Dermatology Practical & Conceptual

Topical Corticophobia Among Healthcare Professionals in Saudi Arabia: A Cross-Sectional Study

Abdullah Alakeel[1], Abeer Alkahtani[2,3], Rahaf Alshareef[3,4], Norah Almajli[5], Khalid Alekrish[1]

1 Department of Dermatology, College of Medicine, King Saud University, Riyadh, Saudi Arabia
2 Department of Dermatology, King Faisal Specialist Hospital & Research Centre, Riyadh, Saudi Arabia
3 General Directorate of Research and Studies, Ministry of Health, Riyadh, Saudi Arabia
4 Department of Dermatology, Prince Sultan Military Medical City, Riyadh, Saudi Arabia
5 College of Medicine, Princess Nourah Bint Abdulrahman University, Riyadh, Saudi Arabia

Key words: corticophobia, topical steroids, physicians, dermatologists, family medicine

Citation: Alakeel A, Alkahtani A, Alshareef R, Almajli N, Alekrish K. Topical Corticophobia Among Healthcare Professionals in Saudi Arabia: A Cross-Sectional Study. *Dermatol Pract Concept*. 2024;14(3):e2024106. DOI: https://doi.org/10.5826/dpc.1403a106

Accepted: January 16, 2024; **Published:** July 2024

Funding: None.

Competing Interests: None.

Authorship: All authors have contributed significantly to this publication.

Corresponding Author: Abeer Rashid Alkahtani, Department of Dermatology, King Faisal Specialist Hospital & Research Centre, General Directorate of Research and Studies, Ministry of Health, Riyadh, Saudi Arabia. Email: Abeeralkahtani@hotmail.com

ABSTRACT

Introduction: Corticophobia constitutes a complex challenge affecting patients and healthcare professionals alike, resulting in suboptimal management and treatment of dermatological conditions.

Objectives: This study aims to investigate corticophobia among physicians in Saudi Arabia and identify associated factors.

Methods: This is a retrospective, observational, cross-sectional study that included 700 participants. The sample constituted dermatologists, pediatricians, and family medicine practitioners at different levels (consultants, fellows, and residents) in Saudi Arabia. Data were collected via an electronic survey addressing demographic information and corticophobia-related questions.

Results: A total of 700 participants were included in the data analysis. Dermatologists were the most comfortable prescribing steroids (32%), followed by family medicine physicians (25%), and pediatricians (18%). Pediatricians were the most hesitant to prescribe steroids. Fellows were the most confident in prescribing steroids. Physicians from the northern and western regions were least likely to be hesitant in prescribing steroids.

Conclusions: In conclusion, this study reveals that in Saudi Arabia, dermatologists were the most comfortable prescribing topical corticosteroids, with pediatricians being the most hesitant. The findings emphasize the importance of education in addressing corticophobia among healthcare professionals, which could improve treatment adherence and patient outcomes. Further research and targeted educational interventions are necessary to enhance understanding and confidence in prescribing topical corticosteroids among healthcare professionals.

Introduction

Since their introduction in the early 1950s, topical corticosteroids (TCs) have been the mainstay treatment for various dermatological disorders. The initial evidence supported the use of TCs in managing conditions such as atopic dermatitis, localized vitiligo, psoriasis, chronic hand eczema, and localized bullous pemphigoid [1]. These medications exhibit anti-inflammatory, vasoconstrictive, and anti-proliferative properties, which contribute to their therapeutic effects. The efficacy of TCs depends on their potency. However, the extensive and improper use of TCs among a considerable segment of the population has led to systemic and localized adverse events [2].

The unfounded negative perception of corticosteroids, often termed "corticophobia," stems from disproportionate relationship between the likelihood of medication-induced side effect and patents concerns. Studies suggest that access to scientific and online resources among patients experiencing corticophobia contributes to misconceptions about TC therapy, leading to non-adherence [3,4].

Bernos et al conducted research to examine parental and healthcare-provider concerns about topical corticosteroids. The study found that both parents of children with atopic dermatitis and healthcare professionals working with these children were affected by corticophobia. Interestingly, corticophobia impacted healthcare nurses similarly to parents [5]. Another investigation involving pediatricians, general practitioners, pharmacists, and dermatologists concluded that pharmacists were the most reluctant to recommend topical corticosteroid use, likely due to insufficient understanding of the medications [6].

