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PROFILE OF PATIENTS USING HYDROQUINONE IN TREATMENT OF MELASMA

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ABSTRACT

This article presents the interest in studying about the use of hydroquinone for the treatment of melasma by patients with hyperpigmentation as a cutaneous alteration, characterizing the profile of these patients, and to verify their knowledge about the risks caused by indiscriminate use. This drug also describes the main risks of using hydroquinone without medical and pharmaceutical guidance, pointing out the importance of the pharmaceutical professional during the dispensing of hydroquinone. This is a descriptive, cross-sectional research with a quantitative approach, conducted in a community pharmacy in the city of Belo Campo.

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INTRODUCTION

The search for treatments that lead to skin depigmentation is directly related to the care of aesthetic appearance and, consequently, to the self-esteem of people who present occasional changes in skin color, such as hyperchromias. The demand for depigmenting acids has been growing, despite the undesirable effects that some substances may have (Bardasson; Pereira, 2018). The skin is the largest organ of the human body, covering the entire external surface and plays a fundamental role as a defense system against infections and UV radiation of sunlight, regulates body temperature, prevents dehydration, among other functions. It is composed of two layers: the epidermis and dermis (Korac; Khambhola, 2011). The epidermis is composed of four cell types, including melanocytes, cells that perform melanogenesis, that is, synthesize melanin from tyrosine oxidation by tyrosinase, producing a yellowish-red or black-brown pigment responsible for determine skin color, contributing as a direct protection factor to damage caused by UV rays. Within the melanocyte cytoplasm are melanosomes, which are responsible for the storage of melanin and also the tyrosinase enzyme (Mendonça, 2014). When there is a change in the process of melanin production, and in the case of excessive synthesis in the production of this pigment, occurs the development of diseases

known as hyperchromias, which lead to changes in skin tone. One of these diseases is hypermelanosis, known as melasma. (Mohiuddin, 2019). To make the diagnosis, the patient is submitted to Wood's ultraviolet light, and the amount of light that penetrates the epidermis is evaluated according to its absorption by melanin, thus increasing the color, which allows identification (Hammerschmidt *et al*., 2012). Melasma is a skin hyperpigmentation that occurs in sun-exposed areas of the skin, under the influence of genetic factors, hormones, medications, cosmetics, pregnancy and other agents that trigger excessive melanin production. It appears mainly on the face, but may also occur in the upper limbs, neck and chest (Newaj, 2019). It is characterized by brown spots and irregular edges, symmetrically distributed on the face, can affect both men and women, but the most common is in women of childbearing age (Wolff, 2011).

Among the depigmenting agents to reverse the effects of melanin overproduction is hydroquinone, an active ingredient used to treat melasma, the results of which are observed in a short period of time, and for this reason is prescribed by dermatologists and also because it is acquired. Easily in pharmacies and drugstores (Metsavaht, 2017). Hydroquinone, also known as 1,4-diixoxybenzene, is an aromatic compound of the phenol group, and its mechanism of action is to block the oxidative action of the tyrosinase enzyme, which converts tyrosine to melanin, altering the structure of melanocytes, which in turn lead to the degradation of melanosomes, where melanin is stored (Üstündağ Okur *et al*, 2019). According to what has been described, the problematization that guides the elaboration of this research proposal is as follows: What is the profile of patients who use hydroquinone to treat melasma? To what extent can easy access to the hydroquinone drug cause risks to the patient's health? To what extent can the pharmaceutical professional contribute to the patient's health in the treatment of melasma? Based on this problematization, it is argued that patients using hydroquinone have a very heterogeneous profile, and that easy access to this drug leads to its use in an indiscriminate manner, since they do not know the potential risks that this drug may cause. In this way the pharmacist can advise on safe use, making them aware of the potential risks of using hydroquinone. Another hypothesis considered is that, even knowing about the potential risks that this drug may cause, patients choose to use hydroquinone for the treatment of melasma. Because it is a widely used drug for the treatment of melasma, the development of this research is justified by the fact that hydroquinone is a substance that presents potential risks to the patient's health, and the interest of investigating which information leads the patients. Patients to use hydroquinone for this type of treatment. Thus, the general objective of this research is to characterize the profile of patients between 20 and 40 years old, living in the city of Belo Campo, who use hydroquinone in the treatment of melasma, and to verify their knowledge about the risks caused by the indiscriminate use of this drug medicine.

