

Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.



Available online at www.sciencedirect.com

# **ScienceDirect**

journal homepage: www.jfma-online.com



Perspectives

# Challenge and action of improving oral health inequities in the time of COVID-19 pandemic



Yung-Kai Huang a, Yu-Chao Chang b,c,\*

- <sup>a</sup> Department of Oral Hygiene, College of Dental Medicine, Kaohsiung Medical University, Kaohsiung, Taiwan
- <sup>b</sup> School of Dentistry, Chung Shan Medical University, Taichung, Taiwan
- <sup>c</sup> Department of Dentistry, Chung Shan Medical University Hospital, Taichung, Taiwan

Received 26 August 2021; received in revised form 7 September 2021; accepted 8 September 2021

Oral diseases such as dental caries and periodontitis are among the most common and widespread diseases around the world. Poor oral health and untreated dental conditions could influence the quality of life, leading to the deterioration of systemic health. Therefore, oral health education and promotion is the important tools to provide the ways and possibilities of their prevention and proper treatment.

In September, 2015, United Nations announced the 2030 Agenda for 17 Sustainable Development Goals (SDGs). The Envision 2030: 17 goals to transform the world for persons with disabilities were listed in supplementary data. SDG 3 aims to ensure healthy lives and promote well—being for all at all ages. The goal of SDG4 is to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all. Elimination of oral health inequalities can be achieved through the implementation of appropriate education and effective health promotion policy. Oral health not only influences general health status, but also reflects the social and economic gradient. The first step is to conduct equitable quality education to promote

health and prevent a large number of oral diseases. Under

Currently, the COVID-19 crisis has affected all aspects of society such as human suffering, life, and economic recession. As of now, there are at least 2 waves of COVID-19 outbreak around the world. This developed into a real and important public health disaster and emergency in many countries, including Taiwan. Compared to the other healthcare providers, oral healthcare workers have a higher risk of the uncertainties around airborne virus transmission, especially during the COVID-19 pandemic due to potentially infectious bioaerosols from dental procedures. Therefore, practical training, oral health education, and oral health promotion activities were suspended.

It is a well-known fact that oral diseases are more common among the socially disadvantaged population like low-income families or racial/ethnic minorities. The outbreak of COVID-19 is supposed to deepen oral health inequities. It poses a greater challenge for seeking regular dental checkup and oral health problems. Many countries completely close private and public dental services, except for emergency dental care. The essential health care is almost missing in dentistry, particularly during the period of COVID-19 pandemic. It is truly a barrier for the essential

E-mail address: cyc@csmu.edu.tw (Y.-C. Chang).

the implementation of narrative dentistry, dentists, nurses, dental hygienists, and students need to provide the patient-centered oral health care, but not just simply prevent or eliminate oral diseases. 

Currently, the COVID-19 crisis has affected all aspects of society such as human suffering, life, and economic

<sup>\*</sup> Corresponding author. School of Dentistry, Chung Shan Medical University, 110, Sec. 1, Chien-Kuo N. Rd., Taichung, 40201, Taiwan. Fax: +886 424759065.



**Figure 1** The thematic framework of equitable quality education implemented with narrative dentistry is meant to improve oral health inequalities and achieve the goal of good health and well-being. (Abbreviation: SDGs, Sustainable Development Goals).

oral health care meant for general population. The measures of social distancing, lockdown, and even shutdown also have a tremendous impact on social and economic conditions. This will widen the social determinants of oral health inequalities. By the use of equitable quality education, it could partially improve oral health and reduce oral health inequalities. The health policies, resources, and strategies of the government should also be adopted to improve oral health inequities as well as socioeconomic inequities.

Improving oral health inequities has been a main concern of dentistry. Here, the authors presented a project for improving oral health inequities in Taiwan Fund for Children and Families, Qijin, South Kaohsiung Branch. Under the guidance of SDG4, this project was meant to overcome the oral health inequalities via oral health education approaches, oral health promotion, and repetitive practice to achieve the SDG3.

As illustrated in Fig. 1, narrative dentistry can be considered a useful tool to tackle these disparities. Briefly, the team members were empowered with the narrative competency to improve the skill of oral health communication and promotion. Clients tend to trust dental professionals who can communicate with empathy. Oral healthcare workers could facilitate their professionalism through reflection to improve daily practice, not only dental care but also oral health promotion. These narrative competencies could motivate the oral healthcare providers with attention, representation, and affiliation to improve oral health inequalities. Taken together, equitable quality education implemented with narrative dentistry could reduce oral health inequalities to achieve the goal of good health and well-being.

COVID-19 pandemic was worsening in Taiwan from May to July 2021. Telecommunication technologies were

initiated in oral health promotion to make up for the absence of in-person health services. Online instruction is conducted as an official alternative to in-person class. During the appointed time, dental professional teams used streaming to instruct, raised provoking questions for brainstorming, and allowed clients to send feedback in a real-time manner. The effects of this online communication was so good that oral health promotion could be continued and maintained with enthusiasm during the COVID-19 level III alert period. When the pandemic is under control or back to new normal, it is possible that these new technologies could become daily routines.

Taken together, social and environmental factors can impact oral health. Based on the concept of narrative dentistry, it would be crucial for oral health workers to achieve SDGs so as to eliminate oral health inequities, especially in the time of COVID-19 pandemic.

### Declaration of competing interest

The authors have no conflicts of interest relevant to this article.

# Acknowledgment

The work was supported by "The project on an issueoriented approach to narrative competence development across disciplines, 2020", Ministry of Education, Taiwan.

## Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.jfma.2021.09.007.

### References

- Yang LC, Yu HC, Chang YC. The recent new findings of periodontal-systemic connection from Taiwan's National Health Insurance Research Database. J Dent Sci 2021;16:789—90.
- United Nations Statistics Division. SDG Indicators: official list of SDG indicators. 2016. Available: http://unstats.un.org/sdgs/ indicators/indicators-list/.
- Watt RG. Social determinants of oral health inequalities: implications for action. Community Dent Oral Epidemiol 2012;40: 44-8.
- Huang YK, Chen YT, Chang YC. Initiating narrative medicine into dental education: opportunity, change, and challenge. *J Formos Med Assoc* 2021;120:2191–4.

- Sharov KS. Trends in adaptation of fifteen European countries population to SARS-CoV-2 in March—May 2020: can Taiwanese experience be adopted? J Formos Med Assoc 2021;120:679—87.
- Wu M, Chang YC. COVID-19 and its implications in dental care management against bioaerosol transmission. J Dent Sci 2020; 15:367—8.
- 7. Moysés SJ. Inequalities in oral health and oral health promotion. Braz Oral Res 2012;26:86—93.
- Liu CM, Huang PS, Chang YC. Perspectives on the challenge and change of COVID-19 crisis on dental education. *J Dent Sci* 2021; 16:1039–40.