Integrating structured research training into undergraduate medical education in Pakistan: the need of the hour

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Medical field, with its ever-growing research, is constantly evolving, making evidence-based clinical practice essential. Rapid advancements in medicine have made it imperative to acquire skills like research methodology and critical appraisal of articles from an under-graduate level. In recent years, trends have shifted, with medical students in Pakistan, wanting to participate more in research, and aspiring to match their international peers, yet, they are facing significant challenges in doing so.[1]Currently, research exposure in Pakistan, is limited to basic methodology modules in the 4th or 5th year, which is insufficient to develop strong research skills. Alongside the lack of structured curriculum, students report hurdles, such as time constraints due to academic workload, poor mentorship, limited research knowledge, minimal institutional incentives, and inadequate funding.[1] Many students remain unaware of research's importance due to its low weightage in the curriculum and it is often only after graduation that they realise its value and how far behind they are from their international peers. A few students, who do have some awareness and wish to learn earlier on resort to private courses, often led by unqualified individuals. They have to pay hefty fees for these courses, leading to both psychological and financial strain. To tackle these challenges, a standardised, revised curriculum integrating research methodology should be implemented throughout all professional years. Starting with basics like research types and sampling in the 1st year, students would gradually learn database usage and research tools, becoming confident to conduct projects by their final year. Being taught by experts within their university would also protect students from exploitation by private tutors. Additionally, dedicated credit hours for research would help students to manage their time effectively, without compromising their academics or clinical commitments.[2] Moreover, official mentorship programs can be established, connecting students with their peer or faculty to guide them through each step. Research methodology workshops can also be arranged regularly to increase awareness and engagement. Research societies can also be established in universities to organize group projects and arrange local conferences for presentations. Lastly, to remove financial barriers, universities should prioritise research funding, establish research grants and provide institutional access to databases.[1,2] Implementing these changes will make research more accessible and encourage more students to participate, These students will not only become well-informed doctors but may also contribute to global health solutions.[3] Notably, Charles Best, who also contributed to discovery of insulin, and Paul Langerhans, who discovered of islets of Langerhans, made their seminal contributions as undergraduate medical students[4].In conclusion, it is the need of time to improve the undergraduate research curriculum. The potential for scientific development of a developing country lies in its youth, and it is our responsibility to equip them with the most relevant, updated resources. Well-standardised, skill-based research education, supported by mentorship, can help cultivate a new generation of physician-scientists, ready to take on both local and global health challenges.

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