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Self-medication among healthcare professionals: A review on the abusive use of medications

Automedicação entre profissionais da saúde: Uma revisão sobre o uso abusivo de medicamentos

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ABSTRACT

Self-medication is the practice of consuming medications independently, without guidance or prescription from a qualified professional. It is a growing phenomenon in Brazil, with about half of the population engaging in this practice. This trend is concerning and multifactorial. Additionally, healthcare professionals are also susceptible to self-medication, often influenced by work overload and personal issues. Thus, this study aims to identify in the literature the factors influencing excessive medication use among healthcare professionals and the most commonly used drug classes. This is an integrative review considering articles from the last five years (2019–2023), available in databases such as ScienceDirect, PubMed, Scielo, and Capes-Periódicos. It was observed that the most commonly used medications in self-medication among healthcare professionals were analgesics, due to their easy accessibility. Other frequently used drugs include psychotropics, antipyretics, and antibiotics. The main factors contributing to this practice are exhaustive working hours, psychological issues already caused by excessive workload, age groups, and sociodemographic and cultural factors. Thus, self-medication among healthcare professionals reflects multifaceted challenges, highlighting the need for policies and strategies to mitigate the impacts of this concerning practice.

Keywords: Pharmaceuticals. Health Workers. Self-medication.

RESUMO

A automedicação é a prática de consumir medicamentos por conta própria sem orientação ou prescrição de um profissional qualificado. Trata-se de um fenômeno crescente no Brasil, com cerca da metade da população recorrendo a essa prática. Essa tendência é preocupante é multifatorial. Além disso, profissionais de saúde também estão sujeitos a essa prática, muitas vezes influenciados por sobrecarga de trabalho e questões pessoais. Dessa forma, o objetivo do trabalho é identificar na literatura estudos que mostrem quais os fatores que influenciam o uso excessivos de medicamentos entre profissionais da saúde e quais as classes de medicamentos mais utilizadas. Trata-se de uma revisão integrativa, considerando artigos dos últimos cinco anos (2019-2023), presentes nas bases: ScienceDirect, PubMed, Scielo e Capes-Periódicos. Notou-se que os medicamentos mais utilizados na automedicação entre os profissionais da saúde foram os analgésicos, devido à facilidade de aquisição. Outros fármacos são: psicotrópicos, antipiréticos e antibióticos. Os principais fatores que contribuem para essa prática são a carga horária exaustiva, problemas psicológicos já ocasionados pelo excesso de trabalho, faixas etárias, fatores sociodemográficos e culturais. Desse modo, a automedicação entre os profissionais da saúde reflete desafios multifatoriais, destacando a necessidade de políticas e estratégias para reduzir impactos dessa prática preocupante.

Keywords: Fármacos. Trabalhadores da saúde. Automedicação.

1. INTRODUCTION

Self-medication (SM) is a behavior characterized by the consumption of medications independently, without supervision or prescription from a healthcare professional, with the intention of alleviating or resolving symptoms experienced by the patient. This practice involves the use of a wide range of substances, including not only medications but also teas and other substances, without the guidance of a qualified healthcare professional (MIRANDA FILHO; ANDRADE JÚNIOR; MONTENEGRO, 2021; HORST et al., 2023).

According to the World Health Organization (WHO), a 2022 study revealed that more than 50% of all medications are prescribed, dispensed, or sold inappropriately, and half of all patients use them incorrectly. This significantly contributes to the high rates of human drug intoxication. Such erroneous practices underscore the need for awareness and guidance on the dangers of SM and the importance of seeking appropriate clinical treatment (SERENO; SILVA; SILVA, 2020).

The improper use of medications poses serious health risks, including incorrect usage that disregards crucial aspects such as proper dosage, drug interactions, potential side effects, intoxications, and even the risk of death (MIRANDA FILHO; ANDRADE JÚNIOR; MONTENEGRO, 2021). Irrational use can trigger various adverse effects, often resulting in hospital admissions or prolonged stays, exacerbating pre-existing health conditions or creating new medical issues (BARBOSA et al., 2020).

Additionally, everyday challenges can expose individuals to stress and fatigue, leading many to seek relief through the use of psychotropic drugs. In several cases, this occurs due to influence from colleagues who already use and recommend such medications. However, this approach can cause significant harm to health, as psychotropic drugs affect the central nervous system (CNS), altering behavior and potentially harming both mental and physical health (MELO et al., 2024).

