

Ophthalmologists' Attitudes Towards Complementary and Alternative Medicine

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Abstract

Aim: To evaluate ophthalmologists' attitudes toward CAM and define their use and recommendations of CAM for their patients.

Methods: This cross-sectional study was conducted among ophthalmologists in Saudi Arabia. A self-administered questionnaire was distributed electronically among ophthalmologists via social media. The questionnaire was pre-tested in a pilot study of 10 individuals. The questionnaire contained questions about socio-demographics and knowledge about, practices of, and attitudes toward CAM. All statistical analyses were performed using SPSS version 26.

Results: A total of 102 ophthalmologists were involved in this study (68 men and 34 women). Of all the ophthalmologists, 40.2% do not ask their patients about the use of CAM, whereas only 11.8% of them ask their patients about it most of the time. Nearly 60% never recommended CAM to their patients. Most of the ophthalmologists (65.7%) think that CAM can negatively affect patients' compliance to the conventional treatment and 61.8% felt annoyed when patients did not tell them about CAM use. When asked about their knowledge of CAM,

54.9% and 37.3% indicated poor and intermediate knowledge, respectively. Most of the respondents (64.3%) were willing to take courses related to CAM, and only 3.9% of them did.

Conclusion: In the time of increased use of CAM by the patients, most of the ophthalmologists demonstrated poor knowledge about CAM and do not regularly ask the patients about it.

Keywords: Complementary and alternative medicine, ophthalmologist, attitudes, knowledge

Introduction

Complementary and alternative (CAM) medicine refers to a spectrum of therapeutic and diagnostic practices that operate mainly beyond the facilities provided by conventional healthcare. Potential CAM therapies include herbal use, massage, hypnosis, osteopathy, acupuncture, and reflexology. CAM is an increasingly popular aspect of healthcare practice, but there is uncertainty regarding what exactly it is and what role it should play in relation to traditional medicine by the disciplines included in this field¹.

CAM practices vary widely between countries depending on their traditions and disease prevalence. Fasting and reciting the Quran alone or only consuming water is the most commonly used spiritual ritual in Saudi Arabia, while herbs (8%–76%), honey (14%–73%), and dietary items (6%–82%) are other commonly used forms. The least commonly used method was cupping (Al Hijamah) (4%–45%), which is typically related to religious beliefs². However, manual manipulation, phototherapy, acupuncture, and homeopathy are the most widely used conventional therapeutic methods in Europe³.

Many people use complementary medicine to manage their ophthalmological conditions. A study on herb and vitamin supplementation use among the general ophthalmology practice population showed that a significant number of patients used CAM in ophthalmology settings, with 58% of the participants reporting daily use of vitamins and 8% of them using herbal products⁴. Patients may believe that using CAM can control their treatment options and how they are going to manage their lives by making an action plan, trying to change a situation, and learning something new to deal with a problem⁵.

A previous study conducted on the opinions of Canadian ophthalmologists regarding CAM use in glaucoma showed that 22% of them thought that CAM has a beneficial effect on patients with glaucoma and 9% would recommend the use of CAM to their patients⁶. According to a local study, having physicians with wider knowledge of CAM led to better health outcomes⁷. Another study highlighted the importance of educating physicians about CAM to improve patient care⁸.

The aim of our study was to evaluate ophthalmologists' attitudes toward CAM and to define their use and recommendations for CAM to their patients.

Materials and Methods

This cross-sectional study was conducted among ophthalmologists and optometrists in Saudi Arabia. The study was approved by the Institutional Review Board (IRB) committee of Imam Mohammed Ibn Saud Islamic University, with approval number HAPO-01-R-011, Project number 22-2021. The study was conducted in accordance with the Declaration of Helsinki of 1975 and its

later amendments or comparable ethical standards. The dataset was obtained via a self-administered questionnaire distributed electronically among ophthalmologists and optometrists. Consent was obtained by all participants in this study. The questionnaire was pre-tested in a pilot study of 10 individuals to ensure comprehension and ease of administration and to determine the time needed to complete it. The final adjustments were made after the pilot review.