Objectives

Corticophobia constitutes a complex challenge affecting patients and healthcare professionals alike, resulting in suboptimal management and treatment of dermatological conditions. Corticophobia among healthcare professionals has not received the appropriate level of attention it warrants. This study aims to investigate corticophobia among physicians in Saudi Arabia and identify associated factors. The findings may offer valuable insights to inform future efforts to address and mitigate corticophobia, ultimately enhancing the quality of care for patients requiring topical corticosteroid therapy.

Methods

Study Design, Setting, and Participants

This retrospective, observational, cross-sectional study was carried out over a duration of four months, encompassing hospitals selected through convenience sampling in the five regions of Saudi Arabia: central, northern, southern, eastern, and western. Ethical approval was obtained from the appropriate local ethical committee prior to commencing the study. Written informed consent was acquired from each participant, emphasizing that participation was entirely voluntary, and no personally identifiable information was collected. The study population consisted of consultants, fellows, and residents from three medical specialties: dermatology, pediatrics, and family medicine.

Data Collection and Study Tool

In each region, volunteers were recruited and trained to facilitate data collection. The research team developed the survey, which was subsequently reviewed for accuracy by two independent dermatologists. A pilot study was conducted to validate the survey. Data collection involved administering an electronic, English-language version of the questionnaire to participants. The survey was divided into two sections. The first section, focusing on demographic information, included four questions aimed at assessing participants' demographic characteristics, such as age, gender, current region, specialty, and level of training. The second section comprised questions designed to evaluate corticophobia and participants knowledge of side effects related to topical corticosteroid use.

Statistical Methods

Data analysis was done using Rstudio. Numbers and percentages were used to describe categorical variables. The chi-square test was used to assess the statistical significance of the categorical data. Multiple logistic regression model

was applied to assess factors associated with hesitancy in prescribing steroids among physicians.

Results

A total of 700 participants were included in the data analysis. The most common age category was 20-30 years (N = 417, 59.6%). Males constituted 52.6% (N = 368) of the sample. The most common region of residence for participants was the northern region (N = 241, 34.4%), followed by the western region (N = 171, 24.4%), central region (N = 140, 20%), eastern region (N = 84, 12%), and southern region (N = 64, 9.1%). The most common specialty among physicians included was family medicine (N = 338, 48.3%), followed by pediatrics (N = 240, 34.3%) and dermatology (N = 122, 17.4%). A detailed summary of the participant demographics of the sample is shown in Table 1.

Dermatologists were found to be the most comfortable with prescribing steroids (32%), followed by family medicine physicians (25%), and pediatricians (18%) [p-value = 0.02]. Furthermore, for the question "*When prescribing topical corticosteroids for my patients, I try not to exceed five days of application*," dermatologists had the highest rate of disagreement (40%), followed by pediatricians (22%), and family medicine physicians (20%) (P < 0.001). Finally, for the question, "*I advise my patients against applying topical steroids over body sites with thin skin even when the area is affected*," dermatologists had the highest rate of disagreement (43%), followed by pediatricians (28%), and family medicine physicians (26%) (P < 0.001). There was no significant difference among the specialties in the remaining questions (Table 2).

The question "*I am hesitant to prescribe topical steroids to my patients even when it is indicated*" was analyzed to examine factors that predict hesitance in steroid prescription. To avoid inaccurate results, physicians who chose "Unsure" as their answer to the question were excluded. It was found that pediatricians (odds ratio [OR] 2.13, 95% confidence interval [CI] 1.26-3.62, P = 0.005) were the most hesitant to prescribe steroids. For the level of education, fellows were least likely to be hesitant in prescribing steroids (OR 0.38, 95% CI 0.19-0.78, P = 0.009). For the region, physicians from the northern region (OR 0.52, 95% CI 0.31-0.87), P = 0.014) and western region (OR 0.49, 95% CI 0.28-0.85, P = 0.012) were least likely to be hesitant in prescribing steroids (Figure 1).

Table 1. Detailed summary of the participant demographics (N = 700).

