ORIGINAL ARTICLE

Attitudes of ophthalmology and pediatrics residents toward professionalism

Marzieh Najjaran[1,4], Mohammad Etezad Razavi[2], Javad Heravian Shandiz[1], Hamed Tabesh[3], Ali Emadzadeh[4,*]

[1]Department of Optometry, School of Paramedical Sciences, Mashhad University of Medical Sciences, Mashhad, Iran
[2]Eye Research Center, Department of Ophthalmology, Mashhad University of Medical Sciences, Mashhad, Iran
[3]Department of Medical Informatics, School of Medicine, Mashhad University of Medical Sciences, Mashhad, Iran
[4]Department of Medical Education, School of Medicine, Mashhad University of Medical Sciences, Mashhad, Iran

[*]Mashhad University of Medical Sciences, Azadi Sq. Mashhad, 9177948564 Iran

Tel: +98 5138002234
Fax: +98 5138002437
Email: Emadzadea@mums.ac.ir

Background: Professionalism is an important competency for residents in medical education. The present study aimed to assess the attitudes of ophthalmology and pediatrics residents toward professionalism.

Methods: In this cross-sectional study, the Persian version of the modified American Board of Internal Medicine (ABIM) questionnaire was distributed among all the ophthalmology and pediatrics residents in Mashhad University of Medical sciences, during the academic year of 2018-2019. The questionnaire consists of demographic data and 15 items covering three domains including excellence, honor/integrity, and altruism/respect.

Results: Out of 103 residents, 77 (74.75%) respondents completed the questionnaires. The overall mean scores of professionalism were reported as 107.60±15.5 and 105.64±10.8 (out of 150) for the ophthalmology and pediatrics residents, respectively, and there was no significant difference between the two groups in this regard (P=0.53). The mean values for items forming the excellence domain were 5.44±1.8 and 5.47±1.4 (out of 10) for the ophthalmology and pediatrics residents, respectively (P=0.93). The mean values for the honor/integrity domain were reported as 8.38±1.2 and 8.2±1 (out of 10) for the ophthalmology and pediatrics residents, respectively (P=0.17). Regarding the altruism/respect domain, the mean scores were 7.46±1.1 and 7.37±0.7 (out of 10) for the ophthalmology and pediatrics residents, respectively (P=0.68).

Conclusion: The results of the current study revealed a moderate level of attitudes toward professionalism among the ophthalmology and pediatrics residents. The importance of giving more attention to the excellence domain seems a priority for the development of professionalism in residency programs.

Keywords: Respect; Attitude, Medical residency, Professionalism

اتجاهات أطباء العيون وطب الأطفال المقيمين نحو الاحتراف

الخلفية: الاحتراف هو كفاءة مهمة للمقيمين في التعليم الطبي. هدفت الدراسة الحالية إلى تقييم اتجاهات طب العيون وطب الأطفال المقيمين تجاه الاحتراف.

الطرق: في هذه الدراسة المقطعية ، تم توزيع النسخة الفارسية من استبيان البورد الأمريكي للطب الباطني المعدل على جميع أطباء العيون وطب الأطفال المقيمين في جامعة مشهد للعلوم الطبية ، خلال العام الدراسي ٢٠١٨-٢٠١٩. يتكون الاستبيان من بيانات ديموغرافية و ١٥ عنصرًا تغطي ثلاثة مجالات بما في ذلك "التميز" و "الشرف/ النزاهة" و "الإيثار/ الاحترام".

النتائج: من ١٠٣ ساكن ، أكمل ٧٧ (٧٤,٧٥٪) استمارة الاستبيان. تم الإبلاغ عن متوسط درجات الاحتراف الإجمالية على أنها ١٠٧/٦٠±١٥/٥٢و١٠٥/٦٤±١٠/٨١ (من ١٥٠) لأطباء العيون و طب الأطفال المقيمين على التوالي ، ولم يكن هناك فرق كبير بين المجموعتين في هذا الصدد (P = 0.53). كانت القيم المتوسطة للعناصر التي تشكل مجال التميز ٥,٤٤±١/٨ و٥/٤٧±١/٤ (من ١٠) لطب العيون و طب الأطفال المقيمين ، على التوالي (P = 0.93). تم الإبلاغ عن القيم المتوسطة لمجال الشرف / النزاهة على أنها ٨/٣٨±١/٢ و ٨/٠٢±١ (من ١٠) لطب العيون و طب الأطفال المقيمين ، على التوالي (P = 0.17). فيما يتعلق بمجال الإيثار / الاحترام ، كانت الدرجات المتوسطة ٧/٤٦±١/١١ و ٧/٣٧±٠/٧٩ (من ١٠) لأطباء العيون و طب الأطفال المقيمين ، على التوالي (P = 0.68).

