

Impact of Medical Specialty on the Prescription Patterns of Topical Corticosteroid Among Healthcare Professionals

Ala Y Issa^{1*}, *Rana Abu Farhaa*², *Eman Elayeha*³, *Yasser Bustanji*⁴

¹ Department Assistant Professor of Clinical Pharmacy and Therapeutics, Department of Biopharmaceutics and Clinical Pharmacy, Faculty of Pharmacy, The University of Jordan, Amman, Jordan.

² Clinical Pharmacist, Department of Biopharmaceutics and Clinical Pharmacy, Faculty of Pharmacy, The University of Jordan, Amman, Jordan.

³ Clinical Pharmacist in Jordan University, Faculty of Pharmacy, Department of Biopharmaceutics and Clinical Pharmacy, Faculty of Pharmacy, The University of Jordan, Amman, Jordan.

⁴ Professor of Clinical Biochemistry, Department of Biopharmaceutics and Clinical Pharmacy, Faculty of Pharmacy, The University of Jordan, Amman, Jordan.

ABSTRACT

Background: Topical corticosteroids are among the most commonly prescribed skin preparations for the management of a plethora of inflammatory and allergic conditions.

Objective: The main aim of this study is to assess the discrepancies in topical corticosteroid prescription patterns and practice recommendations among various healthcare professionals and to identify factors leading to such discrepancies.

Methods: The current study is a prospective cross-sectional observational study that was conducted over a period of six months. A validated structured questionnaire was handed out to one hundred community pharmacists working in independent and chain pharmacies with only one pharmacist interviewed per pharmacy store. Prescriptions for topical corticosteroids over a period of six months were reviewed for discrepancies in prescription patterns between general practitioners and dermatologists in one hundred independent and chain community pharmacies included in the study.

Results: The most commonly prescribed topical corticosteroid for initial treatment of mild symptoms of atopic dermatitis in children by general practitioners was hydrocortisone acetate (45%), followed by mometasone furoate (33%). In contrast, dermatologists prescribed mostly mometasone furoate (48%), for the aforementioned indications followed by combination products of topical corticosteroid with an antibiotic or an antifungal (22%) for children and adults. On the other hand, Pharmacists mostly recommended an emollient as an initial treatment.

Only 14 % of pharmacists interviewed in the study recommended using the fingertip unit to quantify the proper amount of topical corticosteroids. None of the prescribers provided written instructions to patients in fingertip units. Interestingly, only 15% of pharmacists in the study were found to have adequate knowledge about topical corticosteroids use. Adequacy of knowledge was not significantly associated with age of the pharmacist (p value 0.447), gender (p value 0.628), years of experience (p value 0.288), and pharmacy degree (B.SC vs Pharm D, p value 0.444).

Conclusion: This study shows that Physician and pharmacist adherence to clinical guidelines for safe prescription of topical corticosteroids was poor. Updating Physicians and pharmacists on practice guidelines is the most urgent recommendation to improve treatment of atopic dermatitis.

Keywords: Topical Corticosteroids, Eczema, Phobia, Pharmacist Contribution, Appropriateness, Prescription Patterns, Cross-Sectional Study, Dermatologist, Primary Practitioner.

* ala.issa@ju.edu.jo

Received on 12/4/2016 and Accepted for Publication on 15/5/2016.

1. INTRODUCTION

Topical corticosteroids are currently placed as first line agents in the management of atopic dermatitis, vitiligo, lichen sclerosus and eczema flare ups and a plethora of inflammatory and allergic skin conditions^(1,2).

Atopic dermatitis is characterized by periods of

remission and acute flares. The choice of a topical corticosteroid for the treatment of inflammatory skin conditions is dependent on steroid potency, disease severity and inflammation site (table 1). Proactive intermittent therapy with low level topical corticosteroids may help prevent relapse in adolescents and adults⁽³⁻⁷⁾.

Table 1. Guidelines for choosing topical corticosteroids

Diagnosis	Potency	Warning limitations
Psoriasis , hand eczema	Class 1*	Not for face, axillae, groin, or under breasts Limit use to about 14 days. No more than 45-60 gm of cream or ointment should be used each week
Atopic dermatitis in adults	Class II & III	Not for face, axillae, groin, or under breasts Limit use to about 21 days
Atopic dermatitis in Children	IV & V Medium	Limit use in children to 7-21 days. Limit use in intertriginous areas
Eyelid dermatitis, diaper dermatitis	VI & VII	Reevaluate if disease does not respond in 28 days Avoid long-term continuous treatment in any area

* Ranked by Stoughton-Cornell classification of topical corticosteroids⁽⁸⁾.

