

Dermatitis in community pharmacies: a survey on italian pharmacists' management and implications on corticophobia

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Abstract

Community pharmacists represent an important resource for the promotion of a safer and more effective self-management of common skin diseases, as well as the provision of educational support on therapies prescribed by clinicians, ultimately improving patients' adherence. In this study, a semi-structured survey was administered to 154 Italian community pharmacists, in order to acquire information on their counseling activity on dermatological disorders. Collected data provide an overview on the frequency and methodology of counseling offered in Italian community pharmacies, identifying knowledge gaps and misbeliefs. In particular, an overall negative opinion on topical corticosteroid therapy emerged among pharmacists, unveiling a phenomenon previously described as corticophobia. Starting from this observation, we discuss the risks for patients' adherence, associated with corticophobia among pharmacists. Lastly, we briefly report on the main tools desired by pharmacists to improve their education on dermatology, envisioning their implementation with the aim of a more effective counseling.

Keywords

community pharmacist, eczema, dermatological conditions, corticophobia, counseling

Introduction

Skin diseases are a major global health burden, representing the fourth largest cause of disability worldwide (Karimkhani et al. 2017). Among skin diseases, dermatitis is the most common one. More precisely, eczematous dermatitis constitutes a serious and often underestimated medical problem, causing a significant impact on social, psychological and economic aspects of life (Weidinger et al. 2018). Dermatological disorders affect the 15% of the Italian population (almost 9 million people), with eczema being highly prevalent among young adults, especially among women

(Pesce et al. 2015). Requests for help and consult made by patients suffering from dermatitis are the most frequent occurrence in community pharmacies, especially when the pathology can be self-managed, without the direct involvement of the general practitioner (Tucker and Duffy 2014). More specifically, it was estimated that pharmacists' consult on skin-related issues accounts for 12–23% of all the counseling activity (Tucker and Stewart 2015a).

In the last decade, the dermatological area (defined as cosmetics, nutritional supplements and medicinal products with an effect on the skin health status) has witnessed a progressive growth, reaching +1.8% revenue in 2018

(Fauda 2018; NewLine Ricerche di Mercato 2018). These data do not allow to distinguish between dermatological products dispensed following a physician prescription and those recommended directly by pharmacists. In any case, community pharmacies are generally recognized as the highest standard for the purchase of over the counter (OTC) products for sensitive/hyper-reactive skins.

Despite the important role of pharmacies and pharmacists in this field, little is known on the actions taken by the pharmacists when informed of the patient's dermatological ailments, on the frequency and types of conditions reported in the pharmacy setting, on the level of education in this field, and on the presence of operative tools and guidelines shared with the medical profession (Tucker 2012).

As described by Tucket et al. for the British system (Tucker and Duffy 2014), also in Italy the role of pharmacists in the management of dermatological diseases appears to be poorly defined, despite its great potential impact. Indeed, the widespread network of community pharmacies, the ease of access for patients, and the possibility for personalized counseling and purchase in the same context, represent some of the many advantages which may be beneficial for the management of minor self-care dermatological conditions, as well as for monitoring of long term therapies (Federfarma 2019).

On the whole, community pharmacists benefit of a unique position that provides them with the possibility to inform patients about the appropriate use of topical therapies prescribed by general practitioners. Topical corticosteroids therapies (TCT) are extremely common treatments for both acute and chronic dermatological disorders (Tan et al. 2014; Wollenberg et al. 2018), and are effective and secure when used appropriately (FERENCE and Last 2009; Langan et al. 2020). Nevertheless, the fear of using topical corticosteroid – also defined as corticosteroid phobia or corticophobia – is frequent among patients. Misleading and incorrect information provided by health care professionals contribute to such unfounded fears, which may adversely affect treatment outcomes (Feldman et al. 2017; Li et al. 2017).

Although some studies have been published on the pharmacist's perception with regards to TCT, still little data is available on the opinion of Italian pharmacists. Specifically, a recent paper detected knowledge gaps and misconceptions on TCT among community pharmacists in UK (Lau and Donyai 2017). In another work, community pharmacists showed the highest prevalence of corticosteroid phobia among different groups of Belgian healthcare providers (pharmacists, pediatricians, general practitioners and dermatologists) (Lambrechts et al. 2019).

Thus, the objective of the present study is to describe the type and frequency of dermatitis reported by a sample of Italian community pharmacists, their current role in the management of such conditions and the knowledge gaps which need to be filled in order to achieve a more efficient professional service. Moreover, this work aims at gaining information on the prevalence of corticophobia among community pharmacists, determining the effect of their opinion on patients' adherence to TCT.

