

ORIGINAL ARTICLE

Motives for Choosing Medicine as a University Major: A Cross-Sectional Study

العائز لدى الطلاب لاختيار الطب كفرع جامعي لوسم تمت هذه الدراسة بطريقة مقطعية

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Background: Awareness of the motives of the students for choosing to study medicine demonstrates their understanding of the nature of this major and their expectations from their future profession. The evaluation of the volume of students who choose this major with wrong motives is necessary for educational planning of professional commitment. This study was conducted to evaluate the motives of choosing to study medicine in the first-year medical students of Tehran University of Medical Sciences.

Methods: This descriptive analytical study was conducted on the first-semester of medical students of Tehran University of Medical Sciences in the 2014-15 academic year who were selected through census sampling. The data collection tool was a self-administered questionnaire, which included questions on 17 different motives in a Likert scale in addition to demographic characteristics.

Results: Of 131 distributed questionnaires, 124 (93%) were completed and returned. Eighty-six participants (65.61%) mentioned helping others as their main motive for choosing medicine followed by interest in the human body (44.3%), interaction with people (32.8%), professional prestige (26.7%), and starting a good profession after graduation (21.4%). On the other hand, unfamiliarity with other majors (0.8%), competition with others (2.3%), and teamwork (4.6%) were the least important motives.

Conclusions: The students' motives are mostly altruistic and in accordance with medical professionalism. These motives should be reinforced to enhance professional performance. Moreover, the faculty of medicine should recognize and offer counseling services to students with undesirable motives.

Keywords: Medical Education, Motive, Student, Professionalism

الأرضية: إن التعرف على حوافز الطلبة الجامعيين في اختيار فرع الطب يدل على إدراكهم لطبيعة هذا الفرع ويساعد بالتنبؤ على مستقبلهم فيه. لإجراء تخطيط تعليمي صحيح للتميز لهذه المرحلة يجب إجراء تقويم شامل للطلاب الذين اختاروا هذا الفرع لحوافز غير صحيحة.

لقد تمت هذه الدراسة على طلاب السنة الأولى في كلية الطب في جامعة طهران لتقويم الحافز لديهم لاختيار هذا الفرع.

الطريقة: تمت هذه الدراسة بالطريقة الوصفية - التحليلية على طلاب السنة الأولى في كلية الطب في جامعة طهران في العام الدراسي ٢٠١٤-٢٠١٥. كانت طريقة أخذ العينات عن طريق العمد لكل الطلاب. تمت الدراسة باستخدام ورقة أسئلة التحكيم الذاتي وبالإضافة إلى ١٧ سؤال كان الطلبة المشتركين قد اختارواهم من بين أسئلة مقياس ليكرت.

النتائج: من ١٣٢ ورقة أسئلة تم توزيعها ١٢٤ ورقة ملئت بالكامل (٩٣٪) من الطلبة كانت حافزهم الأساسي هو مساعدة الآخرين (٦٥/١١) والحوافز التي جاءت في المرتبة الثانية حسب التعرف على بدن الإنسان والتعامل مع الناس و برستيج المهنة والحصول على عمل جيد بعد التخرج. أما الحوافز الغير مهمة في نظر الطلبة فهي عدم وجود معرفة بالفروع الأخرى والمنافسة مع الأخرين والعمل الجماعي.

النتيجة: حوافز الطلبة أغلبها من النوع الجيد وفي خط التميز لمهنة الطب. ويجب إثارة هذا الحافز لتحصين العمل في هذه المهنة. ويجب أيضا أن يتم معرفة الطلاب الذي اختاروا هذا الفرع بدافع من حوافز غير سليمة ويتم تقديم الإستشارات لهم.

