Editorial



The importance of saving teeth in endodontics and periodontology and its impact on social health

Oral health constitutes a fundamental aspect of overall health and well-being: it is widely recognized by both dental professionals and patients who value efforts to preserve natural dentition. Nevertheless, it is frequently underprioritized within public health initiatives. Among the various branches of dentistry, endodontics and periodontology hold vital roles in maintaining natural teeth affected by disease or trauma. The preservation of teeth through suitable endodontic and periodontal procedures transcends clinical aims; it bears substantial implications for individual quality of life as well as for broader public health programs implemented by governmental agencies. Tooth conservation promotes functional, psychological, and economic benefits that align closely with public health objectives, thereby serving as a cornerstone of sustainable and equitable healthcare systems. In the fields of endodontics and periodontology, research remains highly active, supported by industry, universities, and professional associations, which provide grants and documentation aimed at enhancing educational quality, research, and clinical practice through the promotion of clinical guidelines and position statements (1-6).

Endodontics is dedicated to the diagnosis and management of diseases impacting the dental pulp and periapical tissues. Conditions such as irreversible pulpitis, pulp necrosis, and apical periodontitis, if not addressed promptly, frequently result in tooth extraction and may also contribute to severe systemic health issues. Similarly, periodontal diseases often present with comparable symptoms and radiographic signs, which can be mistaken for lesions of endodontic origin. Contemporary endodontic treatments, including root canal therapy and retreatment, facilitate the eradication of infection while preserving the natural tooth structure. Recent advancements in materials, imaging technology, instruments, and techniques have been introduced to enhance the success rates of endodontic procedures, thereby strengthening their importance in long-term tooth preservation (7-15)

Periodontology, on the other hand, addresses diseases of the supporting structures of the teeth, including gingiva, periodontal ligament, and alveolar bone. Periodontal diseases, particularly chronic periodontitis, are among the leading causes of tooth loss worldwide. Through preventive strategies, nonsurgical therapy, and surgical interventions, periodontology aims to halt disease progression, regenerate lost tissues, and maintain teeth in a functional and healthy state (16-21). The collaborative approach between endodontics and periodontology is especially important in managing complex cases, such as endo-perio lesions, where coordinated care can prevent unnecessary extractions.

Biological importance and social impact of saving natural teeth

preserving natural dentition is biologically preferable to alternative tooth replacement methods. Natural teeth retain proprioception via the periodontal ligament, thereby supporting effective mastication and safeguarding against excessive occlusal forces. The loss of teeth disturbs occlusal harmony, frequently resulting in drifting, supraeruption, temporomandibular joint disorders, and diminished masticatory efficiency. Such functional impairments may adversely impact nutritional intake, especially within vulnerable groups such as children and the elderly.

From a biological standpoint, tooth extraction results in alveolar bone resorption, which can complicate future prosthetic rehabilitation. Although dental implants are a viable replacement option, they are not free from complications and are often inaccessible in public healthcare settings due to cost constraints. Therefore, saving teeth through endodontic and periodontal care remains the most conservative and cost-effective approach for maintaining oral health.

The loss of teeth entails significant psychological and social repercussions. Teeth are essential for speech, facial aesthetics, and self-esteem. Individuals with missing teeth frequently encounter embarrassment, social withdrawal, and diminished confidence, which may adversely affect employment prospects and interpersonal relations. Such consequences are especially evident in societies where appearance and communication are integral to social and economic advancement.

By preserving natural teeth, endodontics and periodontology facilitate the maintenance of a positive self-image and social functionality among individuals. Such preservation contributes to enhanced mental health and social engagement, outcomes increasingly acknowledged as vital aspects of public health. Consequently, governments seeking to improve population well-being should incorporate oral health interventions aimed at preventing tooth loss within comprehensive social health strategies.

10.59987/ads/2026.1.1-3

Implications for Individuals and Government Social Health Programmes

Tooth loss and its management impose significant economic burdens on individuals and healthcare systems. Prosthetic replacements, such as dentures, bridges, and implants, require ongoing maintenance and periodic replacement. For many patients, especially those from low-income backgrounds, these costs are prohibitive, leading to untreated edentulism and its associated complications.

From a government perspective, investing in preventive and tooth-saving treatments can reduce long-term healthcare expenditures. Endodontic and periodontal therapies, when provided early, are generally more cost-effective than managing the consequences of tooth loss. Furthermore, poor oral health has been linked to systemic conditions such as diabetes, cardiovascular disease, and adverse pregnancy outcomes. By preserving teeth and controlling oral infections, governments can potentially reduce the burden of systemic diseases, thereby lowering overall healthcare costs.

Government-implemented social health programmes aim to promote equity, accessibility, and preventive care. Incorporating endodontic and periodontal services into public oral health initiatives supports these objectives. Tooth-preservation interventions align with primary healthcare principles by emphasizing early diagnosis, minimally invasive treatment, and the maintenance of long-term oral health.

In numerous nations, publicly funded dental services are restricted and frequently concentrate on extractions as a rapid and cost-effective solution. Although this method may alleviate acute pain, it sustains cycles of tooth loss, disability, and inequity. Broadening access to endodontic and periodontal care through governmental programs can redirect the emphasis from symptomatic relief to enduring oral health results. This strategy is especially crucial for underserved populations who are disproportionately impacted by dental diseases.