METHODOLOGY

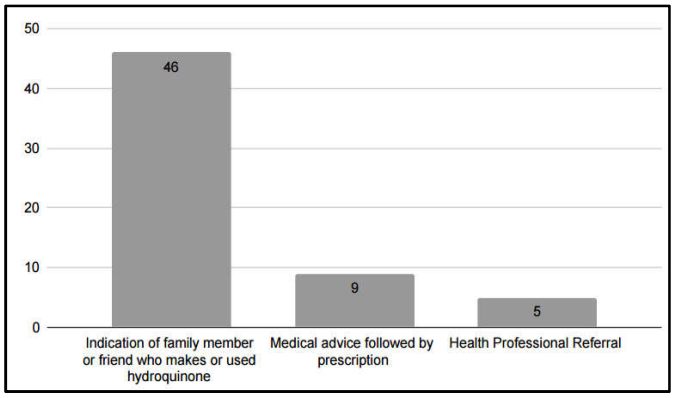
The type of research proposed in this paper is based on the description of the profile of patients who use hydroquinone in the treatment of melasma, pointing out the factors that influence patients to choose hydroquinone, therefore, it is a research descriptive. The study was carried out in a community pharmacy located in the city of Belo Campo, Brazilian municipality of the state of Bahia, latitude 15º 02 '18 "S and longitude 41º 15' 35" W. The research was carried out through a cross-sectional view quantitative approach, in which the data collection was performed over a period of two months. The collection instrument was a form with twelve objective questions, adapted from Peixoto (2008), whose questions were:

- Do you use hydroquinone to treat skin blemishes? Yes or no;
- What was the reason for choosing hydroquinone to treat skin blemishes? If medical advice, followed by prescription, indication of family member or friend who makes or has already used hydroquinone, health professional referral or advertising;
- If so, did you seek information or clarification on hydroquinone? Yes or no;
- If you answered yes in the previous question, where did you look for this information? Bula, Healthcare Professional, Internet, Family or friend who makes or has used hydroquinone;
- Was the information received understood? Yes or no;
- Did you comply with the guidelines according to the information received? Yes or no;
- Do you know the potential risks of hydroquinone in treating skin blemishes? Yes or no;
- How long have you been using hydroquinone? First time, two months or more than six months;
- If this is not the first time you use hydroquinone, have you noticed any undesirable effects? Yes, which one? Not;
- When buying hydroquinone always receive advice from the pharmacist? Yes or no.

The study population refers to patients who use hydroquinone for the treatment of melasma, including patients in the urban area, who are in their twenties and forties, regardless of social class and purchasing power. Sixty-five patients were approached, and only 60 agreed to participate and complete the form. Patients treated for melasma using any substance other than hydroquinone were excluded; and patients residing in the countryside. Search results were tabulated using Google Forms, a Google tool that enables you to create survey forms and questionnaires, providing spreadsheet data and graph results.

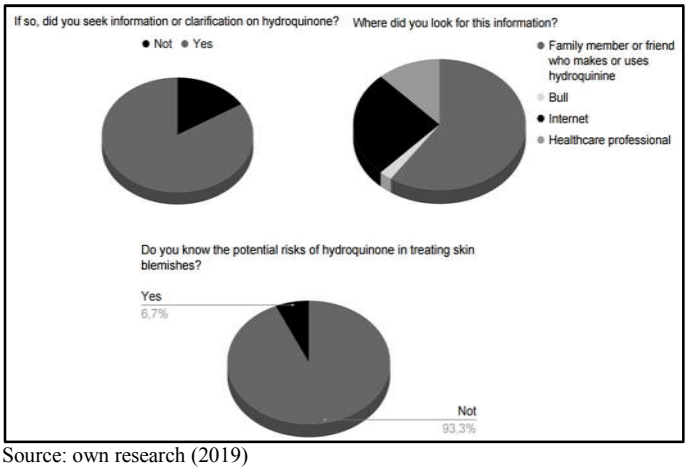
RESULTS

Data collection of patients who used hydroquinone for melasma treatment occurred in August and September 2019, obtaining a sample of 60 patients. The results indicate, with regard to gender, a prevalence of females (96.4%), with the age group studied from 20 to 40 years. Regarding the reasons that led to the choice of hydroquinone for the treatment of melasma, according to graph 1, most patients answered that they use hydroquinone as a family member or friend, and only nine use it for medical advice, as shown. Points graph below. Regarding patients who use hydroquinone as a family member or friend, when asked about information and clarifications about hydroquinone, 84% said seek this information from any source, and 59.5% used their family or friend to obtain the dosage and care for the use of hydroquinone, 26.2% sought this information in internet searches, 11.9% resorted to the professional of health and only 2.4% read the package leaflet.



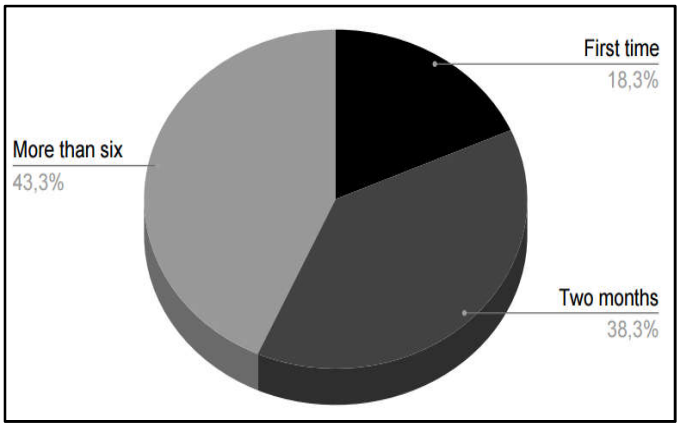
Source: own research (2019)

