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The medical career choice motivations - Results from a Hungarian study

Research Article

Edmond Girasek[1*], Regina Molnár[2], Edit Eke[1], Miklós Szócska[1]

[1] *Health Services Management Training Centre, Semmelweis University, 1225 Budapest, Hungary*

[2] *Department of Public Health, University of Szeged, Faculty of Medicine, 6720 Szeged, Hungary*

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Abstract: Some decades ago being a medical doctor was characterized unambiguously as a profession that offers help and serves the patients' needs during medical treatment. In today's society, this image of the medical profession has been substantially changed. The present paper aims to examine medical career choice motivations and preferences of choosing speciality, in the light of current social and economic changes in Hungary. The study was carried out by using a voluntary, self-administrated, questionnaire among first-year medical students and resident doctors in four medical faculties in Hungary. The career choice motivations of the first-year medical students and resident doctors are similar and match to the traditional health profession career choice motivations. Nevertheless the first-year students consider high income as one of the most important factors. They appear more conscious and more ambitious regarding their future speciality choice. The Hungarian health care system and medical education must be prepared for the presence of students that are aware of the high market value of a medical diploma, have excellent language skills, and consider migration as one main factor in their motivation when choosing a medical profession.

Keywords: *Career choice motivations • Medical education • Medical students • Medical doctors • Migration intentions • Resident doctors • Preferences of medical speciality*

1. Introduction

In the last few decades, worldwide, there has been an increase in the lack of professionsls in the health care sector [1,2]. As a result, the selection of medical doctors and nurses has become a prioritized research topic. The distribution of health professionals have changed at certain levels of the health care system and in geographical locations in the country. The previous excessive number of application to medical education are continuing to decrease [3]. These tendencies are obviously related to the decreasing social respect and prestige of the medical profession, and its general and critical underpayment [4].

Nowadays every society and health sector faces very similar challenges that we also experience in Hungary. Due to the lack of health care professionals, several countries pay special attention to this particular group of qualified people. In contrast, the dramatic loss of prestige and the poor working conditions that are becoming harder with underpayment, cause many difficulties in Hungary. On one hand, the combination of all these factors lead talented young people, who wish to have a career and a secure existence to choose other professions, while on the other hand fresh graduated young doctors feel pressured to leave the profession or to seek employment abroad [5,6].

Previous studies have focused on the medical profession motivation choices from different aspects and methodology. These studies attempted to reveal the classic/ traditional determining factors of choosing a medical profession. Vaglum et al. determined three main areas of motivations that influence choosing a medical career. These areas are *person oriented, science oriented* and *welfare oriented choices*. This research proved that similar motivations are playing a significant role in speciality choices as well [7].

* *E-mail: girasek@emk.sote.hu*

Crossley and Mubarik focused on the same topic and their research resulted in similar findings. They compared dental students and general medical students. They found that the latter group showed more pronounced interest in working with people and in scientific achievements [8].

Hyppölä et al. were studying career-starter, active medical practitioners in two different phases. They found that *human interest* was the strongest motivating power. At the same time the career choice of the group was greatly influenced by *the high prestige of the profession* and *a wide range of possibilities for employment* [9].

Another important issue related to motivations is identification with the profession. More specifically, how many people would choose the medical profession again? According to the findings of Hyppölä et al. 22% of the young doctors, six years after starting their careers, would not choose the same profession again. This indicates that a large number of under-motivated doctors work actively in the profession [9].

In Hungary, Váriné Szilágyi and Bánlaky et al. carried out a similar research. Their study focused on medical doctors and their motivations. Both surveys highlighted the *sense of profession in medical practitioners* as well as the *altruistic motivation.* In another current article, Csabai and Barta also found that helping others was featured as the strongest motivation as well [10-12].

More recent studies carried out by Molnár et al., indicate that despite of significant social-economic changes the altruistic attitude still remained the main motivating power. Young people, who aimed to gain/ desired professional career, are more likely to choose medical career because they feel motivated and interested in helping people [13].

