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67 – Teaching How To Learn: Experience of a Journal Club and Clinical Research Paper Writing sessions.

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How does a doctor keep himself up to date with so much clinical information emerging on an everyday basis? I think that the best answer is to be able to find, read, appraise and apply knowledge derived from relevant clinical research papers found in the most reputable medical journals relevant to his or her practice. How to identify these journals and how to locate useful research papers within them to improve one's practice is a different subject. However, how to understand the limitations, methodological problems and virtues of a particular clinical study is a skill to be taught to students if we are to grant them the possibility of lifelong learning in Medicine.

For a student who never wrote and published a research study, conclusions found in research papers may be taken for granted without "a grain of salt" derived from witnessing the scientific discussions of research data and the derived conclusions with colleagues and peer reviewers throughout a few rejections before its final acceptance for publication.

We devised a program that would start each year by discussing in weekly one-hour sessions research articles of different methodological research designs such as phase I, II and III studies, meta-analysis and translational basic science studies. After 8 or 10 weeks, we would choose, usually addressing clinical problems arising from our daily practice or inspired by one of the articles previously discussed, a particular question to answer such as 1) How do doctors from our service comply with existing prophylactic anti-nausea and vomiting guidelines?; 2) How elderly cancer patients fare at our centre?; 3) Is there a negative bias towards publication of Brazilian papers in international Journals?; 4) Is there a deleterious effect in delaying primary chemotherapy in ovarian cancer patients?

We analysed each of these questions with the participating group of fellows and established the adequate methodology to answer them. Fellows then tabulated the data, and we analysed them together. Conclusions were then derived from the data, and we started to write together all the sections of the paper during our weekly sessions.

One of the most important keys to the success of this activity is to choose only to pursue questions that could be answered with no more of two months of data collection time. This time limitation is important to allow participants to encompass the full cycle from data collection to writing the manuscript. Furthermore, from the many potential questions, one need to choose only those that are amenable to be

answered with relatively few hours of work and small samples of patients. To comply with the aforementioned constraints, most of the studies we conducted have to be retrospective chart reviews. Nevertheless, even with non-sophisticated research designs or with small samples of patients, the analysis of the collected data and the discussions that lead to the conclusions were very fruitful. The process of writing the papers also taught fellows the nuances of scientific communication, how to analyse data statistically and present them graphically as well as how to convey to readers their limitations. Answering to reviewers comments was also a fascinating teaching experience for the fellows as they learned how we should account for and reply to mistakes and misperceptions in data interpretation that we were not aware up to that point.

Some of those questions resulted in papers that were already published (1,2) and others are already being prepared or submitted. Each article which appeared in print was then lastly presented by one of the authors in a journal club session to close the virtuous cycle of clinical research. Even though this methodology was applied to fellows, it can be likewise used with medical students with equally exciting results (3).

We believe that teaching how to read and write papers is a significant contribution to creating future opinion makers out of young physicians instead of non-critical followers of what the big Pharma conveys to them.

Take Home Message

- One of the main keys to effective learning of Medicine is proficiency in reading and understanding medical journals' clinical research papers.
- To better understand a clinical research paper virtues and limitations, students have to write and publish at least one article.
- A hybrid activity of journal club and research paper writing sessions can more effectively teach students how to learn throughout their lives.

Original Abstract

<http://www.woncaeurope.org/content/286-op-benefits-teaching>

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