الخلاصة: كشفت النتائج عن وجود مستوى معتدل من الاتجاهات نحو الاحتراف لدى أطباء العيون و الأطفال المقيمين. تبدو أهمية إيلاء المزيد من الاهتمام لمجال التميز أولوية لتطوير الاحتراف في برامج الإقامة.

الكلمات المفتاحية: الاحتراف ، الاحترام ؛ الموقف ، الإقامة الطبية

پیشہ ورانہ مہارت کے سلسلے میں ماہر امراض چشم کے معاونین اور بچوں کا رویہ

بیک گراونڈ: پیشہ ورانہ مہارت طبی تعلیم کے شعبے میں معاونین کے لیے اہم صلاحیتوں میں سے ایک ہے۔ اس مطالعے کا مقصد امراض چشم اور بچوں کے معاونین میں پیشہ ورانہ رویہ کی چھان بین کرنا ہے ۔

طریقہ: اس وضاحتی مطالعہ میں، امریکن بورڈ آف انٹرنل میڈیسن (ABIM) کے سوالنامے کا فارسی ورژن مشہد یونیورسٹی آف میڈیکل سائنسز کے تمام امراض چشم اور اطفال کے رہائشیوں کو ۲۰۱۹-۲۰۱۸ تعلیمی سال میں فراہم کیا گیا تھا۔ سوالنامے میں آبادیاتی معلومات اور ان کے پیشہ ورانہ رویے سے متعلق ۱۵ سوالات شامل تھے جن میں تین شعبوں "عمدگی"، "عزت اور دیانت" اور "احترام اور پریزنٹگاری" شامل تھے

نتائج: ۱۰۳ معاونین میں سے، ۷۷ (۷۴٫۷۵%) نے سوالنامہ مکمل کیا۔ آنکھ اور بچوں کے گروپ میں پیشہ ورانہ سوالنامے کے کل اسکور کا اوسط اور معیاری انحراف بالترتیب ۱۵۰ پوائنٹس میں سے ۱۰۷٫۶۰ ۱۵ ۱۵٫۵۲ اور ۱۰۵٫۶۴ ۱۰ ۱۰٫۸۱ تھے۔ دونوں گروپوں کے کل پیشہ ورانہ اسکور کے درمیان کوئی خاص فرق نہیں تھا۔(p ۵۳.۰)

۔ آنکھ اور بچوں کے گروپ میں "عمدگی" کا اوسط عنصر بالترتیب ۱۰ پوائنٹس میں سے ۵٫۴۴ ۱٫۸ ۱ اور ۵٫۴۷ ± ۱٫۴ تھا(P = 0.93) ۔ آنکھ اور بچوں کے گروپ میں "عزت / سالمیت" کا اوسط بالترتیب ۱۰ پوائنٹس میں سے ۸٫۳۸ ± ۱٫۲ اور ۸٫۰۲ ۱ ۱ تھا، (P = 0.17)۔ اس کے علاوہ، آنکھ اور بچوں کے گروپ میں "احترام / پریزنٹگاری" کا اوسط عنصر بالترتیب ۱۰ پوائنٹس میں سے ۷٫۴۶ ± ۱٫۱۱ اور ۷٫۳۷ ۷۹ ۰٫۷۹ تھا(P = 0.68)

نتیجہ: اس مطالعہ میں، امراض چشم اور بچوں کے معاونین میں پیشہ ورانہ رویہ ایک متوسط سطح پر ہے اور ریزیڈنسی پروگراموں میں پیشہ ورانہ مہارت کو فروغ دینے کے لیے فضیلت کے شعبے پر زیادہ توجہ دینے کو ترجیح دی جاتی ہے۔

مطلوبہ الفاظ: پیشہ ورانہ مہارت، احترام، رویہ، طبی معاون

نگرش دستیاران چشم پزشکی و کودکان در ارتباط با حرفه ای گری

زمینه و هدف :حرفه ای گری یکی از قابلیت های مهم برای دستیاران در حوزه آموزش پزشکی می باشد. هدف از این مطالعه بررسی نگرش حرفه ای گری در دستیاران چشم پزشکی و کودکان می باشد.