Topical corticosteroids are among the most commonly prescribed medications in Jordan. In fact, Jordan is a reasonable representative of topical corticosteroids use in the Middle East and North Africa where most of these preparations can be directly purchased without a prescription. Nonetheless, prescriptions for topical corticosteroids are also common in patients with health insurance coverage and in the more resistant cases of a variety of skin disorders. In this healthcare system, both the physician and the pharmacist are equally responsible for verifying the selection of topical corticosteroids and determining the appropriate use for these agents.

Aim of the study

The main aim of this study is to assess the discrepancies in topical corticosteroid prescription patterns and recommendations among various healthcare professionals and factors leading to such discrepancies. The actual use of topical corticosteroids in Jordan was investigated with an experimental design that takes into consideration the contribution of community pharmacists

to the drug usage patterns. In addition, prescription patterns of both general practitioners (GPs) and dermatologists were compared with emphasis on adherence to published practice guidelines. To our knowledge, this is the first study in the region to address the current challenges and set future recommendations pertaining to the use of corticosteroids in a model where both the physician and the pharmacist determine the treatment algorithms. The same study design would be relevant to the evaluation of other classes of drugs in Jordan and other countries in the region with similar healthcare systems.

Materials and Methods

This is a cross-sectional semi-quantitative study in two of the largest cities in Jordan; Amman and Zarqa. The study was commenced in March-2012 and continued for six months. One hundred retail pharmacies were randomly selected and included in the study. In each pharmacy, a staff pharmacist was asked to fill a validated structured questionnaire delivered by hand. In addition, pharmacists were asked to recall all prescriptions

pertaining to topical corticosteroids from primary care physicians and dermatologists over a period of six months. The latter served as a means of assessing the prescription patterns for topical corticosteroids. The selected pharmacies were independent and chain pharmacies and represented about 4% of the total number of pharmacies in Jordan.

Content validity of the questionnaire was done by distributing the questionnaire on 15 pharmacies that were not included in the study. A total of 15 pharmacists were recruited in order to complete the validation process. The initial draft of questionnaire was hand delivered to the pharmacists to help finalize the structured questionnaire by eliminating or modifying unnecessary or ambiguous questions.

The final form of the questionnaire consisted of 28 questions that covered three main areas of interest. These areas included: 1) factors influencing pharmacist

recommendations, 2) prescription patterns by dermatologists and general practitioners, and 3) pharmacists' knowledge of the published practice guidelines.

Statistical analysis

Data were analyzed using statistical package for social science (SPSS) version 16. Data were presented as frequencies and percentages. Pearson Chi- Square and Fisher's exact test were used to calculate p values for categorical variables.

Results

Demographic characteristics

The demographic details of the pharmacists are shown in table 2. Females accounted for 59% of the pharmacists. About 61% of the pharmacists had more than 5 years of experience.

Table 2. Characteristics of participating pharmacists

Characteristic	Frequency (%)
Age [years]	
▪ 20-29	40 (40%)
▪ 30-39	28 (28%)
▪ 40-49	20 (20%)
▪ >50	12 (12%)
Gender	
▪ Male	41 (41%)
▪ Female	59 (59%)
Years of experience	
▪ Less than 5 years	39 (39%)
▪ More than 5 years	61 (61%)
Pharmacy degree	
▪ Intermediate college	21 (21%)
▪ Bachelor	72 (72%)
▪ Pharm D	5 (5%)
▪ Master	2 (2%)

Prescription patterns of topical corticosteroids

Table 3 shows the most commonly prescribed topical corticosteroids, as determined by the prescription records in the pharmacies that participated in the study. The most commonly prescribed topical corticosteroid for initial treatment of mild symptoms of atopic dermatitis in children by general practitioners was hydrocortisone

acetate (45%). On the other hand, dermatologists prescribed mostly mometasone furoate (48%). For initial treatment of adults, the most commonly prescribed topical corticosteroid by general practitioners and dermatologists was mometasone furoate (41% vs.38%, respectively). Mometasone furoate was also the most commonly prescribed topical corticosteroid for treatment

of disease flare ups in both children and adults (45% and 34%, respectively).

