The impact of self-medication on pandemic times of COVID-19

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Abstract: The irrational use of medicines causes a warning sign for the social and economic impacts that are extremely worrying, as they cause serious problems for the health system in general. The objective of this work is to improve the practice of self-medication in the COVID-19 pandemic period. The research was carried out through a systematic review of scientific articles, using the platforms of SciELO, Google Academic and PubMed. Thus, it is perceived that the influence suffered by the population in the practice of self-medication is very great, especially for the part that presents a greater difficulty in accessing the health media, the power of the media that works in the dissemination of released selling drugs is very incisive. In this context, the study demonstrates that during the pandemic the uncontrolled consumption of drugs incorrectly increased. The practice of self-medication took on the alleged treatments for COVID-19.

Keywords: Self-medication. Pandemic. COVID-19. Intoxication.

1. Introduction

The irrational use of medicines causes a warning sign for the social and economic impacts that are extremely worrying, as they cause serious problems for the health system in general. Self-medication has been a great cause of concern for health professionals, because, due to the difficulty of access to medical care, especially medicines, there is no improvement in health conditions or even, in quality of life, due to failures in dispensing, in addition to the use of medications on their own, which can lead to treatments that are ineffective and hesitant (OLIVEIRA; MORMINO, 2020).

It is worth mentioning that self-medication does not have a universal definition, so it can be characterized as the practice of the use of prescription-free drugs, reuse of drugs previously prescribed without follow-up and supervision of a qualified

professional, as well as the use of drugs that require medical prescription to treat apparent symptoms or pathologies (LOCQUET *et al*., 2017).

SARS-CoV-2 spread at an accelerated pace resulting in a pandemic in mid-2020, causing millions of cases and thousands of deaths worldwide (WHO, 2021, p.1). The use of non-prescription drugs in this pandemic context is adjunct in a special way to drugs that could "supposedly" prevent and cure contamination caused by viruses even in more severe cases. Drugs without scientific validation for SARS-CoV-2 are being published and used indiscriminately, and among the most used are chloroquine, hydroxychloroquine, azithromycin, ivermectin, corticosteroids and vitamins C and D (SILVA *et al*., 2020; OLIVEIRA; MORMINO, 2020; XAVIER *et al*., 2020; ANTONIO *et al*., 2020; SILVA, U.S.; BATISTA, 2020)

However, the rejection of scientific evidence may be one of the main reasons why the indiscriminate use of pharmacological agents in the face of the pandemic has increased markedly. Since this practice brings with it a false perception of immunity against COVID-19 which, associated with disbelief on the part of the scientific community, reflect slight scans of sanitary protection practices. Therefore, in the increase in the number of infected (LUCCHETA; MASTROIANNI, 2019; OAK; GUIMARÃES, 2020). Therefore, the use of non-prescription drugs by a qualified professional is one of the most aggravating problems in Brazilian public health, since a large part of the population is affected (FILLER *et al*., 2020).

Thus, the research aims to discuss the practice of self-medication that intensified during the COVID-19 pandemic period, and which can cause drug intoxication to die, through the use of medications without proper guidance from health professionals.

2. Methodology

The research was carried out through a systematic review of scientific articles, in the search for a better understanding of the discussion in relief. For this, articles carried out involving the proposed theme are based, in order to develop the best assessment of what turns to self-medication in times of pandemic COVID-19. The research used the platforms of SciELO, Google Academic, PubMed, in the search for data collection and information of greater accuracy and capable of bringing effective security in what is discussed.

The inclusion criteria were based on the chosen descriptors, self-medication, pandemic and COVID-19. The choice of papers in English and Portuguese. Exclusion criteria were filtered by the research period, which sought to update studies carried out in 2017 and 2021.

3. Results and Discussion

In the midst of what was observed through this research, it can be considered that self-medication is something that has been growing in Brazil due to the high consumption of drugs not prescribed by competent health professionals. A

situation in which the consumption of these medications occurs through self-medication, and that can in more serious matters lead the patient to death.