In terms of the Hungarian conditions it is important to shed light on some American studies that focused on the career choices of young people who decide against the medical career [14]. They pointed out certain factors that are also present among the Hungarian circumstances, such as: the prospect of a low salary, the length of training, the lack of independence/autonomy in employment, and the high responsibility. For instance, Barondess concluded that young people would like to earn as much as doctors do but are less willing to take the responsibility involved by the medical profession [15].

Another important issue related to the career choice motivations can be noted: the preferences for speciality choices. This was examined among freshmen, graduated young medical professionals. The surprising findings of Soethout et al. pointed out that there is no obvious connection between the speciality choices of medical students and their knowledge of the various speciality fields. This confirms the need and importance of examining the motivating factors behind their choices. [16].

In the present paper more recent findings were analyzed related to the previous research results in the field. We aimed to describe the presence of traditional motivations in career choice. At the same time the traditional career motivations were approached and enlightened from new aspects. We attempted to explore how the social-economic changes were reflected in the preferred career and speciality choices of students and resident doctors.

The present paper examines the motivations *of choosing medicine as a career (before entering the university),* and *preferences of speciality choices (after leaving university in the postgraduate education)* among first-year junior students and young resident medical doctors.

Comparison of the responses by the two groups provides opportunity to explore the modified expectations of the medical students reflecting unfavourable social-economic changes of the past few decades, also including dramatic adverse effects in health care.

It is worth to examine the motivations of choosing a medical profession, since they indicate the present social changes and the challenges that have to be faced. The preparation for emerging challenges can not be postponed any longer either in health care or in medical education in Hungary.

Monitoring motivations and preferences for choosing medical professions; further, researching young people's aims of obtaining medical diploma might provide important data for the understanding of the above mentioned phenomena. Such understanding is crucial in terms of the operation of the service and the health status of the population.

2. Material and Methods

Comparison of the survey results in the two groups was made since both surveys used similar methodology and the questionnaires have the same structure [17]. The first year medical students and the resident doctors were asked to participate in a voluntary, self-administrated questionnaire survey. The questionnaire was developed by our research team. The research focused on detailed information about the medical profession choice motivations, motivations for seeking employment abroad (migration), opinions of the labour market, intentions and aspects of seeking employment and identification with the profession. In the following section the specific data regarding profession choices are analyzed.

The first phase of our research was carried out between September and October in 2008 among first-year medical students. The questionnaires were taken to theoretical lectures or to informative dialogues organised by the student unions. Students' attendance on these occasions reached a high number. Our aim was to contact all first year students in the first few weeks of their medical studies. Thus, the survey was carried out in all four medical faculties. Remarkable part of the target group was covered. 592 first year students filled in the questionnaires of a total of 939 students nationwide. The response rate achieved 63.15%.

In the second phase of the study a nationwide survey was conducted among young doctors working on the first part of their speciality training, that is, the rresident doctors (in Hungary the first 26-month-long period of the postgraduate training for specialty is called residency period). The same voluntary, self-administrated questionnaire was used in the second phase. In order to ensure great number of participants, the survey was presented to residents in during exams, as a part of the obligatory university training courses. Consequently, in 2008 we managed to involve 713 residents in our research. This number is equivalent of the number of available resident places for an academic year. The number of resident doctor is less than the number of first year students because in the last few years, the government was increased the volume of medical education, therefore can be seen the higher number of junior medical students. The resident places were determined by the Minister of Health in each year, and this number was matched the number of graduated medical doctors. Other items of the survey, regarding the intentions of resident doctors related to working in the country or abroad, were also included. The outcomes have already been published [5,18].

In the present paper the motivations of career choices were analyzed. A special set of questions (Likert scale 1 = *not at all* to 5 = *completely*) regarding career choices were drawn up [9,19]. We asked the subjects to consider how or to what extent the factors influenced their choices of medical profession or their speciality choices.

The first-year students were asked to imagine what they would count concerning their speciality choices. In Hungary the pre - condition of specialization is to finish the six-year-long general medical education and obtain the General Medical Doctor (GMD) diploma.