Table 3. Prescription patterns of topical corticosteroids by GPs and dermatologists

Questions	Frequency (%)
Most commonly prescribed topical corticosteroid by general practitioners to a child for initial treatment	
Hydrocortisone acetate	45 (45%)
Mometasone	33 (33%)
Combination products	8 (8%)
Others	14 (14%)
Most commonly prescribed topical corticosteroid by dermatologists to a child for initial treatment	
Hydrocortisone acetate	19 (19%)
Mometasone	48 (48%)
Combination product	22 (22%)
Others	11 (11%)
Most commonly prescribed topical corticosteroid by general practitioners to an adult for initial treatment	
Hydrocortisone acetate	35 (35%)
Mometasone	41 (41%)
Combination product	18(8%)
Others	10 (6%)
Most commonly prescribed topical corticosteroid by dermatologists to an adult for initial treatment	
Hydrocortisone acetate	19 (19%)
Mometasone	38 (38%)
Combination product	32 (32%)
Others	11 (11%)
Most commonly prescribed topical corticosteroid for treatment of flare ups in children	
Mometasone	45 (45%)
Clobetasol propionate	18 (18%)
Betamethasone valerate	21 (21%)
Diflucortolone & isoconazole	10 (10%)
Others	6 (6%)
Most commonly prescribed topical corticosteroid for treatment of flare ups in adults	
Mometasone	34 (34%)
Clobetasol propionate	32 (32%)
Betamethasone valerate	19 (19%)
Diflucortolone & isoconazole	9 (9%)
Others	6 (6%)

Pharmacist recommendations and knowledge of therapeutic and pharmacologic properties of topical corticosteroids

Table 4 shows that 60% of pharmacists recognized clobetasolpropionate as the most potent topical corticosteroid of the list of agents provided. On the other hand, only 33% of the pharmacists identified

hydrocortisone acetate as the least potent corticosteroid of the list provided.

It's common for Jordanian patients to ask pharmacists for their recommendations before seeing a physician. Hence, the questionnaire also assessed practices of pharmacists regarding the proper recommendations for treatment of atopic dermatitis and the use of topical corticosteroids.

Table 4. Pharmacists' recommendations and knowledge of therapeutic and pharmacologic properties of topical corticosteroids

Questions	Frequency (%)
Most potent corticosteroid	
Betamethasone valerate	15 (15%)
Hydrocortisone acetate	11 (11%)
Triamcinolone acetonide	9 (9%)
Clobetasol propionate	60 (60%)
Others	3 (3%)
Doesn't know	2 (2%)
Least potent corticosteroid	
Betamethasone valerate	48 (48%)
Mometasone furoate	9 (9%)
Hydrocortisone acetate	33 (33%)
Clobetasol propionate	4 (4%)
Others	3 (3%)
Doesn't know	3 (3%)
Pharmacist recommendation for treatment of eczema in an adult (first time presentation)	
Recommend use of an emollient	36 (36%)
See doctor	29 (29%)
Recommend hydrocortisone acetate	14 (14%)
Recommend mometasone	16 (16%)
Others	5 (5%)
Pharmacist recommendation for treatment of eczema in a child (first time presentation)	
Recommend use of an emollient	34 (34%)
See doctor	44 (44%)
Recommend hydrocortisone acetate	13 (13%)
Recommend mometasone	9 (9%)
Pharmacist recommendation for treatment of disease flares	
Recommend the same corticosteroid	3 (3%)
See doctor	68 (68%)
Recommend higher potency corticosteroid	18 (18%)
Recommend mid-high potency corticosteroid regardless of the previously used one	10 (10%)
Clobetasol alternative	
Betamethasone valerate	39 (39%)
Hydrocortisone acetate	5 (5%)
Hydrocortisone butyrate	26 (26%)
Fluocinonide	15 (15%)
Others	9 (9%)
Doesn't know	6 (6%)
Pharmacist recommendation for no improvement after one week	
See doctor	72 (72%)
Continue on same corticosteroid for longer period	6 (6%)
Change to a higher potency corticosteroid	20 (20%)
Others	1 (1%)
Doesn't know	1 (1%)

When pharmacists were asked about their recommendations for treatment of eczema in adults presenting for the first time with mild symptoms; 36% of

the pharmacists recommended using an emollient as the treatment of choice while 29% recommended seeing a doctor first. In infants, 44 % of the pharmacists

recommended that caregivers should see a doctor first and only 22% recommended using a topical corticosteroid without consulting a physician.

