26) (to be continued)

Variable	N	%
Age		
18 - 28 years old	21	80.8
29 - 39 years old	4	15.4
39 - 49 years old	0	0
50 years or older	1	3.8
Gender		
Female	21	80.8
Male	5	19.2

Table 1. Sociodemographic data of students in the last year of nursing at a university center in Acre in 2022 (n =26) (conclusion)

Variable	N	%
Marital Status		
Single	22	84.6
Married	3	11.5
Stable union	1	3.8
Skin color		
White	6	23.1
Yellow	1	3.8
Black	1	3.8
Brown	18	69.2
Family Income		
Less than 1 minimum wage	2	7.7
From 1 to 3 minimum wages	19	73.1
More than 4 minimum wages	5	19.2

Source: Survey data (2022).

In the data shown in Table 2, it is evident that regarding the practice of self-medication among students in the last year of nursing at a university center in Acre, most of them perform it in their daily lives, represented by 16 participants (61.5%), when necessary, 8 (31%) and two to four times a week, 5 (19%). The majority was not influenced to consume, 9 (34.6%) and the decision to self-medicate was their own, 9 (34.6%). Regarding the main drugs used, supplements stood out, 17 (65.4%), followed by natural medicines, 11(42.3%), and azithromycin, 10 (38.5%).

Table 2. Self-medication practice among students in the last year of nursing at a university center in Acre in 2022 (n = 26) (to be continued)

Variable	N	%
Do you usually self-medicate in your daily life?		
Yes	16	61.5
No	10	38.5
How often do you self-medicate?		
Every day	0	0
Once a week	1	4.0
Two to four times a week	5	19.0
More than five times a week	2	8.0
When necessary	8	31.0
Not applicable	10	38.0
Were you influenced by someone to self-medicate?		
Yes	7	26.9
No	9	34.6
Not applicable	10	38.5

Table 2. Self-medication practice among students in the last year of nursing at a university center in Acre in 2022 (n = 26) (conclusion)

Variable	N	%
Who influenced you to practice self-medication?		
Friends	2	7.7
Family	3	11.5
Health Care professionals	2	7.7
Self-decision	9	34.6
Not applicable	10	38.5
Main drugs used		
Ivermectin	6	23.1
Azithromycin	10	38.5
Prednisone	3	11.5
Amoxicillin	5	19.2
Dexamethasone	2	7.7
Supplements to boost immunity	17	65.4
Antidepressants	1	3.8
Natural medicines	11	42.3
Analgesics	4	15.4

Source: Survey data (2022).

As for the practice of self-medication during the supervised internship, most participants, 16 (61.5%), felt overwhelmed since the internship took place during the pandemic period, and during the practice, even with the overload, most did not self-medicate with the so-called “Covid Kit” to avoid contracting the disease and/or as early treatment, 18 (69.2%) (Table 3).

Table 3. Practice of self-medication during a supervised internship among students in the last year of nursing at a university center in Acre in 2022 (n = 26)

Variable	N	%
During the internship practices in the pandemic, did you feel overwhelmed?		
Yes	16	61.5%
No	10	38.5%
During the internship, did you self-medicate with the “Covid Kit” to avoid contracting the disease and/or as an early treatment?		
Yes	8	30.8
No	18	69.2
Were you infected with the COVID-19 virus during your internship?		
Yes	8	30.8
No	18	69.2

Source: Survey data (2022).

Regarding the knowledge about the practice of self-medication, the majority verbalized knowing the risks, 24 (92.3%), highlighting intoxication, 9 (34.6%), drug dependence, 7 (26.9%), resistance microbial, 7 (26.9%), and adverse reactions, 3 (11.5%) (Table 4).

Table 4. Knowledge of the practice of self-medication among students in the last year of nursing at a university center in Acre in 2022 (n = 26)

Variable	N	%
Do you know the risks of self-medication?		
Yes	24	92.3
No	2	7.7
What are the risks of self-medication that you know?		
Intoxication	9	34.6%
Drug Dependence	7	26.9%
Microbial Resistance	7	26.9%
Adverse reactions	3	11.5%

Source: Survey data (2022).

Discussion

Data from the practice of self-medication among nursing students were analyzed. In conjunction with the findings of this research, with similar objectives, it showed that most students in academic activities and also exposed to the practice to females and the range varied between 18 and 45 years, with an average of 22.74 years.¹¹

This data can be explained by the fact that most nursing courses in Brazil are composed of women, as well as the age group is related to the period in which most young people are attending higher education.¹² Regarding skin color, according to data from the Instituto Brasileiro de Geografia e Estatística - IBGE (Brazilian Institute of Geography and Statistics), most Brazilians declare themselves to be brown.¹³

As for family income, corroborating our findings, a study showed that participants with income between one and two minimum wages are more likely to self-medicate.¹⁴ This result may be related to the fact that the purchasing power of the population makes it easier to access medicines sold indiscriminately in pharmacies.

Findings in studies carried out with nursing students on the practice of self-medication showed that, in line with the results of this research, most students also used self-medication frequently.^{4,12} This conclusion may be related to the reality in which the student is inserted. The self-confidence due to the belief that the knowledge acquired about the mechanism of action of drugs supports their correct selection, the fact that they have daily contact with patients being treated with a certain drug, and previous successful experiences, can contribute to the practice of self-medication among them.^{15,16}

Concerning the influence on self-medication, the results of this research reveal that most students were not influenced to practice it. This finding is in line with the result found in a study, also developed by university students, in which the majority used the medication based on their own knowledge, as they have already used them.¹¹

Literature data show that when medication is used, the most used drugs are analgesics, and that is due to their easy access in commercial establishments.¹⁷ However, in a divergent way, the findings of this research show that supplements and natural medicines were the most used by the participants. This can be justified by the fact that the country was facing a pandemic of COVID-19, in which it was believed that increased immunity could collaborate to fight the disease.

