Launching a new fellowship in microrestorative and endodontics for postgraduates in conservative dentistry and endodontics

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Abstract

Expanding and refining the skill sets of postgraduates specialists is required by the many current and changing demands of dental science education and research. To meet this challenge, the Indian Board of Micro Restorative and Endodontics under the aegis of the Indian Association of Conservative Dentistry and Endodontics has begun a fellowship program in Micro Restorative and Endodontics; the main aim being to improve the knowledge and skills of these specialists empowering them to go a step higher and beyond their areas of specialization. The objectives of the fellowship course are as follows: (1) Achieving necessary skills in managing routine and advanced restorative and endodontic scenarios using modern magnification technology. (2) Constantly enhancing the existing knowledge by pursuing new arenas in magnification technology. (3) Complete understanding and application of cutting edge research in the practice of microrestorative and endodontics. (4) Ensuring the highest possible patient-centric quality of care. Learning experiences shall be provided under the guidance and supervision of competent mentors at predesignated centers all over India. The learning strategies will be through workshops, contact sessions, and learning assignments. The carefully designed curriculum shall prepare the restorative dentists and endodontists, to be an autonomous, effective, safe, and a compassionate professional, who practices collaboratively in a variety of clinical and academic setups, responsive to the current and future needs of the restorative and endodontic health-care system. A passion for microdentistry would be a great way to make a positive difference to your patient care and creative work.

Keywords: Indian Board of Micro Restorative and Endodontics; fellowship; micro-endodontics; micro-restorative; microscope

INTRODUCTION

Over the past 25 years, the idea of educational fellowships has matured into a tool for stimulating reflective practice as a basis for individual teaching improvement and for developing educational leaders prepared to guide larger departmental or institutional change activities.[¹]

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Microscope-enhanced restorative dentistry and endodontics is a science with an established theoretical and scientific base and widespread clinical applications in restoration, rehabilitation, regeneration, maintenance, and promotion of optimal function of the dental hard tissues, dental pulp, and periradicular tissues. Microrestorative endodontists study and practice the basic and clinical sciences including the biology of the human teeth, the etiology, diagnosis, prevention, and treatment of diseases and injuries of the enamel, dentine, pulp, and associated periradicular conditions. They diagnose and manage various restorative and endodontic scenarios using magnification...
tools. These practitioners contribute to society and the profession through practice, teaching, administration, and the discovery and application of new knowledge about magnification techniques.

This fellowship in microrestorative and endodontics qualification carries with it a responsibility to enhance the current practice of restorative dentistry and endodontics by using contemporary magnification technologies. The program is designed for well-motivated candidates who remain zealous in their pursuit of knowledge and clinical skill as they practice and teach the specialty of restorative dentistry and endodontics to the highest standards.

To achieve diplomate status and become a fellow, a restorative dentist and endodontist should exhibit excellent self-motivation and exceptional commitment to continuing professional growth.

OBJECTIVES AND OUTCOMES OF THE FELLOWSHIP COURSE

The aim of the fellowship is to create a platform that nurtures and recognizes talented microrestorative dentist and endodontist who shall lead to provide quality dental care services using advanced magnification technology in restorative dentistry and endodontics. These highly competent, knowledgeable, service-oriented, microrestorative, and endodontic practitioners who by virtue of their critical and integrative thinking along with clinical reasoning and ethical values, shall render evidence-based precision treatments to conserve and maintain the health of the teeth and surrounding supporting structures thus contribute to the long-term success through contextual and collaborative foundations of microscopic practice.

The fellowship program curriculum is designed to delineate the cognitive, affective, and psychomotor skills deemed essential for the completion of this program and to perform as a competent microrestorative dentist and endodontist who will be able to evaluate, plan, and execute various treatments using magnification.

The candidates undergoing the program would need as essential requirements specifically those attributes that the faculty consider necessary for completing the professional education enabling each graduate to subsequently enter clinical practice with more attention being given to their cognitive and affective learning skills as under.

