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ISSN No: 2319-5886

International Journal of Medical Research & Health Sciences, 2019, 8(2): 86-92

Knowledge and Awareness of Oculoplastic Surgery among Medical Students

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ABSTRACT

Objectives: *There has been a gap in the literature regarding the knowledge of health-care workers, including medical students, on the speciality of oculoplasty. In this study, we aimed to assess the perception and knowledge of oculoplasty among medical students.* ***Methods:*** *A cross-sectional study was conducted among medical students at King Abdulaziz University during the months of June 2018 and September 2018. Data were collected using a self-administered questionnaire.* ***Results:*** *This study involved 625 medical students from the second to sixth-year levels. The highest number of participants was from the third year 185 (29.6%). Most of the medical students 381 (61.0%), did not know about the training required to become an oculoplastic surgeon, and only 50 (8.0%) were interested in the speciality as a career. Ptosis was the most identified condition by medical students to be treated by oculoplastic surgeons, 316 (50.56%), and entropion was the least, 86 (13.76%). Less than one third, 177 (28.3%) of the medical students disagreed regarding oculoplastic surgery as it is very risky. The most important source of information for oculoplastic surgery was 'social media,' 258 (41.28%); and the least effective was 'magazines,' 20 (3.2%). The mean (SD) knowledge score for all respondents was 3.61 (2.18%).* ***Conclusion:*** *Medical students lack proper knowledge in the field of oculoplasty. This is related to the lack of exposure to the speciality in various areas including medical rotations, conferences, and summer training. This has contributed to the lack of interest in pursuing a future career in oculoplasty.*

Keywords: Ophthalmology, Ophthalmic plastic surgery, KAU, Speciality, Information source, Saudi Arabia

INTRODUCTION

Oculoplasty is one of the diverse branches of ophthalmology. It is recognized as a specialized area of ophthalmology that deals with the structures surrounding the eyes. Some scholars define it as a branch that focuses on eye plastic and reconstructive surgery [1].

Besides the medical importance of oculoplasty and the negative effect on social functionality associated with different ocular deformities, the perception of youth and beauty nowadays is becoming increasingly admired [2]. With that, the demand for the aesthetic aspect of oculoplasty will increase, adding more value to the importance of assessing the knowledge of this speciality among the society as well as making efforts to enhance that knowledge.

In the West, the concern about physical appearance among both males and females is increasing, raising the frequency of obtaining cosmetic enhancement. The majority of previously conducted studies found that people are generally satisfied with the outcome of cosmetic procedures [3].

In India, a study conducted in a reconstructive and aesthetic clinic found many cosmetic-surgery related myths, mainly about oculoplasty, which raises the alarm on the inadequacy of the currently available accurate sources delivering information on these specialties [4].

Inadequate knowledge and perception of oculoplasty may also be attributed to the low awareness level on ophthalmic diseases. A study conducted in 2015 stressed the importance of educating the public about ophthalmic diseases to ensure early presentation and, therefore, best visual prognosis [5]. An increased interest in ophthalmology is evident by the recent developments in the medical field; including the increasing number of engaged women [6-8], who tend to seek part-time work and opportunities to combine their work with their personal life [9,10]. Studies show

that medical students rank ophthalmology as the third good-life-style speciality after dermatology and radiology, respectively [11]. One of the aims of this study was to see if this increased interest in ophthalmology is associated with a good level of knowledge and perception on one of the oldest and most popular subspecialties, oculoplasty. It has been suggested that an effective strategy to boost medical students' interest and knowledge-seeking behavior towards ophthalmology is enhancing their exposure [12]. Unfortunately, not enough studies can be found in the literature on the knowledge and perception of oculoplastic surgery among medical students. Although studies on the perception of ophthalmology have been conducted in other parts of the world, the literature finds no recent studies published from Saudi Arabia or other countries on the perception of oculoplasty [5,6,12]. We, therefore, aimed to assess the perception and level of knowledge of oculoplastic surgery among medical students at King Abdulaziz University (KAU), Jeddah, Saudi Arabia.

MATERIALS AND METHODS

Study Design and Data Collection

A cross-sectional study was conducted at King Abdulaziz University Hospital via an online questionnaire. Each class of medical students, from second to the sixth year, was assigned data collectors to distribute the online questionnaire and gather responses. A total of 625 medical students participated in the study. The data were collected from June 15, 2018, to September 22, 2018. All participants were informed about the demands of the study and those who agreed to participate were enrolled. Participants who failed to complete the questionnaires were excluded.