The same sets of questions were used in the two surveys except the question dealing with future speciality choices of the first-year medical students. Bias might have occurred due to the fact that the actual medical profession choice, in case of the residents, had to be judged in retrospection. According to Dex, this should not cause a serious bias, since important emotional life course events, like the career choice, remains vivid in memory [17]. Thus, our study compares two snapshots. Age gap between the two groups means probable due to belonging to different generations their views give a comprehensive reflection of the past years' social and political changes. Two sample t-test ($p<0,05$) and Chi-square test ($p<0,05$) were used to explore the differences between the two groups.

Samples are not representative from the populations of medical students and resident doctors. Instead we only aimed to examine both populations in their totality. Therefore, the published outcomes refer only and exclusively to those who participated. Nevertheless, we are confident that the high number of responses indicates that our results are relevant and might be applied to a wider circle.

3. Results

Table 1 contains the motivations of career choice. There are no significant differences between the motivations of the two groups as they both indicated professional interest and altruism as their most important motivations, general interest, talent, and intention to do helpful work as a sense of the profession.

At some statements, "I wished to work in a scientific field", "this diploma was needed to my goals", "possibility of working abroad", "good payment" and "career opportunities" significant differences were noted. The aforementioned factors showed stronger effects on first-year students' choices. The present first-year students are likely to start their training with a different, more purposeful approach. Since they do not have many experiences, they feel more idealistic. The wish for a scientific career was reflected in their plans for building such a professional career.

It is also important to mention a significant higher average among first-year students (mean1 = 2.91 versus mean2 = 1.93) who were considering the possibilities of working abroad. This factor has a real influence on career choice. Another difference can be underlined the way of payment. First-year students consider their career choice was rather influenced by their prospective high salary.

Table 2 contains replies to the question: "Upon applying to medical training what did you expect to do after finishing your studies?" There is a clear indication of a significant difference between the views of first-year students and resident doctors. Less than half of the first-year students thought of working as active medical practitioners after finishing their studies, while among

Table 1. Why did you choose the medical profession? Please appraise the items, whether they did influence the choice of medical career: 1 = not at all, 5 = decisively. The table shows mean values.

	First-year medical students		Resident doctors	
	N	mean	N	mean
General interest	557	4.47	671	4.42
I wished to be a doctor	555	3.21	672	2.48
I wished to work in a scientific field*	553	3.56	671	2.31
This diploma was needed to my goals*	555	3.61	666	3.06
Possibility of working abroad*	557	2.91	672	1.93
Good payment*	554	2.90	672	2.07
Social prestige	557	3.68	678	3.14
Influence of my family	556	2.58	676	2.43
Gratitude money	557	1.40	673	1.37
Helping profession	559	4.10	681	4.01
Intellectual work	558	4.25	681	4.22
Social utility of the medical profession	559	4.08	676	3.84
Career opportunities*	559	3.11	674	2.53
Sense of vocation	560	4.02	683	4.00
I felt talent for this profession	555	3.77	675	3.91

** significant difference according to the two sample t-test. $p < 0.05$*

Table 2. Upon applying to medical training what was your aim after graduation?

	First-year medical students		Resident doctors	
	N	%	N	%
Medical doctor, without concrete idea	153	26.70	130	18.90
Medical doctor who cures patients (practitioner)*	283	49.39	503	73.11
MD researcher *	50	8.73	19	2.76
Working with medical diploma outside health care	10	1.75	7	1.02
Medical doctor who cures patients (practitioner), but abroad*	51	8.90	9	1.31
Working in non-medical profession	6	1.05	3	0.44
I applied because I had no better idea	13	2.27	12	1.74
I did not want to be a medical doctor, I applied to this university solely due to the pressure of my family	7	1.22	5	0.73
Total	573	100.00	688	100.00

** significant difference according to the two sample t-test. $p < 0.05$*

residents this proportion is nearly three quarters of the total. This is a significant difference. Not surprisingly, as most specialities they can choose determine their future career as a practitioner. More than one quarter of the first-year students had no definite ideas regarding this question either previously or during the first weeks of their studies (at the time of our research). All they knew was that they wanted to become doctors. However the same proportion among residents was 18. 9%.

