

What reasons lead young university students in the health area to use self-medication?*¿Qué motivos llevan a los jóvenes universitarios del área de la salud a automedicarse?**Quais razões levam jovens universitários da área de saúde a fazerem uso de automedicação?***Wenderson Bruno Herculano da Silva¹**

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Abstract

The aim was to identify the reasons that lead to self-medication in students in the health area, and to catalog the main medications used. This is an integrative literature review that identified articles related to the subject in the Virtual Health Library (VHL) database. They were selected by the descriptors: Self-medication, University and Analgesics, between the periods of 2015 to 2020, in Portuguese, English and Spanish. Incomplete texts, duplicates and theses were used as exclusion criteria. Totalling 10 eligible articles. It resulted from the synthesis of articles ordered by means of tables, in which it was possible to evidence a high prevalence of self-medication among university students, drug classes, and their determinants. In conclusion, there was a need to implement educational actions to clarify the risk related to self-medication.

Descriptors: Analgesics; Self-Medication; Universities; Students, Health Sciences; Drug Misuse.

Resumen

El objetivo fue identificar los motivos que llevan a la automedicación en los estudiantes del área de salud y catalogar los principales medicamentos utilizados. Se trata de una revisión integradora de la literatura que identificó artículos relacionados con el tema en la base de datos de la Biblioteca Virtual en Salud (BVS). Fueron seleccionados por los descriptores: Automedicación, Universidad y Analgésicos, entre los períodos de 2015 a 2020, en portugués, inglés y español. Se utilizaron como criterios de exclusión textos incompletos, duplicados y tesis. En total 10 artículos elegibles. Resultó de la síntesis de artículos ordenados mediante tablas, en los que se pudo evidenciar una alta prevalencia de automedicación entre estudiantes universitarios, clases de drogas y sus determinantes. En conclusión, existía la necesidad de implementar acciones educativas para esclarecer el riesgo relacionado con la automedicación.

Descriptores: Analgésicos; Automedicación; Universidad; Estudiantes de Ciencias de la Salud; Uso Inadecuado de Medicamentos.

Resumo

Objetivou-se identificar os motivos que conduzem a automedicação em estudantes na área da saúde, e catalogar os principais medicamentos utilizados. Trata-se de uma revisão integrativa da literatura que identificou na base de dados da Biblioteca Virtual em Saúde (BVS) artigos relacionados a temática. Foram selecionados mediante os descritores: Automedicação, Universidade e Analgésicos, entre os períodos de 2015 a 2020, em Português, Inglês e Espanhol. Foram utilizados como critérios de exclusão textos incompletos, duplicados e teses. Totalizando 10 artigos elegíveis. Resultou-se através da síntese dos artigos ordenados por meio de tabelas, nos quais, foi possível evidenciar alta prevalência da automedicação entre os universitários, as classes medicamentosas, e seus determinantes. Por conclusão, constatou-se a necessidade de implementar ações educacionais para o esclarecimento do risco relacionado a automedicação.

Descriptores: Analgésicos; Automedicação; Universidade; Estudiantes de Ciências da Saúde; Uso Indevido de Medicamentos.

Introduction

A drug is any substance capable of causing changes in the functions performed by the various systems that make up the human body. Such changes occur through the interaction between cell receptors and molecules, in this case, pharmacological components. Thus, the use of drugs has become one of the main technologies used as a therapeutic resource for the most varied comorbidities established in society^{1,2}.

Therefore, self-medication is the practice used to minimize symptoms and health problems without the prescription of a qualified professional and is used as a form of self-care, which aims to bring benefits for the treatment of diseases or symptom relief. However, among health care academics, self-medication is a vicious behavior, closely associated with prior pharmacological knowledge^{1,3}.

Thus, these students feel more confident when it comes to self-medicating, without thinking about the involvement of possible adverse effects. Therefore, pharmacological knowledge exists, but there is no authorization for prescription. Health risks at the expense of self-medication are considered a public health problem, as the various factors related to this reality can further aggravate the possible causes that triggered self-medication^{1,2,4}.