Statistical analysis

Statistical Packages for Social Sciences version 26 (Armonk, NY: IBM Corp., USA) was used to analyse the data. The assessment of the ophthalmologists' attitude toward CAM was measured using 9-item questionnaires, with a 3-point Likert scale coded as follows: "disagree" coded as 1, "neutral" coded as 2, and "agree" coded as 3. The total attitude score was calculated as the sum of all items, and a score ranging from 3 to 27 points was attained, where the higher the score, the better the attitude toward CAM. Using 50% and 75% to determine the level of attitude, participants were classified as negative if the score was < 50%, neutral if the score was 50%–75%, and positive if the score was > 75%.

Categorical variables are presented as numbers and percentages, while continuous variables are summarised as mean and standard deviation. The overall mean attitude score was compared with sociodemographic characteristics using an independent samples t-test and a one-way ANOVA test. A normality test was performed using the Shapiro–Wilk test. The overall attitude score followed a normal distribution; and therefore, a parametric test was applied between the comparisons. A level of 0.05 was considered as the cut-off value for statistical significance.

Results

A total of 102 ophthalmologists were recruited for the study. Table 1 describes the socio-demographic characteristics of the ophthalmologists. The most common age group was 20–30 years (52%), with a male predominance (66.7% vs. 33.3%). Most respondents were of Saudi nationality (95.1%) and lived in the central region (69.6%), with most of them being in the city (93.1%). With regard to years of practice, the majority had 1–10 years of experience (72.5%). With respect to professional specialty, 41.2% were optometrists and 33.3% were consultants. In addition, more than half (54.9%) worked at government centres.

Table 1. Socio-demographic characteristics of ophthalmologists (n = 102)

Study Data	N (%)
Age group	
• 20–30 years	53 (52.0%)
• 31–40 years	30 (29.4%)
• 41–50 years	11 (10.8%)
• > 50 years	08 (07.8%)
Gender	
• Male	68 (66.7%)
• Female	34 (33.3%)
Nationality	
• Saudi	97 (95.1%)
• Non-Saudi	05 (04.9%)
Residence region	
• Central region	71 (69.6%)
• Eastern region	11 (10.8%)
• Western region	13 (12.7%)
• Northern region	01 (01.0%)
• Southern region	06 (05.9%)
Living area	
• City	95 (93.1%)
• Province	07 (06.9%)
Years in practice	
• 1–10 years	74 (72.5%)
• 11–20 years	21 (20.6%)
• 21–30 years	04 (03.9%)
• > 30 years	03 (02.9%)
Professional specialty	
• Optometrist	42 (41.2%)
• Resident	15 (14.7%)
• Specialist	11 (10.8%)
• Consultant	34 (33.3%)
Subspecialty	
• General ophthalmologist	22 (21.6%)
• Anterior segment	20 (19.6%)
• Glaucoma	03 (02.9%)
• Neuro-ophthalmology	01 (01.0%)
• Oculoplasty	03 (02.9%)
• Retina and vitreous	08 (07.8%)
• Pediatrics ophthalmology and strabismus	02 (02.0%)
• Optometry	42 (41.2%)
• Ophthalmic genetics	01 (01.0%)
Type of centre	
• Government centre	56 (54.9%)
• Private centre	28 (27.5%)
• Both	18 (17.6%)

Regarding knowledge and practice of CAM, 46.1% of physicians sometimes asked their patients if they were using CAM, while 56.9% of patients were sometimes advised about CAM therapy. Nearly 60% never recommended CAM to their patients and 41.2% sometimes discouraged patients from using CAM. Most ophthalmologists (61.8%) felt annoyed when patients did not tell them about their CAM use. The proportion of physicians approached by patients regarding the side effects of CAM use was 51%. The main concern of ophthalmologists regarding the use of traditional medicine was scientific evidence of the benefits (42.2%). When asked about their knowledge of CAM in their daily practice, 54.9% indicated poor knowledge, and 37.3% indicated intermediate knowledge. Only 3.9% of the respondents had attended courses related to CAM. Of those who had not yet attended CAM courses, 64.3% were willing to take them. (Table 2)

As shown in Figure 1, the most common CAM treatments recommended to patients were fish oil (49%) and exercise (47.1%), whereas the most common CAM treatments used by patients were tea bags (57.8%) and honey (52%).

