

Mentorship in surgical training: Where do we stand?

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Abstract

Mentorship in medicine aims at professional and personal development of trainees in the early stages of their careers. It is more popular in surgical subspecialties since transfer of technical skills is an integral part of surgical training, which makes it distinct compared to other specialties. Effective mentoring in surgery plays a crucial role in academic success, professional development, career guidance and personal growth of residents, and provides guidance and support to mentees to excel in their respective fields, and increases the likelihood of success by enhancing motivation with positive impact on burnout among residents. Efforts have been made by accreditation bodies around the world to implement formal mentorship in residency programmes. Unfortunately, there is lack of formal mentorship at the level of postgraduate medical education in Pakistan, and the evidence to identify potential obstacles is scarce from this part of the world.

Keywords: Mentorship, Surgical training, Professional development.

Introduction

The word 'mentor' emerged from Greek mythology after the famous tale 'Odyssey' by Homer in the 8th century in which Odysseus trusted his friend Mentor for training and guidance of his son Telemachus while he was away for the Trojan war.¹ In Greek, 'mentor' literally means "to endure". Despite its popularity in literature since 1970, there is no consensus on operational definition of 'mentor'.² For medical professionals, mentoring is defined by the United Kingdom's Standing Committee on Postgraduate Medical and Dental Education as "the process whereby an experienced, highly-regarded, empathic person (the mentor), guides another individual (the mentee) in the development and re-examination of their own ideas, learning, and personal and professional development. The mentor, who often, but not necessarily, works in the same organisation or field as the mentee, achieves this by listening and talking in confidence to the mentee".³

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Mentorship in medicine aims at personal and professional development of mentees in the early stages of their career. Effective mentorship in medicine has been associated with mentees' career selection, excellence in research, overall grooming and job satisfaction.⁴ Mentorship is more popular in surgical subspecialties as transfer of technical skills is an integral part of training which makes it distinct compared to other specialties due to challenging learning environment and stress associated with operating room (OR) and expectations of the surgical staff and attending surgeon. The Royal College of Surgeons of England emphasised the importance of mentoring by a position statement which stated that surgical training is stressful and the transition from trainee to consultant position is challenging.⁵ It is even harder for more experienced surgeons to extend their support to less experienced surgeons and work in a target-driven environment. Similarly, the American College of Surgeons, through presidential addresses and specialty associations, also highlighted the significance of mentoring in surgery.⁶

Mentoring is an integral part of surgery training due to its unique environment defined by distinguishing features that set it apart from other medical specialties. American surgeon William Halsted in the 19th century pioneered mentoring into Socratic surgical teaching method using apprenticeship model and creating a formal residency system. Harvey Cushing, one of Halsted's mentees, founded neurosurgery, representing the value of mentorship in terms of progress and innovation.⁷ Since then, mentoring has been part of surgical education to a variable extent where a resident is assigned to an attending surgeon to develop clinical knowledge, attain surgical skills, disease management and patient-physician interaction. After the implementation of core competencies in the residency curriculum by the Accreditation Council of Graduate Medical Education (ACGME) in 2001, mentorship was incorporated by residency programmes to perform direct observational skills assessment and provide individualised feedback to trainees.⁸

Mentor-mentee relationship

Several models of mentorship have been described in literature, including dyadic apprenticeship and team

mentorship, and the delivery can be formal or informal.⁹ In informal mentoring, there are no formal training objectives and the relation between the mentor and the mentee is flexible. This form of mentorship includes self-selection of mentors and mentees and is considered to be preferable for short-term goals. Formal mentoring is a formal agreement with strict selection and training process with obvious rules and responsibilities, objectives and expectations.¹⁰ This requires substantial commitment from both the mentor and the mentee with demanding schedule for senior surgeons and surgical trainees. For this obvious reason, most of the surgical residency programmes have informal mentoring components. A study by Kibbe et al. reported that only half of the surgical residency programmes have established mentorship plans and most of them are unstructured and informal.¹¹