Methods

A semi-structured questionnaire composed of 19 questions was designed by a focus group of 13 pharmacists, experts in dermatology and skin care products. The survey consisted in three sections, named "dermatology", "treatment and role of the pharmacist", and "educational needs and tools". The complete survey is reported in the Supporting Information to this article. The first section was specifically developed with the aim of investigating the type and frequency of the most commonly encountered skin ailments in the pharmacy setting. The second section focused on three main points: 1) determining the level of trust of the patients toward the pharmacist as a healthcare professional able to provide help in the management of dermatitis; 2) describing the role of pharmacists in the management of dermatological ailments; 3) assay the perception of pharmacists and patients towards the use of topical corticosteroids. Lastly, the third section was devoted to the examination of the educational needs of pharmacists in the area of dermatological issues.

The aforementioned questionnaire was administered to a sample of 200 community pharmacists, which had been chosen among the members of SIFAC (Società Italiana di Farmacia Clinica) by ensuring that the entire national territory would have been represented. Overall, the selected professionals had been employed in a community pharmacy in Italy for at least one year. Community pharmacists were contacted in person or through email by a dermatology-trained pharmacist, who asked them to complete the survey. Questionnaires were either administered during an interview or sent through the Google Drive platform (Google LLC.US). The answers provided by the pharmacists were treated as categorical variables and presented by means of absolute frequencies and percentages.

Data were collected between January and March 2017 and analyzed using Excel (Microsoft, US).

Results and discussion

The structure of this section follows the general scheme of the questionnaire. Results obtained from a specific question are identified with the letter Q followed by the corresponding section letter (A, B, C) and question number.

A total of 154 pharmacists responded to the questionnaire (response rate 77%).

Section A: Dermatology

In this section, the interviewed subjects were asked to define the term eczema (QA1), to list the different types of eczema they have knowledge about (QA2) and those most frequently encountered in their pharmacy (QA3). Each participant could provide multiple answers to these questions. Pharmacists were also asked to estimate the prevalence of isolated manifestations/complex diseases among the eczematous cases encountered (QA4). When eczema was identified as a part of a complex disease, the

questionnaire required to indicate the suspected underlying cause of the disease, as disclosed by the patient (QA5). Lastly, the frequency of counseling normalized by age group (children, teens, adults and elderly) was investigated (QA6). A single answer was possible for QA4-6.

As for QA1, 170 different definitions were collected, showing a wide variety in the terms employed and the completeness of the definition. The answers were analyzed and organized into 10 representative groups by the investigators (Table 1). Collected data evidenced that 40.3% of responders (n = 62) define such condition as “Skin inflammation with erythema and/or vesicles and/or itchiness”. The definition of eczema provided by Merriam-Webster dictionary (*Eczemas | Definition of Eczemas by Merriam-Webster*, no date) is: “An inflammatory condition of the skin characterized by redness, itching, and oozing vesicular lesions which become scaly, crusted, or hardened”.

Table 1. Definition of eczema given by pharmacists.

Definition	Pharmacist answers (n = 170)
Skin inflammation with erythema and/or vesicles and/or itchiness	62 (40.3%)
Skin inflammation with rash	27 (17.5%)
Disease of epidermis	23 (14.9%)
Irritation of the dermis	23 (14.9%)
Itchy skin	15 (9.7%)
Inflammation of the dermis	13 (8.4%)
Allergic reaction with itchiness of different intensity	3 (1.9%)
Inflammation with redness and swelling	2 (1.3%)
Skin redness with vesicles	1 (0.6%)
Cutaneous disorder	1 (0.6%)

Among the different types of eczemas (QA2), atopic dermatitis, irritant contact dermatitis and seborrheic dermatitis resulted to be the most known by pharmacists, with rates of 79.9% (n = 123), 74.7% (n = 115) and 64.3% (n = 99), respectively (Figure 1). The same conditions resulted to be also the most frequently observed by pharmacists (QA3), as reported in Figure 2.