Such factors are related to hypersensitivity, adverse effects of drug interactions, invisibility of a previous disease, as well as the uncontrolled use of drugs. And these consequences are perceived in the quantity surveyed by the World Health Organization (WHO), which indicate that 15% to 20% are spent by health services with toxicity caused by the excessive use of self-medication⁴⁻⁶.

Self-medication is related to self-promotion of health, even if erroneously. Since the effects of these acts, when not evidenced, the harm can result in a false sense of resoluteness, since one of the main reasons for self-medication is the relief of symptoms, not the determinants that lead to them¹.

Thus, it is important to observe which classes of medications are most used, as well as the triggering factors that lead these university students in the health area to self-medicate. Therefore, the objective of this study is to identify the main reasons that lead to self-medication in health care students, as well as the main drugs used.

Methodology

This is an integrative review study, which is a research method that summarizes the past of the literature on a given topic to enable the synthesis and analysis of scientific material already produced on the subject under investigation. This methodology follows some steps to obtain the selected articles^{7,8}.

First stage, the guiding question of the research was elaborated: What are the main reasons that lead to self-medication in students in the field of health? Second stage, a literature search for articles on the topic, and for this purpose, the Virtual Health Library (VHL) database was used for a search with the following Descriptors in Science and Health (DECS): Analgesics, Self-medication, and University.

In the third stage, the following inclusion criteria were adopted: time frame for publication of articles from 2015 to 2020, availability of the full text for free, published in Portuguese, English and Spanish. Duplicate articles and articles that, after reading their respective abstracts, did not address the theme were excluded.

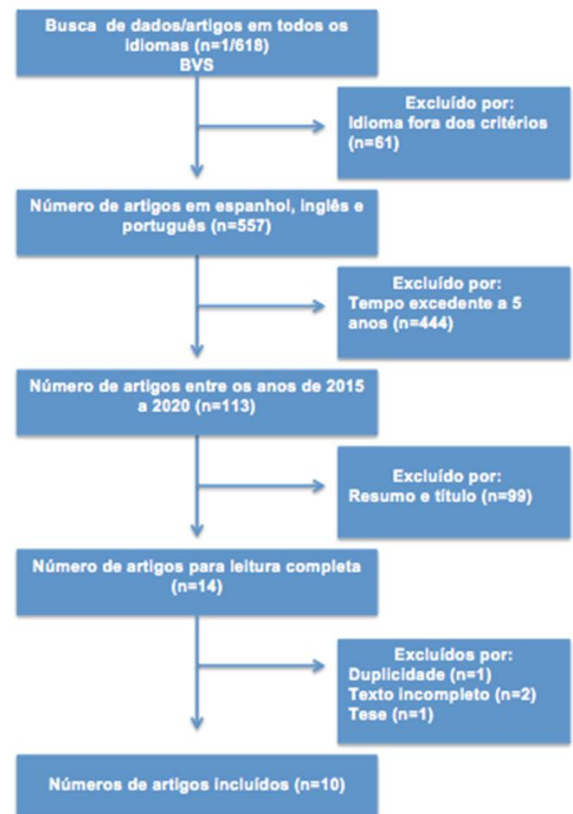
After using the descriptors in the database, a total of 618 cataloged articles were found. Following the exclusion criteria, after reading their abstracts, 61 were discarded due to language outside the criteria, 444 were discarded for publication time greater than 5 years, 99 discarded due to abstract and title, 01 excluded due to duplicity, 01 excluded for being one thesis and 02 excluded for not presenting the full text, which resulted in 10 eligible articles.

Aiming at organization, the fourth stage was the realization of the flowchart Preferred Reporting Items for Systematic Reviews and Meta-analysis (PRISMA) to highlight how the choice of articles followed. After reading the selected articles, a table was developed that includes year, title, authors, journal, level of evidence and synthesis of results.

In the fifth stage, a compilation was carried out with the drug class or active ingredient of all the drugs most used by students in the health field, according to the articles to carry out an analysis of the prevalence of pharmacological groups.

The sixth step was the analysis and synthesis of the results presented by the selected articles with the help of the table performed in the fourth step and with the evidence of each text.