A meaningful mentor-mentee relationship is of paramount importance for the career progression of both the mentor and the mentee. However, it requires honest commitment, some degree of personal connection, and two-way trust as well as the ability to recognise the objectives which necessarily evolve over time.¹² Mentoring is a dedicated process requiring substantial investment of time and energy and dedication from both parties. Qualities of a good mentor must include altruism with strong commitment towards mentees and their goals, patience to encourage them in achieving long-term goals, honesty to guide them appropriately in diverse situations, and being a proficient spectator to listen and understand mentee's body language and messages that are not explicitly communicated.¹³ Mentor should be capable of identifying strengths and weaknesses of the mentee and provide relevant guidance.¹⁰ Success of this mutual relationship to achieve goals demand contribution from not only the mentor, but substantial commitment from the mentee as well. The most significant responsibility is proactiveness to identify a suitable mentor and ensure necessary steps required for the accomplishment of essential goals. Mentee's responsibilities have been described in literature through the concept of "managing up" by Zerzan et al., which describes the role as that of the driver's seat in mentor-mentee relationship.¹⁴ A mentee must ensure active participation to achieve the desired goals and, in case of any difficulty in understanding any issue, timely involvement of the mentor through effective communication and being ready to be responsive to criticism. A successful mentorship programme centres on three key factors: anticipated goals of the mentor-mentee relationship, characteristic of the members, and programme structure.¹⁵

Benefits of mentorship in surgical training

Mentorship in residency play a crucial role in academic success, professional development, career guidance and personal growth of residents.¹⁶ It provides guidance and support to mentees to excel in their respective fields, and increases the likelihood of success by enhancing motivation with positive impact on burnout among residents. Residents reported favourable changes in quality of life, work-related stress and burnout when formal mentoring was implemented in a residency programme.¹⁷ Mentorship impacts the career decision-making of residents in early years of training and, in the presence of an influential mentor, they are likely to enter the same specialty as their mentor.¹⁸ Positive mentoring not only influences residents to choose surgery as a specialty, but also attracts medical students during clerkship to pursue surgery as a career choice.¹⁹

Excellence in research is crucial for the career progression of academic-minded surgeons and success in research is one of the most consistent benefits of mentoring. A study by Steiner et al. investigated the influence of mentors on research in 215 fellows who were recipients of National Research Service award, and found that 73% fellows had influential mentors. In comparison with their unmentored contemporaries, fellows with mentors spent significant time in research, published more papers, received frequent research grants, and provided research mentorship to others.²⁰

Timely promotion to the next academic rank is considered a surrogate for academic success. In a report from University of Toronto, which examined the time to promotion for faculty before and after the implementation of a formal mentorship programme, found that mentorship was independently associated with reduction in time to promotion.²¹

The benefits of mentorship are not limited to mentees, but they extend to mentors as well. Communication with mentees expose them to novel ideas and positive relations with residents. They experience career satisfaction and enjoy the opportunity to pass on technical and non-technical skills to their juniors. Mentees' success is a source of satisfaction for them and they also get institutional recognition in return.⁸

Perspective from Pakistan

Postgraduate training in surgery in our country is mainly based on the apprenticeship model, under indirect supervision of the College of Physician and Surgeons of Pakistan (CPSp), the accrediting body for postgraduate medical education in the country. Each trainee is

supervised by a faculty in a training institute, which needs prior approval by CPSP.

According to the current understanding, each supervisor can supervise up to eight trainees at any given time. The proposed role of supervisor includes the supervision of the process of transfer of clinical knowledge and essential technical skills and timely completion of requirements of exit exam. The supervisor is also supposed to monitor the trainee's progress and ensure optimal training.

There is a lack of formal mentorship in postgraduate residency programmes for professional and personal growth which can impact the long-term career progression of trainees. There is paucity of literature to identify the hurdles in setting formal mentorship programmes in this part of the world. Potential obstacles identified by Azam et al. include the excessive workload with overall smaller number of surgeons in the country to meet the daily demand in hospitals.² Shamim MS. reported cultural differences, gender issues, language, socio-political views and religion as barriers for successful mentoring of postgraduate trainees in South Asia.²² Kibbe et al. investigated the characterisation of mentorship programmes in the United States and found that failure to recognise the work of mentor monetarily or academically by institutions is another hindrance for effective mentoring; as mentors are usually senior surgeons with busy professional commitments.⁹

