GUEST EDITORIAL

e-(ORAL) HEALTH: A WORLD-WIDE OVERVIEW

Oral diseases and conditions affect a large proportion of the population in most countries. In fact, two oral diseases (periodontal disease and dental caries) are among the top five most common diseases in humankind, with profound effects on an individual's quality of life, comfort, appearance, self-esteem, and social relationships, to name a few. In addition, head and neck cancers are the sixth most common cancers diagnosed worldwide and the eighth most common cause of cancer death.¹ Traumatic dental injuries are the third most common condition affecting the oral cavity and, in some places, the main cause of dental emergencies.

Furthermore, recent research indicates that the dynamics and complex relationships between oral health and general health are deeper than previously thought, as they share common risk factors.² Thus, although oral health diseases are rarely a cause of death, the importance of oral health is explained by the extent of these conditions in our society, and the preventable nature of most oral health conditions and diseases. Furthermore, oral health is an integral part of health, thus, there cannot be health without good oral health.³

Despite this, due to inequalities in the distribution of oral healthcare resources, important sectors of the population are left without proper access to care. This is particularly the case for high-risk populations. For example, access to oral health professionals in rural, remote, and even peri-urban areas is limited, and often there is a long waiting list for both consultation and treatment. These are important challenges to oral health providers and the wider society.

Teledentistry has the potential to be highly effective in enhancing early diagnosis and referral for patients who otherwise might not receive care. Nonetheless, a significant limitation of current oral health systems is its failure to take advantage of innovations in e-technologies for health promotion and the prevention and treatment of oral health diseases and conditions. This is further exacerbated by the lack of research informing oral health practices and identifying innovative ways to use e-(oral)Health and mHealth to make oral health prevention and care intervention more accessible. Goals in oral health cannot be achieved by only providing treatment.⁴ Thus, this technology can supplement traditional methods of oral diagnosis and referral for patients who otherwise might not have access to care, health promotion and disease prevention. It can also be a vehicle to empower and increase the oral health literacy of local communities and improve direct access to specialists of oral healthcare for providers working in areas without access

to them.

Compared to other areas of health (e.g., medicine), teledentistry is relatively under-used for the purposes of tele-diagnosis, tele-consultation and referrals for the improvement of the population's health. Furthermore, the use of digital technology to improve oral health is one of the pillars of the WHO Oral Health Programme to improve oral health worldwide.⁵ The challenge is how to use this technology to add to what is already provided, by incorporating alternative service delivery systems, to address demands for oral healthcare for underserved populations using non-traditional settings, and transcending social, geographic, and cultural barriers. Potentially this could mean reduced costs, improved patient outcomes and greater access to quality oral healthcare. However, teledentistry will never reach its full potential if does not receive the attention it deserves. This is the main aim of this special theme in the Journal of the International Society for Telemedicine and eHealth (JISfTeH), "e-(oral) Health: A World-Wide Overview".

This special theme presents seven experiences from around the world. Each article is organised using a similar model: starting with a general overview of the country's background and their health and oral health profile and outlining how these jurisdictions have attempted to implement teledentistry. The emphasis is not on technological aspects, but on examining financial arrangements (e.g., reimbursement), guidelines and legal issues; the scope of practice (e.g., who can practice teledentistry) and responsibilities of various professions involved in teledentistry within each jurisdiction. It explores how these jurisdictions have addressed local challenges. Wider implementation would require appropriate policies and political support. Giraudeau and his collaborators in France, Nichols in USA and Kharbanda and his collaborators in India offer a description of recent legal and financial developments within their local and national models and experiences. Nichols further offers the USA experience and highlights the pioneering work of Dr. Paul Glassman who developed and implemented the Virtual Dental Home.⁶ Baker and Jiang's contribution describes teledentistry in Australia with specific focuses on a program in the Australian state of Victoria.

On the other hand, to reach their full potential, practitioners and the public need to be trained in the use of these technologies. A system will be ineffectual if the suitable

tele-dental staff is not available. Bavaresco and her collaborators' article describes a distance learning, tele-education and tele-diagnosis services (EstomatoNet) implemented in Brazil. Palander and collaborators illustrates how Finland, is using teledentistry to respond to current demands and paradigm shifting in oral healthcare by building the digital healthcare capability of the future to improve all fields of oral healthcare, from workforce training to big data analysis with different skills and specialisations for the ultimate goal of improving oral health and decrease inequality.

These are challenges common to many countries around the world and sharing experiences is necessary to derive recommendations for appropriate policies and good practices suitable to oral healthcare. These articles also provide insights (i.e., lessons learned) and readiness for future developments in teledentistry. Within this framework, the final part of each article describes a local case study covering clinical and non-clinical applications.

It is hoped that the material from this special issue will serve as a stimulus to further discussion of the wider implementation of teledentistry and create opportunities to support, promote and facilitate research, best clinical and public health practices, educational programs that use these technologies for the improvement of health. Further development could be achieved through the teledentistry group within the International Society for Telemedicine and eHealth⁷ and the recently created network within the International Association for Dental Research in e-oral health.⁸

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