الكلمات الرئيسية: تعليم الطب، حافز، طالب، الإحترافية

انگیزه های انتخاب رشته پزشکی: یک مطالعه مقطعی

طلباء علم طب کی پڑھائی کیوں اختیار کرتے ہیں؟ ایک تحقیق

زمینه: آگاهی از انگیزه‌های دانشجویان در انتخاب رشته پزشکی نشانگر درک آنها از طبیعت این رشته و انتظاراتی که از آنها در آینده به عنوان حرفه مند می‌رود است. به منظور برنامه ریزی آموزشی صحیح در ترمهده حرفه‌ای، ارزیابی بزرگی نسبت دانشجویانی که با انگیزه های نادرست این رشته را انتخاب می کنند، ضروری است. این مطالعه به هدف ارزیابی انگیزه های انتخاب رشته پزشکی در دانشجویان سال اول این رشته در دانشگاه علوم پزشکی تهران انجام شد.

روش: این مطالعه توصیفی- تحلیلی روی دانشجویان سال اول پزشکی دانشگاه علوم پزشکی تهران در سال تحصیلی ۹۴-۹۳ انجام یافت. شیوه نمونه گیری سرشماری تمام دانشجویان بود. ابزار مطالعه، پرسشنامه خود ایفا بود که علاوه بر سوالات دموگرافیک شامل ۱۷ آیتم از انگیزه های مختلف بود که شرکت کنندگان آنها را در مقياس ليكرت اهمیت انتخاب می‌کردند.

نتایج: از ۱۳۲ پرسشنامه توزیع شده ۱۲۴ پرسشنامه تکمیل شد (پاسخدهی = ۹۳٪). ۸۶ دانشجو کمک کردن به دیگران را به عنوان انگیزه اصلی خود انتخاب کردند (۶۵/۱۱٪) و بعد از آن علاقمندی به شناختن بدن انسان، تعامل با مردم، پرستیز حرفه ای، و شغل خوب داشتن پس از فارغ التحصیلی بود. از سوی دیگر عدم آشنایی با سایر رشته ها، رقابت با سایرین، کار تیمی کمترین انگیزه برشمرده بودند.

نتیجه گیری: انگیزه های دانشجویان اغلب نوع دوستانه و در راستای تعهد حرفه‌ای پزشکی است. این انگیزه لازم است در بهبود عملکرد حرفه ای تقویت شود. به علاوه، دانشکده پزشکی باید دانشجویانی که با انگیزه نامطلوبی پزشکی را انتخاب کرده اند را شناسایی کرده و به آنها خدمات مشاوره‌ای دهد.

بیگ گراوند: طالب علم میڈیکل سائنسس میں کیوں علم حاصل کرتے ہیں، اگر یہ معلوم ہو جائے تو آپ کی سمجھ میں آجائے گا کہ طلباء اس علم کی اہمیت سے واقف ہیں اور مستقبل میں اس علم کو پیشہ ورانہ طور سے استعمال کرنے اور اس سے جو توقعات رکھی جاسکتی ہیں اس سے بھی واقف ہیں۔ میڈیکل طلباء کو ان کی پیشہ ورانہ ذمہ داریوں کا احساس دلانے کے لئے صحیح منصوبہ بندی، وہ طلباء جنہیں میڈیسن اختیار کرنے پر مجبور کیا گیا ہے اس کے اسباب جاننے کے لئے ضروری ہے کہ ہم اسی عنوان کے تحت ایک تحقیق انجام دیں۔ یہ تحقیق تهران میں یونیورسٹی آف میڈیکل سائنسس میں انجام دی گئی تھی اور اس میں میڈیکل کے پہلے برس کے طلباء کو شامل کیا گیا تھا۔

روش: یہ تحقیق تهران کی میڈیکل یونیورسٹی میں دو ہزار چودہ، پندرہ میں انجام دی گئی، اس میں سینس کے طریقے سے طلباء کا انتخاب کیا گیا، انہیں ایک سوالنامہ دیا گیا جس میں علم طب کو اختیار کرنے کے سترہ امور پر سوال کئے گئے تھے نیز اس میں ڈیموگرافیک کے لحاظ سے بھی سوال تھے۔ طلباء نے لائیکرٹ اسکیل کے لحاظ سے ہر ایک سبب کی وضاحت پیش کی۔

