

Supplementary Metarials

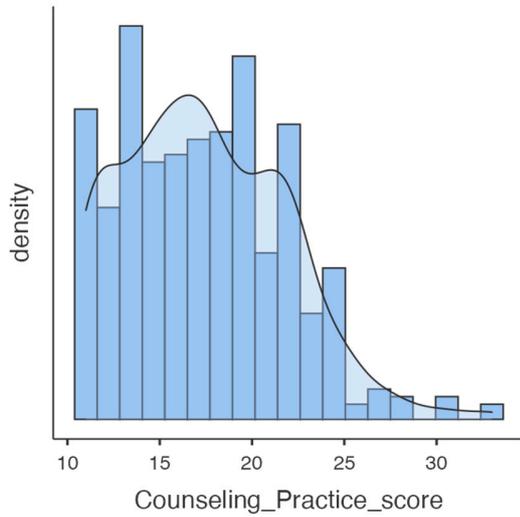


Figure S1: Median of counseling practice score was 17 with IQR of 14 – 21. Data was far from normal with Shapiro wilk test ($P < 0.0001$).

Table S1: Model Coefficients - Practice_score_ordinal

Predictor	Estimate	SE	Z	p	Odds ratio	95% Confidence Interval	
						Lower	Upper
age	0.0813	0.0296	2.751	0.006	1.085	1.0244	1.151
sex:							
Female – Male	0.2298	0.2121	1.084	0.279	1.258	0.8303	1.908
nationality:							
Non-Saudi – Saudi	-0.7912	0.2587	-3.059	0.002	0.453	0.2727	0.753
region:							
Western – Eastern	0.4290	0.2396	1.791	0.073	1.536	0.9606	2.458
Central – Eastern	0.6348	0.2926	2.170	0.030	1.887	1.0642	3.355
Northern – Eastern	0.1075	0.3079	0.349	0.727	1.114	0.6096	2.041
Southern – Eastern	-0.3807	0.2751	-1.384	0.166	0.683	0.3979	1.171
pharmacy_type:							
Independant – Chain	-0.2812	0.2553	-1.102	0.271	0.755	0.4576	1.246
work_status:							
Full-time – Part-time	-0.6786	0.3013	-2.253	0.024	0.507	0.2800	0.914
Experience_years	-0.0562	0.0332	-1.690	0.091	0.945	0.8849	1.008

Table S1: Model Coefficients - Practice_score_ordinal

Predictor	Estimate	SE	Z	p	Odds ratio	95% Confidence Interval	
						Lower	Upper
education_level:							
Technicians – BPharm	-1.6156	0.6824	-2.367	0.018	0.199	0.0492	0.741
PharmD – BPharm	-0.2889	0.2172	-1.330	0.184	0.749	0.4890	1.146
MS/PhD – BPharm	-0.3612	0.5785	-0.624	0.532	0.697	0.2219	2.202
Residency – BPharm	3.4829	1.1779	2.957	0.003	32.554	3.1455	369.812

The survey

Community pharmacists knowledge practices

	Item	Information	Code/ Score
A. Demographic characteristics, dispensing and sales of topical corticosteroids			
1	Age (years)		
2	Gender	Female	1
		Male	2
3	Nationality	Saudi	1
		Non-Saudi	2
4	Current workplace	Community Pharmacy	1
		Hospital pharmacy	2
		Other:	2
4a	Type of community pharmacy	Chain pharmacy	1
		Independent pharmacy	2
4b	Type of Hospital	Private hospital	1
		Governmental hospital	2
4c	Work status	Part-time	1
		Full-time	2
5	Experience as a community pharmacist or outpatient pharmacist (years)	(years)	
	Level of education	Bachelor of pharmacy	1
		Doctor of pharmacy	2
		Post-graduate (MS/PhD)	3
		Post-graduate (Residency)	4
7	Have you ever been trained in reporting adverse drug events?	Yes	1
		No	2
8	What is the % of total sales of non-prescription TCS at your pharmacy on average per month?	Non-prescription (%)	X
		Prescription (%)	100 – X
		Total	100%
9	What is the % of sales by recommendation of non-prescription TCS at your pharmacy on average per month?	Patient self-selection (%)	Y
		Pharmacist recommendation (%)	100 – Y
		Total	100%
10	Please rate the following non-prescription over-the-counter topical	Steroids only agents (e.g. DermAid 1% Hydrocortisone cream, Elomet Cream 0.1%)	

	corticosteroids in order of sales frequency (Note give 1 to the most frequently sold agents and 4 to the least frequently sold)	Steroid-antibiotics or steroid antifungals combination agent (e.g. Fucicort cream, Daktacort cream)		
		Steroid-keratolytic agent (e.g. Beprosalic ointment)		
		Steroid-other ingredients combination agents (e.g. Daivobet ointment)		