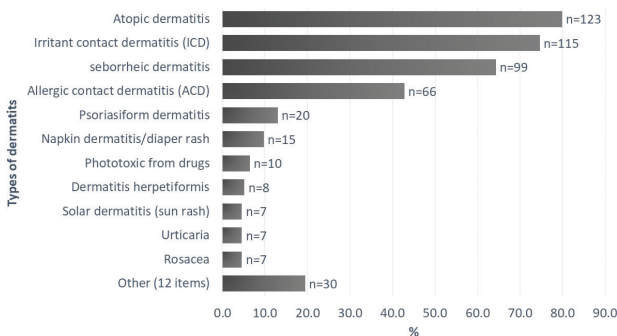


Figure 1. Types of dermatitis known by pharmacists, expressed as % of pharmacists naming the specific ailment. Multiple answers were possible for this question.

The underlying cause of complex clinical cases with eczematous manifestations (QA5) was reported to be occupational in 42.2% of cases (n = 65). Genetic predisposition was indicated in 30.5% of cases (n = 47), based on the clinical history of close relatives. Lastly, contact with

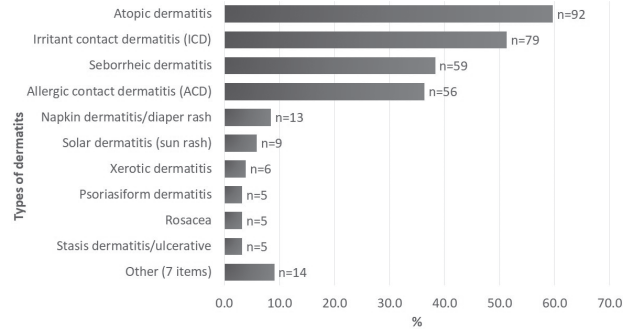


Figure 2. Types of dermatitis encountered in the pharmacy setting, expressed as % of pharmacists reporting the case. Multiple answers were possible for this question.

cosmetics and detergents, side effects of medicines and food allergies were recorded as potential causes in 10.4%, 10.4% and 8.4% of the cases, respectively.

The conditions herein described are differently affecting the general population, with an incidence that varies by age, gender and co-morbidities. In both acute and chronic dermatoses, pharmacists are asked to provide an adequate therapeutic and educational support to the patient. Therefore, the frequency of counseling activity for each age group was investigated (QA6). Results show that the majority of pharmacists provide counseling to children, adults and elderly at least once weekly. Teens tend to ask for the pharmacists consult less often, the most reported frequency being less than four times per month.

Section B: Treatment and role of the pharmacist

In the first part of section B, questions focused on understanding the level of patients’ trust toward the pharmacist. It was reported that the majority of patients (57.1%, n = 88) did not visit the physician before asking the pharmacist for counseling (QB1). This is probably linked to the perception of the pharmacy as a readily accessible health-care facility. The easier access to pharmacies compared to medical offices, the trust in the pharmacist’s competences and the chance to quickly find a treatment (in case of minor conditions) are among the most reported reasons behind this choice (Tucker and Stewart 2015b). Moreover, since the pharmacist can provide a reliable opinion on the severity of the condition, complicated and uncertain cases would be immediately directed to the physician, without causing any delay in diagnosis and treatment initiation.

The following parts of section B were designed to describe the actions taken by the pharmacist when presented with a case of dermatitis, as well as to survey their opinion on TCT. As a preliminary question, pharmacists were asked to indicate the treatments prescribed by physicians to patients with eczema (QB3) (multiple answers were possible). TCT resulted to be the most frequently prescribed treatment (71.4%, n = 110), followed by moisturizing creams (24.7%, n = 38). Pharmacists were thus interviewed about their opinion towards TCT (QB4). Multiple open answers were possible for this question.

The total of 184 opinions were analyzed and grouped in three levels: totally positive, partially positive, and negative. Only a minor fraction of pharmacists (26.1%, $n = 48$) declared to be totally positive towards TCT.

A significant misalignment between opinions from dermatologists and pharmacists has been therefore detected: major studies highlighted that pharmacists advise patients to reduce the doses (Raffin et al. 2016), to limit the duration of treatment, and tend to emphasise, during counseling, the possible occurrence of adverse effects (Millard and Stratman 2019).

These high levels of mistrust towards topical steroid therapy in our survey confirm the data obtained in other international contexts. For instance, Lambrecht et al. showed that community pharmacists and general practitioners are highly reluctant to prescribe corticosteroids for dermatological ailments (Lambrechts et al. 2019).

Such reluctance can be referred to as *corticophobia*, or fear of corticosteroids. The term *corticophobia* refers to concerns, doubts, or hesitation on the use of corticosteroids in patients, caregivers or health care professionals (Mueller et al. 2017).

