THE INDISCRIMINATE USE OF ANTIBIOTICS BY
STUDENTS OF THE NURSING AND BIOLOGICAL
SCIENCES COURSE AT THE DA UNIVERSIDADE
REGIONAL DO CARIRI-URCA/PIMENTA

O USO INDISCRIMINADO DE ANTIBIÓTICOS POR
ESTUDANTES DO CURSO DE ENFERMAGEM E CIÊNCIAS
BIOLÓGICAS DA UNIVERSIDADE REGIONAL DO CARIRI-
URCA/PIMENTA

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ABSTRACT: The main objective of this research was to investigate and evaluate the behavior of students and future professionals in the health area regarding self-medication and the indiscriminate use of antibiotics. The present study was carried out at Universidade Regional do Cariri-URCA, Pimenta Campus, in the city of Crato-CE. The data were obtained from October to December 2022, through the conduction of an interview prepared in a digital format, through Google Forms. According to the data tabulation, the different answers were analyzed by two students of both sexes, from rural and urban areas, where a total of 72.7% was obtained for those from rural areas and 27.3% from urban areas, with an average age between 19 and 28 years old. Regarding the type of medication most known to the interviewees, analgesics, anti-inflammatory drugs and antibiotics were the most frequent. It is concluded that the indiscriminate use of antibiotics is a topic of great relevance, mainly targeting the concerns assessed from their exacerbated use.

KEYWORDS: Self-Medication, Medication, Antimicrobials, Antibiotics.
1. Introduction

The indiscriminate use of antibiotics represents a worrying situation for world public health. The action of self-medicating, without prior prescription by health professionals, can impact and bring serious consequences to one's well being, a prime example of these consequences is microbial resistance. Over the years, since the emergence of the first antimicrobial, penicillin, bacteria have sought to develop new defense strategies, which have been adapting simultaneously as new combat drugs are discovered (Bastos, 2022).

The risk of infections caused by superbugs that no longer respond effectively to some antibiotics continues to grow today and, according to the World Health Organization (WHO), represent a global threat (WHO, 2013). However, in Brazil, it was only in 2010 that the sale of antibiotics with medical prescription was established by law, through resolution RDC nº 44, which provides for the control of drugs based on substances classified as antimicrobials, for isolated use, under prescription use or associated use (Sampaio et al., 2018).

Even so, today, at least 35% of the medicines purchased in Brazil are without a medical prescription. A survey carried out by the Federal Council of Pharmacy in 2019 pointed out that Brazil has a high rate of self-medication, which is a habit for approximately 77% of Brazilians (Aquino; Barros; Silva, 2010; Conselho Federal de Farmácia, 2019).
2. Methodology

The present study was carried out at Universidade Regional do Cariri-URCA, Pimenta Campus, located at 1161 Cel. Antônio Luiz Street, Pimenta neighborhood, in the city of Crato-CE. The University provides undergraduate courses in the areas of humanities and healthcare. Thus, the work was restricted to the health public, due to the theme addressed, specifically to the Nursing and Biological Sciences courses, the latter being divided into both modalities: bachelor's degree and teaching degree.

Data were obtained from October to December 2022, by conducting an interview prepared in a digital format, using Google Forms (https://docs.google.com/forms/d/e/1FAIpQLSfLqcHh5Gm6UaY9OhTVadSmqJ1QLzKmgb4 3o4JrKr7U8GrbPw/viewform?usp= sf_link), so that access to the material was more accessible and active. The answers were generated automatically and attached in the form of a spreadsheet in the Excel program (Microsoft Office Professional Plus 2013). Thus, a questionnaire with closed and semi-structured questions was carried out, obtaining data characterized for a qualitative research.

The authorization of the study was carried out through the application of the Informed Consent Form (ISF), which specifies that the participation of the interviewees is not mandatory, and clarifies that the use of the data presented here guarantees the secrecy of the identity of the interviewee. Initially, the questioning was directed towards information concerning the interviewee, in which he should describe the course taken, current semester, gender, age, city and area in which he resides, whether rural or urban. Subsequently, questions were asked about the use of self-medication and knowledge of the classes to which the medications are classified, the frequency of purchase of antibiotics, access to medication without a medical prescription, the purpose of use, the possible inducement for the doctor to prescribe it and the use of antibiotics by indication of third parties.
3. Results

The study for the ethnobiological research was based on the responses of the students of the Biological Sciences and Nursing courses at URCA. Initially, age, gender and cities belonging to rural or urban areas were analyzed, from which a total of 44 responses were extracted. According to the tabulation of data, the different responses of students of both sexes, from rural and urban areas, were analyzed, in which a total of 72.7% was obtained for those from rural areas and 27.3% for those from urban area, with an average age between 19 and 28 years.

In the questionnaire in which the questions were addressed to the students, the following questions were made: if the student performed self-medication; whether he had knowledge of the classes to which the medications belonged; the frequency of purchase of antibiotics; access to medication without a medical prescription; the purpose for using the drugs; if they induce the doctor to prescribe the medicines; if they use certain antibiotics indicated by people who are not in the health area. When the answers about self-medication were obtained, only 27.3% of the students did not use medication without a medical prescription, while 72.2% did.

