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ORIGINAL RESEARCH

Cost Consciousness Among Dermatologists

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Background: Physicians are responsible for most decisions related to resource allocation and healthcare expenditures, and should consider cost in their decision-making approach.

Objective: To measure cost consciousness among dermatologists, evaluate their understanding of cost-related concepts, and explore what prevents them from factoring cost into their daily practice decisions.

Methods: This cross-sectional survey-based study involved dermatologists from different practice types and work environments. The survey is split into four sections, focusing on participants' (1) demographic and workplace information; (2) knowledge of cost-related terms; (3) personal cost-consciousness level; and (4) perceived barriers to factoring cost into clinical decisions.

Results: Overall, 132 practicing dermatologists participated in the survey. Approximately 82% of them had heard of cost-effectiveness, but only 10% really understood how to indicate, interpret, and calculate it, while most had never heard of cost-consciousness or cost-containment. The majority agreed that it is the responsibility of physicians to contain medication costs, and almost all agreed that physicians need to do more to limit the prescription of unnecessary medications. Sex, long work experience, mixed administrative and clinical roles, and working in a mixed practice setting were all associated with cost consciousness. Multivariate regression analysis showed a significant association between having a mixed clinical and administrative professional role and cost consciousness.

Conclusion: Although most dermatologists agree that it is the responsibility of physicians to contain the cost when deciding on medication, they have limited understanding of cost-related concepts. Having a mixed clinical and administrative roles was a significant predictor of cost conscious behavior.

Keywords: cost, cost consciousness, cost effectiveness, cost containment and dermatology

Introduction

Expenses on health care are rising dramatically across the globe, largely due to the cost of medication. [1] High prescription charges have become a common ground for complaints among the public and in the media. [2] Politically, governments and health insurers must act to offset the surging costs of new prescription drugs; [3,4] one seemingly obvious way to do this is to curb physicians' overspending on unnecessary medications. In USA, the annual cost of prescribing unnecessary medication is considered as much as $226 billion with conservative estimate of waste to account for more than 20% of total health spending. [5] Analysis of healthcare expenditure in Australia showed that about one third could be considered wasteful. In Netherlands, [6] about 20% of acute care spending could be saved through integration and reduction of overutilization. [7] Therefore, re-evaluating approaches to prescribing medication to factor in cost considerations is crucial, even for more advanced health-care systems. [2] Saudi Arabia has one of the largest pharmaceutical markets in the Middle East and the largest among Gulf Cooperation Council (GCC) countries. [8]

As physicians make 80% of the decisions related to healthcare expenditures, the current shift toward containing money spent on medication is therefore focused on physicians. [9] Physicians attitudes and prescribing habits are key in determining how much payers must spend on medications; therefore, their being cost-conscious when planning treatments is important.[10] The term "cost-conscious" relates specifically to knowing what products and services cost and being mindful not to spend more than is necessary, so as not to overburden society. [11] Previous study of physicians' decision-making within the conceptual medical care model found cost-consciousness to be the primary factor influencing

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physicians' allocation of resources. [12] Grover et al found that physicians who were more cost conscious tend to use less low value health services. [13] However, according to more recent studies in family medicine, [14] pediatrics, [15] and intensive care [16] most physicians commonly recommend medications without really knowing or communicating the costs to patients. This can lead to poor adherence to treatment plans among patients, inferior clinical outcomes, and the need for further expenditures. [17]

However, the problem is not precisely known; there may be good reasons why physicians do not prioritize being cost-conscious. Many doctors do not agree with being cost-conscious; they believe that putting cost-containment first negatively affects the quality and efficacy of whatever medications they prescribe. Some physicians have also shown resistance toward non-medical directors making changes to medical practices in the interests of cost-containment; these physicians feel that all medical decisions should be left to them as part of their professional autonomy. [10] When making decisions about what medication to prescribe, physicians do consider the expected benefit to the patient, but their decision is also influenced by many other factors, including their own demographic characteristics, what training they have undergone, their work context, any financial incentives the cost information they have, their aversion to risk, their tolerance for uncertainty, and how concerned they are about the cost and income. [11]