Cognitive learning skills
The participant must demonstrate the ability to receive, interpret, remember, reproduce, and use information in the cognitive, psychomotor, and affective domains of learning to solve problems, evaluate work, and generate new ways of processing or categorizing similar information listed in course objectives.

Psychomotor skills:

The participant must demonstrate the following skills.

Manual tasks
Maneuvering the magnification devices, other supports/accessories or chair to aid in positioning, moving, or treating a patient effectively. Competently perform magnification-enhanced restorative dentistry and endodontics.

Fine motor/hand skills
Legibly record data, evaluations, tests, patient care notes, etc., through written assignments (including diagrams) and/or standard software used in hospital/clinical settings in a timely manner and consistent with the acceptable norms of clinical settings. Safely apply and adjust the dials or controls of the magnification tools. Safely and ergonomically position the patient and the operating dentist to achieve maximum magnification benefits.

Visual acuity
Read, written, and illustrated material in the English language, in the form of online educational material, textbooks, literature, and patient’s chart. Visualize training videos, projected slides/overheads, X-ray pictures, and notes displayed on a blackboard/whiteboard/computer screens. Receive visual information from patients, for purposes of evaluation as well as from the treatment environment. Receive visual cues as to the patient’s tolerance of the magnification-assisted intervention.

Auditory acuity
Listen, grasp, and understand lectures and discussion in an academic and online educational setting.

Communication
Participants must be able to communicate quickly, effectively, and efficiently in oral and written English with all members of the dental care team. Effectively communicate information and safety concerns in a timely manner and within the acceptable norms of academic and clinical settings. They should be able to receive and interpret written communication in both academic and clinical settings in a timely manner.

Affective learning skills
The fellows must be able to demonstrate respect to all people, including co-participants, teachers, patients, and medical personnel, without showing bias or preference on the grounds of age, race, caste, sexual preference, disease,
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mental status, lifestyle, opinions, or personal values. Acknowledge and respect individual values and opinions in order to foster harmonious working relationships with colleagues, peers, and patients.

They should demonstrate appropriate affective behavior and mental attitude in order not to jeopardize the emotional, physical, mental, and behavioral safety of patients and other individuals with whom one interacts in the academic and clinical settings and to be in compliance with the ethical standards of the profession.

**DISCUSSION**

The question that most often arises is why does one need to take an educational fellowship program and what are its advantages. Modern dentistry and education is a professional enterprise. After achieving the postgraduate degree and spending a few years in practice, one reaches a plateau. With ever-advancing research and techniques, it is important to keep abreast with the latest in the field. The specialty of Conservative Dentistry and Endodontics is growing by leaps and bounds be it esthetics, CADCAM restorations, laser dentistry, advanced pulp protection techniques, or regeneration treatments. We all need to keep abreast with these developments and also master them so as to get a cutting edge. This enhancement helps in the competition one faces professionally whether in academics or in clinical practice or both. Moreover, it is here that the fellowship program plays an important role in helping you go on to becoming super specialists. This, in turn, results in fellows charged with teaching learners at all levels and overseeing our educational programs to achieve the same high level of competence as that expected of clinical and research faculty members.

LeGrand et al.\(^1\) while developing a fellowship program in palliative medicine highlighted that the idea is ultimately to encourage further discussion and obtaining specialty recognition. In order for this to proceed in an organized fashion, educational standards need to be developed. The need to define what our knowledge base is and what we require of a specialty-trained individual.

Educational fellowships can teach the expertise necessary to train specialists to meet contemporary practice and research needs and can provide institutions a core of faculty members with the leadership skills to facilitate educational change and improvement in the academic dental environment of the 21st century. The results of a study conducted by Searle et al.\(^2\) indicate that participation in fellowship programs had a positive impact on the participants’ expertise grasp and knowhows in education.

A paper by Roger\(^3\) highlights both the positive verdures and deficiencies of the 1st year of the Academic Dental Careers Fellowship Program, wherein all of the assessment data and feedback from the fellows and mentors were productive and effective and indicated an overwhelming positive experience. Fellows reported positive knowhows and an increased acquaintance in the insights and perceptions of academic careers.