In the face of all this apprehension that is generated through a health problem of extreme severity, the World Health Organization (WHO), meeting with other authorities in China, and with scientists specialized in the search for a deeper understanding of the virus, as it is used in the body of the infected, in order to indicate the most appropriate treatment. In order to still seek what can be done by each country in response to such an intense form of contamination (COSTA; COAST; ABREU, 2020).

COVID-19 arises through an acute respiratory syndrome, so that it is configured as a disease of high contagion that spreads with great agility. In view of this, HCQ sulfate, a type of compound that chemically presents itself as 4-aminoquinoline, and which finds a divergent structure of chloroquine, only through the hydroxyl grouping, making the toxity of HCQ is lower, however, having the same efficiency of the drugs described as synthesized antimalarials, explains Santos *et al*. (2021).

In view of the use of all these medications, the risks arising from hydroxychloroquine were observed, through the use in patients with COVID-19, who had other diseases. Presenting the same reactions due to the use of these medications, among which nausea, tachycardia, hypoglycemia, forcing the suspension of the use of medications. If also giving common reactions to the use of HCQ, such as diarrhea, headache, insomnia, fatigue, myopathy, itching, photosensitivity. And even in rarer situations the appearance of erythematous bullous dermatitis, which advanced to the erythematous bullous desquamative (SANTOS, *et al*. 2021).

The research by Menezes, Sancher and Chequer (2020) demonstrates that azithromycin is a macrolide antibiotic, which is presented as a safe medication. However, it is possible to observe several occasions when gastrointestinal problems, neurological symptoms, and there may still be hearing loss. Where more serious effects may arise, including multiform erythema, myasthenia gravis, among other problems due to the use of medication.

Regarding ivermectin, research shows that it can be identified as a semi-synthetic analogue of avermectin B1, which is widely used in pest control in crops. At the time the use of ivermectin has been indicated for the use of infections resulting from parasitic nematodes and arthropods, and is classified as oral anthelmintic, where the recommended dose is by single intake of 200ug/kl, where a repetition can be given after one week of the first dose, not indicating use in children weighing less than 15 kg (ANDRADE; MORENO; LOPES-ORTIZ, 2021).

In such a way, Ivermectin is characterized by a neurotoxic composition, in the same way as a hepatotoxic activity, even though it is used in reduced amounts, which can cause liver necrosis, especially if it is used in conjunction with chloroquine, hydroxychloroquine and azithromycin, medications that are part of the kit-covid, being widely

disseminated. Thus, its use is due follow-up by health professionals in order to ensure the patient's recovery (ANDRADE; MORENO; LOPES-ORTIZ, 2021).

It is extremely important to highlight that the facilities in obtaining these medications are a strong favor or for self-medication. Thus, research shows that at least 35% of the drugs that are marketed in Brazil correspond to self-medication. This certainly offers a health risk in the sense that there are a number of factors such as the risks of drug interaction, adverse effects, therapeutic indication, and most of these health problems are neglected (LIMA, 2018).

Through all this, it is possible to observe and highlight that "drug intoxication is one of the greatest health challenges, not only Brazilian, but also worldwide", if one of the contributory points is unruly self-medication. In view of this, it is observed that "self-medication, a common practice, and unbridled among the Brazilian population, is more likely to occur in young people and adults, according to SINITOX". Moreover, under these circumstances "this culture of self-medication in Brazil occupies the fifth place in the ranking of countries that consume the most medicines, and the practice corresponds to 35% of drug sales in the country", and the drugs that are sold without prescription among the main ones to be consumed (SILVA, *et al*, 2021).

Having the correct understanding about the substance that was ingested is characterized as an essential point for making a correct diagnosis and proper treatment. Whereas, some medications require a means of combating their specific side effects, while others only need to be excreted through the urinary tract or are eliminated by the bloodstream. For these reasons, the clinical toxicology manual indicates the observation of symptoms, considering that some medications may cause toxic syndromes, which makes self-medication even more dangerous (SILVA, *et al*, 2021).