Considering these aspects, it is essential to highlight that healthcare professionals have shown a high rate of medication use without prescription. Studies indicate that this practice is associated with long and exhausting work shifts, which expose professionals to highly stressful situations. Consequently, many resort to psychotropic drugs as a way to cope with insomnia and other conditions related to mental and physical health (PAULA et al., 2023).

Contexts such as the COVID-19 pandemic further illustrate these challenges, as healthcare professionals faced a multitude of emotions, including fear of contamination and

disease transmission. This led to significant stress and emotional strain, impacting their mental health, increasing the risks of psychological problems, and affecting not only their personal well-being but also their ability to provide adequate patient care (MOSER et al., 2021).

In light of the arguments presented, highlighting that SM can cause various problems for individuals who use it indiscriminately, and recognizing the increasing incidence of this public health issue among healthcare professionals, this study aims to investigate the factors contributing to this practice and its implications for individual and collective health.

2. MATERIALS AND METHODS

This is an integrative review of scientific literature (ANDRADE JÚNIOR et al., 2021), aimed at critically analyzing existing studies and deepening knowledge about self-medication (SM) among professionals. The study examined factors influencing the excessive use of medications and the potential health consequences for these professionals.

The selection of studies followed specific inclusion and exclusion criteria. Inclusion criteria encompassed original articles available in full text, published in English or Portuguese between 2019 and 2023. Excluded were articles that did not meet the study's objectives, those insufficiently describing data (i.e., lacking desirable variables for the study), and those published as course completion papers, reviews, congress abstracts, case reports, literature reviews, or repeated across databases.

The research was conducted in electronic databases such as the Scientific Electronic Library Online (Scielo), National Library of Medicine (PubMed), ScienceDirect, and Capes Journals. The following descriptors were used: self-medication, drugs, healthcare workers, combined with search terms to encompass all relevant literature.

3. RESULTS

In the aforementioned databases, the descriptors were entered along with filters related to the desired period and study type. As a result, 224 articles were initially found. After selection and exclusion of duplicates, 223 studies remained based on the inclusion criteria. Subsequently, 53 articles were selected for full-text reading. Finally, after a thorough review, 18 articles were included in this review (Figure 1).