To assess if the recommendations reflected poor pharmacist knowledge of corticosteroid use and skin flare ups, the participating pharmacists were asked about the topical corticosteroid that they would recommend as a therapeutic equivalent if a prescription for clobetasol (Dermovate®) was received and the drug and its other generics were not available (they were informed that the patient will accept this change), 39% recommended betamethasone valerate (a medium potency corticosteroid) as an alternative, and only 15% recommended fluocinonide (same potency class as clobetasol). For patients who complained of no improvement of atopic dermatitis while using a topical

corticosteroid for one week, only 6% recommended continuing on the same corticosteroid for a longer period of time.

Pharmacist knowledge of the appropriate dosage forms to be used for different conditions

Table 5 shows the pharmacists' knowledge of the dosage forms of topical corticosteroids that should be prescribed according to different skin conditions. Fifty three percent of pharmacists recommended using a cream as the dosage form of choice for mild skin dryness. On the other hand, for severe skin dryness, 59% of pharmacists recommended using an ointment and 33% recommended using a lotion. If symptoms became more severe and bloody or oozing eczema was present, 34% of pharmacists recommended using a gel.

Table 5. Pharmacists' knowledge of dosage form characteristics of topical corticosteroids

Question	Frequency (%)
Dosage form recommended for mild skin dryness	
Cream	53 (53%)
Lotion	21 (21%)
Ointment	22 (22%)
Gel	2 (2%)
No specific dosage form	2 (2%)
Dosage form recommended for severe skin dryness	
Lotion	33 (33%)
Ointment	59 (59%)
Gel	4 (4%)
No specific dosage form	4 (4%)
Dosage form recommended for bloody eczema	
Cream	23 (23%)
Lotion	5 (5%)
Ointment	24 (24%)
Gel	34 (34%)
No specific dosage form	14 (14%)
Dosage form recommended to be used on face	
Cream	61 (61%)
Lotion	19 (19%)
Ointment	7 (7%)
Gel	11 (11%)
No specific dosage form	2 (2%)

Pharmacists' knowledge of proper dosage and administration of topical corticosteroids

When pharmacists were asked about their

recommendations for the maximum duration of treatment with a very potent topical corticosteroid like clobetasol (assuming that the prescriber doesn't specify the

maximum duration of treatment), 36% recommended limiting use for a maximum of one week and 33% of pharmacists recommended a maximum of 3 weeks of daily use.

Only 14% of the pharmacists recommended using the fingertip unit to quantify the proper amount of topical

corticosteroids. Thirty five and 45% of pharmacists recommended using topical corticosteroids once or twice daily, respectively (table 6). Interestingly, none of the prescribers provided written instructions to patients in fingertip units.

Table 6. Pharmacists' knowledge about proper administration

Question	Frequency
Recommended duration of treatment with clobetasol propionate	
Continue until symptoms resolve	17 (17%)
Continue for a maximum of three weeks	33 (33%)
Continue for a maximum of three months	7 (7%)
Continue for a maximum of one week	36 (36%)
Doesn't know	7 (7%)
Recommended amount of topical corticosteroid	
No need to quantify, patients know how much to apply	13 (13%)
Apply thin layer	67 (67%)
Use fingertip unit	14 (14%)
Others	2 (2%)
Doesn't know	4 (4%)
Frequency of application	
Use when needed	10 (10%)
Once daily	35 (35%)
Twice daily	45 (45%)
Three times daily	4 (4%)
Others	2 (2%)
Doesn't know	4 (4%)
Recommended time for application of an ointment	
Doesn't know	1 (1%)
In the morning	8 (8%)
Mid-day	5 (5%)
At bedtime	86 (86%)
Recommendation for the use of an emollient	
Yes	85 (85%)
No	15 (15%)
Recommended frequency for emollient use	
Once at bedtime	18 (18%)
Twice daily	35 (35%)
3-4 times daily	38 (38%)
After having a bath	2 (2%)
With topical corticosteroid to improve its absorption	4 (4%)
Doesn't know	3 (3%)