Two further categories are important to highlight because they show significant differences: namely the MD researchers and the doctors practicing abroad. At the time of choosing medical profession 8.73% of the first-year students and 2.76% of the resident doctors would have liked to become MD researchers. In other words the number of first-year students is the triple of the residents. The difference is significantly larger regarding the question of working abroad. Almost 9% of the first-year students stated that they were thinking of going to work abroad, while only 1.31% of the present resident doctors thought the same at the time of choosing medical profession. Comparison is not so straightforward regarding speciality choices (see Table 3). Since first-year students see speciality choice as something far away in the future, resident doctors have already made their decision.

Table 3. Preferences to choose medical speciality: Which factors are to influence you? (first-year medical students) Which factors influenced your decision? (resident doctors). Please appraise the items, whether they influence or influenced the choice of medical speciality: 1 = not at all, 5 = decisively. The table shows mean values.

	First-year medical students		Resident doctors	
	N	mean	N	mean
General interest	548	4.65	674	4.35
Professional challenges	544	3.88	670	3.94
I wished to work in a scientific field	538	3.32	665	2.17
Possibility of working abroad*	541	3.29	668	2.05
Influence of my family	541	2.29	670	2.44
Lifestyle that this specialty provides*	537	3.55	669	1.43
Good payment*	540	3.38	659	2.39
It worked out like this, it was not a conscious choice	530	2.20	661	1.88
Prestige of the specialty within medical profession	534	3.47	661	2.79
Gratitude money	532	1.70	660	1.97
Innovation, development opportunities	537	3.25	653	2.71
Social prestige	537	3.54	654	2.58
Relationship with the patients	539	3.87	656	3.66
Career opportunities*	536	3.58	654	2.61

** significant difference according to the two sample t-test. $p < 0.05$*

Table 4. Would you choose the medical profession again?

	First-year medical students		Resident doctors	
	N	%	N	%
Yes	545	96.80	496	73.26
No	18	3.20	181	26.74
Total	563	100.00	677	100.00

significant difference according to the Chi-square test between the two groups. $p < 0.05$

Further, it is worth to compare the obtained data regarding motivations. Both groups indicated personal interest, professional challenge, and the quality of relationship to patients as their main motivating forces. Among first-year students preferences for speciality choices are significantly influenced by the prospects of working abroad, the lifestyle that goes with certain special fields, the hope of a competitive salary, and the prospects of good positions. It seems that first-year students are more purposeful, at the same time they have more illusions and idealistic views regarding their future speciality choices than the resident doctors, who had already made their choice. They also stress a wish for doing research work (scientific career, innovation) and the material factors such as salary and the prospect of good positions. The only motivating factor that has a truly influential presence in the consideration of first-year students, compared to the residents, is the possibility of working abroad.

Medical identity was also investigated with the item whether the participant would choose medical profession again. The responses are displayed in Table 4. Data shows significant disappointment among resident doctors, since more than one quarter of the participants would not choose medical profession again. According to the Chi-square test, there is significant difference between the two groups. The participants were young doctors at the outset of their careers, thus they were probably still enthusiastic to some extent. Another interesting finding to reflect is the fact that over 3% of the first-year students would not choose medical profession again. Several reasons could be considered in their case. We have to remember that these students filled in the questionnaire within the first few weeks of their studies. The detected disappointment in the medical profession and its prospects later can grow into the strikingly marked dimensions shown in the residents' data. Although it must be underlined that factors, like lack of real interest – "I applied because I had no better idea" – or family pressure to choose medical profession can affect here as a bias. Thus this 3% disillusion among first-year students has to be evaluated with a great caution.

4. Discussion

In order to offer appropriate medical education and to provide an adequate number of trained professionals it is necessary to clearly see the plans and motivations of prospective doctors. The training could only be effective if the motivations of the students are taken into consideration and are built upon as part of the carrying forces of study.

In this study, we examined a significant part of the whole annual year of junior medical students and resident doctors. The volume of medical education was increased; this is the reason of the fewer number of resident groups nationwide. The comparison has limitation though, namely that the group of residents represents a natural selection in the sense that those people had already started working in the Hungarian health system, they did not leave for abroad straight after obtaining their diplomas neither did they change profession.

