

How can Brazil's post-graduation courses in clinical areas be improved?

There is not doubt that medical post-graduation courses have been growing positively during the last two decades in Brazil.

Nowadays there is an increasing demand from universities for faculties with Master and Ph.D. degrees, mostly due to new rules of the federal government. A Master degree is presumed to give teaching skills, and the Ph.D. course is supposed to prepare medical researchers.

Although some areas within Basic Medical Science have published good papers, the quality of Clinical Research usually presented as a thesis for the Master or Ph.D. title is far from being considered reasonable. And Clinical Research is as important as Basic Medical Research; it may be considered even more important for developing countries, where good evidence are essential for planning and efficiency in health policy.

Nowadays there is a tendency expressed by the CAPES* (Fundação Coordenação de Aperfeiçoamento de Pessoal de Nível Superior) to improve the medical post-graduation courses system in Brazil. It is also clear that the Master needs for his teaching activities to have good skills for critical appraisal of medical literature in order to reach the aims of his activities.

It is very hard to teach without good skills for selecting the evidence of about 2,000,000 papers registered yearly in the biological and medical literature. Also, the Ph.D. student in clinical areas needs the same skills for teaching and researching activities. However, what has been noticed frequently is that medical Ph.D. students at the end of the 5

years spent in the PG course, are not able to criticize, plan and analyze clinical research properly. This lack of skills will be transmitted to students in the future, and the consequences will be dramatically recognized in the next decades.

It will reflect badly on Brazil's health status and economy, through teaching, research, planning of health policy and certainly in the medical practice and peoples health.

In our opinion, post-graduate programs in clinical areas should mostly be courses based on methodology of clinical investigation and clinical epidemiology, including study planning and conduction (avoiding misunderstanding with simple statistics). So, the student who is able to develop good critical appraisal skills and present reliable proposals for clinical research should receive the Master degree. And when he or she conducts and writes properly the equivalent proposal, publishing it in a good journal, they might then receive the Ph.D. degree. The best students could be selected to get just the Ph.D.

It is a fact that up until now, there has not been a large body of advisors in the country for teaching activities aimed at preparing and conducting clinical investigations properly.

But the small number of professionals available who can be considered able to teach epidemiology and clinical epidemiology (or Evidence-Based Medicine) are a good starting point. And the concepts of methodology of clinical epidemiology are easy to learn (and teach) and the period of time usually spent to get the master degree (minimum 2 years) and the Ph.D. degree (minimum of another 3 years) are more than enough. There are resources for such a task in the literature⁽¹⁻¹⁴⁾ and via Internet. The question is whether the medical pos-graduation. system in the country wants to

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progress with a new generation of professionals with skills to appraise critically and conduct clinical research properly or abandon it as it is now, and wait a few more decades, hopelessly, wasting resources and good will.

It is very important not to misunderstand any research developed with human subjects with clinical investigation properly developed.

Proper clinical investigation requires a clear question on a relevant subject, proper sampling of subjects, rigorous definitions of dependent and independent variables, inclusion and exclusion criteria, sample size calculations, appropriate statistical analyses, and good quality study control and conduction. Just as a good surgeon requires training before doing a cardiac surgery, clinical research requires equivalent development of skills in the same medical professionals destined to be faculties and or clinical researchers of the future, before researching on human beings.

The future is just tomorrow.

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