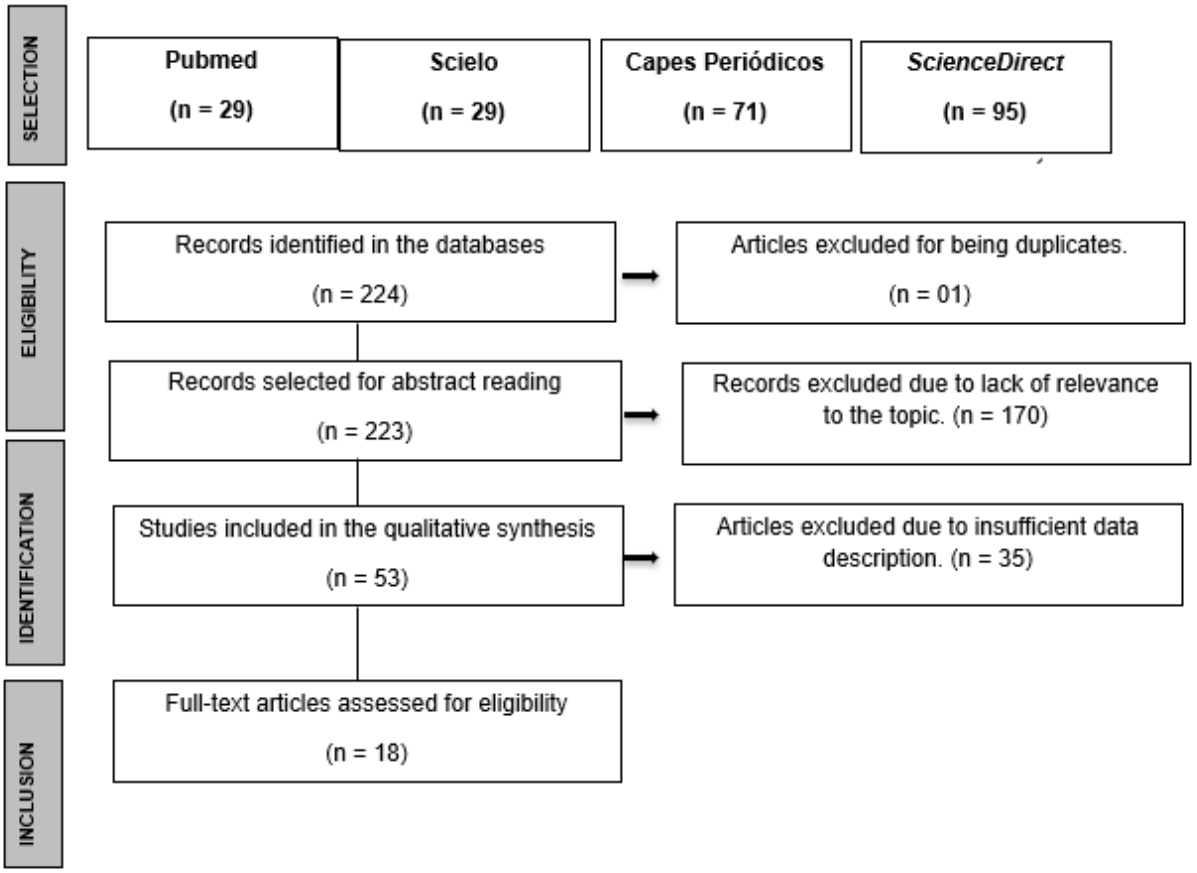

Figure 1. Flowchart illustrating the article selection process in the databases used.

With this, it is possible to analyze, in Table 1, the final composition of this review, which includes the titles of the works, the authors, the year of publication, the country of origin, as well as the objectives and main results of the selected studies.

Table 1. Distribution of selected articles.

Title, author, year, and country	Study objectives	Results
A Survey on self medication among the general population in Pondicherry (RAJINA; SELVI, 2021) India	To determine the main reasons for the practice of BF among healthcare professionals.	Of the 111 people in the study, the main reason for BF was the presence of mild illnesses. The sources of information were old prescriptions and medications purchased from drugstores. Only 28.4% consulted qualified doctors in case of illness.

A cross-sectional survey: Knowledge, attitudes, and practices of self-medication in medical and pharmacy students. (ALDURAIBI *et al*., 2022) Saudi Arabia	To evaluate the knowledge, attitudes, and practices regarding BF among medical and pharmacy students.	Of the 316 students, 94.6% have knowledge of BF, with the majority being female and pharmacy students. The BF rate is high (58.4%), with 63.9% reporting BF in the last 6 months, and the most commonly used medications were analgesics (88.2%).
Antibiotics self-medication practices among health care professionals in selected public hospitals of Addis Ababa, Ethiopia (KASSA *et al*., 2022) Ethiopia	To evaluate the practices of BF with antibiotics among healthcare professionals in selected hospitals in Addis Ababa, Ethiopia.	The results showed that the prevalence of BF with antibiotics among healthcare professionals over a one-month period was 22.7% (72 cases). The main reasons were knowledge of treatment options (43.1%) and seeking relief (34.7%).
Assessment of Self-Medication Practice and Its Determinants Among Undergraduate Health Science Students of College of Medicine and Health Sciences, Bahir Dar University, North West Ethiopia: A Cross-Sectional Study. (YISMAW *et al.,* 2023) Ethiopia	To analyze the use of BF and its determinants among undergraduate students of medicine and health sciences at Bahir Dar University, Northwestern Ethiopia.	Of the 246 students approached, 241 responded to the questionnaire, resulting in a response rate of 98%. BF was reported by 58.1% of the students in the past four weeks, with analgesics and antipyretics being the most commonly used (57.1%), followed by antibiotics (42.1%). The most frequent complaints related to BF were headaches and fever (50%).
Self-medication and self-prescription among healthcare personnel in the primary care level of Mexico, Bolivia, and Ecuador (RAMÍREZ *et al*., 2020) Mexico	To evaluate the prevalence of BF among healthcare professionals, a comparative cross-sectional study in three countries: Mexico, Bolivia, and Ecuador, focusing on family doctors and general practitioners.	The results showed that 58% of the respondents were family doctors, mostly women, with an average age of 39 years, and 42.2% were from the public sector. In Mexico, doctors self-medicate and prescribe more medications than in Ecuador. In the past month, 61.5% self-medicated, and 35.8% prescribed medications, with antibiotics and analgesics being the most commonly used.
Evolution of Self-medication Practice along with prescribed medicines among the local population of Karachi, (AHMED *et al*., 2021) Pakistan	To evaluate the pattern of BF regarding prescribed medications among the population of Karachi.	The age group of the population that self-medicates ranges from 24 to 36 years. The most commonly used classes of medications were antibiotics and analgesics. Educational level is one of the factors influencing self-medication.
Epidemiological profile of medication poisonings in Brazil between 2013 and 2017. (SERENO; SILVA; SILVA, 2020). Brazil	To identify the number of medication poisonings and the states that recorded the highest number of poisonings from 2013 to 2017.	A total of 131,868 cases of medication poisoning were recorded. The Southeast region had the highest incidence, with 63,489 cases (48.15%), followed by the South region with 49,788 cases (37.76%), the Midwest with 8,741 cases (6.63%), the Northeast with 8,578 cases (6.51%), and the North with 1,242 cases (0.95%).

