EDITORIAL

Should we search for a new paradigm for Dental Public Health?

Dental Public Health (DPH) is the science and practice of preventing oral diseases, promoting oral health, and improving quality of life through organized efforts of society.[1] It is that form of dental practice which serves the community as a patient rather than the individual. It encompasses oral health education, population-based and applied dental research, health policy development including the administration of group dental care programs, as well as the prevention and control of oral diseases in the community. In addition, it includes evaluation that is an integral component of public health programs and essential to assess if programs work efficiently and effectively. DPH is recognized as a Specialty in Dentistry in many countries, including the USA and Israel, the countries where the present authors practice. It is one of the oldest accredited dental specialties and received accreditation from the American Dental Association's Council on Dental Education and Licensure in October 1950.

Oral health is improving globally; edentulousness is less prevalent today than in the past. The trend for complete edentulism in the US is downward (16.36% in 2012 to 13.54% in 2020).[2] It is similar in Israel: in a recent survey 9.9% kept all their teeth for life,[3] while 20 years ago only 3% retained all their teeth. Thus, considering the positive developments, can we expect major strategic changes for DPH?

The specialty and the art and science of DPH will not be obsolete in the forseeable future. Following the release of "Oral Health in America: Advances and Challenges" (a report from the National Institutes of Health) in 2021, Quiñonez et al[4] elaborated on the persistent inequity in oral health status, utilization, and access to care, all of which leads to untreated disease. The authors emphasized the need for prevention and improving access to oral health care. All this is not new! The need for more prevention is widely stated in the dental literature.[5] We continue to remain challenged to provide preventive measures accessible to all and thus plenty still needs to be done by DPH in this area.

Nadanovsky et al[6] recently stated that too much dentistry or overtreatment is done to some, while too little or undertreatment is done to other parts of society. This also is not new! Elderton[7] described it several years ago. Recent national findings in the US have also clearly revealed that despite significant advances in the reduction of oral diseases, the disease occurs severely in some population subgroups. Racial and economic disparities in oral health and problems accessing oral health care abound.[7]

Regarding "applied dental research," Nadanovsky et al[6] recently stated that "little progress has been made on using data from clinical trials to determine the best practices for dental care." Dentistry needs to be more evidence-based, similar to medicine, identifying which dental procedures are beneficial and ensuring that relevant dental associations update their guidelines accordingly to provide an opportunity to allocate resources to those who need them the most. In his commentary on Nadanovsky's "Too much dentistry," Zadik[8] asserts that "Owing to advancements in knowledge in biology and microbiology, and remarkable technological progress, the contemporary dental profession has reached notable milestones. This progress is particularly evident in the areas of maintaining natural teeth even when diseased, restoring missing teeth and enhancing esthetics," but he also agrees that "progress must be accompanied by high-quality research to evaluate the appropriate indications for each dental treatment."

To improve the oral health of the population, it is imperative to understand the individual characteristics, the cultural, environmental, and commercial aspects of the communities, as well as the oral health care delivery systems. Effective approaches to oral disease prevention and oral health promotion are available but these require strong community action with active involvement from the DPH community. In addition, the DPH community needs to advocate for evidence-based food policies and play an active role in dietary guidelines that provide the scientific foundation for public health nutrition. The expanding field of digitalization, telemedicine, and technological advances in dentistry can provide useful tools to revolutionize oral disease prevention. Essentially, the DPH community may need to change the traditional approach to well-known issues in population-based health and prevention.

Thus, it seems fair to say that despite the improvements in oral health, for the foreseeable future there will still be a need for DPH activity to improve and maintain the population's oral health. From this aspect we remain with Ecclesiastes' words: "The thing that hath been, it is that which shall be."[9] Additionally, there is still need for scientific research to find useful tools for prevention and for other DPH activities.

We now live in the post-truth times, defined as "relating to or denoting circumstances in which objective facts are less influential in shaping public opinion than appeals to emotion and personal belief."[10] In such times, as Wen[11] distinctly stated, "Public health depends on winning over hearts and minds. It's not enough to just have a good policy, you must convince people to actually follow it." Unfortunately, we don't win the hearts and minds. The COVID vaccine rejection by nurses[12] was a late wake-up call for public health. In Israel signs against vaccines were seen way back in 2013.