Results show clearly the differences between the motivations of medical profession choice among first-year students and resident doctors. This might relate to the social-economic changes of the previous years. When choosing profession the present resident doctors were mainly thinking of offering a medical service, treating people. The motivations of the present first-year students are complicated sometimes. Their choices are influenced by other, not strictly traditional motivating factors, such as the possibilities of becoming a medical researcher. Seeking employment abroad seems to them a realistic alternative even before starting their studies.

The findings of the different thoughts of working abroad between the two groups agree with the results of another research, in which series of interviews with grammar school teachers were conducted. The outcome of the research has been processed although it has not yet been published (Manuscript by the authors). According to the investigated teachers, the career choices of young people graduating from secondary grammar school is more and more influenced by the expected salary that goes with a chosen profession. It has to be noted though, that in our research young people – first-year students – have limited knowledge regarding actual real payments in the medical professions at this stage. Another possible explanation of the difference might be the easy and free travelling. With the European Union membership it is obvious for the first-year students at the time of their application to university. In addition, both the students and the general public are more aware of the possibilities for working abroad and the large number of Hungarian doctors who already work abroad. The mentioned retrospective evaluation in case of residents also may have played a role in this significant difference.

The results are different from the findings of Molnár et al. In this study we can see a clear change of directions of the motivating forces. The change is related to the social-economic changes in Hungary [13].

Similarly to results obtained abroad, the main motivating factors regarding medical profession choice in Hungary remain the personal interest, a sense of profession and an altruistic attitude [8,9]. Among first-year students however some other factors also became significant. Such factors were far less marked in the consideration of residents at the time of making their career and speciality choices.

According to the survey results it may be stated that the first-year students have a different attitude towards choosing a medical career and the actual profession than residents. Although both groups find the intentions to help others and a sense of profession important, the first-year students express some other key motivations and career aims as well. Nowadays Hungarian doctors find the intention of seeking employment abroad a rather viable one. First-year students put medical work into a wider context. Their thoughts are not restricted merely to treating people. This is similar to the findings of earlier studies carried out in the field [12]. The different background of the present generation, the fact that the world has opened up more for Hungarians, and the better foreign language skills of the younger generation might count for their different perspective. For them, seeking employment abroad or pursuing a medical researcher career abroad is a realistic option. When they chose medical profession they might have been thinking of areas of occupation that are not strictly medical jobs in traditional sense, yet are done by people having a medical diploma. Previously such alternatives were relatively unknown while today they belong to the reality of the medical world [6,13].

There are similar results from the neighbouring Croatia. The motivation for scientific and educational activities also appeared among the medical students [20]. The motivation for scientific activities is higher among the first-year students, than the final-years students, which are corresponding with our results [21]. We are aware that the interest in controllable lifestyle specialisations showed also an increasing tendency in Croatia. So it seems there appear other goals in the speciality choice, that is, the personal interest does not play a prevailing role anymore.

Important matching results can be found in Greek studies. The demand for some specialisation and income were found as one of the most significant motivational

factors to choice specialisation, and the specialisation abroad was considered by 70% of students in a Greek study [22].

The medical identity was significantly different between the medical students and the residents. This was partly expected since the two groups have different experiences. Nevertheless results indicate disappointment among residents. It is a regrettable symptom of the Hungarian health care system that certainly needs attention.

The Hungarian healthcare system and the medical education have to get ready for the presence of a student group that is aware of the high market value of medical diploma, has language skills, and considers the potential to work abroad as one of their motivations when choosing medical profession. They probably are to prepare for this option during their student years. This tendency can be influenced at several intervention points that can be identified exploring the motivation patterns. Thus this research can support health policy addressing migration management and review of medical education system.

Results prove that the profession and speciality choices and motivations of future doctors are important factors and require serious consideration. If the present situation will not be altered the state of the Hungarian health care system becomes critical. The principal message of our paper is that the exploration of such motivations as well as discovering how they changed over the years can support health policy arrangements and strategies with valuable information. Such knowledge is bound to provide a base for creating a new, strategic attitude in the general medical training as well as in the training of specialists. A comprehensive strategy in proper migration management should be handled with similar importance, in order to ensure the operation of health care through providing sufficient number of highly qualified, domestic medical workforce.

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