نتیجے: ایک سو تینتیس سوالنامے دئے گئے تھے جن میں ایک سوچوبیس سوالناموں کے جوابات موصول ہوئے۔ چھپاسی طلباء نے کہا کہ دوسری کی مدد کرنے کا جذبہ ان کے علم طب میں تعلیم حاصل کرنے کا سبب ہے، اس کے بعد پینسٹھ فیصد طلباء نے کہا کہ وہ انسانی جسم کی شناخت حاصل کرنا چاہتے ہیں اسی وجہ سے علم طب اختیار کیا ہے، اس کے ساتھ انہوں نے یہ بھی کہا کہ اس سے پرستیج ملتی اور عوام کے ساتھ کام کرنے کا موقع ملتا ہے اور فارغ التحصیل ہونے کے بعد آپ کو ایک پائادار کام مل جاتا ہے۔ اس کے علاوہ کچھ طلباء نے یہ بھی کہا کہ دوسرے علوم کی عدم شناخت، دوستوں سے رقابت اور ٹیم ورک کی بنا پر علم طب کو اختیار کیا ہے۔

سفارش: اکثر طلباء کا کہنا تھا کہ انہوں نے انسان ہمدردی کے جذبات کی وجہ سے علم طب کو اختیار کیا ہے۔ اس سوچ اور فکر کو پیشہ ورانہ مرحلے میں تقویت دی جانی چاہیے، اس کے ساتھ ساتھ میڈیکل فیکلٹی کو یہ کام بھی کرنا چاہیے کہ غلطی سے یا مجبوری سے میڈیکل شعبہ کو اختیار کرنے والے طلباء کی شناخت کر کے انہیں کونسلنگ دے۔

کلیدی الفاظ: میڈیکل تعلیم، اسباب، طلباء، پیشہ ورانہ۔

INTRODUCTION

Motivation is the main reason for most activities, including learning. In other words, there is a motive behind every action. Motivation and interest are the main pillars of progress that could serve as determinants for continuing a certain major and showing professional commitment. Academic motivation is one of the requirements of learning and helps the learner with maintaining its continuity¹.

Because of limited job opportunities and intense competition in university entrance examination, students choose their major based on inappropriate motives, even without any desire or awareness about the major², resulting in a waste of time and energy.

Because of inadequate knowledge about the major, many students decide to change their major despite the time, energy, and money they have put into achieving the major. This issue is seen in other countries like the US, as well^{3,4}. Some students start a major without knowledge about its professional requirements and commitments, which would result in inefficient study and unethical and unprofessional performance.

Many studies have evaluated the motives and factors affecting the choice of medicine⁵⁻⁸ and have identified different elements⁹⁻¹². Researchers have categorized these factors as internal and external. Internal factors are usually controlled by the person^{13,14} while external factors are out of the person's control and affect the choice indirectly. Personality is one of the most important internal factors in choosing an academic major¹⁵⁻¹⁷. Family, educational environment, peers, media, and socioeconomic background are some external factors¹⁸. Achieving a high social status, decent income, authority, interest in science, communication with people, obtaining a doctorate degree right after high school diploma, competition with others, high rank in the university entrance exam, family's insistence¹⁹⁻²¹, influence of the physician in the health care team, and lack of knowledge about other majors are some factors that play a role in choosing medicine as an academic degree by students^{22,23}.

Since the students' motives for choosing medicine reflect their understanding of the nature of this major and their belief in the medical professional commitments, evaluation of the reasons for choosing to study medicine can help to determine the appropriate educational approach and to correct their attitude to strengthen the commitments. Medicine in Tehran University of Medical Sciences (TUMS) is the top rank choice of those who take the university entrance exam. The unique opportunity to choose any other major or university may put candidate under pressure to choose the first top rank major against their wishes. Since no similar study has been done in TUMS, we decided to evaluate the motives of choosing medicine in those who could choose and accept in any other major in the University.