As shown in Figure 2, the most common disease that was treated with CAM was dry eye disease (52%), followed by chalazion and stye (30.4%), while glaucoma was the least common (1%).

In the assessment of attitudes toward CAM, 26.5% agreed that some CAM therapies were beneficial for the treatment of eye conditions, while 46.1% did not agree that they should be used and prescribed to patients. Of these, 65.7% agreed that it could negatively affect patient compliance with conventional treatments, and 55.9% agreed that the use of CAM may prevent patients from visiting ophthalmological clinics. Moreover, 40.2% disagreed that the main use of CAM was to prevent diseases. Moreover, 32.4% agreed that CAM works only through the placebo effect and 48% agreed that CAM should only be used in minor conditions. In addition, 31.4% of respondents agreed that CAM courses are beneficial for ophthalmologists. The overall mean attitude based on 9-items was 18.5% (SD, 2.99), with 9.8%, 64.7%, and 25.5% comprising negative, neutral, and positive attitudes, respectively (see Table 3).

When measuring the differences in the attitude score among the socio-demographic characteristics of ophthalmologists, the attitudes of female participants were statistically significantly better attitude than those of male participants ($T = -2.941$; $P = 0.004$), while the differences in the attitude score of age group, residence region, years in practice, professional specialty, subspecialty, type of centre, and attended course-related CAM were not statistically significant ($P > 0.05$) (see Table 4).

Table 2. Knowledge and practices toward CAM (n = 102)

Statement	N (%)	
Do you ask your patients if they use CAM?		CAM: complimentary alternative medicine
• No	41 (40.2%)	
• Sometimes	47 (46.1%)	
• Yes, most of the time	12 (11.8%)	
• Yes, always	02 (02.0%)	
Do patients ask you about the use of CAM?		
• No	19 (18.6%)	
• Sometimes	58 (56.9%)	
• Yes, most of the time	23 (22.5%)	
• Yes, always	02 (02.0%)	
Do you recommend CAM to patients?		
• No	61 (59.8%)	
• Sometimes	34 (33.3%)	
• Yes, most of the time	07 (06.9%)	
• Yes, always	0	
Do you discourage patients from using CAM?		
• No	29 (28.4%)	
• Sometimes	42 (41.2%)	
• Yes, most of the time	20 (19.6%)	
• Yes, always	11 (10.8%)	
Do you feel annoyed when you find out one of your patients is using CAM without telling you?		
• No	39 (38.2%)	
• Yes	63 (61.8%)	
Have you ever been approached by a patient because of CAM side effects?		
• No	50 (49.0%)	
• Yes	52 (51.0%)	
What makes you concerned about patients using traditional medicine?		
• There is no scientific evidence for its benefits	43 (42.2%)	
• Interaction with traditional medicines	06 (05.9%)	
• Side effects	28 (27.5%)	
• Dependence on it and dispense with modern medicine	25 (24.5%)	
How would you rate your knowledge of CAM in the ophthalmological field		
• No knowledge of it	07 (06.9%)	
• Poor	56 (54.9%)	
• Intermediate	38 (37.3%)	
• Expert	01 (01.0%)	
Have you ever taken courses in CAM?		
• No	98 (96.1%)	
• Yes	04 (03.9%)	
Would you like to take courses in CAM?		
• No	35 (35.7%)	
• Yes	63 (64.3%)	