Furthermore, school-based dental programs and community oral health initiatives should integrate periodontal education and early intervention strategies, promoting lifelong oral health consciousness. These programs mitigate the occurrence of advanced dental diseases and the necessity for complex treatments in later years, thus endorsing the long-term objectives of public health systems.

Oral health disparities continue to pose a significant global challenge. Socioeconomic status, educational attainment, and geographic location substantially influence access to dental care. The prevalence of tooth loss is higher among marginalized populations, highlighting systemic inequalities within healthcare provision. Government-funded endodontic and periodontal services can mitigate these disparities by ensuring equitable access to tooth-preserving treatments.

By prioritizing the preservation of natural teeth, social health programmes can empower individuals to maintain oral function and dignity, regardless of income level. This approach aligns with the broader goals of universal health coverage and social justice, reinforcing the role of oral health as a fundamental human right.

Conclusions

Preserving teeth through endodontics and periodontology is of utmost significance, not solely for individual oral health but also for the success of government social health initiatives. Tooth conservation enhances functional efficiency, psychological well-being, and economic sustainability, while concurrently decreasing long-term healthcare expenditures and health disparities. As governments progressively acknowledge the interconnectedness of oral health and overall health, integrating comprehensive endodontic and periodontal care into public health strategies becomes indispensable. By transitioning the focus from extraction-centered procedures to preventive and preservation-oriented interventions, social health programmes can foster healthier, more productive, and more equitable societies.

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References

1. Sanz M, Herrera D, Kebschull M, Chapple I, Jepsen S, Beglundh T, Sculean A, Tonetti MS; EFP Workshop Participants and Methodological Consultants. Treatment of stage I-III periodontitis-The EFP S3 level clinical practice guideline. J Clin Periodontol. 2020 Jul;47 Suppl 22(Suppl 22):4-60. doi: 10.1111/jcpe.13290. Erratum in: J Clin Periodontol. 2021 Jan;48(1):163. doi: 10.1111/jcpe.13403. PMID: 32383274; PMCID: PMC7891343.
2. Duncan HF, Kirkevang LL, Peters OA, El-Karim I, Krastl G, Del Fabbro M, Chong BS, Galler KM, Segura-Egea JJ, Kebschull M; ESE Workshop Participants and Methodological Consultant. Treatment of pulpal and apical disease: The European Society of Endodontology (ESE) S3-level clinical practice guideline. Int Endod J. 2023 Oct;56 Suppl 3:238-295. doi: 10.1111/iej.13974. Epub 2023 Sep 29. PMID: 37772327.
3. Plotino G, Abella Sans F, Duggal MS, Grande NM, Krastl G, Nagendrababu V, Gambarini G. European Society of Endodontology position statement: Surgical extrusion, intentional replantation and tooth autotransplantation: European Society of Endodontology developed by. Int Endod J. 2021 May;54(5):655-659. doi: 10.1111/iej.13456. Epub 2021 Jan 26. PMID: 33501680.
4. Mannocci F, Bhuva B, Roig M, Zarow M, Bitter K. European Society of Endodontology position statement: The restoration of root filled teeth. Int Endod J. 2021 Nov;54(11):1974-1981. doi: 10.1111/iej.13607. Epub 2021 Sep 3. PMID: 34378217
5. Sanz M, Ceriello A, Buysschaert M, Chapple I, Demmer RT, Graziani F, Herrera D, Jepsen S, Lione L, Madianos P, Mathur M, Montanya E, Shapira L, Tonetti M, Vegh D. Scientific evidence on the links between periodontal diseases and diabetes: Consensus report and guidelines of the joint workshop on periodontal diseases and diabetes by the International diabetes Federation and the European Federation of Periodontology. Diabetes Res Clin Pract. 2018 Mar;137:231-241. doi: 10.1016/j.diabres.2017.12.001. Epub 2017 Dec 5. PMID: 29208508.
6 Pagliaro U, Nieri M, Rotundo R, Cairo F, Carnevale G, Esposito M, Cortellini P, Pini-Prato G; Italian Society of Periodontology. Clinical guidelines of the Italian Society of Periodontology for the reconstructive surgical treatment of angular bony defects in periodontal patients. J Periodontol. 2008 Dec;79(12):2219-32. doi: 10.1902/jop.2008.080266.

