

Barriers to research productivity among physicians in Saudi Arabia: Taking a deep dive into the world of academia

Research and innovation are the keys to success of developed countries. Innovation has had a profound impact on patient care, from the early discovery of penicillin and insulin in the 20th century, to the rapid development of an efficacious vaccine against the viral pathogen severe acute respiratory syndrome coronavirus-2 during the current pandemic. While research development in non-advanced countries takes effort and time, collaboration between academia, government, and private sectors is strongly and imminently required to improve research quantity and quality in Saudi Arabia (SA). A comprehensive plan to address obstacles to scholarly research in SA is needed in order to promote research activity. Having said that, several studies have started by evaluating research barriers in SA.^[1,2] However, until now, none of them has addressed research barriers among gastroenterologists and hepatologists in the Kingdom.

A case in point is the publication by AlSardi *et al.* on the barriers to research productivity among gastroenterologists and hepatologists in SA, in the current issue of this journal.^[3] Eighty-five gastroenterologists completed the survey; 90% of respondents were male and 86% were involved in research activity. Only 16% of respondents worked in a University-based hospital and 55% of physicians had a modest volume of clinical practice (<41 patients/week). AlSardi *et al.* identified several barriers to research productivity, the four major barriers were insufficient research time (78.8%), lack of funding and compensation (77.6%), lack of a statisticians (68.2%), and insufficient research training (64.7%).

The definition of a successful gastroenterologist can vary by institution and career path, but there are benchmarks that can be used to evaluate a clinician's success.^[4] In the published survey, the biggest barrier to research productivity was insufficient research time. However, 55% of respondents have a modest clinical practice where they manage only 40 patients per week. The survey did not consider other academic and administrative duties that could result in insufficient research time among respondents. However, the hypothetical question we need to ask here is : How many clinical and endoscopy sessions are required to evaluate 40 patients per week? A typical clinical

session (4 hours) should accommodate at least 10 patients and general (non-advanced) endoscopic session (4 hours) should accommodate at least 6 procedures. Therefore, the total number of sessions required to manage and follow 40 patients per week are four, which accounts for two working days. This is without taking into consideration the on-call schedule and the number of consultations that are being evaluated in the inpatient service.

We clearly need to dive deeper to analyse the true time barriers of research productivity among clinicians in SA. Perhaps clinicians with suboptimal research skills are less efficient in their academic productivity compared to a clinician who is equipped with the right research skillset? In fact, the predominant reason for junior faculties to quit research has been shown to be low confidence in research skills.^[5] Nevertheless, to address the perception of insufficient research time for clinicians, separate career tracks may need to be implemented at academic institutions with short and long-term goals, and specific expectations or benchmarks to evaluate the success of each individual. Most gastroenterology practices in North America have 4 separate tracks: clinical, clinical educator, clinical research, and a research scholar track.^[4] Although these tracks may not be entirely applicable to our health care system, over time we have come to adapt best practices and implement what works best for our society.

The second major barrier to research productivity in SA is marked as the lack of funding. In this context, it would be worthwhile for clinicians to realize that some of the responsibilities for achieving funding support rests on them. Research support is an earned privilege, and not an unconscious right. Members of research and grant committees are mostly non-scientists and it is necessary for clinicians to explain the significance of their work and what they hope to achieve. Furthermore, clinicians need to acknowledge that scientific research committees allocate financial resources based on the best return on investment, which in research, is the value that comes out of a research project. Still, an outstanding research project comes with a big cost for many countries, and joint funding could be the solution to minimize cost burden. Currently, King Abdulaziz City for Science and Technology is the major source of funding to mega projects. The Saudi

Gastroenterology Association and the Saudi Association for the Study of Liver Diseases and Transplantation could launch a research committee to facilitate funding to clinicians through the support of pharmaceutical or other medical industries. Such committees would not just encourage and facilitate research funding, but also serve to vet proposals for fairness and adequacy.

Early research exposure has a strong positive influence on later involvement in research.^[6,7] According to a study of SA medical residents, only 30% had participated in research. Lack of supervision was reported to be a barrier for 73.3%.^[8] In North America, medical education accreditation bodies require that all residents participate in scholarly activity. Residency programs in SA should adopt a similar regulation. Stellar examples of resident research programs have been published and include mechanisms for overcoming the barriers of protected time, faculty mentorship, and statistical support.^[9] Programs can be implemented even earlier. Elementary school education should include a research component, providing students with analytic and quantitative skills and problem-solving capability. Furthermore, it will encourage students to be engaged in an intellectual pursuit and make them critical thinkers. Hence, early research experience in school will provide students with several benefits whether the student plans on majoring in science, business or art.

AlSardi *et al.* addressed the importance of mentorship programs to improve research productivity among junior physicians. Mentorship is crucial for success in academic medicine. Faculties who are engaged in mentoring relationships are more likely to be productive academically.^[10-12] In addition, effective mentorship is associated with great satisfaction and improved performance.^[12] On the other hand, lack of a mentor is associated with the greatest deficiency in career development.^[13] However, selecting mentors for a mentee can be tricky. A mentoring relationship works best when it comes naturally through mutual interest. Mentees with informal mentors demonstrated greater career development compared to those with formal mentors.^[10] Several mentors are often needed for a junior faculty member. It is also advisable to have mentors outside one's institution. The mentoring relationship needs to be addressed early on with goals and expectations.

AlSardi *et al.*'s paper offers us a timely opportunity to discuss and address the barriers to academic productivity in SA. We hope that this report will be the beginning of future research projects to enlighten us on what is needed for research to thrive in this country.

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