The available relevant literature from Pakistan has emphasised the need for formal mentorship for postgraduate trainees. A study conducted at the Department of Family Medicine at Aga Khan University, Karachi, identified residents' perspective after one year of the implementation of formal residency programme, and concluded that mentoring played a significant role in personal and professional development of the trainees, and that the efficiency level can improve if the residents are allowed to choose their own mentors.²³

Another study conducted at the King Edward Medical University, Lahore, reported lack of effective mentoring opportunities and the need for adequate training of mentors and mentees for better career progress.²⁴ Despite the scarcity of literature addressing mentorship in surgery in Pakistan, the available literature from other specialties stress the need for effective mentorship programmes in postgraduate medical education. Surgery being the most challenging field with diverse learning needs, stressful environment and extreme time constraints with poor work-life balance, an effective mentor can be the difference between a skilled and academic surgeon and a simply competent one.²⁵

Comparison with global trends

The barriers identified by various studies need to be rectified to implement formal mentorship in postgraduate surgical education in Pakistan. Providing protected time for mentoring, proper faculty training, giving liberty to choose their own mentors to trainees that may suit their comfort level, and rewarding mentors for providing mentorship can bring a positive change in surgical residency programmes. Various accrediting bodies around the world, including ACGME and the Association of American Medical College's (AAMC) Group on Education Affairs, have set policies for educational administration and promotion committees in the evaluation and promotion of academic mentors to promote effective mentoring. Similarly, AAMC and the Institute of Medicine have introduced a mentor development programme nationwide to emphasise discussion-based learning and problem-solving for one-on-one mentoring relations.²⁶

Conclusion

Being the accrediting body, the CPSP may take the lead and standardise mentorship in training institutes to bring uniformity throughout the country. Supervisors can be trained to become effective mentors apart from their role as teachers, and policies can be formulated for training institutions to provide protected time for research, regular mentor-mentee meetings, and educational and academic rewards for mentors at the time of promotions and appraisals. This can help develop a culture of effective mentoring in Pakistan. Investing resources in effective mentorship today can strengthen the future of surgical training tomorrow.

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References

1. Ramani S, Gruppen L, Kachur EK. Twelve tips for developing effective mentors. *Med Teach* 2006;28:404-8. doi: 10.1080/01421590600825326.
2. Azam M, Anwar S, Shamim MS, Waqas M. Mentoring ethics in postgraduate surgical training: A developing country perspective from Pakistan. *Surg Neurol Int* 2013;4:e156. doi: 10.4103/2152-7806.122882.
3. Standing Committee on Postgraduate Medical and Dental Education. In: Oxley J, eds. Supporting doctors and dentists at work: an enquiry into mentoring. London, UK: SCOPME; 1998.
4. McKenna AM, Straus SE. Charting a professional course: a review of mentorship in medicine. *J Am Coll Radiol* 2011;8:109-12. doi: 10.1016/j.jacr.2010.07.005.
5. The Royal College of Surgeons of England Mentoring. A position statement by The Royal College of Surgeons of England. [Online]