Factors that predispose self-medication in university students, a Colombian case (CASTAÑO *et al*., 2020) Colombia	To observe the factors leading to self-medication among healthcare professionals in Colombia.	The results showed that 91% of the students are between 15 and 24 years old, and 67% reported self-medicating for flu (67%), headache (60%), and fever (40%). The most commonly used medications were paracetamol (90.1%), ibuprofen (49.7%), and natural products. The main reason for self-medication was the lack of time to consult a doctor (42.5%).
Knowledge, attitude, behaviour of the future healthcare professionals towards the self-medication practice with antibiotics. (BENAMEUR *et al*., 2019) Saudi Arabia	To estimate the prevalence of self-medication with antibiotics among medical and non-medical students and evaluate its determinants.	The self-medication rate among students was 58.4%, being lower among medical students. Pharyngitis was the most common symptom, reported by 54.1% of those who self-medicated. Despite 79.9% recognizing self-medication as unsafe and inappropriate, the practice remains high.
Knowledge, attitudes and practices related to self-medication with antimicrobials in Lilongwe, Malawi. (SAMBAKUNSI *et al*., 2019) Malawi	To describe the knowledge, attitudes, and practices regarding self-medication with antimicrobials among residents in Lilongwe, Malawi.	Approximately 74% of the respondents have limited knowledge about antimicrobials, 92.4% believe they are effective for fevers, and over 54% associate them with colds. Additionally, 53% use them for upper respiratory infections, and 41% report improvement with their use.
Patterns and Practices of Self-Medication AMong Students Enrolled at Mbarara University of Science and Technology in Uganda (Niwandida et al., 2020) Uganda	To assess the prevalence, patterns, and factors associated with self-medication among students enrolled at Mbarara University of Science and Technology.	The study results showed a prevalence of 63.5% of self-medication, with the main reasons being minor illnesses (33%), time-saving (15%), use of old prescriptions (11%), and high consultation fees (9%).
Perception of health Professionals and the General Population Regarding the Use of Antibiotics and Antibiotic resistance in Puducherry, South India (Palanisamy et al., 2022) India	To analyze the knowledge of the population and healthcare professionals regarding the use of antibiotics and factors associated with antibiotic resistance.	The study revealed that approximately 38.5% of the population reports using antibiotics, and 66.5% discontinue the treatment. Additionally, 11% believe that adding extra antibiotics benefits them.
Prevalence of self-medication for COVID-19 among young adults during the pandemic in Brazil. (WIROWSKI et al., 2022) Brazil	To analyze the factors for self-medication and the most commonly used medications during the COVID-19 pandemic.	The main factors for self-medication were COVID-19 prevention (36.8%), followed by cold or flu (28.9%) and COVID-19 symptoms (16.7%). The most commonly used medications included paracetamol (55.3%), vitamin D (31.6%), ivermectin (30.7%), dipyrone and/or its combinations (30.7%), and vitamin C (26.3%). The most common reason for self-medication was having the medication at home (65.8%).