METHODS

This descriptive cross-sectional study was conducted on all first-term medical students of Tehran University of Medical Sciences in 2014. The only inclusion criterion was being a first-year medical student at Tehran University of Medical Sciences, and those who failed to answer at least 80% of items on the questionnaire were excluded. The students were given a researcher-made self-administered questionnaire and were asked to complete and return it in the same session.

This study was done respecting all ethical considerations mentioned in Helsinki Declaration. The questionnaire was included a section to inform participants of their anonymity and voluntary participation. The nature and objectives of the study were explained clearly and in detail in groups or, if not possible, individually and participation was voluntary. So their answer to questions considered as their implied consent.

The questionnaire had two parts. The first part contained questions on demographic information including the type of high school, sex, admission quota, and medical field code. The second part included 17 items as reasons for choosing medicine and the participants were asked to select one of the 4 choices (was not the reason, was a weak reason, was a plausible reason, was a major reason) for each item as the

Table 1. prevalence of demographic attributes of participants

Variable	frequency	percentage
Sex	men	63 48.1
	women	61 46.6
Type of high school	state school	71 54.2
	popular model schools	11 8.4
Admission quota	private school	35 26.7
	tuition payer	37 28.2
Admission quota	non-payer	86 65.6
	Zone 1	28 21.4
	Zone 2	49 37.4
	Zone 3	16 12.2
	Other quota	27 20.6

the reason for choosing medicine. The items of this part were determined using the literature review and comments of three experts in the fields of medical education and professionalism. The participants were asked to rate each item using a 4 points Likert scale from “was not a reason” to “be a major reason”. The face and content validity of the questionnaire was established using expert opinion. In addition to descriptive statistics, chi square was used to compare the motives between different groups. An alpha error of 0.05 was acceptable in analytical analyses.

RESULTS

Of 131 distributed questionnaires, 124 were completed and returned (RR=93%). Sixty-three participants were men (48.1%), 86 (65.5%) were non-payer, and 71 (54.2%) went to public schools (Table 1).

As for the motives of choosing medicine, the most common motive was helping others (Table 2), followed by interest in the human body, interaction with people, professional

prestige, and starting a decent job after graduation. On the other hand, unfamiliarity with other majors, competition with others, and teamwork had the lowest frequency among major and plausible motives.

Although high income was not a main motive, 77 participants (62%) mentioned it as a major or moderate reason.

Finding a decent job, high income, and having high rank in the entrance exam were significantly correlated with their admission quota (Table 3); these reasons were more appreciated by students in the zones with more facilities. No significant relationship was found between other reasons of choosing medicine and admission quota or other demographic variables.

DISCUSSION

The patient’s trust in the physician is necessary for effective physician-patient relationship and the physician’s success in diagnosis, treatment, and prevention of the diseases²⁴. The patients should believe that the main objective of health

Table 2. frequency of different reasons for choice of medicine

Motives	was not the reason		was a minor reason		was a moderate reason		was a major reason	
	%	n	%	n	%	n	%	n
Finding a decent job	13.0	17	18.3	24	47.3	62	21.4	28
Professional prestige	6.9	9	23.7	31	42.7	56	26.7	35
High income	9.9	13	31.3	41	42.7	56	16.0	21
Helping others	4.6	6	6.9	9	22.9	30	65.6	84
Enthusiasm about science and learning	35.1	46	19.8	26	26.7	35	18.3	24
Interaction with people	11.5	15	19.1	25	35.9	47	32.8	43
Interest in the human body	7.6	10	17.6	23	30.5	40	44.3	58
Enthusiasm about research	27.2	36	25.2	33	26.0	34	21.4	28
Dislikes other disciplines	46.6	61	26.7	35	18.3	24	8.4	11
Family’s insistence	41.2	54	19.1	25	28.2	37	6.9	9
authority of the physician in health care team	22.1	29	22.1	29	30.5	40	19.8	26
I ranked high in entrance exam so I worried about getting regretful	42.0	55	23.7	31	15.3	20	13.0	17
Interest in phenomena of life and death	24.4	32	23.7	31	28.2	37	18.3	24
Competing with others	76.3	100	9.9	13	6.1	8	2.3	3
Teamwork	42.0	55	30.5	40	17.6	23	4.6	6
Not knowing other majors	79.4	104	7.6	10	6.1	8	0.8	1