When the most used classes of drugs and knowledge about them were analyzed, it was observed that analgesics and anti-inflammatories were the most cited, with a percentage of 45.5% and 36.4% respectively. Soon after, there were antibiotics with 11%. Those who answered that they do not self-medicate or do not know the classes of drugs, amounted to 6.7% of the responses. To identify the drugs used, the response data were organized in (table 1).

<table>
<thead>
<tr>
<th>Tipos de medicamentos</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amoxicilina</td>
<td>9</td>
</tr>
<tr>
<td>Azitromicina</td>
<td>5</td>
</tr>
</tbody>
</table>
Of the answers obtained about the frequency of purchase of medicine, 68.2% answered that they rarely buy medicine and 13.6% answered that they buy them twice a year. 4.5% said that they buy them once a year, 6.8% answered that they buy every 6 months, and 2.3% do not know how often.

In this regard, results were also analyzed on the question that refers to the purchase of medication without a medical prescription, where 52.2% answered they rarely buy medicine without having a medical prescription, while 22.7% make this purchase frequently, 11.4% said that they always buy medicine without having a medical prescription and we also have people who answered that they never use this method to obtain medicine, which resulted in a percentage of 13.6%.

When asked why the drugs were used, a total of 56.8% answered that they used them for sore throats, 13.6% said they used them for the flu and 9.1% answered that they used them for urinary infections. For other pathologies such as: headaches, muscle pain, migraines, 2.3% were obtained for each disease. The use of medication for dental complaints was also cited, resulting in a percentage of 4.5% of responses. Regarding the question about the possible induction of medication prescription to the professional, 77.3% said they did not do it and 22.7% said that they induced the professional to prescribe antibiotics. Finally, it was evaluated that 45.5% of the students did not use antibiotics on the advice of people who were not health professionals, namely: friends and family, especially in childhood due to parental care.
4. Discussion

Self-medication is the use of medication to treat self-diagnosed illnesses without a formal prescription. And the reasons for this medication without medical advice are due to overconfidence in the knowledge of drugs, pressure and advice from friends and family, illiteracy and easy access to drugs. Furthermore, the drugs used are over-the-counter, that is, legally available without a prescription. And the prevalence rate of self-medication in the world varies from 11.2 to 93.7%, depending on the country and target population (Ray et al., 2022; Chauttrakarn et al., 2021).

According to Rathish et al. (2017), the significance between the genders that performed the most self-medication is greater among men compared to women. However (Aquino et al., 2010) shows that the female group performs self-medication in greater numbers. This can be explained in part by women's greater exposure to medicalization at all stages of their lives, greater demand for medical care and educational campaigns more targeted at them. As for the data from this work, it was found that the number of women answering the questionnaire was greater than men, corresponding to 68.2% and 31.8%, respectively.

As for the class of drugs best known by respondents, analgesics, anti-inflammatory and antibiotics were the most frequent, with 45.5%, 36.4% and 11.4%, respectively. Analgesics are the most used drugs in the practice of self-medication, as they treat simple and common illnesses, such as fever and pain. Furthermore, they are drugs that can be obtained easily because they are sold without prescription (Fetensa et al., 2021). In this research, when asked if they had knowledge about the class of medication they use, it was noted that 45.5% of the answers were about the class of analgesics.

Regarding the class of anti-inflammatory drugs, 36.4% of respondents are aware of the drug. According to (Lima and Filho, 2010) non-steroidal anti-inflammatory drugs (NSAIDs) are one of the most sought after drugs in
drugstores due to their therapeutic actions such as analgesic, antipyretic and anti-inflammatory activities. Therefore, the use of these drugs is duly notorious.

The use of antibiotics is motivated by several factors, however, it is observed that symptoms such as flu, sore throat and urinary infection are the main factors that lead people to perform self-medicating. The indication of antibiotics by friends and family is another factor that directly influences self-medicating. In the studies by Chanvatik and collaborators (2019), their results indicate that these symptoms are the ones that most lead to the indiscriminate use of antibiotics, in which they indicate monitoring in the possibility of specific and effective interventions.

In comparison with the results obtained by Damian et al. (2014), showing the most used antibiotic among the interviewees, we found that the most used is amoxicillin, followed by azithromycin. In the present study, only 11.4% of respondents said that they always buy such drugs with a medical prescription, while 13.6% do so without a medical prescription. This use is due to the fact that the antibiotic is first-line, useful for many infections (Rathish et al., 2017). However, the use of antibiotics, which, although they should be dispensed with a medical prescription, are sold freely. Its inappropriate use has massively contributed to the mechanism of bacterial resistance worldwide, and is therefore a global public health problem (Aquino et al., 2010).

5. Conclusion

It is concluded that the indiscriminate use of antibiotics is a topic of great relevance, mainly targeting the concerns evaluated from their exacerbated use. Thus, when approaching in this study this use based on traditional information coming from students in the health area, the importance of developing the theme with greater frequency and relevance in
future works within the university is demonstrated.