Section B subsequently examined the opinion on TCT by patients, which was investigated through QB5 (adherence, namely, the degree of adherence to the prescribed or recommended therapeutic scheme) and QB9 (compliance, intended as the degree of appreciation or approval of the therapy by the patient). The majority of pharmacists (66.9%, $n = 103$) believes that the patients prescribed with TCT are adherent to the therapy. A similar trend was reported when pharmacists were asked about the patient compliance to TCT: 63.6% ($n = 98$) of responders believe that patients are compliant with TCT. Only 11.0% ($n = 17$) of responders believe that the patient might be reluctant in accepting and following the treatment.

These results do not entirely recapitulate previous observations on the prevalence of *corticophobia* – the main cause of non-adherence to TCT (Kojima et al. 2013; Lee et al. 2015) – among patients. For instance, it has been reported that parents of children affected by atopic dermatitis – the dermatological disorder most commonly encountered in the pharmacy, according to our survey – declared fear of the adverse effects of steroids, and admitted to intentionally reduce the dose or the duration of the treatment (Smith et al. 2010; Koster et al. 2019). The issue is not limited to pediatric patients, as *corticophobia* was also evidenced among adults affected by atopic dermatitis, with a prevalence between 21% and 83% (Li et al. 2017). Many aspects can contribute to this phobia: skin atrophy, uncertainties about long-term side effects, systemic exposure through skin absorption, effects on development and growth, and confusion about the dose to be used in different formulations (Belloni Fortina and Neri 2013).

Thus, according to our data, it is possible that Italian pharmacists underestimate the issue of *corticophobia* in patients, despite being themselves reluctant towards TCT (see QB4).

As a matter of fact, as demonstrated by Farrugia et al (Farrugia et al. 2017), as many as 76.6% of patients who followed topical corticosteroid treatments reported that

they “often or always” received information from physicians or pharmacists regarding the risk of pursuing such therapies. In particular, pharmacists were more likely than physicians to recommend the use of alternative therapies. The data obtained from our survey are consistent with these results, underlining the high reluctance of pharmacists towards these therapies.

Overall, according to our survey data, more than two out of three pharmacists inaccurately believe that patients are fully adherent and compliant to topical treatments. In agreement with our data, the survey conducted by Smith et al (Smith et al. 2016) in Australia also found that pharmacists tend to underestimate non-adherence as a reason for treatment failure, albeit at a lower rate (36%). It is evident that the Italian community pharmacist's perception of adherence to therapy is altered: non-adherence to topical therapy represents a significant problem in dermatology (Furue et al. 2015). Particularly in atopic dermatitis, adherence to topical corticosteroids is low, with higher adherence rates among patients who follow these treatments for short periods of time (Ahn et al. 2017). In general, non-adherence can be triggered by a lack of understanding of the instructions on the use of topical therapy: therefore, counseling and communication from pharmacists play a key role in improving compliance (Teixeira et al. 2021).

Besides, it is known that pharmacists can play an impactful role on promoting the adherence to chronic treatments. More specifically, several studies have identified the community pharmacist as one of the main references for the patient affected by dermatitis (Wong et al. 2017; Smith et al. 2020). If properly educated on the phenomenon, we believe that pharmacists could be instrumental in helping the patients overcome *corticophobia* (Koster et al. 2021), supporting the adherence to TCT and ultimately mediating a positive prognosis of the dermatological disorder (Lee et al. 2019). A higher patient satisfaction with information on TCT was indeed predictive of more positive opinions about the use of corticosteroids, resulting in improved adherence (Lee et al. 2019).

In addition to a proper information on the treatment, many factors can influence the compliance to this therapy: *corticophobia* should be considered as a relevant one (Aubert-Wastiaux et al. 2011). In support of this vision, a recent work described that the education of pharmacy staff and targeted patient counseling by intercepting those at higher risk, was effective in reducing *corticophobia* (Koster et al. 2021).

Various interventions can be promoted by pharmacists and healthcare professionals to improve adherence to therapy. The most common ones are educational measures and treatment monitoring: electronic messages and telephone calls, patient support and/or self-management programmes or educational training programmes to name a few (Feldman et al. 2017).

Since high-quality counseling services provided by the pharmacists are needed to improve patients' education on TCT and the management of dermatological disorders (Cheong et al. 2019), the last section of our questionnaire

investigated the educational needs of the pharmacists and the potential tools to satisfy them.