Study variables	Total N (%)
Age, years	
20 - 30	417 (59.6)
31 - 40	217 (31.0)
41 - 50	43 (6.1)
51 and more	23 (3.3)
Gender	
Male	368 (52.6)
Female	332 (47.4)
Current region of practice	
Central region	140 (20.0)
Eastern region	84 (12.0)
Northern region	241 (34.4)
Southern region	64 (9.1)
Western region	171 (24.4)
Medical specialty	
Dermatology	122 (17.4)
Family medicine	338 (48.3)
Pediatrics	240 (34.3)
Level of training	
Consultant	86 (12.3)
Fellow	186 (26.6)
Resident	428 (61.1)

Conclusions

Owing to their anti-inflammatory properties, topical corticosteroids are commonly administered in the field of dermatology for an array of conditions, encompassing autoimmune disorders and inflammatory diseases. Although the long-term safety of TCs administration has been established to be safe when utilized appropriately, the documentation and quantification of TCs phobia exhibit significant variability, posing a potential challenge to the field of dermatology [7]. Furthermore, corticosteroid phobia is regarded as one of the main factors contributing to suboptimal treatment compliance. Identifying the factors associated with hesitancy in the usage or prescription of topical corticosteroids is crucial for addressing this issue among healthcare professionals and their patients. By doing so, it is possible to alleviate safety concerns on both sides, ultimately improving adherence to treatment [6,8].

Corticophobia among healthcare professionals has not received the appropriate level of attention it warrants. The phenomenon of corticophobia among patients, on the other hand, has been extensively explored in numerous studies. According to various research findings, this issue among patients is primarily influenced by inaccurate information conveyed by physicians [6,9-11]. This observation is corroborated by a study examining general practitioners knowledge of topical corticosteroids, which found that physicians may inadvertently instill fear in patients when prescribing these

Table 2. Comparison between the three different specialties in terms of demographics, attitude towards topical corticosteroids and the knowledge of different side effects.

	Dermatology N = 122 N (%)	Family medicine N = 338 N (%)	Pediatrics N = 240 N (%)	P
Age				0.532
20 - 30	65 (53.3)	209 (61.8)	143 (59.6)	
31 - 40	43 (35.2)	99 (29.3)	75 (31.2)	
41 - 50	7 (5.7)	20 (5.9)	16 (6.7)	
51 and more	7 (5.7)	10 (3.0)	6 (2.5)	
Gender, male	75 (61.5)	179 (53.0)	114 (47.5)	0.041
What is your current region				0.028
Central region	30 (24.6)	65 (19.2)	45 (18.8)	
Eastern region	21 (17.2)	33 (9.8)	30 (12.5)	
Northern region	37 (30.3)	128 (37.9)	76 (31.7)	
Southern region	10 (8.2)	22 (6.5)	32 (13.3)	
Western region	24 (19.7)	90 (26.6)	57 (23.8)	
Level of education (%)				0.014
Consultant	26 (21.3)	31 (9.2)	29 (12.1)	
Fellow	30 (24.6)	90 (26.6)	66 (27.5)	
Resident	66 (4.1)	217 (64.2)	145 (60.4)	
I generally think that topical corticosteroids have more of a negative effect than positive on the skin (%)				0.609
Agree	51 (41.8)	135 (39.9)	87 (36.2)	
Disagree	55 (45.1)	156 (46.2)	110 (45.8)	
Unsure	16 (13.1)	47 (13.9)	43 (17.9)	
I am hesitant to prescribe topical steroids to my patients even when it is indicated (%)				0.738
Agree	48 (39.3)	124 (36.7)	80 (33.3)	
Disagree	61 (50.0)	171 (50.6)	125 (52.1)	
Unsure	13 (0.7)	43 (12.7)	35 (14.6)	
I feel comfortable prescribing high potency topical corticosteroids. (%)				0.02
Agree	39 (32.0)	86 (25.4)	43 (17.9)	
Disagree	64 (52.5)	176 (52.1)	148 (61.7)	
Unsure	19 (15.6)	76 (22.5)	49 (20.4)	
I advise my patients against applying topical steroids over body sites with thin skin even when the area is affected (%)				0.001
Agree	54 (44.3)	151 (44.7)	111 (46.2)	
Disagree	52 (42.6)	88 (26.0)	66 (27.5)	
Unsure	16 (13.1)	99 (29.3)	63 (26.2)	
When prescribing topical corticosteroids for my patients I try not to exceed five days of application (%)				<0.001
Agree	55 (45.1)	199 (58.9)	143 (59.6)	
Disagree	49 (40.2)	69 (20.4)	52 (21.7)	
Unsure	18 (14.8)	70 (20.7)	45 (18.8)	

