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Study of Community Pharmacists' Professional Practices in Acne Management in Northern Morocco

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Abstract

The community pharmacist is an accessible healthcare professional for patients with dermatological issues, particularly acne, which is a benign skin condition that can significantly impact adolescents' self-esteem. Acne is characterized by excessive sebum production, increased keratinization, and the influence of the skin microbiota, along with factors like genetics and the environment. Often localized on the face, acne is a major concern for teenagers, who seek solutions through social media. Finally, the pharmacist plays a crucial role in managing acne by providing tailored advice when dispensing treatments in the Tangier region of Morocco.

Materials and Methods

We conducted a cross-sectional study over a period of 6 months, between February and August 2023, in the Tangier region. All community pharmacists and their staff who completed the entire questionnaire were included in this study.

Data collection was conducted using a Google Forms questionnaire comprising several sections, analyzing sociodemographic and anamnestic data, as well as data on pharmacist conduct.

Results

A survey conducted in pharmacies resulted in 130 interpretable responses, with 29% men and 21% women. Most respondents (79%) were aged 25 to 50, and acne consultations were higher in rural areas. Dermatologists prescribed acne treatments in 60 cases, while general practitioners did so in 25. Community pharmacists primarily offered general advice, emphasizing sunscreen for acne-prone skin, and addressed dietary concerns in 30% of cases. A majority (69%) prescribed dermo-cosmetics, with local treatments or oral antibiotics given in 27% of cases. Notably, 50.9% of pharmacists recommended isotretinoin without medical advice, and 96.2% referred severe cases to specialists. Most treated mild acne (80.5%) and estimated treatment duration varied, with 60% suggesting 1 to 6 months. Only 23 pharmacists treated women with hormone therapy for acne.

Conclusion

In light of this study, it is concluded that awareness campaigns, continuous training, and control of the practices of community pharmacists and pharmacy assistants have great importance and help reduce the teratogenic effect, antibiotic resistance, and improper use of certain molecules.

Keywords

Acne; pharmacist; education; therapeutic; code of ethics.

Introduction

The community pharmacist is an accessible healthcare professional often consulted by patients suffering from dermatological issues [1]. Although dermatology is an extensive and complex medical specialty, acne is generally considered a benign and chronic skin condition [1]. Acne, a chronic inflammatory disease, is characterized by three main elements: excessive sebum secretion, increased keratinization, and the impact of the skin microbiome. However, other factors such as genetic predispositions, hormonal variations, environmental influences, and the patient's lifestyle must also be taken into account [2]. Primarily affecting adolescents, this visible skin condition can significantly impair self-esteem and body image. More than half of adolescents consider their acne embarrassing, and 63% believe it disrupts their social interactions [2]. According to the WHO definition, adolescence is a period of intense change between childhood and adulthood, characterized by rapid growth and significant transformations [3]. The impact of acne, often localized on the face an area that is highly exposed—can become a major concern for many adolescents. Regarding the management of this population, they form a complex group that tends to connect with their peers, and social media has developed within this community spirit. Adolescents use social media to seek solutions for alleviating their dermatological problems [1]. Finally, we will develop the important role of the community pharmacist in managing acne and the appropriate advice given when dispensing an acne treatment prescription in the Tangier region of Morocco.

Materials and Methods

We conducted a cross-sectional study over a period of 6 months, from February to August 2023, in the Tangier region. All community pharmacists and their staff who completed the entire questionnaire were included in this study. To carry out this survey, an online questionnaire consisting of 20 questions was designed. This questionnaire was completely anonymous, and its distribution was approved by the ethics committee. It was administered via the Google Form platform to obtain a comprehensive overview of pharmacists' practices and attitudes toward acne management in the region. The survey used a questionnaire in French, which included several sections analyzing sociodemographic and anamnesis data, as well as pharmacists' practices. Data collection, entry, and analysis were performed using "IBM SPSS 25" software.

Results

The distribution in pharmacies resulted in a panel of 160 respondents. After applying the exclusion criteria, we obtained 130 interpretable anonymous responses. Among the 130 respondents, men represented 29%, while women accounted for 21%. Seventy-nine percent were aged 25 to 50 years, 20% (N = 20) were between 20 and 25 years, and 1% (N = 3) were under 20. The number of individuals consulting pharmacists for acne management was higher in rural areas (50 acne patients per week compared to 10 in urban areas). Pharmacists and pharmacy technicians also received weekly prescriptions for acne treatment from dermatologists, general practitioners, or other specialists. Dermatologists prescribed acne treatment in 60 cases, while general practitioners did so in 25 cases.

Regarding first-line treatment provided by community pharmacies, it mainly consisted of general advice. Pharmacists recommended using sunscreen suitable for acne-prone skin when exposed to the sun and protecting the skin from this exposure due to the risk of photosensitization from certain topical treatments, the expected "rebound effect" of sunlight on acne weeks after exposure, and the risk of hyperpigmentation of existing scars, noted in 40% of cases. Dietary questions were raised in 30% of instances, while the use of cosmetic products and the search for environmental factors (such as stress and smoking) were mentioned in 20% and 10% of cases, respectively. The majority of pharmacists (69%) prescribed dermo-cosmetics, including 24% prescribing cleansing gels, 20% moisturizing creams, 10% micellar water, and 6% anti-blemish creams. Local treatments or oral antibiotics were also prescribed in 27% of cases for acne treatment. Notably, 50.9% of pharmacists recommended isotretinoin without medical advice, and 20% suggested cyclines for children under 8 years old.