In a study of US physicians, Tilburt et al found a high level of enthusiasm for cost-containment strategies directed toward enhancing the quality and/or the continuity of care. However, physicians were far less keen on complex and significant financial reforms, including bundled payments, penalties for readmissions, and elimination of fee-for-service reimbursement. Overall, the results showed that while 78% of physicians reported believing that they "should be solely devoted to their individual patients' best interests, even if it is expensive", 85% also supported the view that "trying to contain costs is the responsibility of every physician". This clear contradiction reflects the tension that is inherent in the professional role of physicians, namely how to serve patients individually while at the same time serving the needs of society as a whole. For physicians, resolving this tension often seems to be a question of payment structures and work context. For instance, Tilburt et al found that physicians who share commonalities in their work context and methods of receiving payment tend to also share a similar sense of professional obligation. [18]

Whether physicians' attitudes and prescribing behaviors are strongly related to healthcare expenditure and resource utilization, and that whether this is true across all medical specialties and across all layers of health organizations, from medical students to senior leaders, remains uncertain. To date, no published study has explored cost-consciousness among dermatologists, which we aimed to explore in the current research. In doing so, we seek to measure how well they understand various cost concepts and to identify the factors that might influence their cost-consciousness and any barriers that might prevent them from factoring cost considerations into their practice.

Materials and Methods

This cross-sectional study involved dermatologists from different work environments and practice types in Saudi Arabia. Data were collected over 3 months, between December 2023 and February 2024, via a questionnaire that had been validated in previous studies [10,19] and pretested through a small pilot before distributing it electronically to dermatologists via Google Forms. The Institutional Review Board (IRB) at King Saud University, Riyadh, Saudi Arabia approved the study and all participants provided an informed consent. This study complies with the Declaration of Helsinki.

The survey contained questions and statements that were divided into four sections. The first section focuses on participant basic demographic and workplace information, including age, sex, professional role, seniority level, workplace setting, employment status, number of years in the profession, and number of patients seen per day; the second section includes statements to evaluate participant knowledge of common cost-related terminologies such as health-economics, cost-consciousness, effectiveness, and containment; the third section includes a series of six statements to evaluate participant attitude toward cost-consciousness using a 5-point Likert scale (1 = strongly disagree, 2 = somewhat disagree, 3 = neither agree nor disagree, 4 = somewhat agree, and 5 = strongly agree); and the fourth section contains statements to explore participant perceived barriers to factoring cost into daily treatment decisions.

In the analysis, descriptive statistics were calculated, and categorical variables are presented as frequencies and percentages for participant demographics, workplace information, and cost-related concepts understanding. Then, after negatively worded statements were reversed, summary scores were calculated and the mean and standard deviation (SD)

of the sample were obtained. We consider that only participants who answered "somewhat agree" or "strongly agree" to positive statements and "somewhat disagree" or "strongly disagree" to the negative statements in all of the items of the instrument have positive cost consciousness.

Univariate analysis was conducted using the chi-square test to explore associations between the participants' demographic, workplace characteristics, understanding of cost-related concepts, and their level of cost-consciousness. Only categorical variables with a P-value < 0.1 were submitted to multivariate binary logistic regression analysis to identify the factors leading to positive cost-consciousness. The odds ratios (ORs) and their 95% confidence intervals (CIs) were calculated. All statistical tests were two-tailed, with a significance level of 0.05, and all elements of the analysis were conducted using IBM® SPSS.

Results

Sample Demographic and Work-Related Characteristics

In total, 132 dermatologists working in private and public health institutes responded to this survey. Nearly half of them were aged 22–30 years, and 36% were aged 31–40 years. Among all participants, slightly more than half were female. Approximately 60% of the study participants were senior staff and the remainder were junior staff. Slightly more than half of participants (55%) have more than 5 years of work experience. Most of them (65%) worked in government setting, whereas 30% worked in both public and private settings. With regard to their professional roles, 53% of them had clinical roles, while 42% of participants had mixed, clinical and administrative roles. The majority of participating dermatologists see up to 20 patients per day, and only 20% of them manage more than 20 patients per day (see Table 1).

Familiarity of a Dermatologist with Cost-Related Concepts

The assessment of the dermatologists' knowledge of cost-related terms showed that while most participants (82%) had heard of cost-effectiveness, they had never heard of cost-consciousness (72%), cost-containment (87%), or health

Table 1 Physicians' Demographic and Workplace Characteristics

Variable	Frequency	Percentage
Age		
22–30	54	41%
31–40	48	36%
41–50	13	10%
51–60	11	8%
61 and above	6	5%
Gender		
Female	70	53%
Male	62	47%
Position		
Senior staff (Consultant and registrar)	81	61%
Junior staff (Resident)	51	39%
Years of experience		
0–5	60	45%
>5	72	55%

(*Continued*)

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Table 1 (Continued).