روش: در این مطالعه توصیفی، نسخه فارسی پرسشنامه American Board of Internal Medicine (ABIM) در اختیار تمام دستیاران چشم پزشکی و کودکان دانشگاه علوم پزشکی مشهد در سال تحصیلی ۲۰۱۹-۲۰۱۸ قرار گرفت. پرسشنامه مشتمل بر اطلاعات دموگرافیک و ۱۵ سوال مرتبط با رفتار حرفه ای آنها در سه حوزه "تعالی" ،"شرافت و درستکاری" و "احترام و نوع دوستی" بود.

یافته ها: از مجموع ۱۰۳ دستیار، تعداد ۷۷ نفر (۷۴/۷۵٪) پرسشنامه را تکمیل نمودند. میانگین و انحراف معیار نمره کل پرسشنامه حرفه ای گری در گروه چشم و کودکان به ترتیب۱۵/۵۲±۱۰۷/۶۰و۱۰/۸۱±۱۰۵/۶۴ از ۱۵۰ نمره بود. تفاوت معنی داری میان نمره کل حرفه ای گری دو گروه مشاهده نشد (P=۰,۵۳). میانگین عامل "تعالی" در گروه چشم و کودکان به ترتیب ۱/۸±۵/۴۴ و۱/۴±۵/۴۷ از ۱۰ نمره بود (P=۰,۹۳). میانگین عامل"شرافت/درستکاری" در گروه چشم و کودکان به ترتیب ۱/۲±۸/۳۸ و ۱±۸/۰۲ از ۱۰ نمره بود (P=۰,۱۷). همچنین میانگین عامل "احترام / نوع دوستی" در گروه چشم و کودکان به ترتیب ۱/۱۱±۷/۴۶ و ۰/۷۹±۷/۳۷ از ۱۰ نمره بود (P=۰,۶۸).

نتیجه‌گیری: در این مطالعه نگرش حرفه ای گری در دستیاران چشم پزشکی و کودکان در سطح متوسطی قرار داشته و اهمیت توجه بیشتر به حوزه تعالی در راستای توسعه حرفه ای گری در برنامه های دستیاری در اولویت به نظر میرسد.

واژه های کلیدی: حرفه ای گری، احترام، نگرش، دستیار پزشکی

INTRODUCTION

Medical professionalism is considered a valuable concept and one of the foundations of medical education, along with basic sciences and clinical skills through which the doctors interact with patients (1). The concept of professionalism goes back to the time of Hippocrates, and adherence to its values appears in the Hippocratic Oath at the graduation ceremonies of medical schools. Among a number of definitions for medical professionalism, the definition of the American Board of Internal Medicine(ABIM) is widely known (2) emphasizing the priority of patients' interests over physicians' self-interest.

According to the evidence, the high level of professionalism of assistants has been associated with better clinical competence (3), patient satisfaction, trust, and adherence to treatment plans (4). The Accreditation Council for Graduate Medical Education placed professionalism alongside five other core competencies for residency education, thereby requiring to be taught and assessed in residency training programs (5). This is the exact acceptable concept of professionalism that every academic institution should ensure the training of future professional physicians (6). Despite the importance of professionalism in education, physicians forget their commitment as professionals (7-9), and unprofessional behavior is a common issue among medical graduates (10).

Among several instruments introduced for the evaluation of different aspects of professionalism in medical education, self-administered rating scales were widely used (11). The elements of professionalism, such as excellence, honor/integrity, and altruism/respect, were identified in accordance with the ABIM definition in several studies (12-14). These elements in the modified ABIM questionnaire were translated into Persian and validated in Iran society by Aramesh et al. (14).

Ophthalmology as a high-tech specialty in surgery field needs a very high level of professionalism (15). Pediatricians as the providers of child well-being deal with the characteristics of a specific age group, namely children and their families (16). They have the responsibility to be aware of not only the health of the child but also a broader area from the emotional to the social and spiritual health of the child (17). Currently, there is a 4-year residency training program for ophthalmology and pediatrics specialties in Iran. The importance of cooperation between these two specialties has caused to provide a mandatory two-week rotational training program for the pediatrics residents at the Ophthalmology Department in Mashhad University of Medical sciences.