Similarly, a survey carried out on the occurrence of self-medication in the Brazilian population as a preventive strategy for SARS-CoV-2 showed that a large part of the population reported self-medication in order to strengthen immunity.¹⁸

Thus, the curricular internship of the nursing student that took place during the pandemic was able to favor the possibility of living unique experiences, contributing to the development of the students' professional identity, enabling them to make decisions, and empowering them, given that they were acting in a critical emergency environment.¹⁹

Thus, due to the fact that the activities were performed during a pandemic period, there are great possibilities of overload. A fact that was proven in the present study and in line with the findings of a study carried out at the Escola Superior de Enfermagem de Lisboa, in which students who carried out a mandatory curricular internship during the pandemic felt overwhelmed by the increase in demands, in addition to showing the fear of failure and fear of contagion.²⁰

Although most participants in this research verbalized using the practice of self-medication, most of them did not self-medicate with the "Covid-Kit" to avoid contamination by the virus and/or perform early treatment of the disease. In contrast, a study carried out with health professionals in Kenya showed that most of the participants reported a desire to self-medicate because of the COVID-19 pandemic, and most claimed to have used medication on their own because they had symptoms suggestive of this disease.²¹

Faced with the issue of contamination by the disease during the practices, most of the participants of the present study were not infected. This may be related to the fact that the hospital practice was only released after all students were immunized with at least one dose of the vaccine against the disease, as well as previous training offered by the course coordination on protective clothing, and the supply of personal protective equipment (PPEs) to all students to be used during practice.

No records were found in the literature on contamination data of nursing students during academic practices in the pandemic period, however, a study that generally evaluated the infection in health professionals in Brazil during the pandemic, showed that a total of 41,030 nursing professionals were contaminated, of these 449 progressed to death, and with greater involvement in the class of nursing technicians.²²

In line with these results, studies carried out with nursing students found similar results, in which most of them stated that they performed self-medication, were aware of the risks, side effects, and contraindications of medications, and even so continued with the practice.^{11,23}

Thus, students' knowledge about the risks of self-medication may be related to the knowledge acquired during training; however, this factor was not decisive since most of them, though knowing the risks, are adept at the practice.

Another study carried out with 694 undergraduate students indicated that most participants consumed medication indiscriminately, and analgesics were the most commonly used.²⁴

Controversially, a study entitled Self-medication in academics: a cross-sectional study, carried out with nursing students, showed that 69.33% of them use self-medication, with analgesics being the most used drugs, however, of the academics who self-medicated 48.6% were unable to inform the risks of this practice.¹

As previously mentioned, the practice of self-medication can bring numerous health risks. Data from the Sistema Nacional de Informações Tóxico-Farmacológicas (National System of Toxic-Pharmacological Information) (Sinitox/Fiocruz) recorded that in Brazil in 2017, there were about 20 thousand cases of poisoning due to indiscriminate use of medicines, and 50 deaths resulting from this fact. This inappropriate practice causes several risks to the individual's health, among which are: allergic reactions, drug interactions, masking of diseases, delay in diagnosis, bacterial resistance, chemical dependence, intoxications, and even death.²⁵

These findings reinforce the importance of combating the irrational use of medicines and the inappropriate practice of self-medication with inadequate dosage and therapy, even among nursing students and health professionals.

This study had sample limitations, considering that it was carried out with a small number of participants because only one period of the course was evaluated, and the statistical analysis was only descriptive. New studies should be performed with a larger sample and new methodology for more consistent results.

Conclusion

In view of the above, it was possible to analyze that there is a practice of self-medication by health academics during the COVID-19 pandemic. The indiscriminate consumption of medicines, an act performed by the majority of university students, was highlighted.

Most felt overwhelmed during the internship period, however, they self-medicated in order to avoid contracting the disease. We can consider that the greatest influence on self-medication may occur due to the security of being an academic in a higher education course in health. It is also clear that all classes of medications mentioned are used, some in a higher percentage than others.

In the course of the results found, it was possible to observe the effectiveness of the objectives, evaluating the presence of self-medication among university students, their motivations and/or influences, as well as the drug classes used.

In this sense, it is suggested that educational institutions implement in their programming actions that can raise awareness through educational activities aimed at students, in order to result in the abandonment of the indiscriminate use of medicines.

Authors' contributions

Galdino ACA, Lima AG, Macedo GS, and Hernandez MTF participated in the conception, design, research data collection, interpretation, data search and analysis, and writing of the scientific article. Costa RSL participated in the conception, design, project submission to the Ethics and Research Committee, the interpretation of data, the search and statistical analysis of research data, the interpretation of results, and the final writing of the scientific article.

Conflict of interests

No financial, legal or political conflicts involving third parties (government, companies and private foundations, etc.) have been declared for any aspect of the submitted work (including, but not limited to grants and funding, participation in an advisory board, study design, preparation manuscript, statistical analysis, etc.).

Indexers

The Journal of Contemporary Nursing is indexed by [DOAJ](#) and [EBSCO](#).

EBSCO



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