VIEWPOINT

Understanding Periodontics Career and the Interrelationship of Periodontics with Other Dental Specialties

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Abstract

A wide range of therapeutic techniques, from conventional to cutting-edge, and intricate treatment planning define the dynamic field of periodontics. Periodontics is a distinct area of dentistry that enables successful implant-based tooth replacement in addition to tooth preservation. Although the field of periodontics has a bright and exciting future, significant work and challenges are anticipated to be encountered. A strong career plan is essential since it may serve as a guide for the future. Like every other profession, periodontics has its share of complicated driving forces. The goal of this article is to offer an overview of the periodontics specialty and its link to other branches of dentistry.

Keywords: Career, Endodontics, Interrelationship, Obstacles, Oral surgery, Orthodontics, Pediatric dentistry, Periodontics, Prosthodontics, Specialty.

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Introduction

Periodontists are dentists who specialize in the diagnosis, management, and placement of dental implants as well as periodontal disorders and teeth.[1]

Comprehensive clinical examinations are also performed by periodontists, who measure the depths of periodontal pockets and look for gingival bleeding. To identify the exact kind of bacteria causing the problem, they could also carry out tests. In circumstances when periodontitis is more severe, periodontal surgery may be required. In addition, certain periodontists can install dental implants to replace lost teeth.

Scaling, or the meticulous removal of dental and calculus, and thorough root planing scraping diseased cementum from root surfaces are still essential facets of periodontal therapy. Patients start the maintenance phase of therapy once their periodontal disease has been managed and return every few months for scaling and root planing. Antibiotics are frequently recommended by periodontists to get rid of pathogens in periodontal pockets.[2,3]

Background data suggested that up to 20–25% of periodontitis patients continued to show disease progression while receiving the recommended treatment and maintenance care. Furthermore, historical data shows that, despite a significant accumulation of bacteria on teeth, periodontitis severity and development tend to follow one of two or three distinct courses, with the vast majority of cases being mild to moderate.[4]

These unexpected findings on the course of periodontitis, which were unrelated to levels of dental hygiene, also revealed that 8–10% of people in the general population had severe generalized periodontitis.[5]

Additionally, all periodontists are aware that mild to moderate periodontitis can develop in people with inappropriate plaque control and inadequate dental treatment.

Although there are many obstacles and challenges ahead, the future of the profession and the area of periodontology seems promising and gratifying.

Different Approaches to Treatment in Periodontics

Controlling the microbial challenge and host attributes that cause microbial dysbiosis and breakdown of tissues remain the fundamental tenets of periodontal treatment to arrest the onset and development of periodontitis. Periodontology has seen a significant transformation in recent years. A high degree of proficiency has grown in the regeneration of the bone and connective tissues that support the teeth in order to maintain teeth in a functioning and comfortable state. In addition to maxillofacial surgeons, periodontists are now one of the main specialties worldwide practicing implant surgery.[6]

Although the need for periodontists is projected to stay relatively stable, the operations they conduct may vary over time. People who have more teeth and live longer have a higher risk of periodontal disease. The influence of periodontal infections on systemic health, both directly and indirectly, is being supported by a growing corpus of research. People may be more motivated to seek regular periodontal treatment if they are aware of the likely connections between chronic periodontal infection and certain systemic diseases, which have been revealed by epidemiological, clinical, and experimental studies. Bacteremia or inflammation caused by periodontal disease is frequently overlooked in relation to systemic disease.[7]

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Periodontology is already being integrated with other dental specialties, mostly in concentrated applications by individual periodontists with specialized expertise. An illustration of this is the tight collaboration between periodontists and orthodontists to improve the pace and stability of adult teeth moving. To help the orthodontist regulate the patient's tooth movement, periodontists assist in treatment planning in such challenging instances by leveraging their knowledge of tools like cone beam computed tomography and surgical techniques such as alveolar corticotomy and augmentation. The tremendous innovations of periodontists, which resulted in predictable periodontal treatment outcomes for the majority of patients, created a dramatically different marketplace in which many patients with periodontitis can and have been treated to a good end-point in many cases by general dentists and dental hygienists. Of course, one might argue that the significant breakthrough for treating patients with moderate-to-severe periodontitis was osseointegrated dental implants. Implant innovation has substituted the competent use of periodontitis therapy approaches targeting at tooth preservation for many periodontists.[6]

In order to create new bone, periodontists can surgically place bone-regenerating materials into regions of bone loss. The term "guided tissue regeneration" refers to this procedure. Tooth loss may happen if periodontal disease is not treated or treated unsuccessfully. Dental implants are artificial teeth that are surgically placed into the jawbone by periodontists and other dentists. Dental implants are constructed of materials that are compatible with human tissue. Periodontists can also conduct aesthetic operations, such as adjusting the contours of the gums to provide patients with "gummy" smiles the appearance of longer teeth. Owners of their own businesses are responsible for hiring, training, and managing workers, including administrative assistants and dental hygienists.[8]

History of the Career of Periodontics

Periodontal disease and its treatment have long been understood, even if the specialty of periodontology just became institutionalized in the early 20th century. The accumulation of calculus, or tartar, was long believed to be the cause of periodontal disease. Periodontal diseases and treatments were known to many ancient cultures.

