

Letters to the Editor

Critical Assessment of the Progress of Medical Sciences in Iran and Turkey

Dear Editor:

In a recent issue of AIM, I read the article on the progress of medical sciences in Iran and Turkey with great interest.¹ The authors discussed effective contributions to the production of science in developing countries. Additionally, they have criticized the requirement for academic promotion in both countries that mandates researchers publish papers in indexed English journals without consideration for the novelty and originality of the research. I would like to point out that focus on increasing the number of indexed scientific articles is neither an ideal nor a perfect approach to improve a country's contribution to the world of science. Over emphasizing the quantity of scientific papers would encourage short-term trials, eliminate long-term interventional studies, and possibly reduce the quality of medical research.

However, according to numerous studies and statistics, there has been a remarkable advancement in the number of scholarly publications in Iran during recent years.²⁻⁴ In 2010, scientific publications in Iran showed an 11-fold increase over the world average, the largest increase of any country.⁵ In 2011, Iran had approximately a 20% increase in the number of published articles compared to 2010. This was the largest growth in terms of scientific publications worldwide and has placed Iran among the top 40 countries according to the number of published research papers.⁶ Undoubtedly, such an improvement could not guarantee the quality of research in any country. However this has a definite impact on the improvement in Iran's academic credibility and scientific position in recent years.

Scientific productivity, as a major scientometric indicator, determines the academic position of countries and universities and is an important criterion in ranking world universities.⁷ According to the Academic Ranking of World Universities (ARWU) conducted by Shanghai Jiao Tong University, papers indexed by ISI indices such as Science Citation Index Expanded (SCIE) and Social Science Citation Index (SSC) comprise 20% of the total ranked weight.⁸

At the present time there are a few Iranian medical journals indexed by ISI Web of Science. These journals have only a few citations by medical researchers, which have resulted in low impact factors. It is noteworthy to mention that low quality of content is not the only problem. Numerous Iranian medical journals suffer because they ignore some of the basic publishing standards mandated by prestigious databases such as the minimal requirements for inclusion and indexing. Journals could be included in ISI or Medline only if they adhere to the standards of regular and timely publishing, expressive titles and abstracts for papers, a specialized review procedure, devotion to ethical guidelines, disclosing conflicts of interest, opportunity for comments and oppositions, and appropriate retractions.^{9,10} Nevertheless, most Iranian medical researchers publish their articles in domestic journals.¹¹ The indexing status of a journal has a direct impact on the visibility and the rate of citations to that journal. Thus, developing executive strategies to enhance publishing standards and indexing status of Iranian medical journals as well as their quality of content should be considered

another way to improve Iran's contributions to the world of science.

Conflict of Interest: None

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References

1. Massarrat S, Kolahdoozan S. Critical assessment of progress of medical sciences in Iran and Turkey: the way developing countries with limited resources should make effective contributions to the production of science. *Arch Iran Med.* 2011; **14**: 370 – 377.
2. Aminpour F, Kabiri P. Science production in Iran: the Scenario of Iranian medical journals. *J Res Med Sci.* 2009; **14**: 313 – 322.
3. Butler D, Arslan A. Islam and science: the data gap. *Nature.* 2006; **444**: 26 – 27.
4. Revival in Iran. *Nature.* 2006; **442**: 719 – 720.
5. MacKenzie D. Iran showing fastest scientific growth of any country. *New Scientist* 18 February 2010. Available from: URL: <http://www.newscientist.com/article/dn18546> [Accessed January 9, 2012]
6. Van Noorden R. 365 days: 2011 in review. *Nature.* 2011; **480**: 426 – 429.
7. Aminpour F, Kabiri P, Boroumand MA, Keshtkar AA, Hejazi SS. Iranian Medical Universities in SCIE: evaluation of address variation. *Scientometrics.* 2010; **85**: 53 – 63.
8. Academic Ranking of World Universities. Available from: URL: <http://www.shanghairanking.com> [Accessed January 9, 2012]
9. The Thomson Scientific Journal Selection Process. Available from: URL: http://thomsonreuters.com/products_services/science/free/esays/journal_selection_process [Accessed January 9, 2012]
10. MEDLINE Journal Selection. Available from: URL: <http://www.nlm.nih.gov/pubs/factsheets/jsel.html> [Accessed January 9, 2012]
11. Aminpour F. The contribution of academic journals to the university scientific productivity. *J Isfahan Med Sch.* 2011; **29**: 367 – 375.

Author's Reply:

In her letter to the editor, Dr. Aminpour referred to our article published in AIM (*Arch Iran Med.* 2011; **14**: 370 – 377), where she has proposed that the lack of citation and low quality of Iranian scientific publications is not the only problem; instead, enhancing the publishing standards of journals in an attempt to improve the indexing status of Iranian medical journals is important.

In our evaluation report, we did not consider the publications in non-indexed Iranian journals, but only those indexed in ISI. We compared articles that had both high and low citations and concluded that publications which dealt with regionally occurring diseases would be considered by the international audience and achieve a high citation rate. We have emphasized that the high number of scientific journals and articles published are not representative of the growth in scientific performance within Iran. It is a waste of time in terms of academic personnel and financial resources of a country to focus on publications that copy known facts previously published in journals from developed countries and not to conduct innovative research in fields important for promoting the health of our nation.

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Challenges to Our Goals, What are the Pitfalls in the Way of Publishing Scientific and Medical Papers?

Dear Editor:

Our country, as a third world nation, is rapidly developing. Thus research in all scientific areas can assist with attaining its developmental goals. I have read the valuable article by Dr. Sadegh Massarrat and Dr. Shadi Kolahdoozan (*Arch Iran Med.* 2011; **14**: 370 – 377).¹ We are in a competition with Turkey to become the top country in scientific publications in the Middle East.