Figure 1. Selection flowchart of integrative review articles. Rio de Janeiro, RJ, Brazil, 2020



Results

It is noted that the systematic review on this topic has a scarcity of more recent articles, and the predominance of studies that address medical academics as a research

scenario is highlighted. Regarding the results raised by each article, a table was created with the synthesis and prevalence of the rate of self-medication among university students.

Chart 1. Categorization of articles by year, title and summary of results. Rio de Janeiro, RJ, Brazil, 2020

YEAR	JOURNAL	TITLE	AUTHORS	LEVEL OF EVIDENCE	SUMMARY OF RESULTS
2015	Espaço saúde (Online)	Consumo de medicamentos e prática da automedicação por acadêmicos da área de saúde da Universidade Estadual de Londrina	Silva LB, Piveta LN, Giroto E, Guidoni CM.	2B	Of the 504 students who participated in the study, 88.3% affirm the practice of self-medication, 70% declared that the symptom presented is not a reason to seek a doctor.
2016	Revista AMRIGS	Automedicação entre acadêmicos de Medicina das Universidades Católica e Federal de Pelotas/RS	Pliger MC, Dombrowski G, Rebelo M, Tomasi E.	2B	Students from the public institution demonstrated that they self-medicate more than students from the private institution, with a prevalence of 94% and 86%, respectively.
2019	Revista Enfermagem UFPE on line	Prevalência e fatores associados à automedicação em acadêmicos de enfermagem	Colares KTP, Barbosa FCR, Marinho BM, Silva RAR.	2B	Of the 97.9% of university students self-medicate without a prescription. What most motivated the use of drugs were headaches and allergies.
2017	Revista Gaúcha Enfermagem	Automedicação em estudantes de enfermagem do Estado do Amazonas - Brasil	Gama ASM, Secoli SR.	2B	The academics claimed that symptoms for self-medication were mild, lack of time for medical consultation and difficulty in accessing health services.
2016	Journal of Nepal Medical Association	Self-prescription of Paracetamol by Undergraduate Students in BP Koirala Institution of Health Sciences	Yadav AK, Rai BK, Budhathoki SS, Ghimire A, Shrestha SR, Malla GB.	2B	Acetaminophen self-medication was reported by 90.1% of the students, most of whom were from the medical field. Half of them believed that the prescription for its use was unnecessary, as they had knowledge about it.
2019	Revista da Sociedade Brasileira de Clínica Médica	Automedicação em acadêmicos de Medicina	Moares LGM, Bernardina LSD, Andriato LC, Dalvi LR, Loyola YCS.	2B	Of the students, 96.58% said they knew about the risks of self-medication to health as it was their area of action. They claimed to be motivated by pain, insomnia, lack of concentration to study and overweight.
2019	Journal of Health & Biological Sciences (Online)	Automedicação entre acadêmicos de medicina de Fernandópolis - São Paulo	Tognoli TA, Tavares VO, Ramos APD, Batigália F, Godoy MP, Ramos RR.	2B	It found that of the 320 medical students, 42.40% acquired additional information in the package insert.
2020	Ciência, Cuidado e Saúde	Prática da automedicação entre estudantes de enfermagem de instituição de ensino superior	Bohomol E, Andrade CM.	2B	Of the 126 students, the complaints responsible for self-medication were pain (74.6%), inflammation (15.8%) and cold (14.3%).
2017	Medicina U.P. B	Automedicación de analgésicos y antibióticos en estudiantes de pregrado de medicina	Meija MCB, Restrepo ML, Bernal DR.	2B	The study followed with 625 academics, in which 51% self-medicate three to four times a year.
2017	Educacion medica (Ed. impresa)	La automedicación en estudiantes del Grado en Farmacia	Cecilia MJ, García-Estañ J, Atucha NM.	3B	Of the respondents, 72.5% self-medicate and 100% admit that self-medication is beneficial and has no adverse effects.