W Riggs could possibly be regarded as the first periodontics specialist because it appears that he was the first to specialize in this field. The rapid development in the field of periodontology is due to all those pioneers who were the illustrious gurus who paved the way for later generations to reach the profession's present prestigious status.[9,10]

Black GV highlighted the relevance of periodontal treatment in 1886 when he emphasized the importance of removing ''deposits'' from the teeth to cure inflammation in the ''peridental membrane''. Irving Glickman stressed the need to eliminate all probable causes of periodontal disease in all patients in 1964.[11,12]

Opportunities in Periodontics

Career options in periodontics are numerous and diverse, allowing a periodontist to live a professionally fulfilling and secure lifestyle. These options may include working in clinical practice in periodontics, which includes a variety of practice settings such as general private practice or specialty practice in dental clinics, polyclinics, and multispecialty hospital settings.

Second, a periodontist is qualified for numerous government professions, allowing for a soothing and secure work environment. Additionally, an academic profession includes teaching undergraduate and postgraduate students at government and private dental institutions. People will rise through numerous stages in their academic careers, from assistant professor to full-time chair, and this may be a satisfying and fulfilling sensation.

Moreover, the principles of the past are always being revised, and new concepts are being planned, in periodontal research. As a component of the postgraduate program, periodontics research is given its initial thrust. Numerous local, national, and worldwide organizations offer support in this area as well as funding to advance a career in research. Governmental organizations, academic institutions, and private company research institutes all provide careers and training in this field.[13]

Periodontics and Referral to General Medicine

Many medical conditions, such as chronic renal disease, peripheral vascular disease, endocrine disorders, and cardiovascular disease, result in problems that affect the body as well as the teeth-supporting structures.[14]

The cardiovascular and cerebrovascular systems are not the only organ systems affected by periodontal health and the production of inflammatory mediators. Chronic obstructive pulmonary disease and respiratory infections like pneumonia are influenced by periodontal diseases in both their onset and development. Preterm delivery and low birth weight babies have also been linked to periodontal disease. Individuals diagnosed with periodontitis are more likely to experience dysmetabolic states, which are marked by reduced levels of high-density lipoprotein in the blood and moderate insulin resistance.[15,16]

Physicians should thus be fully aware of this reality, be able to recognize these risk factors and make appropriate referrals. These facts must be emphasized in continuing medical education programs for physician and surgical trainees, as well as incorporated into the curriculum for medical and dentistry students.[17]

Interrelationship of Periodontics with Other Dental Specialties

Evidence-based periodontics demonstrated that the majority of patients with multiple dental or medical treatment needs require a multidisciplinary strategy rather than a tailored periodontal approach.[18,19]

For better diagnosis and treatment planning, cooperation, coordination and interaction between different specialties in dentistry are of utmost importance. Interaction between the different disciplines is necessary and, in some cases, it is crucial in facilitating coordinated dental therapy. In many instances, periodontal health determines the success of treatment in other specialties. Within modern dentistry, periodontics shares an intimate and inseparable relationship with endodontics, orthodontics, and prosthetic dentistry as well as other specialties in multiple aspects for better improvement in the outcome and maintenance.[20]

The Interdisciplinary Relationship between Periodontics and Oral Surgery

Periodontics and oral and maxillofacial surgery are two surgically focused areas of dentistry. The goal of this interdisciplinary approach between these two surgical branches is to highlight some areas of dentistry where patient management could be performed by either

specialty and to present some examples of how periodontists and oral and maxillofacial surgeons can work closely together to achieve the best possible outcome for the patient. Periodontists and oral and maxillofacial surgeons can both effectively manage operations such as surgical exposure of an impacted canine for orthodontics and removal of mandibular tori.[21]

The Interdisciplinary Relationship between Periodontics and Pediatric Dentistry

It is evidence-based that child oral health reflects overall health and also forecasts the condition of the oral cavity in youth. So, it has become very crucial to realize the condition of oral tissue and mainly the periodontium in health and disease to facilitate long-lasting oral health in youth. With the emerging branch of periodontal medicine and established evidence of a link between general health and oral health, it has become more important for pediatricians to use oral health screening tools, particularly those who do not wish to obtain oral health care facilities. Pediatric Dentistry and Periodontology should work cohesively to come up with proof, capability, and endorsements to ensure that all health professionals will be able to recognize the oral health problems of children.[22]