	Dermatology N = 122 N (%)	Family medicine N = 338 N (%)	Pediatrics N = 240 N (%)	P
Topical corticosteroids can be absorbed from the skin to the bloodstream (%)				0.185
Agree	56 (45.9)	141 (41.7)	83 (34.6)	
Disagree	40 (32.8)	115 (34.0)	100 (41.7)	
Unsure	26 (21.3)	82 (24.3)	57 (23.8)	
Which of the following is a side effect of topical corticosteroids				
Skin infection	83 (68.03)	279 (82.54)	202 (84.17)	<0.001
Increase in body weight	60 (49.18)	200 (59.17)	149 (62.08)	<0.001
Bronchial asthma	31 (25.4)	73 (21.6)	48 (20)	0.145
Skin stria	77 (63.11)	245 (72.49)	154 (64.1)	<0.001
Glaucoma	53 (43.44)	161 (47.63)	119 (49.58)	0.002
Cataract	54 (44.26)	151 (44.67)	119 (49.58)	<0.001
Skin Cancer	36 (29.50)	128 (37.87)	100 (41.6)	<0.001
Infertility	31 (25.41)	110 (32.54)	83 (34.58)	<0.001
Coronary artery disease	14 (11.47)	44 (13.02)	31 (12.92)	<0.001

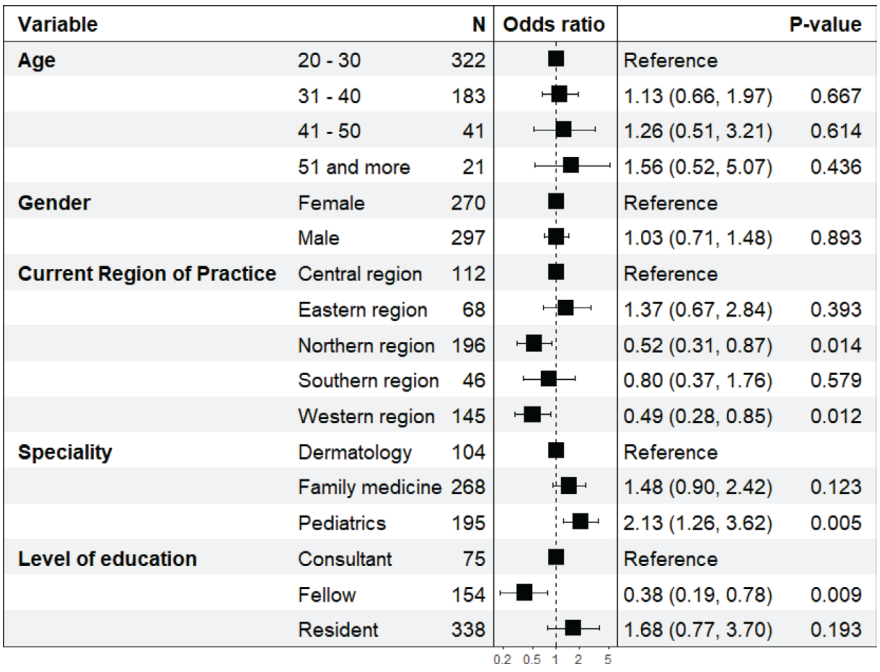

Figure 1. Factors associated with hesitancy when prescribing steroids.

medications [12]. Further attention should be directed toward this topic, as it may result in undesirable consequences such as noncompliance, treatment failure, and the utilization of alternative systemic treatments potentially accompanied by increased side effects and unwarranted costs [6].

In this study, as well as in others, it has been observed that dermatologists exhibit the highest level of comfort when prescribing high-potency topical corticosteroids. This could potentially be attributed to dermatologists' more comprehensive knowledge of topical corticosteroids, given their increased exposure to skin diseases. These findings align with a Saudi study, which demonstrated that physicians reporting exposure to fewer than 10% of skin-related visits had the lowest knowledge scores regarding topical corticosteroids. Furthermore, the Saudi study revealed that primary care physicians possessed less knowledge about

topical corticosteroid potency classifications, in contrast to dermatologists, who demonstrated greater awareness of the potency rankings of commonly prescribed topical corticosteroids [13].

This study highlights that dermatologists demonstrated relative confidence in prescribing topical corticosteroids for affected body areas with thin skin. This finding contrasts with the results of a study investigating corticophobia among healthcare professionals, which concluded that both healthcare professionals and patients exhibited the greatest apprehension regarding the application of topical corticosteroids on areas with thin skin, such as the eyelids [6]. The findings of this study are consistent with those of a prior prospective study, which determined that the prevalence of corticophobia is similar among healthcare professionals in general, but lower among dermatologists [6].

The solution to topical corticosteroid phobia appears to be with education and increasing the knowledge regarding these medications, as demonstrated by an Australian study, has also supports that the fear of steroids can be influenced by the education about the use, mode of action and the side effects of TCS.

