

## How to become a professor in epidemiology?

Rezaeian M, PhD<sup>1\*</sup>

1- Professor, Dept. of Epidemiology and Biostatistics, Occupational Environmental Research Center, Medical School, Rafsanjan University of Medical Sciences, Rafsanjan, Iran.

### Introduction

From the very first day of your formal education training till obtaining a PhD or another doctorate in epidemiology or any other related disciplines, you have come a long way. However, receiving a high academic degree by no means is the final part of your career. On the contrary, it is just the beginning of a long journey to become a professor in epidemiology.

It is very important to have an eminent professor in our discipline since on one hand, such a person could expand the scope of our discipline and on the other hand, day by day the world witnesses losing some very novel epidemiologists. To name just very few recent loses: Professor David Lawrence Sackett (1934-2015) (1), Professor Dimitrios Trichopoulos (1938-2014) (2), and Professor David J. P. Barker (1938-2013) (3).

By definition, a professor is “an accomplished and recognized academic in a post-secondary education institution, who teaches undergraduate, graduate, and/or professional courses, and conduct original research in their field of expertise, which they publish in academic journals (4).”

Given the important role of all professors in extending human knowledge in their disciplines, and the vital role of epidemiology professors in extending human knowledge even in other related disciplines (5), within the present article, I am going to focus on how to become a professor in epidemiology. It should be noted that the following points could be equally important for other disciplines as well.

### How to become a professor in epidemiology?

The first most important point of becoming a professor is your enthusiasm and hard work. You have to be eager which helps you to endure long hours of working. As an assistant professor, your work hours have no limit. Working hours might well extend beyond any regular ones.

The second most important point of becoming a professor is your constant engagement in research activities. You should think about your next research project before finishing the current one. Therefore, in order to become a successful researcher in such a busy academic life, it would be better if you follow a few main research lines. Although as an epidemiologist who knows methodology, you might be involved or invited in more than just a few research lines.

One of your main research lines obviously might well develop from the topic of your PhD or other doctorate thesis. Since you are fresh while finishing your high academic thesis, it would be wise if you follow its topic further until you become a professor on the topic. However, your second main research line might well develop when you start your job in a university or research organization. As soon as you determine your main research lines, you should start writing research proposals regarding those lines and get them funded (6).

---

\* **Corresponding author:** Mohsen Rezaeian, Dept. of Epidemiology and Biostatistics, Occupational Environmental Research Center, Medical School, Rafsanjan University of Medical Sciences, Rafsanjan, Iran.

**E-mail:** moeygmr2@yahoo.co.uk

Having sufficient funding is a prerequisite of promotion to a full professor.

The third most important point of becoming a professor is extensive writing and publishing the results of your research in prestigious journals. Prestigious journals refer to those journals with higher impact factor or H-index. Publishing in these journals increases the likelihood of your articles being read, used, and appropriately cited by your colleagues. The results of a study revealed that between 40 to 50 percent of the articles published in the top ten psychiatry journals ranked by impact factor obtain 30 to 50 citations within 10 to 15 years (7). Being cited is vital since whenever any of your publications get a positive citation by your colleagues, it implies that you have added something new to human knowledge which still deserves citation.

Although when you follow quite a few research lines, self-citations are unavoidable and sometimes necessary, you should avoid too many self-citations. In an eight-year follow-up phase of a cohort study on articles published in prestigious general medicine journals, it has been determined that nearly 6.5 percent of citations obtained were author self-citations (8). Therefore, as a rule of thumb, I do believe that in diverse branches of science, it would be acceptable if up to 10 percent of all your citations consist of self-citations. However, beyond that and especially if your self-citations exceed more than 20 percent, it might imply that you are following some very specific research lines which do not attract your colleagues; the higher the self-citations, the more likelihood of pursuing not so attractive topics.

It is also important to note that besides original articles, there are also diverse other types of articles which you should consider writing and publishing. For example, review articles, especially systematic reviews and meta-analyses (9), are well established articles that an eminent professor should have a couple in her/his curriculum vitae (CV). Similarly, letter to the editors, editorials, personal views, commentaries, etc. are well established articles

that you should consider writing and publishing (10).

