

Why so many Chinese clinical doctors are competing for basic research grants?

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It has been puzzling me for a number of years that so many Chinese doctors in mainland are required to do research (1,2), and even more puzzling me is that so many of them are required to apply for basic research grants. Particularly, grants from *Natural Science Foundation of China* which aim at promoting and financing basic research, is considered prestigious and highly sought after. The first puzzle can be answered that research and publications are esteem measures, even in second tier hospitals; the second emphasis is difficult to understand. Relevant to these questions, two studies have been recently conducted (3,4).

The first study included an online survey of Chinese doctors' English capability using the platform provided by DXY.cn which is the largest medicine related website in China. In total 1,663 doctors completed the survey. The results showed 44% doctors could not name a single English journal of their own specialty. 63.5% doctors were more likely to consult documents in Chinese when they encounter clinical difficulties, though English material was widely thought to be of better quality. As nowadays the state-of-the-art medical knowledge is usually firstly reported and shared in English language. This result showed many Chinese doctors are probably not well prepared for doing innovative research.

In the second study, a number of doctors were invited to comment how clinicians in China should get involved in research. All Chinese participants expressed concerns on the current status, citing that the current career promotion structure in China with a focus on publication and grant distracts clinicians from their primary duty to serve patients.

As demonstrated by many NHS consultants in Britain, it is possible many clinicians do good clinical research without

external funding, or only with small funds. It occurs to me that China's emphasis on obtaining external competitive grants is most likely a simplistic '*conceptual copy*' from the American model. In USA, an academic department is expected to be largely financially independent even if it belongs to a medical school in a state-funded university. Some departments require staff to pay up to 95% of their own salary from external grants, and therefore external grants are vital. Nowadays many scientists in USA spend more time writing grants than actually doing research. However, there is no need for the Chinese doctors to do the same.

China runs a very different model to USA. Firstly, the same as the European and Japanese, research clinicians' salary is paid by the hospital, i.e., the grant applicant does not need to worry about his/her salary. Secondly, most of the competitive grants in China such as those from *Natural Science Foundation of China* cannot be used to employ research staff. On the other hand, in USA and Europe, a large portion of grants is used to employ researchers. Like some colleagues in other countries, many Chinese clinical doctors are not well equipped with research skills of basic sciences. It seems to me that many Chinese clinicians are required to apply for grants only for the sake of the number of grants and the amount of research money successfully secured, while which in many cases the researchers are not able to spend wisely.

In the year of 2013, in total China published citable documents comparable to that of USA with a ratio of 1:1.23, by far surpassed UK which ranked the third place with a ratio of 2.87:1 (5). Among others (6,7), one problem of the numerical competition for publishing more papers,

which is also currently common in many countries, is that there are too many more or less similar publications. It is not necessarily one paper is exactly the same as another, but the difference is small and very incremental. It is time-consuming for researchers to read all related papers, but not wise not to read them as in case there is a gem there. Then, important publications become less visible in the sea of published papers.

For the system in China as well as in other countries, the ultimate assessment should be the quality research output. In fact, too many grants with little output only mean a waste of resource and low productivity. In meantime, to improve effective healthcare, timely translation of high quality English publications into Chinese language to reach wider readership should be put as a high priority in China, at least for now.

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