Discussion

Most pharmacists participating in the questionnaire had more than 5 years of experience (61%) and carried a bachelor degree in pharmacy (72%). The majority of the

pharmacists stated that their recommendations reflected their experience and was largely based on anecdotal evidence. The current study reveals an alarming pattern in community pharmacies in which evidence-based

pharmacy practice seems to be largely abandoned. We looked at the two key healthcare professionals that were responsible for defining the current patterns of topical corticosteroids use in Jordan; physicians and pharmacists. The evidence-based practice guidelines that we selected as a basis of the recommendations were those of the American Academy of Dermatology (AAD)/American Academy of Dermatology Association, the British Association of Dermatologists & Primary Care Dermatology Society and the American Academy of Family Physicians^(5, 9,10). These guidelines comprise the bulk of evidence-based recommendations regarding topical corticosteroids. Interestingly, prescription patterns of topical corticosteroids revealed that there were differences between general practitioners and dermatologists regarding the number and type of topical corticosteroids prescribed for a particular skin condition. This is consistent with what is seen in other countries^(11,12).

For example, in the USA, prescription patterns of topical corticosteroids showed that dermatologists were 3.9 times more likely to prescribe very high potency corticosteroids than were other physicians. Compared to dermatologists, physicians other than dermatologists were 8.4 times more likely to prescribe combination agents containing moderate- or high-potency topical corticosteroids and an anti-infective agent⁽¹²⁾. Interestingly, in this study, dermatologists prescribed combination products to a greater extent compared to general practitioners. This may simply reflect the fact that dermatologists encounter more severe cases than do general practitioners. The other possibility is that dermatologists are overprescribing the combination products. A third possibility is that dermatologists do not hesitate to prescribe a more potent corticosteroid in children when indicated. In contrast, general practitioners commonly prescribed hydrocortisone acetate, a very low potency corticosteroid, as a first line agent for treatment of eczema in children, regardless of the severity. This pattern is consistent with the guidelines for treatment of atopic dermatitis in children only in cases of mild eczema^(4, 6). Nonetheless, the indiscriminating

prescription of hydrocortisone for children with various severities of eczema points to a hesitancy of general practitioners in prescribing more potent corticosteroid. This may reflect a less understanding of the place in therapy and therapeutic properties of the different corticosteroids. On the other hand, mometasone furoate, a moderate potency corticosteroid, was prescribed more often by dermatologists for both children and adults. Prescribing mometasone for treatment of mild symptoms of atopic dermatitis in children is not consistent with the published guidelines since moderate potency corticosteroids like mometasone do not represent a step-wise approach in the treatment and may unnecessarily increase the risk of side effects or skin irritation^(4, 6). Nonetheless, as mentioned above, the current prescription patterns indicate that dermatologists do not hesitate to use more potent corticosteroids even in children.

It should be emphasized, however, that in this region of the world, looking at the prescription patterns alone could result in significant biases in interpreting actual usage patterns of topical corticosteroids. This is due to the fact that topical corticosteroids can be purchased directly without a prescription. For example, in a recent study, prescribing patterns of topical corticosteroids in Bahrain were found to be consistent with published guidelines pertaining to prescribing moderately potent corticosteroids in infants who needed topical corticosteroids⁽¹¹⁾. A major limitation to that study, however, was the fact that the pharmacist's contribution to the actual use of topical corticosteroids was not evaluated. Hence, the actual use could not be validated. The current study establishes a model to study actual drug usage patterns via combining the data of prescription patterns with pharmacist recommendations.

Many of the pharmacists interviewed were able to recognize clobetasol as the most potent corticosteroid of the list provided (60%). On the other hand, hydrocortisone acetate, the least potent topical corticosteroid, was recognized by only 33%. Almost half of the pharmacists considered betamethasone valerate as the least potent topical corticosteroid. This observation could be explained by the wide spread recommendations

of betamethasone by pharmacists for different indications. Most of the pharmacists who were interviewed excluded hydrocortisone acetate from being the least potent steroid because they thought that it was produced endogenously in the body.

