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Surgical research: Exploring our history — navigating the future

Nadeem Ahmed Siddiqui, Muhammad Shahzad Shamim, Syed Ather Enam

In the fifteenth century, trained individuals called 'barber surgeons' mastered the art of handling sharp instruments and performing basic surgical procedures. They even founded a 'United Company of Barber Surgeons' in 1540.¹ Besides shaving and haircutting, they were trained to perform dental extractions and a few surgical procedures. Later in 1745, qualified doctors and surgeons came together and founded 'Company of Surgeons' in the UK, which later became the Royal College of Surgeons in London.² This progression from anecdotal experiences of the guild of barbers to a formal society that helped the implementation of scientifically reasoned decisions by Royal College Surgeons was only possible because surgeons were able to appreciate the value of the evidence and incorporate it into their practices.

We are witnessing rapid advancements and refinements in surgical techniques, the evolution of surgical aids and instruments, and the introduction of safer and less invasive surgical alternatives.³ Even surgical training has shifted from the conventional Halstedian model of apprenticeship to more competency-based training with constantly evolving modalities to improve the learning process.⁴ Key to this evolution has been the surgeon's ability to generate new evidence and keep their practices in accordance with growing literature. Research in surgery has enabled the surgical community to improve healthcare quality, resulting in better outcomes of surgical diseases. Research in surgery has several inherent difficulties that make it unique when compared to other specialties, especially in conducting high-quality surgical research like randomized controlled trials.^{5,6}

Due to the enormous burden of surgical disease, some low-middle income countries (LMICs) can meet only about 3.5% of surgical procedures of their total need.⁷ A few factors responsible for this disparity include poor access to surgical care, fewer centres, and fewer surgeons in these countries. Surgeons lose revenue by taking time out for research from their clinical work. Research becomes less of a priority with fewer surgeons available

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to deal with a high workload. Western countries excel in surgical research because of substantial financial support from government and private sectors, and this lack of financial support is another factor limiting research in LMICs.⁸ In LMICs, surgeons do not have the infrastructure to support research, do not have funds to create an infrastructure, and do not get paid to do research.

There has been an overwhelming interest in standardizing practices amongst surgeons across the world. Initiatives like Global Surgery strive to address the issue of the non-availability of essential surgical procedures in LMICs, and it has started to make an impact.⁹ There is a similar need for large-scale initiatives that focus on developing strong research cultures in institutions and individuals. Identifying barriers to surgical research systematically and then focusing on finding solutions to these issues is critical. We think a multi-faceted approach with clearly defined short and long-term goals will help.

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