Figure 1: Type of CAM treatments recommended to and asked by patients

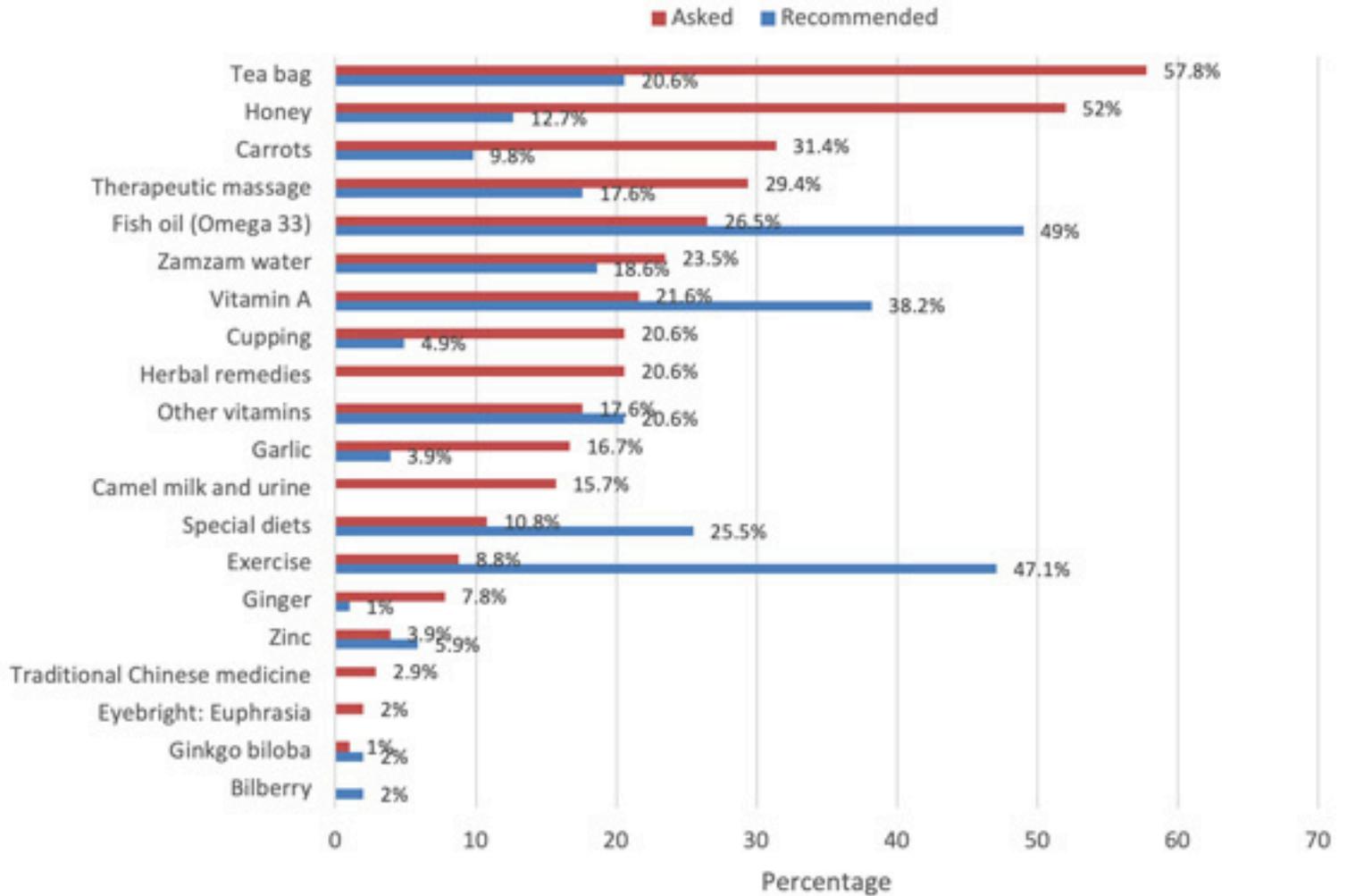