Questionnaire Variables

The questionnaire was formulated on the basis of our study objectives and from available questionnaires with similar objectives. It was composed of 12 questions divided into 2 main parts: demographics and questions related to oculoplasty. The first part focused on demographic information such as age, sex, educational level, and academic grade point average (GPA). The second part aimed to assess the medical students' knowledge about oculoplasty, which was measured using an awareness score from one to five, the higher scores indicating greater awareness.

Ethical Considerations

This study was approved by the Institutional Review Board and the Research Ethics Committee of King Abdulaziz University.

Statistical Analysis

The knowledge score was calculated by assigning one point to each correct response. The maximum possible correct response was 12 and the minimum was 0. The mean knowledge-score differences between the male and female students, exposed and unexposed to ophthalmology were obtained by independent samples t-test. The mean differences in knowledge score between the different class levels and GPA scores were found by one-way ANOVA test. Correlation between age and mean-knowledge score for all respondents was calculated by Pearson's correlation test. The analysis was performed at 95% confidence interval using the Statistical package for social science (SPSS), version 23.0 (IBM, Armonk, NY, USA).

RESULTS

The study included 625 medical students, among them 349 (55.8%) were women. The respondents were second- to sixth-year medical students. The highest number of the respondents were from the third year, 185 (29.6%), and the lowest were from the sixth year, 62 (9.9%) Table 1.

Table 1 Demographic characteristics of study participants (N=625)

Characteristics	N (%)
Age	20.82 (1.47%)
Gender	
Male	276 (44.2%)
Female	349 (55.8%)
Student Level	
Second year	134 (21.4%)

Third year	185 (29.6%)
Fourth year	170 (27.2%)
Fifth year	74 (11.8%)
Sixth year	62 (9.9%)
GPA	
< 2.50	2 (0.3%)
2.50-2.99	2 (0.3%)
3.00-3.49	19 (3.0%)
3.50-3.99	63 (10.1%)
4.00-4.49	170 (27.2%)
4.50-5.00	369 (59.0%)
SD: Standard deviation	

Most of the medical students, 381 (61.0%) did not know the training required to become an oculoplastic surgeon, while only 82 (13.1%) did. The majority of 349 (55.8%) did not know if oculoplastic surgery and refractive eye surgery were the same or not. Almost half of the medical students correctly knew that the orbit 322 (51.52%); and eyelid 304 (48.64%) are the parts of the eye that fall under oculoplastic surgery. Less than one third 177 (28.3%) of the students disagreed regarding oculoplastic surgeries being very risky. Only 50 (8.0%) of the respondents were interested in becoming oculoplastic surgeons. The conditions treated by oculoplastic surgery were correctly identified by the following number of the respondents: ptosis 316 (50.56%); orbital trauma and fractures 227 (36.32%); refractive errors 149 (23.84%); chalazion 129 (20.64%); and entropion 86 (13.765%) (Table 2).

Table 2 Responses to the knowledge-related questions

Question	Responses	N (%)
What training is required to be an oculoplastic surgeon?	Four years training after a medical degree (postgraduate) and 1 year after ophthalmology residency**	82 (13.1%)
	Five years postgraduate training and 2 years after ophthalmology residency	97 (15.5%)
	Both are options	54 (8.5%)
	None of the above	11 (1.8%)
	Don't know	381 (61.0%)
Oculoplastic surgery and refractive eye surgery are one and the same	Agree	56 (9.0%)
	Disagree**	220 (35.2%)
	Don't know	349 (55.8%)
Procedures to which of the following parts of the eye do you think to fall under oculoplastic surgery?*	Orbit**	322 (51.52%)
	Eyelid**	304 (48.64%)
	Tear ducts	219 (35.04%)
	Cornea	206 (32.96%)
	Lens	176 (28.16%)
	Retina	166 (26.56%)
	Iris	138 (22.08%)
Oculoplastic surgeries are very risky	Agree	182 (29.1%)
	Disagree**	177 (28.3%)
	Don't know	266 (42.6%)
Do you want to be an oculoplastic surgeon?	Yes	50 (8.0%)
	No	279 (44.6%)
	Undecided/Yet to be determined	296 (47.4%)

Conditions treated by an oculoplastic surgeon include*	Ptosis**	316 (50.56%)
	Orbital tumors	270 (43.20%)
	Orbital trauma and fractures**	227 (36.32%)
	Corneal ulcer	159 (25.44%)
	Refractive errors**	149 (23.84%)
	Chalazion**	129 (20.64%)
	Corneal abrasion	123 (19.68%)
	Proptosis	118 (18.88%)
	Entropion**	86 (13.76%)
	Uveitis	52 (8.32%)
*Multiple response question; **Correct response		

The most important source of information regarding oculoplastic surgery was 'social media' according to the responses of 258 (41.28%) medical students, and the least effective was 'magazines' 20 (3.2%). All sources of information included in the questionnaire are given in Figure 1.

