

## **A New Experience in Medical Student Admission in Iran**

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### **Abstract**

Medical education in Iran has witnessed important reforms within the last three decades. Among them was the formation of the Ministry of Health and Medical Education and a sudden rise in medical student admissions. This reform took place in a specific time period and was aimed to meet the country's requirement of training more physicians. Other reforms have aimed to improve the quality and outcomes of physician training. This is possible through two measures: a change in medical education procedures, or a change in the 'input' of medical education (i.e. students) or both. Graduate admission to medical schools is a step toward changing the 'input'. In 2008, twenty one bachelor students were admitted in Tehran University of Medical Sciences through a series of prerequisites, tough scientific exams and structured interviews. This move had three objectives: strengthening the links between basic and clinical sciences, selecting the students on the basis of a wider range of criteria (instead of strictly academic ones), and providing a chance for applicants to make a more informed choice of medicine (considering that the graduate applicants are older and have previous academic experience). Further areas of education reform are also being followed: a change in medical students' educational content and procedures, and considerations and development of joint degrees such as MD-MPH and MD-PhD.

**Keywords:** *Medical, Education, Student, Iran*

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### **Introduction**

Medical education in Iran has witnessed important reforms within the last three decades. Among them was the formation of the Ministry of Health and Medical Education (MOHME) and a sudden rise in medical student admissions. This reform was followed by the expansion of medical universities and a steep rise in medical student admissions. The latter phenomenon took place in a specific period and aimed at meeting the country's requirement of physicians (1, 2). The other important issue was the change brought about in the training of doctors. Improving quality of physician training is possible through two main approaches: a change in medical education procedures and a change in the selecting appropriate students as the input of medicine. Graduate admission to medicine is a step toward changing the 'input',

and this is the focus of this paper. Other reforms, mainly in the content and curriculum of medical education are also under way. A prominent example of such changes is being followed at Shahid Beheshti University of Medical Sciences (3).

Admission to medical schools in Iran happens via the national university entrance exam known as the 'Konkoo'. 'Konkoo' is an extremely competitive entry exam conducted annually for high school graduates and its results determine which field of study the candidate is eligible to apply for. The candidates who have passed the exam and gained the highest ranks are admitted into medicine. This exam and mode of admission only takes academic criteria into account.

Graduate admission to medical schools was first tries in Iran in 1977-9. Only three rounds of medical admission of bachelor degree holders took place during that period and covered

only a small fraction of total medical admission. And although it was not repeated again, the idea and suggestion has been there ever since.

During 2007, we conducted a comprehensive study to assess the strengths and weaknesses of graduate admission and examine the methods of implementing it. We also assessed medical students' reasons for choosing medicine. Literature was reviewed to inspect why graduate admission is used around the world and what are its potential benefits. In-depth interviews and Focus Group Discussions were held with all relevant stakeholders, namely: education policy makers, experts in educational affairs, medical schools' basic science professors, and medical and basic science students (4-6).

In more than 170 medical faculties across the world, bachelor students or degree holders are admitted to medicine (7), and some of the most credible medical faculties are among these (8). Usual prerequisites are that the applicants should have passed biology, chemistry, physics, mathematics and relevant laboratory work units and have at least two years of academic education. Therefore students are not admitted from high school. In addition to the subjects mentioned above, participation in extracurricular activities that represent the candidates motivation, responsibility, mental maturity, perfection, innovation, perseverance, and on the whole compliance with professional goals and organizational responsibilities are considered as positive points in the candidates. The reason behind such admission is to allow adequate time for mental and personal maturity to choose medicine as a major and to evaluate more carefully candidates with regard to their previous field of study (9, 10).

On the other hand, some universities around the world that do not admit bachelor students do not solely base their admissions on scientific criteria either, and other personal characteristics required for professional success in medicine are also taken into account (11).

A more informed choice of medicine and strengthening the links between basic and clinical

sciences were mentioned as the main advantages of this mode of admission in the qualitative study that was conducted in this regard. Based on the study, this type of admission can have a profound impact on strengthening links between basic and clinical sciences, although complementary changes in the education curriculum would also be necessary. It was also considered a good opportunity for implementing the necessary changes in medical student admission. Since Konkoor is to be omitted in the long run, this mode of admission can help us evaluate students' performance in their bachelor's degree. In order to modify medical admission in Australia, Newcastle University opted for non-academic and meta-cognitive criteria in its admission and after 10 yr of follow-up and witnessing its growing success, this type of admission was adopted by other universities in the country as well (12).