National publications corresponded to 70% of the selected articles, with a prevalence in the Southeast region with 57%, followed by the South region with 29%, whereas in the North of the country the percentage was 14%. This relationship is proportionally interconnected with the number of academic productions in these regions. International publications were developed in Spain, Colombia, and Nepal, representing respectively 10% each in relation to the total number of selected articles.

To achieve greater organization, the articles selected to compose this study were categorized in relation to the Level of Evidence using the Oxford Center for

Evidence-Based Medicine Evidence Scale (Chart 1). It was found that 9 out of 10 articles chose to carry out Cohort studies, which confirms classification 2B, as this is research aimed at a quantitative analysis, this methodological approach presents great resolution in relation to the guiding question. Only one study was classified as 3B, which is equivalent to a Case-Control study. This research model shows limitations when compared to classification 2B, as it presents references that are not very consistent in relation to classification 2B.



Discussion

According to the analysis of the results, the synthesis of knowledge was structured into two categories, namely: Prevalence of self-medication and Motivational factors involved in the practice of self-medication.

Prevalence of self-medication

A survey carried out by the Federal Council of Pharmacy (CFF), through the Datafolha Institute, found that self-medication is a common habit for 77% of Brazilians who have used medication in the past six months. Almost half (47%) self-medicate at least once a month, and a quarter (25%) do it every day or at least once a week⁹.

Thus, self-medication has been a practice widely used by academics in the health area, inferring that the accumulation of knowledge over the years of the course makes them dispense with looking for a health professional or service, since they can recognize signs and symptoms and thus treat them. Regarding the practice in a period of two weeks to a year, a positive prevalence was estimated, that is, few students claimed not to use medications indiscriminately^{2,3,6}.

Another variation found was regarding the period of graduation, some articles brought the prevalence of self-medication in the Medicine course, being lower among 1st year students and higher among 4th year students. The 5th and 6th year students were difficult to access as they were in the year of boarding school. As for students from Nursing and Pharmacy courses, the same variable was observed³.

Self-medication rates among university students were predominantly above 80%, reaching over 95% in several surveys. Regarding these rates, there was no significant divergence when compared to different graduations in the health area. The variables that were raised in this integrative review indicate that there is a high predominance of females in the practice of self-medication, around 69.35%^{1-6, 10,11}.

The publications point out that this fact is because the presence of women in courses in the health area is more common and, for this reason, they cannot restrict or associate the predominance of this practice with them⁶. Below is a chart with the most prevalent pharmacological groups in each selected study.

Chart 2. Classes of drugs or active ingredients most used in self-medication. Rio de Janeiro, RJ, Brazil, 2020

ARTICLE	CLASSES OF MEDICINES or active ingredients
Consumo de medicamentos e prática da automedicação por acadêmicos da área de saúde da Universidade Estadual de Londrina	Dipyron and associations Acetaminophen and associations Ibuprofen/Ibuprofen and Associations Nimesulide Scopolamine/Scopolamine and associations Ethinylestradiol + Drospirenone Loratadine Mefenamic acid Ethinylestradiol + Cyproterone Omeprazole
Automedicação entre acadêmicos de Medicina das Universidades Católica e Federal de Pelotas/RS	Analgesic INES Corticosteroids Antacid Contraceptive Antibiotic Antipyretic Psychopharmaceutical
Prevalência e fatores associados à automedicação em acadêmicos de enfermagem	Analgesics and antipyretics Anti-inflammatories Antiallergic Antibiotics Cough Syrups Nasal Decongestants Antiasthmatics
Automedicação em estudantes de enfermagem do Estado do Amazonas - Brasil	INES Acetaminophen Dipyron Cephalexin B complex Cephalexin Amoxicillin Ampicillin Azithromycin
Self-prescription of Paracetamol by Undergraduate Students in BP Koirala Institution of Health Sciences	Acetaminophen
Automedicação em acadêmicos de Medicina	Antibiotics Antacids Anti-inflammatory Analgesics Antipyretics Medicines to lose weight Anxiolytics Antidepressants/mood stabilizers Psychostimulants Food supplementation



What reasons lead young university students in the health area to use self-medication?

