EDITORIAL

Engaging the next generation of medical professionals: reflections on the UHS summer school (MediSum-2024)

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In recent years, summer schools have emerged as a transformative educational opportunity, particularly in medical universities worldwide. These programs provide a structured yet flexible environment for undergraduate MBBS and BDS students to explore the nuances of basic and advanced medical sciences. In Pakistan, where medical education is deeply rooted in rigorous academic traditions, the establishment of summer schools at all medical universities is not merely a recommendation but a necessity. This initiative can play a pivotal role in fostering motivation, engagement, and professional competence among our future healthcare professionals.

The Role of Summer Schools in Medical Education

Summer schools offer a unique blend of theoretical learning and hands-on experience, allowing students to delve deeper into subjects they may find intriguing or challenging during the regular academic year. International studies highlight their effectiveness. For instance, a study by Khaje et al.[1] found that summer schools significantly enhanced students' understanding of advanced laboratory techniques and their applications in clinical settings. Similarly, programs in European medical universities have demonstrated how summer electives improve students' research skills, critical thinking, and collaborative abilities.[2]

In the context of Pakistan, the potential impact of summer schools is immense. Engaging undergraduate medical and dental students, these programs provide an early glimpse into various basic medical sciences labs, such as Anatomy, Biochemistry, Physiology, Histopathology, Microbiology, Molecular Pathology, and Pharmacology, which can ignite their passion for research and innovation. Beyond fostering academic growth, these programs can bridge the gap between theoretical knowledge and practical application, ensuring a more holistic understanding of medical sciences.

Structure and Curriculum

A well-designed summer school program should cater to both basic and advanced levels of understanding. The curriculum can include workshops on fundamental laboratory techniques - such as microscopy, staining methods, and cell culture - as well as advanced topics like molecular diagnostics, and bioinformatics. Clinical skills like basic and advanced life support, cardiac first response, and trauma response must be added for the students to equip them with basic and advanced lifesaving skills. Sessions should be conducted by experienced faculty and supplemented by guest lectures from leading researchers and clinicians.

Moreover, interdisciplinary learning should be a core component. For instance, integrating clinical correlations into basic science lessons can help students appreciate the relevance of their lab work to real-world patient care. Programs could also include research methodology and ethics, providing a foundation for students interested in pursuing academic and clinical research careers.[3]

Benefits for Students and Universities

For students, the benefits of summer schools extend beyond academics. These programs offer a platform to network with peers and mentors, fostering a sense of community and collaboration. They also help students gain exposure to cutting-edge technologies and methodologies, which can enhance their competitiveness in postgraduate studies and professional pursuits.[4]

For universities, summer schools are an opportunity to showcase their academic and research facilities, attract potential students, and build a culture of innovation. In addition, such initiatives align with global trends in medical education, enhancing the university's reputation and rankings.

Challenges and the Way Forward

Despite their potential, implementing summer schools in Pakistani medical universities is not without challenges. Limited funding, faculty shortages, and infrastructural constraints are significant hurdles. Furthermore, aligning these programs with the diverse needs and expectations of students from various institutions requires careful planning and execution.

To address these challenges, the following steps are recommended:

1. Policy advocacy: Regulatory bodies like the Pakistan Medical and Dental Council and the Higher Education Commission should mandate summer schools as part of the medical curriculum.
2. Collaboration: Universities can collaborate with international institutions and industry partners to secure funding, resources, and expertise.
3. Faculty development: Training programs for faculty members should be prioritized to ensure they are equipped to deliver high-quality summer school sessions.
4. Monitoring and evaluation: Establishing clear metrics for evaluating the impact of summer schools will help refine and improve these programs over time.

Impact of the First Summer School of University of Health Sciences (UHS) - MediSum-24

University of Health Sciences Lahore successfully completed its first 2-week Summer School **"MediSum-2024"** for undergraduate medical and dental students. The school was initially conceived to offer electives in molecular biology and stem cell culture techniques within the state-of-the-art laboratories of UHS at Jinnah Campus, Kala Shah Kaku. Subsequently, the esteemed Vice Chancellor expressed a desire for all departments to contribute to this initiative by submitting their respective proposals. The transportation, logistics, and training plans were finalized, and MediSum officially commenced on June 30, 2024, following an application process initiated through advertisements.

The participants were the presently enrolled students from the first to final year of MBBS and BDS. The training comprised of didactic as well as rigorous hands-on training in different laboratory and life-saving clinical skills under the supervision of qualified and senior Ph.D faculty. The participants reported increased confidence in applying learned concepts to real-world scenarios, underscoring the program's impact. The training in life-saving skills and advanced molecular pathology methods gained much popularity among the students. All participants were awarded the certificates at the end.

Conclusion

The UHS Summer School has set a benchmark in medical education, showcasing the transformative power of hands-on learning at the undergraduate level. Given the success of the UHS initiative, it is imperative for all medical universities in Pakistan to integrate similar summer school programs into their academic calendars. By adopting and scaling such programs nationwide, Pakistan's medical universities can cultivate a generation of skilled, motivated, and research-oriented healthcare professionals. Such programs not only enhance skill acquisition but also provide students with the opportunity to explore potential career paths, collaborate with peers and mentors, and contribute to ongoing research projects. While challenges remain, the collective commitment of academic institutions, policymakers, and the medical community can overcome these hurdles, paving the way for a brighter future in medical education.

List of Abbreviations

UHS University of Health Sciences

Conflict of interest

None to declare.

Ethics approval

Not applicable.

Authors' contributions

Conception of study, acquisition of data, drafting of manuscript, approval, and responsibility of the final version of the manuscript to be published.

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