Prevalence of medication poisoning in the state of Bahia between 2007 and 2017. (ARAÚJO et al., 2020) Brazil	To determine the prevalence of medication poisoning in the state of Bahia, Brazil, between 2007 and 2017.	Of the 28,412 cases of exogenous poisoning, 29.7% were related to medications. The most affected age group was 20 to 39 years (38.5%), with women accounting for 66.7%. Suicide attempts were the leading cause (38.5%), with the highest concentration of cases in the state capital.
Risk Factors of Antibiotics Self-medication Practices among University Students in Cairo Egypt (ELDEN et al., 2020) Egypt	To estimate the determinants of self-medication practices and describe the pattern of antibiotic abuse among undergraduate university students.	Approximately 77.7% of students use antibiotics without a prescription, and 51.7% ignore the risks of microbial resistance. The symptoms leading to self-medication were gastroenteritis (70%), respiratory symptoms (63%), and dental infections (36%). Additionally, 91% have easy access to antibiotics without a prescription
Self-medication practice and associated factors among adults in Wolaita Soddo town, Southern Ethiopia (MATHEWGS et al., 2021) Ethiopia	To assess the practice of self-medication and associated factors among adults in the city of Wolaita Soddo, Southern Ethiopia	Approximately 33.7% of the respondents practiced self-medication in the past 3 months. The symptoms leading to self-medication were headache/fever (32.4%), respiratory infections (31.4%), and gastrointestinal diseases (16.2%).
Self-medication: a current self-care practice amongst tertiary college students (MUIRU, 2023) Kenya	To analyze the practice of self-medication among students using a representative sample of 294 participants, identifying patterns of medication use and associated factors such as gender, income, and education.	The prevalence of self-medication among students was 82.6%, with the highest frequency in the age group of 19 to 21 years (77.4%). The male sex accounted for 60.1%. The main symptoms leading to self-medication were cough and cold (78%), headaches (74.2%), and minor illnesses (78.7%).
Use of psychotropic medications by nursing professionals working in an emergency and urgent care unit (PAULA et al., 2023). Brazil	To investigate the consumption of medications and the age range of professionals who self-medicate.	It was found that of the 56 individuals who responded to the questionnaire, 73.2% were women, with an age range of 31 to 50 years. Regarding psychotropic medications, the data shows that 28.6% of the participants use some type of psychotropic medication.

Source: Research data, 2024.

The analysis of the number of articles published in the PubMed, Scielo, ScienceDirect, and Capes Journals databases from 2019 to 2023 reveals variations in scientific publications associated with descriptors in the abstract, title, or keywords, as shown in Figure 2.