Graph 1. Reason for the use of hydroquinone in the treatment of melasma



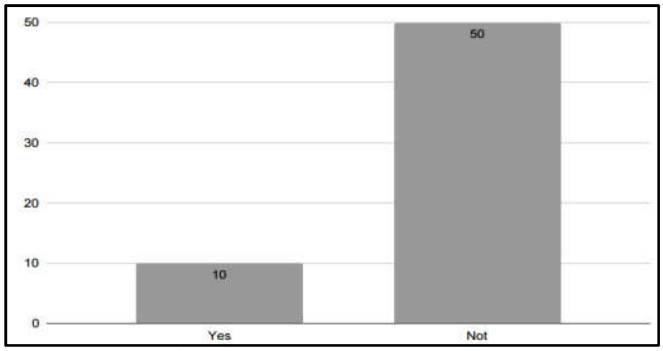
Source: own research (2019)

Figure 1. Source of information for hydroquinone use



Source: own research (2019)

Graph 2. Time period of patients using hydroquinone



Source: own research (2019)

Graph 3. Patients receiving pharmaceutical guidance

As shown in the figure above, regarding patients' knowledge of potential risks related to hydroquinone use, the results show that 93.3% of patients do not know the potential risks of hydroquinone use. The risks are more frequent in patients who use this substance for a period beyond the recommended six months. Graph 2 shows that 43.3% of patients use hydroquinone for more than six months, increasing the risk of the patient developing exogenous ochronosis and confetti depigmentation on the skin. Another aspect to be analyzed concerns the importance of the pharmaceutical professional during the dispensing of hydroquinone. Graph 3 shows that of the 60 patients, only 10 received pharmaceutical advice, representing 16.7% of the population approached.

DISCUSSION

The present study indicates a female prevalence in the search for treatments for melasma using hydroquinone as a depigmentant. It is justified because it is a skin disorder that can affect both men and women, but the most common is in women of childbearing age (Wolff, 2011). Indiscriminate use of depigmenting medication without prescription and without the advice of a healthcare professional, use in higher concentrations than indicated, not using sunscreen and maintaining treatment for longer than recommended has led to adverse effects on the skin. , due to the toxic effect of substances on melanocytes, such as hydroquinone when used without proper care (Hein; Araújo, 2012). Thus, hydroquinone drug when used for a long time and in concentrations above the indicated may cause undesirable effects on the skin such as redness, inflammation, peeling, itching, and even irreversible reactions, such as exogenous ochronosis, depigmentation. confetti in previously treated regions (Shihab *et al*, 2018). Exogenous ochronosis is a chronic hyperpigmentation that occurs at the site previously treated with hydroquinone. In a study by Romero *et al* (2011), three case reports were studied in which patients diagnosed with melasma, who had been treated with 4% hydroquinone for four years, developed exogenous ochronosis. also presented depigmentation in confetti. Exogenous ochronosis is characterized by grayish or bluish-black spots that appear on regions of the face, back, and back (Hein; Araujo, 2012). It is a pathology that is difficult to treat and its prevention is essential based on the use of low concentrations of hydroquinone for less than six months and discontinue use if no results are obtained (Da Silva Carvalho *et al*, 2016).

With regard to confetti depigmentation, Shibah*et al* (2018) point out that this manifestation is a reaction resulting from the use of hydroquinone-based products, and is characterized as an irreversible hypopigmentation, in which whitish spots arise due to non-production melanin at the affected site, which is one of the risks associated with the use of melanin in the treatment of melasma. For safe results, hydroquinone must be used at concentrations between 1.5 and 4%. In addition, care must be taken, such as applying only to smudged locations, not leaving with the product exposed to the sun, always using sunscreen and not exceeding the six-month use period, however if the results are obtained before this period, it is recommended to discontinue the application, thus concluding treatment (Üstündağ Okur *et al*, 2019). The practice of self-medication in the treatment of melasma and consequently the irrational use of this substance is one of the causes of the undesirable effects related to the use of melasma, and consists

of self-care when the patient uses the medicine without the guidance of a health professional. In this context, the performance of the pharmaceutical professional as an easily accessible health agent in pharmacies and drugstores is fundamental (Fernandes; Cembranelli, 2015).

Final Considerations

According to the results obtained, the present study indicates that most patients (76.7%) use hydroquinone through family or friend indication, who make or have already used this substance for the treatment of melasma. However, they are not aware of the potential risks caused by this drug, as the search for information was not sufficient to alert these patients to the undesirable effects of hydroquinone, such as exogenous ochronosis and confetti depigmentation, especially to patients who use this drug for more than six months, which is contraindicated. It is in this context that the dispensation guided by the pharmaceutical professional is indispensable, having the responsibility to warn about the risks to patients who undergo the use of hydroquinone for the treatment of melasma, especially when it comes to self-medication, and to advise on the possibility of treatment. , based on a medical prescription, with alternative substances that offer greater safety.

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