Section C: Educational needs and tools

In the last section of the survey, pharmacists were asked to list the sources of their knowledge on dermatology (QC1), to indicate the tools employed in their everyday practice (QC3), and whether they felt the need to deepen their knowledge on dermatology and skin-care products (QC4).

Results showed that the majority of pharmacists gained their knowledge on dermatology from the experience grown in the workplace (58.4%, $n = 90$). Other educational resources cited by the interviewed subjects are corporate training courses (44.2%, $n = 68$) and personal study (43.5%, $n = 63$).

On the whole, to the best of our knowledge, no standardized tool shared with the medical profession is available to guide Italian pharmacists through the counseling activity on dermatological disorders.

The lack of such instrument is clearly felt among the pharmacists: over 76% ($n = 118$) of interviewed subjects claimed that a standardized approach to the dermatological counseling in the pharmacy setting would be beneficial for both patients and professionals. Moreover, the majority of pharmacists feels the need to broaden their education in the field, possibly through specific courses held by dermatologists. In this regard, Figure 3 represents the educational tools preferred by pharmacists interested in additional training.

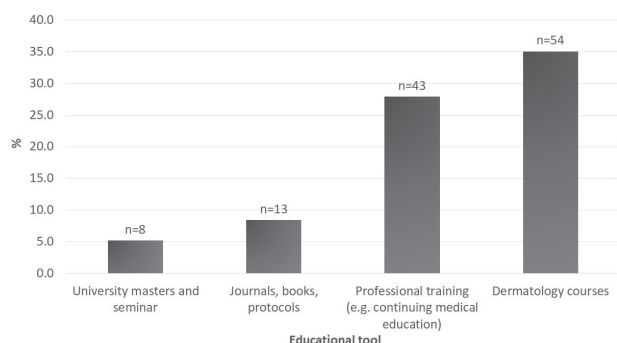


Figure 3. Educational tools preferred by pharmacists.

Previous studies on the level of knowledge of community pharmacists underlined cases of misconceptions and poor education on the use of corticosteroids (Lau and Donyai 2017). Such knowledge gaps and false beliefs might be easily perceived by the patient, incrementing the risk of corticophobia and non-adherence (Farrugia et al. 2017).

Another common issue in the pharmacy setting is how to properly communicate the correct dose of topical corticosteroid to be applied: one out of two pharmacists does not provide information on the fingertip unit (FTU) and does not instruct the patient on the correct application of the medication (Oishi et al. 2019).

A recent study (Lau and Donyai 2017) highlighted that more than 60% of pharmacists report incorrect knowledge of the number of existing corticosteroid strength classes,

and 75% consider it unimportant for patients to know the strength of their topical corticosteroid. Additionally, only 44% of pharmacists understand that side effects are rare when topical corticosteroids are used appropriately. Based on the above, it is evident that patients and healthcare professionals, particularly pharmacists, share concerns about steroid therapy. Training and re-education programmes, which specifically encompass the alignment of the therapeutic guidelines between the pharmacist and the physician, are thus highly needed also in the Italian context.

Targeted education based on courses provided by dermatologists has shown encouraging results on the knowledge of pharmacists on TCT, generating a positive shift in their attitude towards such therapy (Smith et al. 2016).

Overall, according to these previous reports from the literature, the educational tools sought by the pharmacists (Figure 3) would be suitable to fill the knowledge gaps evidenced by our survey.

Conclusions

The present study demonstrates that patients with dermatological ailments often seek for the community pharmacist's advice. Understanding how the pharmacist could improve its counseling and first-line role in the management of dermatitis is essential in order to increase the efficacy of its action on patients' quality of life.

More specifically, this research reports qualitative, original data on the pharmacists' knowledge of the dermatology field, on the type and frequency of conditions reported in the pharmacy and on the knowledge gaps and the educational tools required to fill them. In particular, a generally unfavorable opinion on the use of topical corticosteroids emerged among Italian pharmacists, who are however convinced that their patients are adherent and compliant to TCT. Such inconsistency might reveal an underestimation of the phenomenon of corticophobia by the pharmacists, which could be overcome by targeted courses and other educational tools.

Data collected by the Italian Society of Clinical Pharmacy (SIFAC) and their significance, could well represent a first step towards the development of standardized tools, jointly designed with general practitioners, which will aim at approaching dermatitis efficaciously in the pharmacy setting.

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Supplementary material 1

Questionnaire administered to community pharmacists

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Data type: questionnaire

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