As seen in this article, there is a large disparity between Iran and Turkey in terms of published articles. However, this gap is diminishing yearly, as our scientists are providing new, worthwhile publications that assist us in reaching our goals.

Based on the last report by Thomson Reuters in April 2012,² Iran had the third position in ranking of gross increase in submissions during 2005–2010. According to this report the total number of submissions by Iranian researchers in the Scholar One Manuscript submission system was 19140 submissions, a 1.4% increase. Turkey during this period submitted 14111 manuscripts, which was a 0.8% decrease. What is the gap between data analyzed by Dr. Massarrat and that from Thomson Reuter? We know that most indexed journals in developing countries, in addition to a considerable number of journals in Western countries do not use the Scholar One Manuscript system, and in these years the numbers of such journals has been increased significantly. Then this shows the focus of Turkish scientists on these journals too; the matter that our scientists have less knowledge about it and the numbers of such journals or their submission systems. For example, none of our country's indexed journals are working with the Scholar One Manuscript system and have their specific submission system software that this situation is similar in other developing countries' indexed journals too.

After careful attention to previously published articles and journals to which our scientists have submitted articles, we see some deficiencies in our policies in publishing articles. During 2011, based on a good design, most of the Iranian indexed medical journals increased their issues. Journals such as *Iranian Red Crescent Medical Journal*, *Hepatitis Monthly*, *Journal of Research in Medical Science*, *Iranian Journal of Public Health*, *Acta Medica Iranica*, and *Archives of Iranian Medicine* are now published monthly also *Iranian Journal of Nephrology* and *Iranian Journal of Reproductive Medicine* are publishing bimonthly. This enables us to increase both our publications and citations. However, we need to do more.

As a researcher who consults with Iranian scientists to publish their articles in indexed journals, I have some suggestions based on my experiences:

- Large numbers of our research projects in universities are a waste of time. Numerous dissertations and research proposals are produced only for graduation and do not give suggestions to solve research problems. These publications have no value for indexed journals. Thus it is necessary to adopt regulations to prevent such publications. Based on a new report by Thomson Reuters, although the numbers of our country's submissions have increased

from 2337 to 21477 (19140 submissions increase), however, the rate of acceptance decreased from 20.5 to 19.2 (1.3% decrease). This problem is not solely limited to Iran, but rather it is a global problem which might be a result of the disproportionate increase in acceptances compared to the increase in numbers of submissions. Thomson Reuters has reported that even with a considerable increase in journals and their publication numbers, there has been a decline in acceptance rate during 2005–2010 of approximately 4%.

- We lack experts who can evaluate articles. Numerous researchers do not have the capability to properly evaluate articles because they have limited information and experience regarding journal specifications, impact factors, and the process of submission. In addition some researchers overestimate the value of their article and send it for high impact journals, which will lead to rejection of the article. Conversely, others underestimate their article's value, sending it to lower impact journals where the article will be accepted and published when it could have been published in a more valuable journal.

- We lack experienced people who can submit articles and communicate with international journals. There are over 5000 medicine-related journals indexed in two of the most important medical indexes (Medline and ISI). Indexed journals are not only published in the United States, Europe and Iran. Totally, there are about 196 countries of which a large number have at least one indexed journal. Turkey appears to have worked on this problem. In an internet search of indexed journals, if you search through each unknown international indexed journal you can find some Turkish and also Chinese articles, which indicates that Turkish researchers conduct searches of all indexed journal with the intent to maximize their choices for submission.

Hopefully we will increase our articles to be published in indexed journals and reach our scientific goals by both targeted investments and the use of experts in the field of article evaluation and submission.

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References

1. Massarrat S, Kolahdoozan S. Critical assessment of progress of medical sciences in Iran and Turkey: the way developing countries with limited resources should make effective contributions to the production of science. *Arch Iran Med.* 2011; **14**: 370 – 377.
2. *Global Publishing Changes in Submission Trends and the Impact on Scholarly Publisher.* Thomson Reuters, April 2012. Available from: URL: http://scholarone.com/media/pdf/GlobalPublishing_WP.pdf

Author's Reply:

In a letter to AIM, Baghianimoghadam et al. claim that there is a gap between the number of scientific submissions between Turkey and Iran in 2012 as noted by Thomson Reuters and the results from our paper (*Arch Iran Med.* 2011; **14**: 370 – 377). The results of Thomson Reuters are obtained over a five-year period (2005–2010), whereas our assessment refers only to submissions from a one-year period.

The authors are correct in assuming that most university research projects are conducted with the intent for graduation, not for problem solving. Unfortunately university academic members have in-

adequate salaries and are obligated to seek employment outside of the universities to meet their living expenses. Thus they lack time to focus on research and mentor students in important scientific projects which are time consuming. This implies that the Iranian government should increase the research budget to the level which is common in developing countries, in a range from 2% to 5% of the GDP. China and South Korea have increased their research budgets over the last ten years, which has resulted in dramatic progress in the field of research and science production for both countries. In addition to the increase in research budget, we need structural change in order to build an atmosphere of security in establishing research centers which would enable the participation of highly qualified Iranian researchers from all regions of the world.

This can be only achieved when research centers and universities are allowed the freedom to elect their leaders and make decisions without outside influence.

Dr. Baghianimoghadam and his colleague have mentioned that Iranian researchers lack experience evaluating the importance of their research work. This can be accomplished when Iranian researchers establish an intensive, permanent connection and collaboration with scientific researchers outside Iran who work in renowned research centers.

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