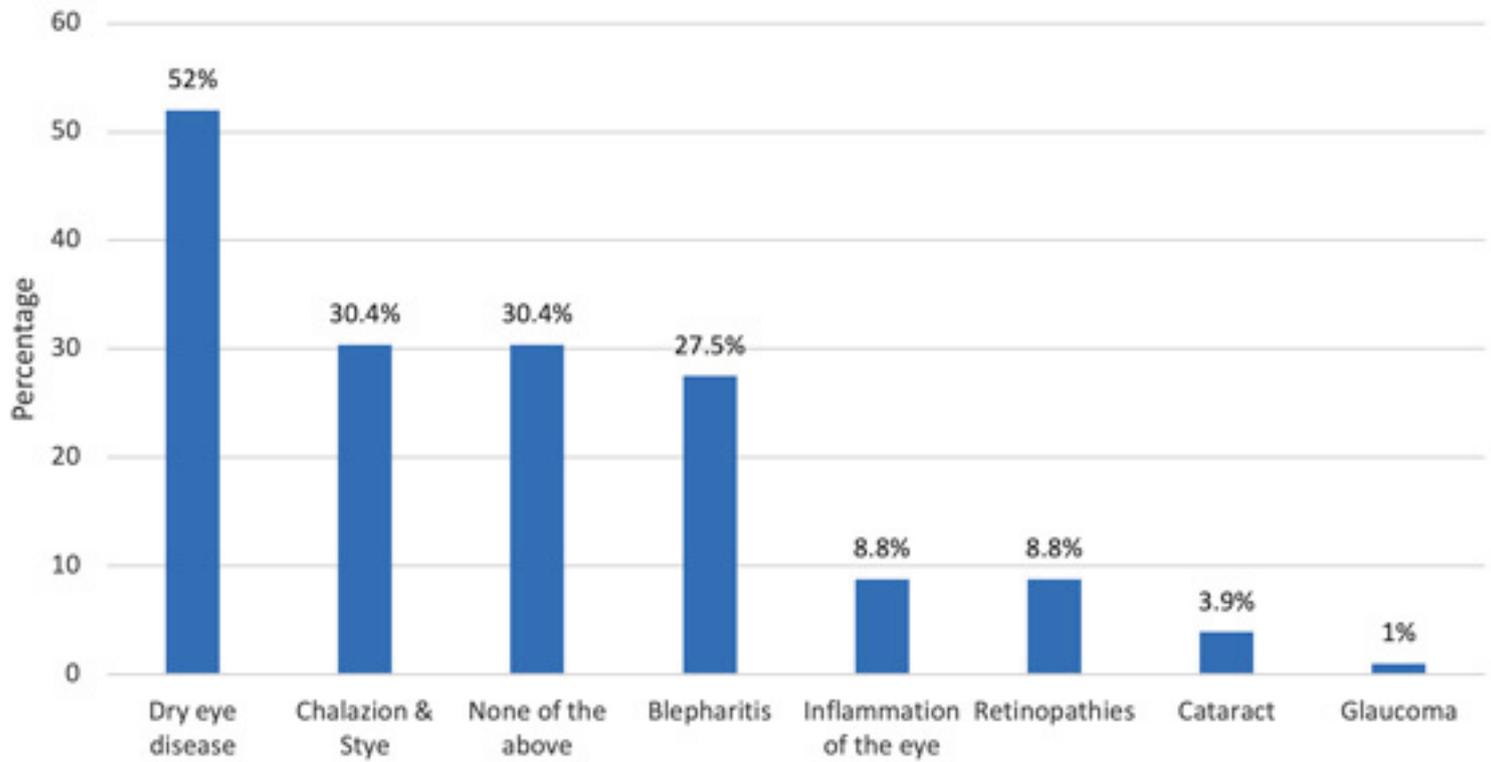
Figure 2: Diseases that can be treated by CAM

Table 3. Assessment of attitude toward CAM (n = 102)