The fourth most important point of becoming a professor is teamwork and extending your scholarly network. This means that you should try to never say “No” to any such collaboration. Evidence suggests that research productivity could positively associate with number of contributing authors (11). Similarly, the number of citations might increase with the number of co-authors (12).

It is also better that your network goes well beyond the boundary of your country of origin or work to get some international collaboration experiences. Since, English has become the most commonly used language of different branches of science (13), this is of higher importance for non-English speaking scholars to make collaboration with English speaking scholars (14). Perhaps, one of the best examples of such a fruitful collaboration in epidemiology has been between Dimitrios Trichopoulos from Greece and Brian MacMahon from the United States of America (2).

As time goes by, you should write better articles and publish them in more prestigious journals. This happens because you get more expertise, more funds, and an increase in your scholarly network. These gradually transform you from an assistant professor into a full professor. Although in such a busy life, you might deliberately sacrifice some of your personal non-academic interests, it will compensate when you become a professor full of wisdom in your area of expertise. Your brilliant ideas might inspire your colleagues and young researchers who even after your death, might follow your idea; perhaps, like “Barker hypothesis” which is also called the “developmental origins of health and diseases (DOHaD)” (15).

There is one more thing and that is all through this long path, you have always supported by your family members, colleagues, and some eminent professors. It is now your turn to intellectually support your young students and perhaps your younger members of family

through mentoring processes to take them successfully along their path ahead (1-3).

### **Conclusion**

There are at the very least four important points which help an assistant professor to become a full professor in epidemiology. They are hard work, constant engagement in research activities, extensive writing and publishing diverse scholarly articles, and teamwork and extending the scholarly network. It should be noted that these points could be equally important for other disciplines as well.

### **References**

1. Haynes RB. David Lawrence Sackett, MD, MSc (Epidemiology), 1934–2015. *Ann Intern Med* 2015; 163(4):JC2.
2. Lagiou P. In Memoriam Dimitrios Trichopoulos: an argonaut in search of the golden fleece of medicine (1938-2014). *Eur J Epidemiol* 2015; 30(2):87-9.
3. Fall C, Osmond C. Commentary: the developmental origins of health and disease: an appreciation of the life and work of Professor David J.P. Barker, 1938-2013. *Int J Epidemiol* 2013; 42(5):1231-2.
4. Rezaeian M. Rejected epidemiological manuscripts: food for thought. *J Clin Epidemiol* 2015; 68(5):596.
5. Professor [Interfnet]. 2015 Sep. Available from: <https://en.wikipedia.org/wiki/Professor>.
6. Rezaeian M. How to construct a successful grant proposal. *Middle East Journal of Family Medicine* 2015; 13(1):27-28.
7. Hunt GE, Cleary M, Walter G. Psychiatry and the Hirsch h-index: The relationship between journal impact factors and accrued citations. *Harv Rev Psychiatry* 2010; 18(4):207-19.
8. Kulkarni AV, Aziz B, Shams I, Busse JW. Author self-citation in the general medicine literature. *PLoS One* 2011; 6(6):e20885.
9. Kisely S, Chang A, Crowe J, Galletly C, Jenkins P, Loi S, et al. Getting started in research: systematic reviews and meta-analyses. *Australas Psychiatry* 2015; 23(1):16-21.
10. Rezaeian M. The necessity and importance of writing and publishing non-research papers. *Middle East Journal of Family Medicine* 2014; 12(6):43-44.
11. Franco G. Scientific research of senior Italian academics of occupational medicine: a citation analysis of products published during the decade 2001-2010. *Arch Environ Occup Health* 2015; 70(2):110-5.
12. Wykes T, Lipczynska S, Guha M. The h-index, the citation rating, impact factors and the aspiring researcher. *J Ment Health* 2013; 22(6):467-73.
13. Monge-Nájera J, Nielsen V. The countries and languages that dominate biological research at the beginning of the 21st century. *Rev Biol Trop* 2005; 53(1-2):283-94.
14. Rezaeian M. Disadvantages of publishing biomedical research articles in English for non-native speakers of English. *Epidemiol Health* 2015; 37:e2015021.
15. Olsen J. David Barker (1938-2013)--a giant in reproductive epidemiology. *Acta Obstet Gynecol Scand* 2014; 93(11):1077-80.