B. Patient Counselling on the Use of Topical Corticosteroids				
11	Please answer the following questions about your patient counselling practices on the use of topical corticosteroids			
11a	The most frequently used counselling method	Printed Information		
		Face-to-face (verbal)		
		Face-to-face (verbal and printed)		
		Demonstration of Application		
11b	Counselling Preparation time “Counselling preparation time” refers to the time invested in searching, reviewing, evaluating, and organizing information, including verifying prescription and checking patients past medical history before counselling a patient.	On average minutes per patient		
11c	Time spent in face-to-face (verbal) counselling	On average minutes per patient on prescription topical corticosteroids		
		On average minutes per patient on non-prescription topical corticosteroids		
12	Please mark on the items below to indicate to what extent you counsel patients using topical corticosteroids			
		Explain most of the time (2)	Explain half the time (1)	Do not explain most of the time (0)
12a	That it is a topical corticosteroid			
12b	Expected efficacy and effectiveness			
12c	Skin conditions and diseases where topical corticosteroids should not be used			

	E.g.: do not use on burns			
12d	Strength (potency)			
12e	Adverse drug events			
12f	Symptoms to look out for in an adverse drug event			
12g	How to use- dosage E.g.: fingertip unit : amount of ointment or cream squeezed out of a tube, from the tip of an adult index finger to the first crease in the finger, which may be sufficient for a diseased site of two adult-hand size			
12h	How to use- frequency of application in a day			
12i	How to use- duration of treatment			
12j	How to use- choice of formulation (ointment, cream, lotion, etc.) for specific application site			
12k	Precautions for storage and application of leftover topical corticosteroids after treatment completion E.g.: do not remove medication from its original packaging and transfer to a separate container, do not use remaining medication in other conditions at patients' own discretion			
Questions 13-15 are regarding your counselling practices to assist patient self-treatment with non-prescription over-the-counter topical corticosteroids				
13	In which of the following cases would you recommend a patient seeking non-prescription over-the-counter topical corticosteroids to see a doctor? (Multiple selection allowed)	Skin lesions with effusion		1
		Skin conditions of moderate or greater severity		1
		Signs of skin infection		1

		Neonates and infants (less than 24 months old) (excluding nappy rash)		1
		Applying topical corticosteroids on a large area of body surface		1
14	For how many days do you tell patients on non-prescription over-the-counter topical corticosteroids that it is okay to use continuously?	Maximum days		
15	Do you believe that there are barriers to counselling patients on topical corticosteroids? (“No”, to move on to Question 17)	Yes		1
		No		0
15a	Please select the barriers to counseling (multiple selection allowed)	Lack of counselling material		
		Lack of time for counselling		
		Doctor’s negative perception towards pharmacists’ counselling		
		Patients’ negative perception towards topical corticosteroids		
		Presume patients already know well about topical corticosteroids		

C. Pharmacists’ perception on patients’ knowledge on topical corticosteroids prior to counselling				
16	Do you think patients have adequate knowledge on the following aspects of topical corticosteroids?			
		Yes	No	
16a	That it is a topical corticosteroid			

16b	Efficacy and effectiveness			
16c	Strength (potency)			
16d	(Patients on non-prescription topical corticosteroids) Adverse drug events			
16e	(Patients on prescription topical corticosteroids) Adverse drug events			
16f	What to do when an adverse drug event occurs			
16g	Know how to use- (dosage, treatment duration, frequency of application, choice of formulation for specific application site) and to comply with it			
16h	Know how to store and apply leftover topical corticosteroids after treatment completion and comply with it E.g. do not use remaining medication on other conditions at patients' own discretion			
17	Please select three options from the given choices that you believe are patients' main source of information about topical corticosteroids	Pharmacist's explanation		1
		Doctor's explanation		2
		Product information leaflet (PIL)		3
		Internet		4

D. Adverse drug events of topical corticosteroids			
18	Have you had patients complaining (including visits and phone calls) of adverse drug events after using TCS at your pharmacy	Yes	1
		No	0
19	Please rank the factors you think are the causes of adverse drug events of TCS	Medication misuse (e.g. Use on not applicable conditions)	
		Medication characteristics (e.g. Strength/ potency)	

	Please rank the factors from 1 to 4, give "1" to the most likely factor	Patient characteristics (e.g. Elderly, with chronic diseases, neonates and infants)	
		Medication overuse (e.g. Patient self-treatment, not complying with treatment instructions)	
20	Please select three (3) adverse drug events of TCS that patients frequently complain	Dry skin, itchiness, irritation	
		Bruises	
		Acne, folliculitis	
		Hirsutism (excessive hair growth)	
		Systemic adverse events (including ocular symptoms)	
		Capillary dilatation	
		Skin atrophy, stretch marks	
		Chang in skin colour (decolourisation, pigmentation)	
		Hot flashes, rosacea, perioral dermatitis	
		Skin infection (bacterial, fungal, viral)	
21	What do you do when patients on topical corticosteroid complain of adverse drug events? Multiple selection allowed	Discontinue and recommend seeing a doctor	
		Report to National Pharmaceutical Regulatory Agency (NPRA)	
		Check if the patient has been using topical corticosteroids as directed. Re-educate patient and recommend re-trial of the treatment	
22	Please rank the below three topical corticosteroids according to their strength (potency) Rank TCS strength (potency) from 1-3, give "1" to the highest strength (potency) agent, and give "3" to the lowest strength (potency)	Derm-Aid 1% (Hydrocortisone) ointment	
		Elomet (Mometasone furoate) 0.1% cream	
		Dermovate (clobetasol propionate) 0.05% ointment	