Research Practices Among Undergraduate and Postgraduate Students in Pakistan

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In the dynamic field of ophthalmology, research is the lifeline that propels innovation, as seen in the case of cataract surgery. It was Sir Harold Ridley, who in 1949 in London first put an intraocular implant with a large corneal incision.[1] Advanced research refined the techniques from pioneering minimally invasive surgeries like phacoemulsification with foldable intraocular implants to developing sight-saving therapies. In third-world countries, like Pakistan, despite the increasing complexity of ophthalmic care, research engagement among undergraduate and postgraduate medical students remains under-focused.

Among undergraduates, exposure to ophthalmic research is often superficial, restricted to data collection and writing case reports to fulfill the university criteria for examination. For postgraduate ophthalmology trainees, though mandated to undertake a dissertation, frequently approach research as a bureaucratic requirement rather than a true scholarly pursuit. Recently, the College of Physicians and Surgeons, in a circular, had allowed the PG trainees to write an original research paper in a scientific journal dually recognized by CPSP and PMDC.[2] This trend has opened new opportunities for the future pipeline of clinician-scientists in our specialty.

Several barriers hinder active research involvement. Inadequate resources, time constraints, clinical workload, and lack of mentorship are widely cited challenges.[3,4] Furthermore, ophthalmology research demands familiarity with advanced diagnostic and management techniques. Moreover, command of biostatistics techniques and clinical trial design, areas in which students often feel underprepared.[5] Getting an Institutional Review Board (IRB) is a long, painful process. In addition, the fear of negative comments or rejection by journals also discourages many budding researchers.

Yet, the benefits of early research involvement are undeniable. Research nurtures critical thinking, encourages lifelong learning, and fosters a deeper understanding of evidence-based practice. All these crucial skills are inevitable for modern ophthalmologists.[6] Moreover, exposure to research during training correlates with greater academic productivity and leadership roles later in the career.[7]

To address these gaps, ophthalmology training programs must integrate structured research education from the undergraduate level. Mandatory modules on research methodology, ethics, and scientific writing should be incorporated into the curriculum. In addition, ophthalmology departments should establish active research mentorship programs, encouraging faculty to supervise student-led projects. Offering small research grants by universities, providing free access to databases and statistical software like SPSS, and protecting dedicated research time with a mentor are practical steps institutions can take to support young investigators.

Postgraduate research should transcend the goal of thesis or dissertation submission. Emphasis should be placed on publishing in peer-reviewed journals, presenting at ophthalmic conferences held under

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the Ophthalmic Society of Pakistan(OSP) banner, and participating in multicenter studies. Collaborative research groups among residents and faculty can bridge a gap and will promote a culture of inquiry and peer learning.[8,9]

As consultants and educators, we are responsible for modeling a research-oriented mindset. By mentoring, guiding, and inspiring students, we ensure that the next generation of ophthalmologists not only practices cutting-edge medicine but also contributes to its advancement. It is our moral obligation to equip our students with the tools, skills, and curiosity to drive progress in ophthalmology and achieve the goal of vision for all.

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