Statement	Score Mean \pm SD	Disagree N (%)	Neutral N (%)	Agree N (%)
1. Do you think that some CAM therapies may be beneficial for the treatment of ophthalmological symptoms/conditions?	2.03 \pm 0.71	24 (23.5%)	51 (50.0%)	27 (26.5%)
2. Do you think that CAM should be used and prescribed to patients?	1.71 \pm 0.74	47 (46.1%)	38 (37.3%)	17 (16.7%)
3. Do you think that CAM can negatively affect patients' compliance to the conventional treatments and may prevent them from getting proper treatment?	2.58 \pm 0.64	08 (07.8%)	27 (26.5%)	67 (65.7%)
4. Do you think that CAM may prevent patients from visiting ophthalmological clinics and seeking conventional medicine?	2.34 \pm 0.81	22 (21.6%)	23 (22.5%)	57 (55.9%)
5. Do you think that the main use of CAM is as a prevention of diseases, and not a treatment?	1.84 \pm 0.79	41 (40.2%)	36 (35.3%)	25 (24.5%)
6. Do you think that CAM should only be used as a last resort when conventional medicine has failed?	1.68 \pm 0.76	51 (50.0%)	33 (32.4%)	18 (17.6%)
7. Do you think that CAM works only through the placebo effect?	2.04 \pm 0.78	29 (28.4%)	40 (39.2%)	33 (32.4%)
8. Do you think that CAM should only be used in minor conditions and not in the treatment of more serious illness?	2.19 \pm 0.86	30 (29.4%)	23 (22.5%)	49 (48.0%)
9. Do you think that CAM courses are beneficial for ophthalmologists?	2.12 \pm 0.71	20 (19.6%)	50 (49.0%)	32 (31.4%)
Total score	18.5 \pm 2.99	--	--	--
Level of attitude	N (%)	--	--	--
• Negative	10 (09.8%)	--	--	--
• Neutral	66 (64.7%)	--	--	--
• Positive	26 (25.5%)	--	--	--

Table 4. Differences in attitude score in relation to the socio-demographic characteristics of ophthalmologists (n = 102)

Factor	Attitude Score (27) Mean \pm SD	T/F-test	P-value
Age group *			
• 20–30 years	18.9 \pm 3.25	T = 1.431	0.156
• > 30 years	18.1 \pm 2.64		
Sex *			
• Male	17.9 \pm 2.92	T = -2.941	0.004 †
• Female	19.7 \pm 2.79		
Residence region *			
• Inside central region	18.6 \pm 3.13	T = 0.510	0.611
• Outside central region	19.3 \pm 2.67		
Years in practice *			
• \leq 10 years	18.6 \pm 2.96	T = 0.410	0.682
• > 10 years	18.3 \pm 3.12		
Professional specialty †			
• Optometrist	19.3 \pm 2.99	F = 1.582	0.199
• Resident	17.7 \pm 3.37		
• Specialist	18.2 \pm 2.68		
• Consultant	18.1 \pm 2.82		
Subspecialty †			
• General ophthalmologist	17.7 \pm 3.25	F = 2.079	0.108
• Anterior segment	18.2 \pm 2.94		
• Optometry	19.4 \pm 2.98		
• Other allied subspecialties	17.9 \pm 2.47		
Type of centre †			
• Government centre	18.8 \pm 2.93	F = 1.750	0.179
• Private centre	18.7 \pm 3.24		
• Both	17.3 \pm 2.59		
Attended course related to CAM *			
• No	18.5 \pm 2.92	T = -0.157	0.876
• Yes	18.7 \pm 4.99		

* P-value was calculated using independent samples t-test.

† P-value was calculated using one-way ANOVA test.

‡ Significant at $p < 0.05$ level.

Discussion

It is clear that CAM will be a part of healthcare for a greater part of the population, even in the foreseeable future. Fortunately, studies in this field are increasing rapidly^{9,10}. The integration of CAM into the ophthalmological field is necessary to tackle and gain insights into traditional medicine. Thus, we examined ophthalmologists' attitudes regarding the use and concept of CAM. To improve one's attitude, one should have sufficient knowledge about the subject. In the present study, the majority (54.9%) of ophthalmologists reported poor ratings on their knowledge of CAM, which was consistent with the papers published in Qatar¹¹, Ghana¹², and Saudi Arabia¹³. Incidentally, in the ophthalmological field, the use of CAM is not widely popular as only 26.5% of ophthalmologists believe that CAM therapies play a role in the management of ophthalmological conditions, and 40.2% of them do not ask their patients about CAM.