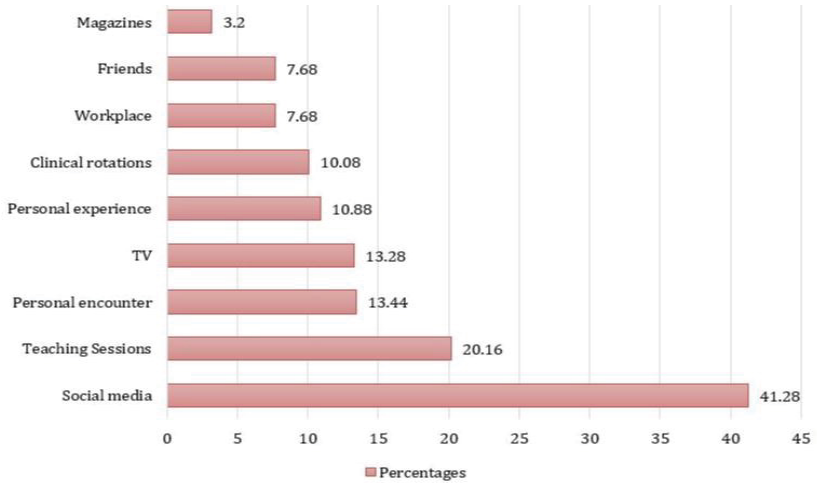

Figure 1 Source of information regarding occuloplastic surgery

We found that 143 (22.7%) study participants had previously been exposed to the ophthalmology speciality (Figure 2). About 32 (5.2%) respondents were exposed to the speciality during their medical rotations.

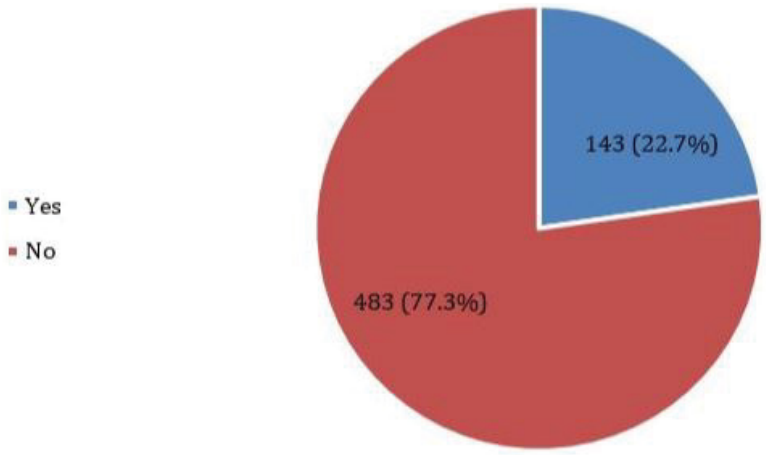

Figure 2 Previously exposed to ophthalmology speciality

The mean (SD) knowledge score for all participants was 3.61 (2.18%). The mean (SD) score for the male and female students were 3.61 (2.23%) and 3.61 (2.14%), respectively, (95% CI=0.340-0.349, p=0.978). The mean score differences between the different class levels (p=0.667), and different GPA scores (p=0.972) were not statistically significant. No significant linear relationship was observed between age and knowledge score (p=0.248). The mean knowledge-score difference between those who had previously been exposed to ophthalmology and those who had not, was not statistically significant (95% CI=0.167-0.649, p=0.247) (Table 3).