Following our studies, and after several meetings with relevant authorities, the MOHME granted the Tehran University of Medical Sciences (TUMS) the license to admit a limited number of bachelor students as a trial. Thus, the first round of these admissions took place in 2008, in which 21 students were admitted. However, this mode of admission was adjusted to our own educational circumstances. This trial period will continue for a few years, after which the outcomes of this mode of admission will be assessed both at the University and nationally. It should be noted that this admission is happening as a parallel to the 'normal' route of admission at the TUMS, i.e. from high school graduates via the Konkoor exams.

Apart from the bachelor degree, candidates should have a credible certificate of English language, and high average scores in their bachelor degree and high school diploma. They should also have obtained reasonable scores in the entry test (which covers medicine's basic science subjects) and the structured interviews. One of the objections raised to graduate admission was that those ranking highest in Konkoor have already entered medicine, and students with

relatively lower ranks choose other subjects. Hence it was necessary to put tough prerequisites and entry tests to prevent undermining medical students' abilities, as well as responding to the critics.

## Conclusion

Admission of bachelor students in medicine was carried out with the following three objectives:

1. Strengthening links between basic and clinical sciences by training physician researchers familiar with basic sciences (4) (though this objective was not the main objective in other countries).
2. Providing an opportunity for changing the strictly scientific admission mode of medical students. The MOHME also found this option appealing as they are studying ways of replacing the Konkoor exams with alternative approaches and this mode can be assessed as a small trial in that way.
3. Providing the applicants a chance to make a more informed choice of medicine, considering their age and experience in the previous bachelor degree

Admissions of high school and bachelor students into medicine should be compared with each other. And based on these comparisons bachelor admission should be evaluated. A comparison of these two groups' professional and educational success may be considered for further studies.

Other reforms are also being followed at the TUMS. Within the last couple of years the TUMS has provided the talented students of medicine, pharmacy and dentistry a chance to pursue a joint degree program of MD-MPH (13). Also studies are underway for assessing the merits of joint MD-PhD programs. These are, of course, trials that need time to show their full benefits and potential harms. Early signs, however, indicate that they have had positive impacts on the medical students. We are watching the space!

## References

1. Azizi F (2004). *Medical Education; Mission, Vision and Challenges*. 1<sup>st</sup> ed. Educational deputy of ministry of health and medical education. Iran: 99-104.
2. Azizi F, Medical education in the Islamic Republic of Iran: Three decades of success (2009). *Iranian J Publ Health. Suppl.1:19-26*.
3. Yazdani S, Hosseini F, Homayouni Zand R (2007). Reform in General Medical Degree curriculum. Educational Development Center, Shahid Beheshti University of Medical Sciences; Mehrayaneh Publ. Co, Tehran.
4. Nedjat S, Majdzadeh R, Rashidian A (2008). Graduate entry to medicine in Iran. *BMC Medical Education*. 8:47
5. Nedjat S, Majdzadeh R, Rashidian A, Mortaz Hejri S (2007). Admission of Bachelor Students into Medicine, Why? *Hakim Journal*, 10: 1-7.
6. Nedjat S, Emami Razavi H, Rashidian A, Yazdani S, Majdzadeh R (2007). The reason for Choosing medicine as a major and professional outlook in Medical Students and Applicants, *Strides in Development of Medical Education journal*, 1: 1-10.
7. Association of American Medical Colleges. American Medical College Application Service, Member Medical Schools. 2006. Available at: <http://www.aamc.org/students/amcas> (accessed June 5, 2007).
8. University Metrics– Global University Rankings. Shanghai Jao Tong University international ranking. Available at: <http://www.universitymetrics.com/tiki.index.php> (accessed June 5, 2007)
9. Association of American Medical Colleges. American Medical College Application Service, MCAT Essentials. 2006. Available at : <http://www.aamc.org/students/mcat/mcatessentials.pdf> (accessed June 5, 2007).

10. American Medical College Application Service, MCAT Student Manual. 2006. <http://www.temple.edu/healthadvising/mcat.html> (accessed June 5, 2007).
11. Searle J, McHarg J (2003). Selection for medical school: just pick the right students and the rest is easy. *Med Educ J*, 37: 458-63.
12. Story M, Mercer A (2005). Selection of medical students: an Australian perspective. *Intern Med J*, 35: 647-49.
13. Pasalar P, Noorizadeh F (2009). A Model for Providing New Educational Opportunities for Talented Medical Students; MD-MPH Program Experience. *Iranian J Publ Health, Suppl.1:34-35*.

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