In this study, only 16% of pharmacists recommended using mometasone furoate, a moderately potent corticosteroid, for treatment of mild symptoms of atopic dermatitis in adults. Sixty five percent of pharmacists did not recommend using topical corticosteroids, possibly due the negative propaganda associated with the use of steroids. Indeed, pharmacists' recommendations for children were more conservative. Seventy eight percent of pharmacists did not recommend using topical corticosteroids.

Most pharmacists were cautious regarding the proper management of disease flares. In fact, 68% of pharmacists recommended seeing a physician. Only 18 % of pharmacists recommended using a higher potency topical corticosteroid which could be a reasonable option for treatment of disease flares not responding to lower potency agents. On the other hand, seventy two percent of pharmacists recommended seeing a physician if there was no improvement in signs and symptoms within one week of therapy. This indicates that pharmacists were not aware of the delayed effects of topical corticosteroids which involve modification of gene expressions to control the inflammation.

Most of the pharmacists participating in the study were not aware of the correct equivalent potency of topical corticosteroids or how to switch between the different agents. Only 15% of the pharmacists recognized that fluocinonide was an alternative to clobetasol due to comparable potency reflecting poor knowledge of pharmacists of the different potencies of topical corticosteroids. In practice, many drug prescriptions don't specify the exact amount to be used and duration of treatment^(11, 14). Pharmacists were asked about their recommendation for the maximum duration of continued clobetasol treatment if the prescription did not specify the duration. Thirty three percent of pharmacists recommended limiting use for a maximum of three weeks

and 36 % recommended limiting duration of treatment to one week. Practice guidelines recommend that highly potent topical corticosteroids should not be used continuously for more than three weeks. The recommended frequency of topical corticosteroids is somewhat controversial. Topical corticosteroids can be used one or more times daily, although no clear benefit has been demonstrated with more than once daily applications^(15,16,17). Guidelines recommend limiting the frequency of application of highly potent corticosteroids to once or twice daily. In contrast, hydrocortisone acetate can be used up to four times daily^(5,6,9). In this study, eighty percent of pharmacists recommended using topical corticosteroids once or twice daily regardless of corticosteroid potency (35 vs. 45%). Most pharmacists advise patients to apply topical corticosteroids sparingly or thinly. This recommendation creates a state of steroid phobia increasing the risk of poor clinical response and treatment failure⁽¹⁸⁾. Sixty seven percent of pharmacists participating in the study recommended patients to apply a thin layer of topical corticosteroids to prevent their side effects reflecting poor knowledge in the proper dosing and administration of topical steroids.

To provide effective and safe quantity of topical corticosteroids, the concept of finger-tip unit was developed. One finger-tip unit is a squeeze of cream or ointment along the index finger from the tip to the first finger joint⁽¹⁹⁾. Only 14% of the pharmacists explained to their patients how to quantify the amount of topical corticosteroids using the finger-tip unit. Finally, for the purpose of assessing adequacy of knowledge, pharmacists who answered 50% or more of the questions pertaining to knowledge correctly were considered to have adequate knowledge. The study shows that only 15% of pharmacists were found to have adequate knowledge reflecting the need for more pharmacists training and continuous education. Adequacy of knowledge was not associated with age, gender, years of experience, and pharmacy degree. These findings strongly points to a gap between current practice guidelines and updates and the actual pharmacy practice in Jordan.

Conclusions

This study provides valuable insights on the prescription patterns and current practices pertaining to the use of topical corticosteroids in the treatment of atopic dermatitis in Jordan. It shows that adherence to guidelines for safe prescription of topical corticosteroids was poor. The study reflects the poor knowledge of pharmacists of the correct practices for the use of topical corticosteroids in general and in treatment of atopic

dermatitis in particular. In addition, the study shows distinct differences between the prescription patterns of topical corticosteroids between general practitioners and dermatologists.

The study unravels a great opportunity to improve the clinical outcomes in patients on topical corticosteroids therapy. Updating pharmacists and general practitioners on practice guidelines is the most urgent recommendation to improve treatment of atopic dermatitis.