To the best of our knowledge, no studies have investigated the attitudes of the ophthalmology and pediatrics residents in Mashhad University of Medical Sciences toward professionalism. The primary goal of this study was to assess the attitudes of these residents toward professionalism based on a most reliable framework, the ABIM, using the Persian version of the modified ABIM questionnaire. In addition, the current study aimed to investigate differences in professionalism scores according to residency year, gender, and specialty.

METHODS

This cross-sectional study adhered to the principles of the Declaration of Helsinki and local institutional review board approved the study (Approval Ethics Committee code: 1397.435).The participants' consent was implied by their return of the questionnaires and they were assured of the confidentiality of the collected data.

The present study was conducted as a cross-sectional study in ophthalmology and pediatrics departments of Mashhad University of Medical sciences. The study population recruited all ophthalmology and pediatrics residents during the academic year from December 2018 to Jun 2019 to the study via the census method. Of the 103 residents, 46 postgraduate year 1 to 4 ophthalmology residents at Khatam eye hospital, and 57 postgraduate year 1 to 4 pediatrics residents at 4 affiliated teaching hospitals were eligible to fill in the questionnaires. Chief ophthalmology and pediatrics residents were instructed to describe the study purpose to all residents and collected the completed questionnaires. Residents were free to fill out the questionnaires in their own free time anonymously or return it with no answer.

Attitudes of residents toward Professionalism was measured using the Persian version of the modified American Board of Internal Medicine (ABIM) questionnaire used in previous work by Aramesh et al, after receiving permission from the author (14). This instrument showed has an acceptable content validity and internal reliability (Cronbach's alpha =0.88) by Aramesh et al (14). The questionnaire consists of 15 items covering three domains: excellence (4 items), honor/integrity (4 items) and altruism/respect (7 items).

The excellence domain included four questions that residents rated their colleagues if they "display and promote professional behavior, assist their colleagues, place the needs of their patients in front of their own self-interest, and educate their patients" (14). The honor/integrity domain included four questions that residents rated their colleagues if they "are honest and avoid doing unprofessional behaviors such as lying to their patients and urging their junior residents to withhold data from patients' charts or copy their history and physical examination " (14). The altruism/respect domain included seven questions that residents rated their colleagues if they "show respect to their patients, their colleagues, and the regulations of the hospital, which urge them not to use the materials and equipment squanderingly" (14).

Each item is answered on a 0 to 10 Likert scale from "never" or 0, to "always" or 10 where 10 demonstrated the highest level of attitudes toward professionalism, for this regard items 5 to 15 scored inversely. Therefore the total score was 0-150 and the total scores divided by the number of its items for each domains was 0-10.There were 3 additional yes-no questions about knowing the meaning of professionalism, any history of passing educational courses or workshops related to the professionalism and having any personal study in the field of professionalism.

Statistical Analysis

The data were analyzed using SPSS software, version 23. The

Table 1. Demographic Characteristics of total residents

Total participants(n=77)	Ophthalmology	Pediatrics	P-value†
Participants per group, n (%)	35(45.4%)	42(54.5%)	0.75
Age, years[€] (range)	30.42±4.18(27-49)	30.88±3.05(27-40)	0.58[*]
Female (%)	12(34.4%)	38(90.55%)	<0.001
Married (%)	22 (62.9%)	31(73.8%)	0.3

†was calculated by means of chi-square test,*t-test,[€] Mean ±SD,

present study explored that the professionalism items varied by residency year, gender, and specialty. The mean ±SD score and percentage of variables were calculated. Independent samples t-test was used for comparison between groups and Pearson correlation test was applied comparing professionalism scores to residents' age. A one-way analysis of variance (ANOVA) was used to test for differences between training years. *P* value <0.05 was set as the significant level.

RESULTS

From a total of 103 residents, 77 completed the questionnaire, representing a 74.75% response rate. All of the questions had been answered. The demographic characteristics of the residents was shown in Table 1. Females represented 65% of all residents.

Table 2. Number of participants (%) per residency year of each group and the mean ±SD scores of professionalism

	Ophthalmology	Pediatrics
1st year	8(22.9%)	11(26.2%)
mean ±SD[¥]	97±10.74	103±8.85
2nd year	7(20%)	13(31%)
mean ±SD	110.71±9.87	104.92±10.65
3rd year	9(25.7%)	11(26.2%)
mean ±SD	108.77±15.59	106.27±13.94
4th year	11(31.4%)	7(16.7%)
mean ±SD	112.06±19.03	110.14±8.85
P-value [§]	0.16	0.59

[¥] SD, standard deviation; [§] was calculated by one-way analysis of variance (ANOVA) test

The number (%) of participants per residency year of each group and the mean (±SD) scores of professionalism was shown in Table2.