A potential solution to topical corticosteroid phobia may lie in education and enhancing knowledge surrounding these medications. As evidenced by an Australian study, it has been suggested that apprehension regarding steroids could be mitigated through increased understanding of their usage, mode of action, and potential side effects associated with TCS [14].

In light of the findings, it is recommended that further education and training be provided to healthcare professionals, to enhance their understanding of topical corticosteroid usage, potency, and safety. This could help address corticophobia, ultimately improving treatment adherence and patient outcomes.

In conclusion, this study reveals that in Saudi Arabia, dermatologists were the most comfortable prescribing topical corticosteroids, with pediatricians being the most hesitant. The findings emphasize the importance of education in addressing corticophobia among healthcare professionals, which could improve treatment adherence and patient outcomes. Further research and targeted educational interventions are necessary to enhance understanding and confidence in prescribing topical corticosteroids among healthcare professionals.

References

1. Das A, Panda S. Use of Topical Corticosteroids in Dermatology: An Evidence-based Approach. *Indian J Dermatol.* 2017;62(3): 237-250. DOI: 10.4103/ijd.IJD_169_17. PMID: 28584365. PMCID: PMC5448257.
2. Coondoo A, Sengupta S. Topical corticophobia among parents and caregivers of atopic children. *Indian J Paediatr Dermatology*. 2016;17(4):255-257.
3. Gelmetti C. Il Giornale Italiano di Dermatologia e Venereologia. In: *Storia Della Dermatologia e Della Venereologia in Italia*. Springer; 2015:181-192.
4. Dufresne H, Bataille P, Bellon N, et al. Risk factors for corticophobia in atopic dermatitis. *J Eur Acad Dermatology Venereol.* 2020;34(12):e846-e849. doi:https://doi.org/10.1111/jdv.16739
5. Bos B, Antonescu I, Osinga H, Veenje S, de Jong K, de Vries TW. Corticosteroid phobia (corticophobia) in parents of young children with atopic dermatitis and their health care providers. *Pediatr Dermatol.* 2019;36(1):100-104. doi:https://doi.org/10.1111/pde.13698
6. Lambrechts L, Gilissen L, Morren M-A. Topical corticosteroid phobia among healthcare professionals using the TOPICOP score. *Acta Derm Venereol.* 2019;99(11):1004-1008.
7. Choi E, Chandran NS, Tan C. Corticosteroid phobia: a questionnaire study using TOPICOP score. *Singapore Med J*. 2020; 61(3):149-153. doi:10.11622/smedj.2019110
8. Silverberg JI, Nelson DB, Yosipovitch G. Addressing treatment challenges in atopic dermatitis with novel topical therapies. *J Dermatolog Treat*. 2016;27(6):568-576. doi:10.1080/09546634.2016.1174765
9. Aubert-Wastiaux H, Moret L, Le Rhun A, et al. Topical corticosteroid phobia in atopic dermatitis: a study of its nature, origins and frequency. *Br J Dermatol.* 2011;165(4):808-814. doi:10.1111/j.1365-2133.2011.10449.x
10. Lee JY, Her Y, Kim CW, Kim SS. Topical Corticosteroid Phobia among Parents of Children with Atopic Eczema in Korea. *Ann Dermatol.* 2015;27(5):499-506. doi:10.5021/ad.2015.27.5.499
11. Gustavsen HE, Gjersvik P. Topical corticosteroid phobia among parents of children with atopic dermatitis in a semirural area of Norway. *J Eur Acad Dermatol Venereol.* 2016;30(1):168. doi:10.1111/jdv.12670
12. Smith SD, Harris V, Lee A, Blaszczynski A, Fischer G. General practitioners knowledge about use of topical corticosteroids in paediatric atopic dermatitis in Australia. *Aust Fam Physician*. 2017;46(5):335-340.
13. Alsukait SF, Alshamlan NM, Alhalees ZZ, Alsuwaidan SN, Alajlan AM. Topical corticosteroids knowledge, attitudes, and practices of primary care physicians. *Saudi Med J*. 2017; 38(6):662-665. doi:10.15537/smj.2017.6.17586
14. Smith SD, Lee A, Blaszczynski A, Fischer G. Pharmacists' knowledge about use of topical corticosteroids in atopic dermatitis: Pre and post continuing professional development education. *Australas J Dermatol.* 2016;57(3):199-204. doi:10.1111/ajd.12339