Variable	Frequency	Percentage
Status of employment		
Government	85	65%
Private	7	5%
Both	40	30%
Professional role		
Clinical	70	53%
Administrative	6	5%
Mixed (administrative and clinical)	56	42%
Number of Patients seen		
0–10	49	37%
11–20	56	43%
>20	27	20%

economics (86%). When asked how much they understood the concept of cost-effectiveness in relation to medications, only 10% reported that they were familiar with it and knew how to indicate, interpret, and calculate it (see Table 2).

Dermatologist's Cost-Conscious Behavior

The participating dermatologists' responses to the cost-consciousness statements indicated a tendency toward more cost-conscious behavior. The majority (77%) agreed that it is every physician's responsibility to contain medication costs, and almost all (92%) agreed that physicians need to do more to limit the prescription of unnecessary medications. Half of the participating dermatologists reported being too busy to worry about cost factors when prescribing medications.

Table 2 Dermatologist Familiarity with Different Cost Concepts Terminology

Variable	Frequency	Percentage
Have you ever received training in health-economics before?		
No	113	86%
Yes	19	14%
Heard about the term cost-consciousness before?		
No	95	72%
Yes	37	28%
Heard about the term cost-containment before?		
No	115	87%
Yes	17	13%
Heard about the term cost-effectiveness before?		
No	24	18%
Yes	108	82%

(*Continued*)

Table 2 (Continued).

Variable	Frequency	Percentage
What is your level of familiarity with the concept of cost-effectiveness for medications?		
I do not know anything about the concept	16	12%
I only know the term	12	9%
I have a vague idea about the concept	19	14%
I understand the purpose of the concept but I do not recall its indications and interpretation	39	30%
I understand the purpose of the concept and can recall its indications and interpretation	33	25%
I understand the purpose of the concept and can recall its indications, interpretation, and calculation	13	10%

Moreover, slightly less than half of them (41%) agreed that medication cost should be taken into account only when the patient was responsible for paying all or most of it. Finally, when asked whether it is unfair to expect physicians to be cost-conscious while still prioritizing their patients' welfare, the respondents were split almost equally, with 42% agreeing and 36% disagreeing. For the full sample of dermatologists, the cost-consciousness mean ± SD was 19.42 ± 3.29 (see Table 3).

Univariate and Multivariate Analyses

According to univariate analysis, cost-consciousness was statistically more positive among male dermatologists (16%), dermatologists with more than 5 years of work experience (15%), those working in both private and government sectors (23%), and those having mixed clinical and administrative roles (18%) compared to female dermatologist, dermatologist with less than 5 years of work experience, those working in either public or private setting or having clinical or administrative roles only (see Table 4).

Multivariate logistic regression found a significant association between having a mixed clinical and administrative professional role and positive cost consciousness (OR: 4.233, CI [1.087 −16.49]) (see Table 5).

Table 3 Dermatologist Responses to Cost-Consciousness Statements

	Strongly Disagree	Somewhat Disagree	Neither Agree nor Disagree	Strongly Agree	Somewhat Agree	Mean	SD
Trying to contain medication costs is the responsibility of every physician	1 (0.8%)	11 (8.3%)	18 (13.6%)	55 (41.7%)	47 (35.6%)	4.03	0.95
There is currently too much emphasis on medications costs	0	10 (7.6%)	25 (19%)	56 (42.4%)	41 (31%)	2.03	0.90
Physicians need to take a more prominent role in limiting the use of unnecessary medications	0	2 (1.5%)	8 (6%)	38 (29%)	84 (63.5%)	4.55	0.68
Physicians are too busy to worry about the costs of medications	10 (7.6%)	32 (24.2%)	24 (18.2%)	48 (36.4%)	18 (13.6%)	2.75	1.19
The only time the cost of medication should be considered is when the patient must pay all or most of the cost	29 (22%)	35 (26.5%)	14 (10.6%)	35 (26.5%)	19 (14.4%)	3.15	1.4
It is unfair to ask physicians to be cost-conscious and still keep the welfare of their patients foremost in their minds	11 (8.3%)	36 (27.3%)	30 (22.7%)	39 (29.5%)	16 (12.1%)	2.9	1.178