The Interdisciplinary Relationship between Periodontics and Prosthodontics

Among the many specialties within modern dentistry, periodontics and prosthodontics have some of the strongest and closest ties. Prosthetic flaws can contribute to the advancement of periodontal disease, yet a healthy periodontium is essential for the long-term efficacy of restorations. Periodontal health and dental restorations have a close and indivisible connection.[23]

The periodontium must continue to be healthy for the restoration to last a long time and preserve the teeth. Gingival inflammation and crater development between the preparation and restoration are brought on by inadequate marginal fit of the repair, luting material breakdown, and disintegration.

Current trends prefer equigingival margin over earlier models of subgingival margin for crowns, which are more friendly to the periodontium. Furthermore, advancements in developing materials like transparent restorative materials, adhesive dentistry, and resin types of cement encourage polished margins that aesthetically blend with the tooth for a healthy tooth-restorative interface even when positioned equigingivally.[24]

Interrelationship between Endodontics and Periodontics

The interaction between the pulp and periodontal tissues is distinct, and it may be thought of as a single, continuous system or as a single biological entity with several channels of communication. The intricate link between endodontics and the periodontal complex becomes compromised by endo-perio lesions (EPL).[25]

Any endodontic infection at the root apex has the potential to progress through the periodontal ligament, reach the marginal gingiva, and deepen the pocket, which exacerbates periodontal disease.[26] In contrast, with the progressive loss of the periodontal attachment apparatus, microbes, and harmful irritants may enter the pulpal complex through dentinal tubules.[26]

The prognosis and therapy of EPL depend on a correct diagnosis. The degree of the periodontal lesion and pulp vitality should be the most important factors taken into account while treating.

Endo-perio lesions pose a risk to dentists because successful treatment necessitates a multidisciplinary strategy.[27]

Obstacles in the Career of Periodontics

The difficulty of finding work for everyone is increasing with the number of postgraduate periodontists that graduate each year. Another major obstacle that prevents a periodontist from opening their clinic or from buying the equipment they need is a lack of funds.[24–28]

According to estimates from the American Association of Periodontology, today's graduates will owe around $500,000 in student loan debt by the time they finish their residencies. Even with their enthusiasm for research and teaching, students find it especially challenging to pursue an academic career because of this massive debt. The AAP Foundation contributes up to $500,000 a year to fund periodontal education and lower the cost of student debt to assist students in overcoming this obstacle.[29]

The AAP Foundation is guaranteeing that future periodontists are taught by periodontists by drawing and keeping the smartest and brightest students who are dedicated to a career in academia. The group is working to ensure that dentists of the future know when to send patients and that there will always be a sufficient supply of periodontists. It is also ensuring that periodontology stays at the forefront of dental research. The advancements made today by AAP Foundation researchers will affect periodontology practice tomorrow. These researchers are always learning new things, and this information illuminates even more unexplored territory.[9]

Since they only receive manual scaling as clinical experience during their undergraduate years, it is despairing that the majority of undergraduate students think periodontics is monotonous and boring. They seldom get the chance to see or participate in difficult periodontal surgical operations, and they frequently lack knowledge of multidisciplinary periodontics. As a result, there isn't much reason to choose periodontics as a postgraduate specialty, to begin with.[30]

Chang PK et al. performed a study to learn how periodontists identify their specialty and how non-periodontists, general dentists, and hygienists figure out it. The universal consensus is that the most significant element of periodontists is surgically treating advanced gum and bone diseases.[31] To highlight the significance and the many facets of this specialty and to dispel the notion that periodontics is limited to scaling and root planing procedures, orientation and raising awareness about the specialty are essential, especially at the undergraduate level and during internship programs.

Conclusion

Periodontics is a dynamic profession with complicated treatment planning and a wide range of treatment modalities ranging from classic to novel treatments. It is a wide specialty that provides opportunities in academics and clinical practice that are evidence-based and driven by strong scientific understanding, paving the way for expanded research frontiers. Today, a wide range of surgical methods and technologies are employed in the field of periodontics to restore harmed tissues and handle sophisticated interdisciplinary treatments that may compromise the tissues that support teeth and implants. Periodontal researchers have also proven that moderate-to-severe periodontitis increases systemic inflammatory burden and transient bacteremia.

In periodontics, an interdisciplinary approach incorporates a systematic collaboration between periodontists and other dental specialists. Periodontics cannot be practiced in isolation anymore since there are several treatment approaches for every case that will give both clinical predictability and patient satisfaction in obtaining a better degree of success.

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