- 2004 [Cited 2020 September 14]. Available from URL: <https://www.rcseng.ac.uk/publications/docs/mentoring.html>
6. Möller MG, Karamichalis J, Chokshi N, Kaafarani H, Santry HP. Mentoring the modern surgeon. *Bull Am Coll Surg* 2008;93:19-25.
 7. Assael LA. Every surgeon needs mentors: a Halsteadian/Socratic model in the modern age. *J Oral Maxillofac Surg* 2010;68:1217-8. doi: 10.1016/j.joms.2010.04.005.
 8. Bhatia K, Takayesu JK, Nadel ES. A novel mentorship programme for residents integrating academic development, clinical teaching and graduate medical education assessment. *Perspect Med Educ* 2016;5:56-9. doi: 10.1007/s40037-015-0236-2.
 9. Patel VM, Warren O, Ahmed K, Humphris P, Abbasi S, Ashrafian H, et al. How can we build mentorship in surgeons of the future? *ANZ J Surg* 2011;81:418-24. doi: 10.1111/j.1445-2197.2011.05779.x.
 10. Henry-Noel N, Bishop M, Gwede CK, Petkova E, Szumacher E. Mentorship in Medicine and Other Health Professions. *J Cancer Educ* 2019;34:629-37. doi: 10.1007/s13187-018-1360-6.
 11. Kibbe MR, Pellegrini CA, Townsend CM Jr, Helenowski IB, Patti MG. Characterization of Mentorship Programs in Departments of Surgery in the United States. *JAMA Surg* 2016;151:900-06. doi: 10.1001/jamasurg.2016.1670.
 12. Darves B. Physician mentorship: why it's important, and how to find and sustain relationships. [Online] 2018 [Cited 2020 September 14]. Available from URL: <https://www.nejmcareercenter.org/article/physician-mentorship-why-it-s-important-and-how-to-find-and-sustain-relationships/>
 13. Geraci SA, Thigpen SC. A Review of Mentoring in Academic Medicine. *Am J Med Sci* 2017;353:151-57. doi: 10.1016/j.amjms.2016.12.002.
 14. Zerzan JT, Hess R, Schur E, Phillips RS, Rigotti N. Making the most of mentors: a guide for mentees. *Acad Med* 2009;84:140-4. doi: 10.1097/ACM.0b013e3181906e8f.
 15. Alisic S, Boet S, Sutherland S, Bould MD. A qualitative study exploring mentorship in anesthesiology: perspectives from both sides of the relationship. *Can J Anaesth* 2016;63:851-61. doi: 10.1007/s12630-016-0649-3.
 16. Khan NR, Rialon KL, Buretta KJ, Deslauriers JR, Harwood JL, Jardine DA. Residents as Mentors: The Development of Resident Mentorship Milestones. *J Grad Med Educ* 2017;9:551-54. doi: 10.4300/JGME-D-17-00415.1.
 17. Zhang H, Isaac A, Wright ED, Alrajhi Y, Seikaly H. Formal mentorship in a surgical residency training program: a prospective interventional study. *J Otolaryngol Head Neck Surg* 2017;46:13. doi: 10.1186/s40463-017-0186-2.
 18. Lukish J, Cruess D. Personal satisfaction and mentorship are critical factors for today's resident surgeons to seek surgical training. *Am Surg* 2005;71:971-6.
 19. Berman L, Rosenthal MS, Curry LA, Evans LV, Gusberg RJ. Attracting surgical clerks to surgical careers: role models, mentoring, and engagement in the operating room. *J Am Coll Surg* 2008;207:793-800, 800.e1-2. doi: 10.1016/j.jamcollsurg.2008.08.003.
 20. Steiner JF, Curtis P, Lanphear BP, Vu KO, Main DS. Assessing the role of influential mentors in the research development of primary care fellows. *Acad Med* 2004;79:865-72. doi: 10.1097/00001888-200409000-00012.
 21. Morrison LJ, Lorens E, Bandiera G, Liles WC, Lee L, Hyland R, et al. Impact of a formal mentoring program on academic promotion of Department of Medicine faculty: a comparative study. *Med Teach* 2014;36:608-14. doi: 10.3109/0142159X.2014.899683.
 22. Shamim MS. Mentoring programme for faculty in medical education: South-Asian perspective. *J Pak Med Assoc* 2013;63:619-23.
 23. Andrades M, Bhanji S, Valliani M, Majeed F, Pinjani SK. Effectiveness of a formal mentorship program in family medicine residency: the residents' perspective. *J Biomed Educ* 2013;2013:1-3. Doi: 10.1155/2013/520109
 24. Sheikh AS, Sheikh SA, Huynh MH, Mohamed MA. Mentoring among Pakistani postgraduate resident doctors. *Postgrad Med J* 2017;93:115-20. doi: 10.1136/postgradmedj-2016-134060.
 25. Entezami P, Franzblau LE, Chung KC. Mentorship in surgical training: a systematic review. *Hand (N Y)* 2012;7:30-6. doi: 10.1007/s11552-011-9379-8.
 26. Platz J, Hyman N. Mentorship. *Clin Colon Rectal Surg* 2013;26:218-23. doi: 10.1055/s-0033-1356720.