The findings of this study showed that the overall attitude of ophthalmologists toward CAM was adequate. Approximately one-quarter (25.5%) of the respondents demonstrated a positive attitude, 64.7% were neutral, and only 9.8% had a negative attitude. Several publications have reported a positive attitude toward the concept of CAM, whether amongst general practitioners¹¹ or medical students^{12,14,15}. However, in Saudi Arabia, researchers have found that there is a positive attitude among primary care physicians towards CAM, but most of them are hesitant to refer or initiate a discussion with patients regarding CAM practices. Moreover, we observed that the attitude of female ophthalmologists toward CAM was significantly better attitude than that of male ophthalmologists ($P = 0.004$). This finding is comparable with the study of Akan et al. ¹⁵, who indicated that female and first-year students had more positive attitudes than others. However, their optimism regarding CAM and willingness to receive training declined as the level of training increased. Another study conducted by Marie et al.¹³ indicated that residents and newly practicing physicians had a more positive attitude toward CAM than those with a long history of practice. On the contrary, our results revealed that age, years in practice, professional specialty, subspecialty, type of centre, and courses attended related to CAM were not relevant factors of attitude, which was consistent with the findings of Ameade et al.¹².

Ophthalmologists living in the provinces were more likely to believe that patients' compliance with conventional treatments can be negatively affected by the use of CAM and can prevent them from visiting ophthalmological clinics. This is most likely a result of the exposure of these physicians to a greater population of people with less education about conventional medicine and cultural beliefs about the positive effects of CAM.

The data from this study showed that most ophthalmologists were annoyed when they found out that patients were using CAM without revelation. Indeed, 51.0% of them reported being approached by a patient because of the side effects

of CAM. These findings are in agreement with those of Furlow and associates¹⁶. According to their reports, most patients did not consult a healthcare provider before starting CAM.

Interest in CAM lectures or courses is a significant step towards improving the knowledge of the subject. In this study, although the majority (64.3%) were interested in taking courses related to CAM, only 3.9% were able to participate, which resulted in their lack of knowledge. In Mexico,¹⁷ 72% of study subjects thought that it was useful to have knowledge of CAM, and more than half (51%) agreed that CAM should be included in a medical career, which was supported by the findings of Marie et al¹³.

Among the different CAM therapies, ophthalmologists recommended the use of fish oil containing omega 3 (49%), regular exercise (47.1%), vitamin A (38.2%), and a special diet (25.5%) for the treatment of certain eye conditions in their patients. In contrast, the most frequently requested CAM by patients were teabags (57.8%), honey (52%), carrots (31.4%), and massage (29.4%). The use of a specific type of CAM therapy varies according to region and condition. For instance, in Riyadh, Saudi Arabia⁷, researchers indicated that most physicians were aware of ruqyah (spiritual healing), honey and bee products, dietary supplements, massage therapy, relaxation, herbal medicine, and cupping as CAM therapies, and half of them had used these therapies for themselves or their families. In Qatar¹¹, counselling and psychotherapy (69%), diet and supplements (68.1%), and acupuncture (45.2%) were the CAM therapies that general practitioners were mostly aware of. In Iran¹⁴, findings indicated that 90% of participants demonstrated competent knowledge of acupuncture, while the lowest scores were for homeopathy (12%). In Ghana¹² and Turkey¹⁵, herbal medicine was the most commonly used CAM therapy by medical students and also the most commonly recommended.

This study has some limitations that may have affected the results. The major limitation is the small sample size, which may not have been sufficient to ensure statistical significance. Additionally, this was a questionnaire-based study that relied on self-reported measures rather than observational measures in practice; therefore, we should be particularly cautious in addressing any firm conclusions. However, to the best of our knowledge, this study is the first to explore this important topic among ophthalmologists.

Conclusion

Despite ophthalmologists' willingness to help their patients make informed decisions about the use of CAM, many of them tend not to do so because of their own poor knowledge. Certainly, physicians have a duty to use evidence-based practice medicine, where CAM does not. However, increased use of CAM is inevitable due to the rapid rise of electronic resources that patients can easily access. Thus, physicians' behaviour in learning more about CAM is vital for them to provide and guide their patients with the best possible available treatment. Ophthalmologists

should inquire more frequently about CAM use by their patients and educate them about the side effects of their use if used inappropriately as this transparency between physicians and patients will hopefully result in a more beneficial therapeutic alliance and treatment outcomes. Finally, regular CAM courses should be integrated among physicians, which will help ensure that all patients obtain evidence-based knowledge from which they can make decisions about using CAM.

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