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Anatomy Education Faces Challenges in Pakistan

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Anatomy education in Pakistan is facing many of the same challenges as in other parts of the world. Roughly, a decade ago, all medical and dental colleges in Pakistan emphasized anatomy as a core basic discipline within a traditional medical science curriculum. Now institutions are adopting problem based learning (PBL) teaching philosophies, and since medical colleges in Pakistan first introduced PBL curricula that expose the basic sciences primarily in clinical contexts, the methods and extent of anatomy teaching have been topics of much debate. Many claim that PBL curricula dilute basic science education, especially anatomy. At the same time, classically trained faculty members with PhD in anatomy have become nearly extinct in Pakistan, with only four working in country. A third challenge currently facing anatomy education in Pakistan, as in many parts of the world, is an unavailability of cadavers for dissection. As more institutions adopt PBL curricula, as PhD anatomists are harder to find, and as cadavers for dissection become scarce, Pakistan and other countries around the world will have to seriously consider how they will sustain adequate anatomy education.

Anatomy education in Pakistan, particularly in medical colleges where teaching is through problem based learning (PBL), is facing many of the same challenges as in other parts of the world (Monkhouse and Farrell, 1999; Hinduja et al., 2005). Pakistan's 79 Medical and Dental institutions—31 public, 48 private—are registered with the Pakistan Medical and Dental Council and follow its approved guidelines for medical curriculum (PM&DC, 2009). Roughly, a decade ago in Pakistan, however, all medical and dental colleges emphasized anatomy as a core basic discipline within a traditional medical science curriculum. In the traditional model, anatomy education was through cadaveric dissection, wet specimen prosection, small group tutorial, and lecture.

Since medical colleges in Pakistan first introduced PBL curricula that expose the basic sciences primarily in clinical contexts (van der Vleuten et al., 1996), the methods and extent of anatomy teaching have been hot topics. The gross anatomy knowledge is taught mainly through small group discussions of clinical cases supported by large class format (LCF) sessions with few gross anatomy laboratories.

Many claim that PBL curricula dilute basic science education, especially anatomy (Parker, 2002; Gartner, 2003), with the rationale that not all medical graduates will practice surgery. Some medical educators thus consider any extensive anatomy teaching as superfluous.

The Aga Khan University (AKU) adopted a PBL curriculum in 2002 (Davis et al., 2007). When the first class of medical students who have been trained in this system entered clinical rotations, clinicians, especially surgeons, expressed concern for the students’ weak knowledge of anatomy (Memon, 2009). Fasel and colleagues (2005) bemoaned such a trend. Informally, AKU students have expressed that anatomy is not taught sufficiently (Memon, 2009). The response of AKU to this serious issue has been to increase the number of conceptual LCF sessions and to add tutorials. These struggles will only become more common as medical colleges in Pakistan and around the world adopt PBL curricula. Many have already done so or are running with hybrid (traditional and PBL) teaching systems as they strive to update their curricula.

In addition to the curricular changes facing anatomy education in Pakistan in recent years, anatomy teaching faculty with classical PhD training in anatomy have become an endangered species. Recruitment of anatomy faculty has languished, with senior professors retiring and most anatomy departments in Pakistani medical colleges now operating

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Received 8 March 2009; Accepted 17 March 2009.
Published online 7 May 2009 in Wiley InterScience (www.interscience.wiley.com). DOI 10.1002/ase.77

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without any full time PhD faculty. Despite even international efforts, AKU has not been able to attract any PhD faculty to its anatomy program. In the alternative, AKU has bolstered anatomy teaching by involving surgical faculty. AKU has also invited anatomy faculty from Canada for visiting fellowships in each of the last two years. But in other medical colleges in Pakistan, as in many other countries, skilled support for teaching anatomy is in jeopardy. An analysis of all available sites on the Pakistan Medical & Dental Council web portal revealed only four PhDs in anatomy education positions in the country. The anatomy departments of all other medical colleges in Pakistan are driven by MPhils (Master of Philosophy) in anatomy or overseen by surgeons.

A third problem currently plaguing Pakistani medical colleges is an easy one to understand but a difficult one to solve. A dearth of cadavers for dissection means, simply, that more students must learn human anatomy with less hands-on experience. Many medical colleges in Pakistan, including AKU, prefer cadaveric dissection as the major tool of anatomy teaching, but this is currently not feasible in most cases.

Basic science and clinical faculty are bewildered as to the future of anatomy teaching. As more institutions adopt PBL curricula, as PhD anatomists are harder to find, and as cadavers for dissection become scarce, Pakistan and other countries around the world will have to seriously consider how they will sustain adequate anatomy education. This author believes the time is now for medical educators, anatomists, and surgeons to come together in the creation of guidelines on the appropriate extent and methods of teaching anatomy in medical and dental colleges. The many stakeholders in this process may be brought together and given voice through our various national and international anatomical societies.

NOTES ON CONTRIBUTOR

ISMAIL K. MEMON, M.B.B.S., is a senior instructor and Ph.D. candidate in anatomy in the Department of Biological and Biomedical Sciences at Aga Khan University, Karachi, Pakistan. He teaches gross, microscopic, developmental, applied, and neuroanatomy to undergraduate medical students in traditional and PBL curricula.

LITERATURE CITED