Table 4 Univariate Analysis of Predictors of Cost-Consciousness

Variable	Cost Consciousness Negative	Cost Consciousness Positive	P value
Age			0.158
22–30	51(94%)	3(6%)	
31–40	39(81%)	9(19%)	
41–50	13(100%)	0	
51–60	10(91%)	1(9%)	
61 and above	5(83%)	1(17%)	
Gender			0.052
Female	66 (94%)	4(6%)	
Male	52(84%)	10(16%)	
Position			0.162
Senior staff (Consultant and registrar)	70(86%)	11(14%)	
Junior staff (Resident)	48(94%)	3(6%)	
Years of experience			0.056
0–5	57(95%)	3(5%)	
>5	61(85%)	11(15%)	
Status of employment			0.01
Government	81(95%)	4(5%)	
Private	6(86%)	1(14%)	
Both	31(77%)	9(23%)	
Professional role			0.012
Clinical	67(96%)	3(4%)	
Administrative	5 (83%)	1(17%)	
Mixed (administrative and clinical)	46(82%)	10(18%)	
Number of Patients seen			0.489
0–10	46(90%)	5(10%)	
11–20	51(86%)	8(14%)	
>20	21(96%)	1(4%)	
Have you ever received training in health-economics before?			0.414
No	100(88%)	13(12%)	
Yes	18(95%)	1(5%)	
Heard about the term cost-consciousness before?			0.561
No	84(88%)	11(12%)	
Yes	34(92%)	3(8%)	

(*Continued*)

Table 4 (Continued).

Variable	Cost Consciousness Negative	Cost Consciousness Positive	P value
Heard about the term cost-containment before?			0.868
No	103(90%)	12(10%)	
Yes	12(88%)	2(12%)	
Heard about the term cost-effectiveness before?			0.257
No	23(96%)	1(4%)	
Yes	95(88%)	13(12%)	
What is your level of familiarity with the concept of cost-effectiveness for medications?			0.19
I do not know anything about the concept	15(94%)	1(6%)	
I only know the term	11(92%)	1(8%)	
I have a vague idea about the concept	15(79%)	4 (21%)	
I understand the purpose of the concept but I do not recall its indications and interpretation	38(97%)	1(3%)	
I understand the purpose of the concept and can recall its indications and interpretation	29(88%)	4(12%)	
I understand the purpose of the concept and can recall its indications, interpretation, and calculation	10(77%)	3(23%)	

Table 5 Multivariate Binary Logistic Regression Analysis of Variables That Were Significant in the Univariate Analysis

Variable	P value	OR (95% CI)
Mixed professional role	038	4.233 (1.087–16.494)

Barriers Preventing Dermatologists from Considering Cost When Prescribing Medication

When asked about barriers preventing them from following a cost-conscious behavior in their daily practice. About 39% of them reported perceived barriers with alternative medication availability (8%), medication efficacy and safety (8%), and lack of knowledge about cost (7%) been the most prominent barriers (see Table 6).

Discussion

This study revealed that the surveyed dermatologists had a limited understanding of health economics. Approximately 86% of them reported never having received any formal training or education on health economics, and the majority had never heard of cost-consciousness or cost-containment. Approximately 82% of the participants understood cost-effectiveness and thought that it was appropriate to consider when making decisions about medications. This finding is in line with a previous study, in which only 15% of physicians had any formal training in health economics and the majority had no awareness of important cost-related concepts such as cost-consciousness and cost-containment. Ginsburg et al found that although physicians agree that cost-effectiveness is important for clinical decision-making, they do not

Table 6 Barriers Preventing Dermatologists from Considering Cost When Prescribing Medication *

Barrier	Frequency
Alternative medication availability	11 (8%)
Medication efficacy and safety	11 (8%)
Knowledge about cost	9 (7%)
Time constraint	4 (3%)
Patient demand and preference	4 (3%)
Others such as system policy, lack of accountability, lack of incentive, lack of autonomy, working in a government hospital, nature of the disease treated and economic status of patient.	14 (11%)

Notes: *The number and percentage do not add up to the total number of the sample (100%) because only 51 participant (39%) reported a perceived barrier to contain cost and some of participants reported more than one perceived barrier.

have a uniform approach for implementing it. [10] Previously published studies cited that many reasons lead to this knowledge gap including the absence of health economic modules within the physicians training curriculum, lack of interest of physicians in learning about the subject and decades of lack of contribution of physicians in decision making process that involve resource allocation and distribution. [20]