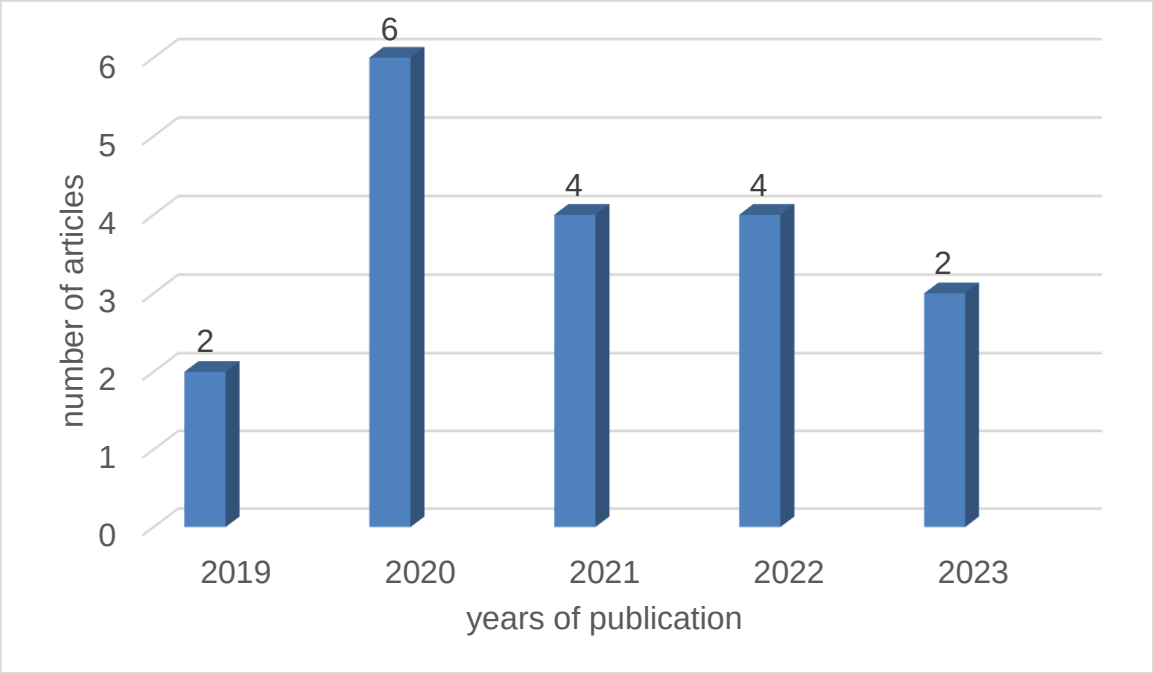

Figure 2. Number of articles published in the PubMed, Scielo, ScienceDirect, and Capes Journals databases with descriptors in the abstract, title, or keywords during the 2019–2023 period.

4. DISCUSSION

Main Classes of Medications Commonly Used in Self-medication Among Health Professionals

Studies have shown that the most commonly used medications in self-medication (SM) practices are analgesics, antipyretics, non-steroidal anti-inflammatory drugs (NSAIDs), and antibiotics. Among these classes, analgesics are the most frequently used due to their popularity. The most commonly known and used antipyretics include paracetamol (acetaminophen), ibuprofen, acetylsalicylic acid, and dipyrone (metamizole). This is because these medications do not require a prescription from a healthcare professional, making them easier to obtain and access for consumption (MIRANDA FILHO; ANDRADE JÚNIOR; MONTENEGRO, 2021; ALDURAIBI et al., 2022). In addition, research indicates that analgesics are the most consumed class in self-medication, with antipyretics also frequently used to treat mild symptoms such as pain and fever, which many people prefer to address without professional guidance (CASTAÑO et al., 2020).

Furthermore, during the COVID-19 pandemic, studies identified that the most commonly used classes of medications were vitamin supplements, such as vitamin C,

antiparasitics like ivermectin, antibiotics like azithromycin, and antipyretics like paracetamol and dipyrone. These medications were frequently combined into a kit to treat COVID-19, despite the lack of robust scientific evidence to prove their specific efficacy against the virus (WIROWSKI et al., 2022).

On the other hand, studies identified that the most commonly used classes of antibiotics are beta-lactams, particularly penicillins. In addition to this class of antibiotics, quinolones, especially fluoroquinolones, are also commonly used. Among the most consumed antibiotics are amoxicillin (a penicillin) and ciprofloxacin (a fluoroquinolone), highlighting the prevalence of these classes in the treatment of bacterial infections (KASSA et al., 2022).

Conversely, another widely used class of medications is psychotropic drugs. Studies show that antidepressants and anxiolytics are among the most consumed. The most commonly used psychotropics include diazepam, chlorpromazine, bromazepam, paroxetine, alprazolam, escitalopram, zolpidem, among others. These psychotropics are often combined with one or more other drugs to enhance their effects (PAULA et al., 2023).

Main Factors Triggering Self-medication Among Health Professionals

Studies indicate that one of the main factors associated with self-medication is the presence of mild illnesses. Conditions such as colds and headaches do not require hospitalization, allowing treatment and care to be performed at home. The easy access to over-the-counter medications and the perception that these diseases are simple to treat without professional guidance contribute to this practice (RAJINA; SELVI, 2021; MUIRU, 2023).

Additionally, other factors contribute to self-medication, such as fevers, acne problems, menstrual cramps, old prescriptions used for different conditions, knowledge acquired during training, as well as the ease of acquiring medications (ALDURAIBI; ALTOWAYAN, 2022). Consequently, the increased consumption of analgesics and antipyretics is fueled by the ease of access to these medications and the perception that they are safe to use without professional guidance (CASTAÑO et al., 2020).

In contrast, the COVID-19 pandemic highlighted another critical factor: overcrowding in hospitals and the lack of medical attention and supplies in primary healthcare units (UBS), which led to an increase in self-medication practices, with many individuals resorting to medication based on information from media related to COVID-19 prevention. This behavior

was amplified by the spread of informal guidelines regarding the use of medications for supposed benefits in combating the virus, leading to indiscriminate use of substances, often without proper professional supervision. The information disseminated through social media platforms and other communication channels contributed to the adoption of these practices, even in the absence of clear scientific evidence regarding the effectiveness of such treatments (WIROWSKI et al., 2022).