The mean ±SD of the overall score and each of domains were shown in Table 3. There were no significant difference for overall and subscale scores of professionalism between the two groups (*P*>0.05). On a scale of 0 to 10, the mean score ± SD for all items were 7.17 ±1 and 7.04± 0.7 in ophthalmology and pediatrics residents, respectively.

The student's t-test showed no significant difference for overall score of professionalism between the two genders in ophthalmology group (male=105.74±16.3 vs. female=111.17±13.8 out of 150, *P*=0.33). This comparison was not performed in pediatrics group because only four residents were male.

The one-way ANOVA revealed no significant differences in the mean of overall score of professionalism at different training years in both ophthalmology and pediatrics residents (F=1.824, *P*=0.16 and F=.638, *P*=0.59, respectively).

Pearson correlation coefficient was used to test the correlation of age to the overall score of professionalism and no significant correlation was observed both in ophthalmology and pediatrics groups (r=0.09, *P*=0.28 and r=-0.023, *P*=0.88, respectively). Also, the correlation between age and three subscale scores was not significantly different for both groups of residents (*P*>0.05).

In comparison between groups who responded "yes" to the question about knowing the meaning of professionalism and who responded "no", the overall score of professionalism in both ophthalmology and pediatrics residents was not significantly different(*P*=0.68 and *P*=0.19, respectively).

Comparison between groups who had a history of pass related courses or workshops with the group who did not, showed no significant difference in overall and three

Table 3. Mean± SD scores of professionalism in ophthalmology and pediatrics for each domain of professionalism.

	Ophthalmology (n=35)	Pediatrics (n=42)	P-value [¥]
Overall score [§]	107.60±15.52	105.64±10.81	0.53
Excellence [∞]	5.44±1.86	5.47±1.49	0.93
Honor/integrity	8.38±1.29	8.02±1.02	0.17
Altruism//respect	7.46±1.11	7.37±0.79	0.68

[¥]The student's t-test; [§] The score out of 150; [∞]The score of each domain out of 10

subscale scores of professionalism ($P>0.05$) in both groups of residents. In comparison of findings between groups who had a personal related study with the group who did not, there was no significant difference ($P>0.05$) for both studied residents. The residents' "yes" response percentage to the three questions about professionalism has been shown in Figure 1.

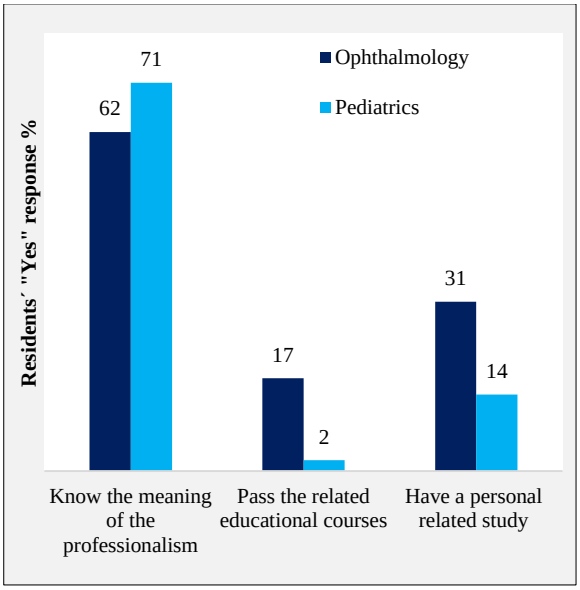

Figure 1. Residents' "yes" response to the three questions about professionalism

DISCUSSION

This study sought to examine the attitudes of the pediatrics and ophthalmology residents toward professionalism in three domains, namely excellence, honor/integrity, and altruism/respect. By the application of the Persian version of the modified ABIM questionnaire, the findings showed no significant difference between the ophthalmology and pediatrics residents for either overall or three related subscale scores of professionalism. It would be possibly explained by the integrity of the education of professionalism at the same medical school (i.e., Mashhad University of Medical Sciences).

