

Education in Periodontology: Current Scenario and Way Ahead

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Periodontology is the branch of dentistry that focusses on the diagnosis, prevention, and treatment of diseases of the periodontal tissues, which include the gums, cementum, bone, and ligaments that support and surround the teeth.¹⁻⁴ It is a unique branch of dentistry that enables both saving teeth and replacing them in an effective way with implants.¹ It has long been considered as the gateway subject to clinical practice, bridging the gap between basic sciences and preclinical studies in anatomy, biochemistry, microbiology, immunology, etc.⁵ Although the speciality of periodontology dates back to prehistoric times, John Riggs is considered the first specialist in this subject.¹ In Nepal, Dr. Shaili Pradhan is the pioneer periodontist and she along with fellow colleagues was among the first to start undergraduate (UG) as well as postgraduate (PG) dental education in Nepal.

Choosing to do UG study in dentistry is affected by various factors such as: i) one's strength and weaknesses, ii) interest, desire, and willingness, iii) financial ability to complete the lengthy training period, iv) work environment, v) financial rewards, vi) employment opportunities, and vii) influence of family and friends.¹ Furthermore, opting to do postgraduation in periodontology is also diverse and manifold. Depending upon one's interest, choice, and circumstances, one can be an academician (dental educationist), oral plastic surgeon, oral implantologist, general dental practitioner, laser expert, oral-systemic health association specialist (periodontal medicine), oral microbiologist, oral geneticist, oral immunologist, smile designer, aesthetician, researcher, community (public health) dentist, preventive dentist, and so on in both private as well as various government sectors. As the pink (gingiva) expert, periodontist also plays vital role in so called pink-white balance of dental aesthetics. All these require wealth of knowledge and clinical expertise that has to be gained within the 5.5 years of UG and three years of intensive PG program.

As the field of periodontology is rapidly advancing and new technologies and treatment methods are becoming available, the importance of curricular and continuing education for dental professionals, have become increasingly critical.¹⁻⁴ Sad reality however, is that the importance of healthy periodontium resulting after optimum periodontal treatment is often underestimated by patients, dental students, and health professionals other than the periodontists. This shows somewhere during the course of dental and health education programs, education in periodontology is lagging and overlooked.

In the current scenario, education in periodontology is often divided into two levels: basic and advanced. Basic level education typically includes a comprehensive overview of periodontal diseases, their aetiology, diagnosis, and treatment protocols. Advanced level education focusses on more specialised topics, such as implantology, laser periodontal therapy, and regenerative procedures. In some cases, periodontology education may also include an emphasis on preventive strategies, such as oral hygiene instruction and dietary counselling. A dental professional (UG or PG) should be able to acquire such skill set, that they are able to manipulate both hard and soft oral tissues with equal competency and elegance.⁵

In recent times, in the curriculum of UG dental education in Nepal, we educationists seem unable to achieve or provide the necessary knowledge and skill required in a dental surgeon. The graduating students simply do not appear competent enough. Hence, the teachers and instructors are not confident enough to employ their own students. There is also a need for greater understanding of teamwork and soft skills like communication.^{5,6} Postgraduate education in periodontology however is a different story. The PG residents are quite diligent and often surpass their guide's expectations. Another important reason for this could be the individual attention and one-on-one instruction and supervision PG residents receive from their guide, co-guides, and seniors in the department.

Postgraduation in periodontology seems to fulfil both passion and income.¹ A periodontist has to keep abreast with advances in allied fields such as microbiology, immunology, biotechnology, genetics and epigenetics, nanotechnology, natural and herbal medicine, three-dimensional printing, dental imaging, and forensics. In addition, the role of education in periodontology is also

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expanding to encompass the growing interdisciplinary nature of dental care as it is closely linked to other dental disciplines, such as endodontics, maxillofacial prosthetics, and orthodontics. If interested, periodontology also provides students with opportunities to counsel and consult with medical colleagues due to periodontal association with systemic health and disease. A healthy blend of the subject proper with contemporary other sciences in PG level can make education in periodontology whole and perfect.¹

Efforts are being made to improve and standardise PG education in periodontology worldwide.³ Developed countries in Asia, Europe, and Americas have implemented various models for teaching, instruction, and assessment. Some follow the education and assessment blueprints developed by themselves or those advocated by American Academy of Periodontology, British Society of Periodontology, and those developed in 2010 and 2013 European consensus meetings.^{3,4,7-9} Plasschaert et al. (2005) have described profile of a dentist based on seven domains of competence: i) professionalism; ii) communication and interpersonal skills; iii) knowledge, information handling, critical thinking; iv) clinical information gathering; v) diagnosis and treatment planning; vi) establishment and maintenance of oral health; and vii) health promotion. Subsequently, these domains have been implemented in several dental curricula in Europe.⁷

The development of a blueprint from the education programme and concomitant assessment methods in periodontology by participating teaching staff gives a validation and appreciation of the curriculum and will improve the quality of education and assessment. It is advised that for quality control of the curriculum, dental schools could do exercises for all their specialities to check existence of standard systems.⁷ Supplement of a problem-based learning model earlier in curriculum of PG education in periodontology is also needed.⁴ Incorporation of interactive online teaching is also advised.^{4,10} In Nepali context whether PG “program-time” has been allocated into various domains of didactics, clinical practice, research,

and teaching activities or not should be evaluated and monitored. Similar to developed nations, in Nepal, we as educationists need to do more frequent and timely curriculum workshops incorporating ALL teaching faculties as well as a few representative members from recent graduates and postgraduates to develop an educational blueprint for the uniform and improved teaching-learning and assessment systems for various knowledge and competency-based skill-sets.

In brief, it can be surmised that education in periodontology in Nepal is improving. Both at UG and PG levels, we need to conduct more timely workshops to revisit and reassess the educational system to be in par with international guidelines and standards. The Nepalese Society of Periodontology and Oral Implantology (NSPOI) is the professional organisation of more than 70 periodontists. It can take a lead role and set guidelines and parameters to structure education in periodontology for more skilled and knowledgeable general dentists and specialist periodontists. We also need to incorporate aspects of digital technology, more lab-based research and e-learning activities, collaboration with foreign universities, and soft skills like communication within the curriculum.^{2,6} For the quality control of education and assessment, the educational blueprints need to be validated by participating teaching staff by concomitant assessment methods.⁷ The importance of periodontal treatment has to be suitably emphasised at the UG level, otherwise disservice to patients, community, and profession will continue.⁵

The way forward in education in periodontology looks extremely bright and promising. It is both gratifying and rewarding but definitely not without intrinsic challenges. It requires more attention and effort from concerned authorities, forming of a blueprint to develop optimum required skill and competence, and better assessment models in both UG as well as PG levels. Another way to compensate for the inadequate education and skills can be frequent continuing professional development programs and hands-on workshops to keep abreast with everchanging technologies and updating of new knowledge.

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