Being cost-conscious when prescribing medications is crucial if the medical profession is to continue delivering high-value healthcare. [21] One study found that physicians who were less cost-conscious prescribed approximately three times more medications than cost-conscious physicians. [10] The first step in becoming cost-conscious is to learn about the true costs of commonly prescribed medications. According to the literature, when practicing physicians estimate the costs of drugs, a third of the time (31%) they are only within a 20–25% range of the accurate costs, partly because they do not have access to up-to-date information about drug costs. Furthermore, they tend to underestimate the cost of proprietary drugs and overestimate the costs of generic drugs [19]. Steen et al reported that approximately a fifth (20%) of dermatology care providers were within 25% of the true figure when estimating the cost of medications; however, they were more accurate when estimating procedure costs. [17] Physicians in Saudi Arabia are less aware and concern about cost of the care provided and 86% of them will not consider less-cost treatment options for their patients partially because patients health expense in the public health system is fully covered by the government. This awareness deficit is attributed to physicians themselves as most of them do not read about the cost and the efficacy of different treatment options and to institutes where they practice, which in most of the case do not encourage or monitor their cost-effective practice. Physicians believe it is the responsibility of their institutes to educate, encourage and monitor cost-effective practices. [22]

This study revealed that dermatologists have a positive attitude toward cost-consciousness and agree that part of their role is to keep costs contained. This finding is consistent with a study in which most surveyed physicians agreed that although the priority of a physician is to select safe and effective medications, cost consideration is part of their duties. [10] Overall, the dermatologists' cost-consciousness score in the present study was 19.42, which is consistent with the findings of similar cost-consciousness studies that used the same measurement scale. [10,19] Although most studies found no association between sex and cost-consciousness, AlOmar reported that male physicians were more cost-conscious than female physicians. [10] This agrees with our finding in the present study, which showed that approximately 16% of male dermatologists were cost-conscious when prescribing medications compared to only 6% of female dermatologists.

In their study of neonatologists, Wei et al found a higher level of cost-consciousness among those working in the private sector than among those working in public settings. Conversely, several studies have revealed higher cost-consciousness levels among public sector physicians. One theory suggests that working in a public sector makes physicians more aware of medication costs, while another suggests that hospital physicians may still be cost-conscious if they are more exposed to health-economic issues through an additional academic or administrative role. [23] The present

study found that 18% of dermatologists who had mixed roles (administrative and clinical) were cost conscious compared to only 4% of their peers who had only clinical roles. Moreover, approximately one-fifth (22%) of dermatologists who work in mixed clinical settings (public and private) were cost-conscious in their medication prescription decisions compared to their peers who work only in the public sector (4%) only. In addition, in the current study, we found that dermatologists with more than 5 years of experience had a significantly increase cost-conscious attitude (15%) compared to other participants with a short period of experience (5%). In agreement with this, we report that 14% of senior staff were cost conscious compared to only 6% of junior staff, although the difference was not statistically significant.

Bovier et al found that physicians who saw fewer patients per week were more cost-conscious, regardless of their work setting or compensation system. They speculated that hospital doctors who see fewer patients may play an additional academic or administrative role that brings them closer to health-care costs. [23] These findings are echoed in the current study, in which we found that approximately 10% of dermatologists who see less than ten patients per day were cost conscious in their daily decisions compared to only 4% of participants who manage more than 20 patients per day, although the relationship between cost consciousness and patient load was not statistically significant. Finally, multivariate logistic regression analysis found that dermatologists with mixed clinical and administrative roles were more likely to be cost conscious than their peers with only clinical duties.

In the study by AlOmar et al, 65% of physicians reported that basing prescribing decisions on cost went against their medical ethics. They found that it was their main challenge to follow a cost-conscious approach when prescribing medication. Indeed, there seems to be no doubt that tension exists between physicians' need to prioritize optimal outcomes for patients and the requirement that they contain costs; however, a balance must be struck to find options that are in the best interests of both patients and the healthcare system. Of course, some physicians might find this balance of professional autonomy and cost-containment overwhelming. [10] In the current study, we found that the lack of suitable alternative medication is a major barrier for dermatologists when prescribing medications. Several studies have explored the relationship between patient satisfaction and physician prescription behaviors. For instance, some physicians have reported that being compelled to factor in cost considerations would render them unable to fully meet their patients' demands for medications, which would reduce their patients' trust in them. [10] If these physicians' patients insist on certain medications, they prescribe them, regardless of whether they are cost-effective or clinically indicated. In fact a study evaluating Dutch general practitioners gatekeeper role, reported that 81% of them think that patients receive too much care (unnecessary care). Demand satisfying attitude of general practitioners coupled with patients consumerism was one of the main reason of this unnecessary care, in addition to other factors such as availability of new diagnostic facilities that resulted in supply induced demand of care and gap in the incentive system between hospitals and primary care facilities. They recommended several corrective strategies such as practicing shared decisions making with patients, implementing tight criteria for referral, benchmarking on referral rates and increasing collaboration between primary and secondary care providers. [24]