Table 3. correlation between reasons for choice of medicine and admission quota

	Zone 1		Zone 2		Zone 3		P – value
	%	n	%	n	%	n	
Finding a decent job	1.32	9	5.24	12	18.8	3	0.023
High income	6.28	8	4.18	9	6.3	1	0.029
I ranked high in entrance exam so I worried about getting regretful	6.28	8	3.16	8	6.3	1	0.002

professionals is to provide health for people rather than their own benefits²⁵. Medical students are expected to choose this major with humanitarian motives and prefer altruistic to profit-seeking motives.

People who choose a profession are expected to know the characteristics of the profession and to be motivated by those characteristics. Interaction with people and helping others are two characteristics of medicine that were found to be the major motives of the students for choosing to study medicine.

Our study showed that these characteristics of medicine have been fully recognized and the students start this major with altruistic motives. In a study by Zarghami et al. in Babol, interest in helping others was the most important reason for choosing to study a medicine with a mean importance score of 3.07 out of 4²⁶.

Choosing a career is a complex and multidimensional process that affects all aspects of a person's life and is one of the most important decisions in the lifetime. People wish to find a job that satisfies their psychosocial as well as financial needs²⁷. In this study, professional prestige and social respect were the next important reasons while in a similar study in England, professional prestige had a far lower priority with a frequency of 19%²⁸. The reason for the difference may be the difference in the social status of this profession between the two societies.

Income is a natural motive for choosing a career. In our study, although high income was not the main motive of many students, about half of them considered it a moderate reason for choosing to study medicine. Although, high income has been found to be the main reason for studying dentistry²⁹⁻³¹, it is not the case for studying medicine³² confirmed by our findings. In addition, our results showed that high income was even less important motive for students from underserved areas.

Attention to undesirable motives is necessary to provide proper counseling to students to prevent educational decline. Although the family's insistence was not a common reason for choosing medicine, 28% of the participants mentioned it as a moderate reason. Moreover, 11 students mentioned competition with another person as the reason for choosing medicine. Our results showed that students from underserved areas chose their major based on better reasons and far less than others chose medicine because of their high rank in the entrance exam.

The teamwork nature of medicine was not a motive for most students. There are two possible explanations for this finding: the students were not aware of this characteristic or

they were aware but it did not interest them. It seems that more detailed assessment of the students' knowledge about the necessities and characteristics of this profession is necessary and the required information should be given to the students in the beginning of their studies.

Another important finding of the study was that helping others was not a motive or was a minor motive for choosing medicine in 15 students. We believe the students were aware of this characteristic of medicine. Choosing a major that involves helping others while the learner has no altruistic motives requires serious attention and these students should receive proper counseling to change either their attitude or their major because this motive is the most fundamental basis for professional commitment in medicine.

This study had some limitations. Exclusive evaluation of the students of one university decreases the generalizability of the results. Statistics indicate that the students with the highest ranks in the university entrance exam choose medicine as the major and Tehran University of Medical Sciences as the first university choice for academic education. Therefore, assessment of only one medical university may not show the motivation problems of all medical students. However, this issue improve its internal validity of the results for TUMS as the most popular university for this major. The result of this study might be under influence of social desirability of some items such as helping others. This bias may ends to overestimate the altruistic motives.

The results of this study do not represent the students' concept of medicine, indicating the importance of doing qualitative research in this regard. It is necessary to evaluate the changes of these motives over time and investigate the effect of the educational environment, age, and professional duties and responsibilities on the students' attitude and motives.

CONCLUSION

Our study showed that although the majority of the students had altruistic motives, a marked proportion of them had undesirable motives in terms of their attitude towards this major. Mentorship training may help to empower students' good motives and correct their wrong attitudes. We suggest that medical schools should evaluate the students' motives upon admission and during their course of study and use the results for educational planning and correction of the hidden curriculum.

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