Simultaneously, studies show that factors such as the distance to obtain medical care, the availability of medications at home or donated by neighbors or family members, and the lack of medical supplies in UBS have encouraged the need to treat disease symptoms without consulting a specialist, leading to the practice of self-medication (SAMBAKUNSI et al., 2019; ARAÚJO et al., 2020).

Other factors contributing to the increase in self-medication include self-awareness of one's own diagnoses, lack of time for appointments with qualified professionals, and the ease of obtaining medications in hospitals. Additionally, some studies point out that conditions such as gastrointestinal diseases, respiratory problems, and urinary infections are common among healthcare professionals who self-medicate. The convenience of acquiring medications without a prescription, combined with the perception of self-sufficiency, has encouraged this behavior, often without proper medical supervision, which can pose health risks (KASSA et al., 2022).

Cultural aspects can also influence, such as the practice of using natural treatments, including medicinal plants. Moreover, difficulties in the healthcare system, such as inadequate infrastructure and limited time for medical appointments, along with easy access to over-the-counter medications, contribute to this practice. Economic and sociodemographic factors also play an important role, making self-medication a more accessible alternative for many people. In these circumstances, individuals may opt to use medications without proper professional guidance, which can lead to health risks (CASTAÑO et al., 2020; ALDURAIBI; ALTOWAYAN, 2022).

Moreover, factors such as high consultation fees for specialists, incorrect diagnoses, and shortages of medications have led healthcare professionals to seek quick and economical solutions to treat their health problems. The need for a practical alternative becomes urgent in the face of difficulties in obtaining care from an appropriate specialist (NIWANDIDA et al., 2020).

Other studies suggest that long working hours and exhausting routines have led many healthcare professionals to develop psychological issues, such as anxiety, depression, insomnia, burnout syndrome, and psychotic episodes, among other conditions, prompting these professionals to seek immediate relief, such as the use of psychotropic medications (PAULA et al., 2023).

In contrast, research highlights other causes for the practice of self-medication, such as the treatment of common diseases, such as tonsillitis, and premature discontinuation of antibiotics before completing the prescribed treatment. These practices are often driven by a combination of factors, including lack of time for consultations with specialists, easy access to medications, and partial knowledge about drugs. Furthermore, self-medication with antibiotics is particularly concerning because it leads to the development of antimicrobial resistance, further exacerbating health problems and complicating the treatment of future infections (BENAMEURE et al., 2019).

As a result, healthcare professionals have developed a habit of using antibiotics available at home to treat conditions they are already familiar with. This behavior is common, as many buy antibiotics without a doctor's prescription at pharmacies. However, this practice significantly contributes to the rise of antimicrobial resistance, making it harder to treat infections effectively and worsening health problems, making medical care more challenging and potentially more dangerous (PALANISAMY et al., 2022).

Thus, various factors have been identified as responsible for the practice of self-medication among healthcare professionals. These factors include the treatment of mild illnesses, such as headaches and colds, economic and psychological issues, difficulties accessing public healthcare systems, lack of time for medical consultations, cultural influences, as well as age and ease of access to over-the-counter medications. This practice may be further intensified by the perception that healthcare professionals, due to their greater knowledge about medications, can treat health problems autonomously, without the guidance of other specialists (BENAMEURE et al., 2019; PALANISAMY et al., 2022).

5. FINAL CONSIDERATIONS

The main factors contributing to self-medication among healthcare professionals include a lack of time for specialist consultations, economic issues, problems such as insomnia and depression, age groups, sociodemographic factors, and cultural influences.

Additionally, challenges during the COVID-19 pandemic, such as shortages of professionals, infrastructure, medications, and access to quality care, have exacerbated this practice.

Moreover, the ease of accessing medications at the workplace, as well as obtaining them through colleagues, friends, and family, further increases this behavior. Furthermore, the unrestricted availability of over-the-counter medications aggravates this situation.

The most commonly used medication classes for self-medication primarily include analgesics, followed by psychotropics, antipyretics, and antibiotics, which were widely mentioned in most of the reviewed articles.

Based on the findings of this literature review, there is a clear need for future research to address the identified gaps, advancing knowledge about the indiscriminate use of medications among healthcare professionals, future practitioners, and the general population, emphasizing the risks associated with the misuse of these substances.

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