REFERENCES

- (1) Robertson DB, Maibach HI. Chapter 61. Dermatologic Pharmacology. In: Katzung BG, Masters SB, Trevor AJ, eds. Basic & Clinical Pharmacology. 12nd ed. New York: McGraw-Hill; 2012. Retrieved on May 15 from <http://www.accesspharmacy.com/content.aspx?aID=55832444>.
- (2) Spergel JM, Paller AS, Atopic dermatitis and the atopic march. 2003; 112 (6 Suppl): S118-127.
- (3) Habif TP. Clinical Dermatology. 5th ed. Mosby, An Imprint of Elsevier, 2009, Retrieved on May 15 from: <http://www.mdconsult.com/books/about.do?about=true&eid=4-u1.0-B978-0-7234-3541-9.X0001-6--TOP&isbn=978-0-7234-3541-9&uniqId=338202714-2>
- (4) Hanifin J, Gupta AK, Rajagopalan R, Intermittent dosing of fluticasone propionate cream for reducing the risk of relapse in atopic dermatitis patients, *Br J Dermatol*. 2002;147 (3): 528-37.
- (5) Hanifin JM, Cooper KD, Ho VC et.al. Kang S, Krafchik BR, Margolis DJ, Schachner LA, Sidbury R, Whitmore SE, Sieck CK, Van Voorhees AS. Guidelines of care for atopic dermatitis, developed in accordance with the American Academy of Dermatology (AAD)/ American Academy of Dermatology Association "Administrative Regulations for Evidence-Based Clinical Practice Guidelines". *J Am Acad Dermatol*. 2004; 50 (3): 391-404.
- (6) National Collaborating Centre for Women's and Children's Health (UK). Atopic eczema in children, management of atopic eczema in children from birth up to the age of 12 years, London: RCOG Press; 2007.
- (7) Schmitt J, von Kobyletzki L, Svensson A, et.al. Apfelbacher C, Efficacy and tolerability of proactive treatment with topical corticosteroids and calcineurin inhibitors for atopic eczema: systematic review and meta-analysis of randomized controlled trials, *Br J Dermatol*. 2011; 164 (2): 415-28.
- (8) Tadicherla S, Ross K, Shenefelt D, Topical corticosteroids in dermatology; *Journal of Drugs in Dermatology*. 2009; 12:1093.
- (9) British Association of Dermatologists & Primary Care Dermatology Society. *Guidelines on the management of atopic eczema*, 2006, reviewed Jan 2010 <http://www.bad.org.uk>
- (10) Ference JD, Last AR, Choosing topical corticosteroids, *Am Fam Physician*. 2009; 79 (2): 135-140.
- (11) Al Khaja KA, Damanhori AH, Al-Ansari TM, et al. Sequeira RP. Topical corticosteroids in infants: prescribing pattern and prescribing errors in Bahrain. *Pharm World Sci*. 2007; 29 (4):395-9. Epub 2007 Feb 13.
- (12) Stern RS. The pattern of topical corticosteroid prescribing in the United States, 1989-1991. *J Am Acad Dermatol*. 1996; 35 (2 Pt 1): 183-6.
- (13) Grimalt R, Mengeaud V, Cambazard F, Study Investigators' Group, The steroid-sparing effect of an emollient therapy in infants with atopic dermatitis: a

- randomized controlled study, *Dermatology*. 2007; 214 (1): 61-7.
- (14) Sweileh WM. Audit of prescribing practices of topical corticosteroids in outpatient dermatology clinics in north Palestine, *East Mediterr Health J*. 2006; 12 (1-2): 161-9.
- (15) Bleehen SS, Chu AC, Hamann I, et.al. Holden C, Hunter JA, Marks R (1995), Fluticasone propionate 0.05% cream in the treatment of atopic eczema: a multicentre study comparing once-daily treatment and once-daily vehicle cream application versus twice-daily treatment. *Br J Dermatol*.1995; 133 (4): 592-7.
- (16) Green C, Colquitt JL, Kirby J, et al. Davidson P (2005), Topical corticosteroids for atopic eczema: clinical and cost effectiveness of once-daily vs. more frequent use. *Br J Dermatol*. 2005; 152 (1): 130-41.
- (17) Lagos BR, Maibach HI. Frequency of application of topical corticosteroids: an overview. *Br J Dermatol* 1998; 139: 763-6.
- (18) Bewley A; Dermatology Working Group. Expert consensus: time for a change in the way we advise our patients to use topical corticosteroids, *Br J Dermatol*. 2008; 158 (5): 917-20.
- (19) Menter A, Korman NJ, Elmets CA, et al. Feldman SR, Gelfand JM, Gordon KB, Gottlieb A, Koo JY, Lebwohl M, Lim HW, Van Voorhees AS, Beutner KR, Bhushan R; Guidelines of care for the management of psoriasis and psoriatic arthritis. Section 3. Guidelines of care for the management and treatment of psoriasis with topical therapies. *J Am Acad Dermatol*. 2009; 60 (4): 643-59.

