"Scientometric Analysis of the Major Iranain Medical Universities"

Summary: The article written by Abolghassemi Fakhree, et al.,[1] is a qualitative and quantitative analysis of the seven most important Iranian medical universities including: Tehran (TUMS), Mashhad (MUMS), Tabriz (TUOMS), Shiraz (SUMS), Isfahan (IUMS), Iran (IrUMS), Shahid Beheshti Universities of Medical Sciences (SBUMS). They have compared TUMS as number one in Iran and compared them with a number of top medical universities of the world that have similar medical training systems as Iran.

In order to evaluate the productivity of these seven universities, they have included these factors into account: the summarized search results of the number of published articles per year (NAPY), the number of citations received per year (NCPY), the number of citations received per article per year (NCPYPA), total H-index (THI), top ten authors (TTA), and top ten journals (TTJ). SCOPUS™ search engine was utilized. The affiliation search was used as the searching method because it caused fewer mistakes than the author search. The author search was only used to gather the whole published articles of the top ten authors.

In general, TUMS ranked first for research performance among the studied universities, followed by SUMS, SBUMS, IUMS, IrUMS, TUOMS, and MUMS. The results showed that the number of the researchers of a university can affect the scientometric productivity outputs of that university. According to this study, TUMS with the first rank in science productivity, has the greatest number of research staff and also the most productive ones (in 2009, 2004 research staff)

Total H-indices for the articles of TUMS, SBUMS, SUMS, IUMS, IrUMS, TUOMS, MUMS are 46, 39, 34, 31, 27, 24, and 22. This research also shows that except for TUMS, SBUMS, and SUMS, in other medical universities, NAPY has had a similar pattern in recent years. In previous studies[2] the results were almost the same, although their methods were completely different.

On average, 88.8% of the published articles from these universities are "original articles" with medicine as the most common subject area.

The trend of NCPYPA does not show the same result as NAPY, NCPY, and THI. In this trend SBUMS has the first rank and TUMS, IUMS, IrUMS, TUOMS, SUMS, and MUMS occupy the next ranks. The quality of the published articles of the university can be established by the citations received by each university, which has a direct relation with the number of previously published articles.

Except for TUOMS, other universities have published most of their researches in Iranian Medical Journals, and among them, Archives of Iranian Medicine obtain the first rank.

And finally, TUMS stands amidst the 11 chosen universities all around the world.

Source: Abolghassemi Fakhree MA, Jouyban A. Scientometric analysis of the major Iranain medical universities. *Scientometrics*. 2011; **61:** 205-220.

Comments: Iran has experienced a rapid rise in its research publication in recent years, to the extent that it has been the fastest growing nation in research publication.[3] The reasons for such a fast growth are multiple. The growth in the number of universities and research centers has been implicated as one of the major reasons for this growth.[4] It is thus, interesting to look at the patterns of this publication growth at university level. This article, although only addressing the quantity of publication, has several interesting features. First, it reports relatively comprehensive data for each university. For example there is a table that introduces the oldest article of each university and another showing the related affiliations and research centers of a university. Second, the study investigates many of the productive factors of a university. The data of this article is helpful for decision makers for finding better ways to improve the quality of the universities, raising the research budgets, identifying the researches that should be done more than before, improving the quality of the publications.

The introduction of the paper is rather long, and telling the history of the foundation of higher education system in Iran seems unnecessary. Overall, the paper has a rather "personal" approach. Apparently, the authors had been more interested in their affiliated university (TUOMS), and although they have tried to be unbiased in their results (and have succeeded to do so), the article clearly focuses the publications of that university. Listing the people having the highest number of publications from each university is another sign of this "personal" approach. While such name searches are always prone to errors in spelling, and name similarities, it is not clear to us how many of the paper's audience would be interested in this information, or the ones presented in table 2.

Comparing the data of the top medical universities of Iran with some medical universities of the world is an interesting part of the article, which could potentially help better understand the position of the Iranian universities, and how their growth has impacted national research production. Understandably the comparison was limited by the fact that there are not many universities in the world, which are specialized in medical sciences only. The comparisons made, thus, do not give a very comprehensive image of the place of Iranian universities among their peers, since it excludes the medical output of "general" universities. Besides, we are not sure limiting the search to the name "medicine" or "medical" in the title would lead to a complete search of institutions similar to the ones in Iran. The authors have correctly indentified this limitation, but have not discussed the impact of current educational system in Iran on university outputs. An interesting addition to this article could have been a comparison with the medical output of some "general" universities to show if the current system in Iran is effective. The conclusion of Iran "having a good position…" thus seems a bit unwarranted and difficult to make based on the methods used in this article.

One interesting point that has attracted the attention of the au-

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thors is the variation in recording of the universities' names. They have listed this variation in table 1. However, it is curious how some of the older names of universities (such as University of Tehran before it was broken into a medical and a non-medical section, and Melli University, the older name of SBUMS before it was separated from the mother university) are not listed, although the research outputs (such as those presented in table 2) have been traced to the time when these names were in use.

The increase in the number of articles and citations from Iran, and its medical universities are topics of interest to many researchers in Iran and across the world. However, we feel that an over-optimistic view of these quantitative measures, if they lead to overlooking some of the problems with the research system in the country such as policy-making issues and the lack of attention to research impact, may be misleading.

Finally, Archives of Iranian Medicine was the publisher of the most articles from almost all of the universities listed in this study. The trust thus placed on the journal and its impact on the nation's medical research is heart-warming.

References

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