10.59987/ads/2026.1. 1-3

PMID: 19053910.
7. Gambarini G. Shaping and cleaning the root canal system: a scanning electron microscopic evaluation of a new instrumentation and irrigation technique. J Endod. 1999 Dec;25(12):800-3. doi: 10.1016/S0099-2399(99)80300-8. PMID: 10726524.
8. Plotino G, Grande NM, Testarelli L, Gambarini G, Castagnola R, Rossetti A, Özyürek T, Cordaro M, Fortunato L. Cyclic Fatigue of Reciproc and Reciproc Blue Nickel-titanium Reciprocating Files at Different Environmental Temperatures. J Endod. 2018 Oct;44(10):1549-1552. doi: 10.1016/j.joen.2018.06.006. Epub 2018 Aug 23. PMID: 30144990.
9. Gambarini G, Galli M, Morese A, Stefanelli LV, Abduljabbar F, Giovarruscio M, Di Nardo D, Seracchiani M, Testarelli L. Precision of Dynamic Navigation to Perform Endodontic Ultraconservative Access Cavities: A Preliminary In Vitro Analysis. J Endod. 2020 Sep;46(9):1286-1290. doi: 10.1016/j.joen.2020.05.022. Epub 2020 Jun 15. PMID: 32553875.
10. Capuani S, Gambarini G, Guarnieri R, Di Pietro G, Testarelli L, Di Nardo D. Nuclear Magnetic Resonance Microimaging for the Qualitative Assessment of Root Canal Treatment: An Ex Vivo Preliminary Study. Diagnostics (Basel). 2021 Jun 1;11(6):1012. doi: 10.3390/diagnostics11061012. PMID: 34205946; PMCID: PMC8228494.
11. Lupi A, Messana I, Denotti G, Schininà ME, Gambarini G, Fadda MB, Vitali A, Cabras T, Piras V, Patamia M, Cordaro M, Giardina B, Castagnola M. Identification of the human salivary cystatin complex by the coupling of high-performance liquid chromatography and ion-trap mass spectrometry. Proteomics. 2003 Apr;3(4):461-7. doi: 10.1002/pmic.200390060. PMID: 12687613.
12. Gambarini G, Seracchiani M, Piasecki L, Valenti Obino F, Galli M, Di Nardo D, Testarelli L. Measurement of torque generated during intracanal instrumentation in vivo. Int Endod J. 2019 May;52(5):737-745. doi: 10.1111/iej.13042. Epub 2018 Dec 4. PMID: 30444531.
13. Kwak SW, Koo J, Song M, Jang IH, Gambarini G, Kim HC. Physicochemical Properties and Biocompatibility of Various Bioceramic Root Canal Sealers: In Vitro Study. J Endod. 2023 Jul;49(7):871-879. doi: 10.1016/j.joen.2023.05.013. Epub 2023 May 22. PMID: 37225037.
14. Zanza A, Seracchiani M, Di Nardo D, Reda R, Gambarini G, Testarelli L. A Paradigm Shift for Torsional Stiffness of Nickel-Titanium Rotary Instruments: A Finite Element Analysis. J Endod. 2021 Jul;47(7):1149-1156. doi: 10.1016/j.joen.2021.04.017. Epub 2021 Apr 27. PMID: 33915175..
15 Gambarini G, Piasecki L, Miccoli G, Gaimari G, Di Giorgio R, Di Nardo D, Azim AA, Testarelli L. Classification and cyclic fatigue evaluation of new kinematics for endodontic instruments. Aust Endod J. 2019 Aug;45(2):154-162. doi: 10.1111/aej.12294. Epub 2018 Aug 16. PMID: 30113735.
16. Sorsa T, Golub LM, Thomas JT, Leone P, Anil S, Uitto VJ. Matrix Metalloproteinases in Periodontal and Peri-Implant Diseases: Contribution to Their Pathogenesis, Diagnosis, and Treatment. J Periodontal Res. 2026 Jan 20. doi: 10.1111/jre.70062. Epub ahead of print. PMID: 41556479
17. Naseem M, Shah AH, Khiyani MF, Khurshid Z, Zafar MS, Gulzar S, AlJameel AH, Khalil HS. Access to oral health care services among adults with learning disabilities: a scoping review. Ann Stomatol (Roma). 2017 Jan 10;7(3):52-59. doi: 10.11138/ads/2016.7.3.052. PMID: 28149451; PMCID: PMC5231790.
18. Gürsoy UK, Kantarci A. Molecular biomarker research in periodontology: A roadmap for translation of science to clinical assay validation. J Clin Periodontol. 2022 Jun;49(6):556-561. doi: 10.1111/jcpe.13617. Epub 2022 Apr 3. PMID: 35322451; PMCID: PMC9321848.
19. Passariello C, Gigola P, Testarelli L, Puttini M, Schippa S, Petti S. Evaluation of microbiota associated with Herpesviruses in active sites of generalized aggressive periodontitis. Ann Stomatol (Roma). 2017 Nov 8;8(2):59-70. doi: 10.11138/ads/2017.8.2.071. PMID: 29299190; PMCID: PMC5749375.
20. Beck JD, Papapanou PN, Philips KH, Offenbacher S. Periodontal Medicine: 100 Years of Progress. J Dent Res. 2019 Sep;98(10):1053-1062. doi: 10.1177/0022034519846113. PMID: 31429666.
21. Shah AH, Naseem M, Khan MS, Asiri FYI, AlQarni I, Gulzar S, Nagarajappa R. Oral health knowledge and attitude among caregivers of special needs patients at a Comprehensive Rehabilitation Centre: an analytical study. Ann Stomatol (Roma). 2018 Mar 8;8(3):110-116. doi: 10.11138/ads/2017.8.3.110. PMID: 29682223; PMCID: PMC5897091.