The overall mean scores of professionalism were 7.04±0.7 and 7.17±1 (out of 10) for the pediatrics and ophthalmology residents, respectively, indicating a moderate level of attitudes toward professionalism among the studied residents. The findings of the current study are consistent with the results of previous reports from Iran (14, 18, 19). In a recent study, a high level of attitudes toward professionalism was shown in physical medicine and rehabilitation residents using the Persian version of the modified ABIM questionnaire. The mean professionalism score in the aforementioned study was 7.67, which was slightly higher than that reported for the present study (20). Moreover, Mianehsaz et al. reported a mean score of 4.93 for total professionalism, and they observed a lower level of professionalism among surgery residents than non-surgery ones (19).

In the current study, including both non-surgery (pediatrics) and surgery (ophthalmology) residents, the mean score of attitudes of professionalism was higher than 7 in both groups, and no difference was observed between the two groups that might be attributed to other possible effective factors, such as different characteristics between surgical and non-surgical specialties. In a study carried out by DeLisa et al., the professionalism score in physiatry residents was reported as 7.7 (out of 10) (13). Different residents' concepts of professionalism in various specialties are other possible factors for the observed difference (21).

In the present study, the highest score was obtained for the honor/integrity domain for both studied specialties that could imply the honest behavior of residents toward their patients. The lowest score was reported for the excellence domain in the current study. This finding possibly emphasizes the need for improvements in role models. From the perspective of residents and according to a recent systematic review conducted by Passi et al., role models are the most influential factors in the development of professionalism (22, 23). Faculties are the role models for the formation of behaviors and attitudes of their residents (24), and they should be aware of their roles in this regard (18).

The altruism/respect domain in the current study was reported with a low score. A recent study carried out on emergency medicine residents showed that the lowest score was obtained for the altruism domain(25). The altruism domain has different interpretations (26), and the adherence of physicians to the best interests of patients is one of the definitions of this concept (27). In the present study, the females had a higher overall score; however, this difference was not statistically significant. In a study conducted by Papadakis et al., the male gender was not reported as a risk factor for disciplinary actions by medical boards (7).

According to the results of the current study, there was no significant difference in the overall professionalism score based on residency year in both groups of the residents. In addition, there was no correlation between age and residency year with professionalism scores. This is possibly due to a lack of a formal professionalism curriculum for residency programs. As it was suggested that disciplinary actions are not sufficient alone for controlling unprofessional behavior (28), the necessity of a course on professionalism for all fields of medicine has been recommended in some studies (29).

In a recent study, both scopes of professionalism, including perception and performance, in surgery residents improved in a 1-year curriculum for professionalism (30). Moreover, there was no significant difference in the scores of professionalism attitude between the participants having a personal study in the field of professionalism or passing related educational courses and the group who did not. It possibly emphasized the limited effects of learning professionalism through these forms.

Many (62% of the ophthalmology and 71% of pediatrics residents) of the respondents in both groups of the present study responded "yes" to the question of knowing the

physicians has been previously reported (29). Although the familiarity with the term alone is not enough, it is also necessary to be aware of the residents' definitions of professionalism. Several studies have demonstrated the variability and lack of consensus over the terms associated with professionalism among residents (22, 31). It is required to carry out future qualitative studies to become aware of various definitions of professionalism from the perspectives of residents in different specialties.

There are several limitations in the present study. Firstly, the response rate was reported as 74.75%, and secondly the generalizability of the findings was restricted to the particular studied groups of residents. It is suggested to perform further studies for the evaluation of other specialties to gain a broader perspective of professionalism attitudes at Mashhad University of Medical Sciences. Finally, although using the Persian version of the modified ABIM questionnaire with acceptable internal consistency and structural validity was the strength of the current study, professionalism has not been assessed in all the aspects, such as competencies.

Several instruments were introduced for the evaluation of different aspects of professionalism. However, each of the aforementioned instruments has its weaknesses and strengths. With regard to the nature of the multi-dimensional construct of professionalism, no single method can comprehensively assess it (32), and more than one assessment instrument has been recommended for each institution (33).

In conclusion, the results of the present study revealed a moderate level of attitudes toward professionalism among the ophthalmology and pediatrics residents. The findings of this study serve as the first step to become further aware of future specialists' attitudes toward professionalism. The importance of giving more attention to the excellence domain seems a priority for the development of professionalism in residency programs.

Ethical considerations

Ethical issues (Including plagiarism, informed consent, misconduct, data fabrication and/or falsification, double publication and/or submission, redundancy, etc.) have been completely observed by the authors.

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