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Automedicação entre acadêmicos de medicina de Fernandópolis - São Paulo	Analgesics Antipyretics Flu Anti-inflammatory Muscle relaxants
Automedicação: comportamento de um grupo de estudantes de saúde no ensino superior	Non-Opioid Analgesics Antipyretics Non-Steroidal Anti-Inflammatory Antihistamine Antibiotic
Automedicación de analgésicos y antibióticos en estudiantes de pregrado de medicina	Amoxicillin Nystatin Fluconazole Clotrimazole Dipyron Ibuprofen Naproxen Diclofenac Celecoxib Tramadol Piroxicam Etoricoxib Acetaminophen Hydrocodeine Morphine Oxycodone
La automedicación en estudiantes del Grado en Farmacia	Analgesics Antihistamines Flu Antacids and Digestives Antibiotics Contraceptives Anxiolytics

Analgesics represent the most predominant pharmacological group when comparing the results of all articles, with the main purpose of self-medication being pain relief. In addition, the control of the indiscriminate use of drugs by government authorities is inefficient, as the ease of acquiring over-the-counter drugs in pharmacies supports the significant increase in self-medication^{2-6,10}.

Motivational factors involved in the practice of self-medication

The decision to self-medicate is related to several aspects, among them, the selected studies highlight the acquired knowledge, experience of previous uses of these drugs, ease of purchase, advertisements, and ease of access to drug information via the Internet. It was noticed through the studies, the possibility of antibiotics being released by pharmacies without a prescription, despite being prohibited by the National Health Surveillance Agency (ANVISA). This reality is noticeable when there are reports of university students who purchased these medications directly from pharmacy counters^{5,6}.

It is considered that the use of antibiotics without moderation, whether for an indefinite period or by incorrect dosage, entails a serious public health problem, because, with the resistance of bacterial strains, there is an uncontrolled cost of treatment, as well as, in some cases, the need for hospitalization. In addition, the possible comorbidities that can affect students, such as the triggering of allergies or even aggravating factors that can lead to death. It is important to emphasize that the use of antibiotics

must be done within the prescribed time, in accordance with the guidelines of trained professionals^{1,6}.

Among the aspects that influence self-medication among university students in the field of health, cultural factors, social class, and the ease of access to drugs are highlighted. These determinants contribute to the inappropriate marketing of drugs, where profit overlaps with the various risks attributed to the practice of self-medication. These factors, associated with the self-confidence built during graduation and the neglect of the risks of incorrect use of these drugs, lead the act of self-medication to be considered a public health problem that permeates the entire society^{2-4,9}.

The lack of guidance on self-medication in universities and the failure to approach it as a public health problem directly interferes in the percentage of such an act in this group, as, as previously reported, students from more advanced semesters use it with a proportion higher than the students of the first years of graduation, which demonstrates how the pharmacological knowledge acquired interferes in this conduct^{6,12,13}.

Conclusion

Based on the results, it can be concluded that self-medication is a very common reality for students in the health area. The high prevalence in academia is associated, above all with prior knowledge, with direct contact with medications, which generate experiences, whether positive or negative, about them. Therefore, with the synthesis of the results of the articles, it initially allowed to evidence the higher prevalence of self-medication among university



students in relation to the general population, followed by the understanding of the triggering factors for these high rates of this practice.

Statistics show that analgesics are the most used among university students, both for flu, headaches and for muscle relaxation. The high prevalence allows us to understand which parameters show that analgesics are the most used, this is due to their easy access in commercial establishments. Therefore, students in the health field, more precisely those in nursing, pharmacy, and medicine, take the risks that self-medication entails. Because their knowledge allows them to understand drug interactions, as the high

rates of self-medication are related to more advanced periods of graduation.

Therefore, self-medication constitutes a public health problem, since, as it is easily accessible and unrestricted, it leads to misuse. There is a need to implement actions aimed at informing health risks regarding the practice of self-medication. Therefore, it is necessary to carry out more studies that address the issue, aiming at research that addresses the consumption pattern and that unravels the factors that influence, given that the production of research that addresses self-medication in health care students has been growing sparsely and gradually.

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