In view of all this, it is still possible to detect a large supply of medicines in the consumer market, "and thus the practice of self-medication and the lack of guidance on them can lead to the misuse of medicines and consequently mask certain diseases or even worsen the health of patients" (SERENO; SILVA, 2017).

A high point of emphasis in this behavior of self-medication can be understood as the result of new technologies, such as media and social networks, having these have a great influence on people's behavior and especially "in the process of choosing and purchasing products, from simple and routine purchases to purchases with a higher level of complexity and importance", where it is possible to observe that these changes made the creation of new strategies around the increase of capillarity happen so that companies started to explore more widely their physical spaces in the search for more access to consumers, through virtual environments and digital platforms (SANTOS; PEREIRA, 2020).

Santos and Pereira (2020), warn that, in a recent survey commissioned by the Federal Council of Pharmacy (CFF), and conducted by the Datafolha institute in an interview in all regions of Brazil, it was identified that 57% of the people interviewed said they had undergone medical consultations, reporting that they had received a diagnosis and the prescription of medications. However, the research also pointed out that 77% of the interviewees confirmed to use medications on their own, without the necessary medical prescription, also reinforcing that the internet has a great prominence and influence as one of the most sought-after forms of consultations in relation to the use of medications. It is observed that this format of dissemination of information through social media, like other sources of information, has a great power to encourage people to increasingly buy medicines without the appropriate medical prescription.

However, it is necessary to understand that each category of medicine presents a specific legislation with respect to what concerns marketing and marketing. And even if there is intense supervision around the actions developed by the drug industries, the discussions about what should be done with regard to the marketing that was created and fostered through users who circulate on the Internet and who share information, is still quite complex. This causes content to be published capable of stimulating the random use of medications that can have dangerous consequences, and in some devastating situations the lives of users (SANTOS; PEREIRA, 2020).

Pharmaceutical care at this time towards society aims at a scientific orientation in the prevention and control of the right and coherent COVID-19, through clarifications on the forms of contagion, as well as disease prevention, describing symptoms and especially preventing and combating self-medication. Needing to be taken into account that, the pharmacist becomes in the face of social isolation the health professional with greater access to the population (SILVA, 2020).

That said, that group of the population that has in its history some kind of chronic comorbidities, needs greater attention at such a delicate time, needing to be considered that they should maintain the treatment s to which they are necessary for the maintenance of their health. Where, is the same part of the population, the most fatally hit by COVID-19. Therefore, pharmacists should be more attentive to these patients, passing guidelines in such a way that their pharmacotherapy should be maintained, followed by strict dosages and schedules, prescribed by physicians, and not using self-medication (SILVA, 2020).

Thus, it is perceived that the influence suffered by the population in the practice of self-medication is very great, especially for the part that presents a greater difficulty in accessing the health media, the power of the media that works in the dissemination of released selling drugs is very incisive. This tends to become an increasing incentive to practice self-medication. All this, taking into account that a large part of the population comes to have a completely wrong view, through advertising campaigns. Thus, creating the perception in the sense that a given drug without the right medical prescription does not bring any kind of harm to

health. Through a very superficial control, the advertisement ends up stimulating the use of those medications that do not require medical prescription for sale, which ends up resulting in the apparent not being placed important information around the safety necessary for consumption, where only the benefits of medication are exposed (LEAL, *et al.*, 2021).

4. Conclusions

In this context, the study demonstrates that during the pandemic the uncontrolled consumption of drugs incorrectly increased. The practice of self-medication took on the alleged treatments for COVID-19. It is worth mentioning how much this practice can bring undesirable effects to health. Some factors have boosted the irrational use of medications, such as: fake news, isolation, internet with biased information to lean towards self-care regardless of health knowledge or assistance of a trained professional.

Thus, it is necessary to promote educational actions aimed at raising awareness and guiding the population about rational use, mainly guided by the pharmaceutical professional, who has been acting in front of the pandemic, making an essential professional together with a multidisciplinary health team, explaining the possibilities of having drug interaction, adverse reactions, without medical prescription, without having guidance for proper use, to be able to take the medication without any serious health problem.

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