In terms of the types of acne treated in pharmacies, 55.1% of pharmacists addressed mixed acne, 32.2% treated inflammatory acne, and 12.7% focused on retention acne. Most cases managed by pharmacists and their teams were mild forms (80.5%), while in severe cases, 96.2% referred patients to a specialist. When asked about the minimum and maximum duration of acne treatment, responses included: based on progress (33%), see a doctor (7%), 1 to 6 months (60%), and more than 6 months (4%). In response to the question "do you treat some women with acne using hormone therapy," the answer was yes in 23 cases and no in 107 cases.

Discussion

Reminder about Acne: The skin is the largest organ of the human body, serving as a protective barrier and playing an essential role in temperature regulation, hormonal production, and immune function. It consists of three layers: the hypodermis, the dermis, and the epidermis. Acne, a chronic inflammatory disease of the pilosebaceous follicle, affects 80% of adolescents between the ages of 12 and 20, with a peak incidence between 14 and 17 years. Its development is influenced by three main factors: keratinocytes, sebaceous glands, and the bacterium *Propionibacterium acnes* [4-5].

The pathophysiology of acne involves seborrhea due to hormonal stimulation and stress, an increase in the proliferative activity of the epithelium, as well as a key role of *P. acnes* in the formation of lesions. Genetic factors also influence the sensitivity of sebaceous glands to androgens, contributing to the transmission of acne [6].

According to our survey, cleansing gels, moisturizers, micellar water, anti-blemish creams, benzoyl peroxide, and oral antibiotics are commonly recommended pharmacy products in our region. This could be explained by a high therapeutic demand from patients and a lack of awareness of Moroccan legislation among some pharmacy technicians [7]. According to Moroccan pharmaceutical legislation, cleansing gels and antiseptics can be over-the-counter products, while cyclines, oxacillin, erythromycin (topically or systemically), adapalene, other topical retinoids, and benzoyl peroxide are not considered over-the-counter products [7]. From a pharmacovigilance perspective, these products could lead to complications: oxacillin, for example, is associated with allergic reactions such as urticaria and maculopapular rashes, as well as digestive disorders and, more rarely, hematological disorders such as anemia, thrombocytopenia, and neutropenia [8]. Topical use of erythromycin can cause irritative or allergic reactions, as well as a risk of disrupting bacterial flora. Several studies have highlighted an increase in resistance to erythromycin [9]. Adapalene and other retinoids are likely to cause irritative dermatitis, which is often common. Their use is strongly discouraged in pregnant women during the first trimester [10]. Similarly, while benzoyl peroxide is a highly effective substance in the treatment of inflammatory acne, it can lead to phototoxic reactions, irritations, or skin allergies, with a possibility of discoloration of hair and clothing [10,11]. In terms of cleansing gels and antiseptics, adverse effects are rare, except for a few cases of irritative dermatitis. Oral cyclines are commonly used in the treatment of acne; however, they can sometimes cause serious adverse effects, such as skin photosensitivity, esophageal ulcerations, and vestibular and hematological disorders. Due to these risks, these molecules should not be recommended, especially since there are risks of inefficacy and the development of resistance in *Propionibacterium acnes* [11,12]. Moreover, our pharmacists are aware of this issue. Sunscreen is among the most commonly recommended products, and its application methods are well known and reiterated for each patient [13]. A British study conducted in 2022 highlighted the positive impact of pharmacists in managing infections [14]. The "How to..." resources regarding acne have been generally evaluated as helpful for supporting the examination of patients suffering from acne. Conversely, there is evidence of the impact of pharmacists in other clinically specialized areas; preventing patient harm and reducing prescription errors [14]. Another Tunisian study [15] emphasized that the decision to stop recommending anti-acne medications in the Tunisian region is based on the recognition of the need for more in-depth training and continuing education for pharmacists and their staff. Indeed, a better understanding of Tunisian

pharmaceutical legislation is crucial to ensure professional practice complies with existing standards and regulations [16]. By offering continuing education and updating the knowledge of pharmacy technicians on local pharmaceutical legislation [16]. In other countries, such as Canada, particularly in Quebec [17], community pharmacists have seen their professional activities evolve in recent years, including the possibility of prescribing for certain conditions and biological analyses, renewing prescriptions, and increasing their involvement in prevention and public health [17].

A study conducted by Ghanem et al. in 2020 in Palestine revealed that 10% of pharmacists managed mild to moderate acne vulgaris. In contrast, our study shows that pharmacists refer patients with acne only if it is resistant or moderate to severe [18].

Conclusion

The assessment of pharmacists' knowledge in the management of acne in Morocco is a crucial issue that deserves special attention. Indeed, acne is one of the most common skin conditions, affecting millions of people worldwide, including in Morocco. In many cases, pharmacists are the first healthcare professionals consulted by patients suffering from acne due to their accessibility and central role in dispensing medications. By strengthening pharmacists' knowledge, we can not only improve clinical outcomes for patients but also contribute to reducing the overall burden of acne on the Moroccan healthcare system.

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