Table 3 Mean knowledge-score differences between the different cohorts

Cohort	Mean (SD) Score	95% CI	p-value
All respondents	3.61 (2.18%)		
Gender			
Male	3.61 (2.23%)	0.340-0.349	0.978
Female	3.61 (2.14%)		
Level of education			
Second year	3.70 (2.07%)	3.348-4.055	0.667
Third year	3.45 (2.13%)	3.145-3.763	
Fourth year	3.64 (2.37%)	3.278-3.993	
Fifth year	3.86 (2.20%)	3.356-4.374	
Sixth year	3.50 (2.01%)	2.991-4.009	
Age			0.248
GPA			
<2.5	3.00 (0.00%)	3.000-3.000	0.972
2.50-2.99	3.00 (1.41%)	9.706-15.706	
3.00-3.49	3.42 (2.36%)	2.281-4.561	
3.50-3.99	3.75 (2.49%)	3.117-4.374	
4.00-4.49	3.55 (2.15%)	3.221-3.873	
4.50-5.00	3.63 (2.14%)	3.413-3.850	
Previous exposure to ophthalmology			
Yes	3.80 (2.07%)	0.167-0.649	0.247
No	3.55 (2.20%)		

SD: Standard deviation; CI: Confidence interval

DISCUSSION

The results show lack of knowledge on the speciality of oculoplasty among medical students resulting in lack of interest in pursuing a future career in the field, as two-thirds of the medical students had little knowledge of the training required for oculoplasty, and only 8% were interested in continuing their careers as oculoplastic surgeons. This could be attributed to the little exposure they receive in the speciality, as only 143 (22.7%) had previously been exposed.

A study conducted in Riyadh, Saudi Arabia, reported ophthalmology as the highest desired speciality among male medical students, and the 8th desired speciality among females. Compared to only 8% of the participants in our study showing an interest in perusing a career in oculoplasty. This discrepancy can be due to the generalization of the speciality of ophthalmology in their study as it is not limited to one subspeciality [13].

We also found that only 32 (5.2%) of the respondents were exposed to ophthalmology during their medical rotations. This could contribute to the lack of interest in pursuing a career in oculoplasty. This is supported by a study conducted by Maiorova, et al., where they found that clerkships encouraged students to consider a future career in the specialties of rotations [14].

This lack of exposure to the ophthalmology speciality was not limited to rotations, it also included conferences and summer training, as only 143 (22.7%) of the participants reported previous exposure to the speciality. Lack of exposure may have contributed to the respondents' difficulty in recognizing conditions treated by oculoplastic surgeons, as the results showed, only 129 (20.64%) identified chalazion, and 86 (13.76%) identified entropion as conditions treated by oculoplastic surgeons.

Ptosis was the most identified condition to be treated by oculoplastic surgeons, as represented by 316 (50.56%) of the responses. This could be attributed to the high prevalence of this condition as reported by Sridharan, et al., who found that the prevalence of ptosis in a sample of 400 people over 50 years was 11.5% [15]. Another study conducted by Griepentrog, et al., found that in every 842 births there is one case of congenital ptosis [16]. Also, a study from Nigeria reported the prevalence of ptosis to be 2.1%; 52% were below the age of 16 years, and 8% were over 50 years [17].

On the other hand, only 86 (13.76%) of the respondents correctly identified entropion as a condition treated by oculoplastic surgeons. Entropion is age related with a prevalence of 4% in a population over the age of 49 years [18]. According to the World Health Organization, currently there are almost 600 million people worldwide aged 60 years and older; this number is expected to double by 2025 [19]. It is possible to predict that this increase will be associated with an increase in the prevalence of entropion and, therefore, a rise in concern and knowledge-seeking behavior related to it among health-care workers including medical students.

Less than one third 177 (28.3%) of the medical students in this study disagreed regarding oculoplastic surgery being very risky surgery. This agrees with Kaveh, et al., who stated that complications specific to eyelid surgery are transient and not difficult to treat, including infection and granuloma. On the other hand, they also mentioned that significant complications can still be excepted including; ptosis, ectropion, and irreversible blindness [20].

The most important source of information on oculoplastic surgery was social media as reported by 258 (41.28%) of the students. However, a study conducted in Nigeria found television to be the main source of knowledge on facial plastic surgery in general. This could be due to the lower popularity of social media in Nigeria [20].

LIMITATIONS

Limitations of this study include a lack of studies in the literature that assess knowledge of health-care workers, including medical students, in the field of oculoplasty.

CONCLUSION

Our study concludes that medical students lack proper knowledge in the field of oculoplasty. This is related to lack of exposure to the field in various areas including medical rotations, conferences, and summer training. This deficit has contributed to students' lack of interest in pursuing future careers in the speciality. Further studies are needed to assess the gap in medical school curricula contributing to this lack of knowledge.

DECLARATIONS

Acknowledgment

We would like to thank Salam Sait, Samiha Fagih, Maryam Al Hazza, Samaher Hazzazi, Abdulrahman alNajjar, and Mohammed Murtada for their wonderful collaboration and support with data collection.

Conflict of Interest

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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