Another survey done by Mattar et al.\(^4\) on general surgery residents in North America clearly assessed the level of preparedness of incoming fellows to the various fellowship programs. Their results on the other hand showed that the majority of new fellows were unable to conceive, design, and conduct research/academic projects. Thematic clustering of qualitative data revealed deficits in domains of operative autonomy, progressive responsibility, longitudinal follow-up, and scholarly focus after general surgery education. This itself elicits the requirement for a need-based program.

In 2010, Gupta et al.\(^5\) adopted a quality and safety educational module in their neonatal fellowship program which proved to be an out-and-out success. It improved the quality and safety of patients by combining didactic and experiential activities. Their module was further successfully integrated into the fellowship program’s curriculum and has been beneficial to trainees, faculty, and the clinical services.

An article by Martinez et al.\(^6\) describes findings from an evaluation of the National Science Foundation’s International Research Fellowship Program, which supports postdoctoral research fellowships of 9–24 months in locations outside the USA. They found that fellows were more likely to have more positive research collaborations with researchers abroad, without undermining the overall research productivity or career advancement, and such collaborations extended much beyond their fellowship period which resulting in global partnerships. One of the aims of the Indian Board of Micro Restorative and Endodontics (IBMRE) fellowship is to partner with International Micro Dentistry Associations globally and work an alliance to work together.

In their treatise on lessons learnt from creating a fellowship program, Kaufman and Scott\(^7\) described the “gift” of the fellowship program is integrating substantive health practices with best teaching practices, experiential learning skills, relationship building, and personal development. They found that it had a profound impact on the fellows and changed their visions and toolboxes as teachers and spilled over beyond the boundaries of a 1-year program.

An equally important aspect is interprofession education and collaboration in dentistry\(^8\) as mentioned by Vasthare et al. and putting it into clinical practices so that we are able to improve the patient’s oral health in ways that will
directly have a significant positive effect on the patient’s overall health. Studies have shown that professionals who have been a part of interprofessional collaborations came out to be more amiable, cordial, having a greater control over their communication skills, and also have intense capabilities of scrutiny and reason to critically evaluate the facts that they happily embrace into their practice. These human beings exhibit a greater respect for their fellow health-care providers and often end up being pioneers in their specializations. It also incorporates a feeling of teamwork and liability where each and every one of them acknowledges that all of them are responsible for the outcome, irrespective of whether it is positive or negative. Not only does it instills more confidence in the health-care provider but also changes their attitude.

Students at all stages of their health careers or otherwise rely on the Internet to decide where and what type of education course they wish to pursue. In fact, studies with prospective emergency medicine residents have shown that the quality of information online can even impact an applicant decision to apply. By displaying the course content on the website, we aim to highlight the content and accessibility of information on the fellowship program and discuss the leverage asset and edge one stands to gain.

Paek et al. in a literature review analyzed common practices used to assess nonclinical fellowship programs. After a search of the Internet and selected databases, they screened titles and abstracts using predetermined selection criteria, followed by an indepth review of selected papers to extract information about program and evaluation characteristics from 33 papers. Their search resulted in discovering a limited number of published papers on the evaluation of nonclinical fellowship programs and most focused on outcomes associated with fellows or alumni.

Yes looking at the program futuristically, it is important to understand and articulate the results of such programs and to identify areas of improvement to meet current workforce needs. Such gray areas need to be addressed as the fellowship progresses forward in the next 5 years.

CONCLUSION

A fellowship program offers career development opportunities, provides experiential training on a global level, and can be used to recruit personnel to address specific challenges facing the public health workforce. If our nation is to build a “civilisation of health,” we must prepare our health specialists to fathom and strive alongside each other and their communities, as part of the larger greater solution to complex issues. We hope this IBMRE Fellowship Program paves the way toward achieving this goal.

Sustainability and spread of innovations requires telling the stories of the experiences and results in a compelling way. We encourage the fellows and their schools and universities to partner with their community collaborators to continue to create a record of what happens in their projects and thereafter and to use numerous media for communicating these results.

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