أثر التخصص الطبي لمقدمي الرعاية الصحية على أنماط كتابة وصفة الوصفات الطبية للستيرويدات الموضعية

علاء عيسى¹، رنا ابو فرح²، إيمان اعليه³، ياسر البستنجي⁴

¹⁻⁴ كلية الصيدلة، الجامعة الأردنية.

ملخص

تعدّ الستيرويدات الموضعية من أكثر الأدوية شيوعاً لعلاج العديد من أمراض التهابات والحساسية والتهيجات الجلدية. ولكن كتابة هذه الأدوية وصفها يتأثر بعدة عوامل تؤدي إلى اختلافات جوهرية بين الأطباء حسب تخصصاتهم الطبية وكذلك بين الأطباء بشكل عام والصيدالين العاملين في صيدليات المجتمع. ولذلك كان الهدف الرئيس لهذه الدراسة هو تحديد العوامل التي تؤدي إلى هذه الاختلافات. ولتحقيق هذا الهدف قمنا بإجراء دراسة مستقطعة شملت حوالي مئة صيدلية مجتمع من سلاسل صيدلية وصيدليات مستقلة، وقمنا بتوزيع استبيان علمي حسب الأصول لمئة صيدلاني وتحليل الوصفات الطبية للستيرويدات الموضعية في كل من هذه الصيدليات خلال فترة 6 أشهر وتصنيفها حسب التخصص الطبي للطبيب الذي منح كل وصفة منها فوجدنا ما يأتي:

أكثر ما كتبه الأطباء العامون لعلاج التهابات والتهيجات الجلدية لدى الأطفال كان الهيدروكورتيزون، والذي يعد ضعيف الفاعلية يليه الموميتازون، والذي يعد متوسط الفاعلية، بينما كان الأطباء ذوو الاختصاص في الأمراض الجلدية يكتبون الموميتازون للحالات المرضية المشابهة و بدرجة أقل يكتبون الأدوية المركبة التي تحتوي على ستيرويد موضعي مع مضاد حيوي للفطريات أو للبكتيريا. أما الصيدالين فكانوا ينصحون بمراهم مرطبة للجلد خالية من الستيرويدات لعلاج الحالات المرضية المشابهة. من ناحية أخرى خلّت الوصفات الطبية من تحديد الكميات الدقيقة التي ينبغي على المريض استخدامها واعتمدت على تقدير هذه الكميات، ولم يستطع سوى 15% من الصيدالين المشمولين في هذه الدراسة من تحديد الكمية اللازم استخدامها وشرح ذلك للمريض. من اللافت كذلك أن معظم الصيدالين لم تكن لديهم المعرفة العلمية الكافية للتمييز ما بين خصائص الأدوية المختلفة من الستيرويدات الموضعية بغض النظر عن عمر الصيدلاني وسنوات الخبرة والجنس ونوع الشهادة ان كانت دكتور صيدلة أو بكالوريوس صيدلة.

لقد أظهرت هذه الدراسة تردد الأطباء العامين في كتابة أدوية ستيرويدية موضعية ذات فاعلية عالية وكذلك الحال بالنسبة للصيدالين كما وأظهرت قصوراً في معرفة الأطباء والصيدالين في الخصائص الدوائية للستيرويدات الموضعية مما يؤثر سلباً على اختيار الدواء المناسب للمريض المناسب و التقليل من الآثار الجانبية لهذه الأدوية. والخلاصة أننا بحاجة ملحة إلى بيان دواعي الاستطبانات والخصائص الدوائية والآثار الجانبية لعائلة أدوية الستيرويدات الموضعية بشتى أقسامها لمقدمي الرعاية الصحية بما يحقق المنفعة الأكبر للمريض مستقبلاً.

الكلمات الدالة: التخصص الطبي، مقدمو الرعاية الصحية، أنماط كتابة، وصفات الوصفات الطبية، الستيرويدات الموضعية.

تاريخ استلام البحث 2016/4/12 وتاريخ قبوله للنشر 2016/5/15.