All of these studies have highlighted the major consequences of this prescription behavior for both patients' health and health-system expenditure. It was found that patients demand of certain medications was the second most common barrier preventing physicians from implementing cost-conscious behavior. [10] Although, in the present study, satisfying patient demand was also one of the barriers to contain cost when prescribing medications, lack of knowledge about medication costs and fear that basing decisions on cost would affect the quality and safety of medication prescribed were more frequently reported.

The World Health Organization's guide to good prescribing points to the need to compare treatment options' efficacy, safety, suitability, and cost. Despite this, current medical education system does not include the assessment of the cost-effectiveness of treatment options when making clinical decisions, but only focuses on drug efficacy, safety, and suitability, that is, how to prevent prescription errors. Therefore, aspects, such as medication cost and cost-containment without jeopardizing efficacy and safety, are crucial to consider during decision making and should be built into the existing medical education system. [19]

According to previous research, training physicians to be cost-conscious can have beneficial results. For instance, one study found that physicians who had been trained to be cost-conscious tended to prescribe cost-effective medications; in another study, teaching the basics of health economics, medications costs, and resource use to medical students and

residents was shown to make them significantly more cost-conscious. [10] Overall, throughout the United States, there is a lack of attention paid toward cost-consciousness in medical schools, whether through the curriculum structure or through the addition of special educational programs [23]. Steen et al found that only 12% of dermatology residents had received formal training on the costs of dermatology care within the previous year. [17] Enhancing cost consideration among physicians requires multidimensional approach which include availability of updated access to medications cost, educational activities, mentorship programs and continuous reflective feedback on their prescription habits. [19]

In a study of internal medicine residents, a randomized controlled trial of an educational intervention program failed to show any statistically significant reduction in costs per admission over the control group, while also demonstrating that the length of the educational intervention was a determinant of the effectiveness of the program. Furthermore, Dowling et al found that the effectiveness of these educational intervention programs generally fades within months of their end. [17] In addition, cost awareness might not be a precondition for cost consideration as highlighted by Van der wees et al. They reported that although older general practitioners had more stewardship toward containing cost due to their accumulated experience and participation in administrative roles, they were more cost considerate than cost aware. They recommended that decision makers should focus on policies that stimulate cost consideration such as shared decision making approach since patients usually tend to choose more conservative (less costly) options. They also, reported that general practitioners working within a single layer health care system were less exposed to competition between multiple layers. Therefore, they express less cost consideration. [25]

Although this is the first study to explore dermatologists' awareness of and willingness to apply cost-consciousness, it has some limitations. First, the cross-sectional study design rendered it impossible to draw any conclusion about the cause and effect relationship between cost-consciousness and its correlates. Second, the small sample size is unlikely to be representative of all dermatologists working in Saudi Arabia. Third, responses to the questionnaire were subjective in nature and might not be entirely reflective of dermatologist prescribing attitudes because the physicians were self-reporting and might not want to admit their true behavior. Fourth, there was no direct measurement of the effects of cost-conscious behavior (eg, the mean cost per patient). Therefore, it is difficult to conclude whether physicians being cost-conscious in their prescribing behavior would have any real effect on the actual cost of patient care.

In Conclusion, the present study revealed that although most dermatologists agree that it is the responsibility of every physician to contain costs when deciding what medications to prescribe and that they should have a prominent role in reducing wasteful medication prescription, they have limited understanding of cost-related concepts such as cost-consciousness and cost-containment. Male dermatologists, long work experience, working in mixed private–public settings, and in particular dermatologists who play clinical and administrative roles tend to be cost conscious. This study highlighted the need to make a constructive change in the healthcare system to include cost-consciousness as a fundamental part of physicians' education and practice. It also opens the door for future research to evaluate whether this improved knowledge about cost-related concepts will translate into more resource-efficient, high-value health care.

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