Our scientific paradigm is not influential anymore. Agnotology – the science of ignorance[13] – and how it is deliberately produced is the modern way of convincing. Facts are not appealing nowadays:

- Truth is difficult to remember and even more difficult to comprehend
- Facts can be boring. Boredom and distraction are powerful weapons.
- Facts can be threatening. "People respond in the opposite direction."[14]

Social media is very effective in disseminating negative, albeit false claims, and once you hear a false claim, you cannot unhear it. In 2019, in Instagram there were 63% negative community water fluoridation posts including conspiracy theories and only 32% pro-fluoridation posts.[15]

Therefore, unlike Ecclesiastes' words, there has to be a new thing under the sun, since that which is done is not that which should be done.

We have to change the ways we perform our specialist work, the way we work with our constituents. We need a new paradigm for the practice of DPH.

References

1. Daly B, Batchelor P, Treasure ET, Watt R. Essential Dental Public Health. Oxford, 2013. Online edition, Oxford Academic, 12 Nov 2020, p4. https://doi.org/10.1093/oso/9780199679379.001.0001.

2. Vemulapalli A, Mandapati SR, Kotha A, Rudraraju H, Aryal S. Prevalence of complete edentulism among US adults 65 years and older: A behavioral risk factor surveillance system study from 2012 through 2020. J Am Dent Assoc 2024;155:399–408.

3. Berg-Warman A, Schiffman Kermel I, Zusman SP, Natapov L. Oral health of the 65+ age group in Israel, 2020. Isr J Health Policy Res 2021;10:58.

4. Quiñonez C, Jones JA, Vujicic M, Tomar SL, Lee JY. The 2021 report on oral health in America: Directions for the future of dental public health and the oral health care system. J Public Health Dent 2022;82:133–137.

5. Zusman SP. Prevention, prevention and prevention. Isr J Health Policy Res 2019;8:40.

6. Nadanovsky P, Pires Dos Santos AP, Nunan D. Too much dentistry. JAMA Intern Med 2024;184:713–714.

7. Elderton RJ. Implications of recent dental health services research on the future of operative dentistry. J Public Health Dent 1985;45:101–105.

8. Zadik Y. Reflections on Clinical decision-making in contemporary dental practice. JAMA Intern Med 2024;184:714–715.

9. Ecclesiastes 1:9; King James Version. https://www.kingjamesbibleonline.org/Ecclesiastes-1-9. Accessed 15 June 2024.

10. Oxford Languages. Word of the year. https://languages.oup.com/word-of-the-year/2016. Accessed 15 June 2024.

11. Gross T. NPR: The Coronavirus crisis; Think of your COVID-19 vaccine like a very good raincoat, says Dr. Leana Wen. https://www.npr.org/sections/health-shots/2021/07/27/1020872236/coronavirus-vaccine-delta-covid-cdc-masks-leana-wen. Accessed 15 June 2024.

12. Khubchandani J, Bustos E, Chowdhary S, Biswas N, Keller T. COVID-19 vaccine refusal among nurses worldwide: review of trends and predictors. Vaccines 2022;10:230.

13. Proctor RN, Schiebinger L (eds). Agnotology: The Making and unmaking of ignorance. Stanford: Stanford University Press, 2008.

14. Harford T. The problem with facts, 17 March 2017. http://timharford.com/2017/03/the-problem-with-facts/. Accessed 11 July 2024.

15. Basch CH, Milano N, Hillyer GC. An assessment of fluoride related posts on Instagram. Health Promot Perspect 2019;9:85–88.

Sangeeta Gajendra, DDS, MPH, MS
Professor, Clinical Chief, NYS DPH Residency Program Director, Department of Community Dentistry, Eastman Institute for Oral Health, Rochester, NY, USA.
Email: sangeeta_gajendra@urmc.rochester.edu

Shlomo Paul Zusman, DMD, MSc(DPH), MPA, DDPH.RCS
Specialist in Dental Public Health, Adjunct Associate Professor in Public Health Sciences, University of Rochester, Rochester, NY, USA; Adjunct Clinical Associate Professor in Dental Public Health, The Hebrew University of Jerusalem, Israel; Former Chief Dental Officer of Israel.
Email: zusmans@gmail.com

Sangeeta Gajendra

Shlomo Paul Zusman