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Making the case for the inclusion of humanities in the education of Dental Public Health specialists

Gabriel Tse Feng Chong[1,2]

[1]Singapore Armed Forces HQ Medical Corps, Singapore; [2]Dental Specialist Accreditation Committee (Dental Public Health), Singapore

There is growing awareness of the need to include humanities in educating dental students at the undergraduate/pre-doctoral level (Marti et al., 2019). However, there appears to be no literature discussing or advocating the inclusion of humanities for the training of dental specialists. Dental Public Health (DPH) is one such dental specialty where its trainees and practitioners would benefit from an inclusion of humanities in its pedagogy.

This author opines that exposure to humanities (which includes, but is not limited to, literature – both fiction and non-fiction, art, history, narrative dentistry/medicine, philosophy, ethics, and medical anthropology) that touch on dental themes can make a DPH trainee/practitioner more rounded; able to empathise better with the individuals that his/her policies and programs would affect; become even more persuasive in health promotion efforts; and more articulate in their advocacy efforts with stakeholders and policy makers.

Unfortunately, the curriculum of most DPH training programs (in English speaking jurisdictions) do not include humanities apart from the inclusion of ethics in North American programs. Perhaps the roots of this problem can be traced back to the dental undergraduate/pre-doctoral level where the typical training is predominately focused on biomedical subjects. The result is "few dental schools have implemented humanities in their dental education" and where humanities are taught, ethics tend to form the bulk (Marti et al., 2019). At the postgraduate specialty-training level, this traditional segregation between what are considered 'sciences' on one hand, and 'humanities' on the other hand, are already ingrained for most dental specialties. However, the DPH curriculum is different from the sister dental specialties because the trainee is required to understand for instance: sociology, health-related behaviors, the interactions of social, cultural and political variables (including age, gender, socioeconomic status, culture, religion, ethnicity and globalisation) on public health, health inequities, and the provision of health services. In essence, the DPH curriculum aims to re-orientate the trainee from a biomedical model of care to a biopsychosocial model of care. As such, the DPH curriculum is a natural starting point for the inclusion of humanities in the training of dental specialists.

There are some foreseeable barriers to implement humanities in the DPH training curriculum – (i) the possible lack of DPH educators and practitioners who are well-versed or at least comfortable with humanities and this itself may be a barrier to even commencing the addition of humanities into the pedagogy, and (ii) finding the time and space to include humanities into the voluminous curriculum that the DPH trainee is expected to cover in a relatively short amount of time. One suggestion to resolve the former barrier is cross-disciplinary training, where dental and/or public health

schools can reach across to educators and researchers in the humanities departments to co-develop the DPH-humanities curriculum and training materials. The latter barrier can perhaps be tackled by infusing readings and discussions on humanities into the DPH curriculum that already require the trainee to adopt a biopsychosocial approach to healthcare and where humanities would be natural additional skillsets for inclusion in the DPH trainees'/practitioners' toolbox.

Oral health inequities exist in most, if not all, societies. The burden and resultant impact of dental caries is largely borne by those who are disadvantaged and underserved. This is true even of an affluent country in Asia-Pacific like Singapore with a highly educated populace with very good healthcare system, infrastructure, and policies. Singapore enjoys (i) an universal community water fluoridation program covering 100% of Singapore's population, (ii) public health education to increase awareness and health literacy by actors, such as, the Ministry of Health (MOH) and Health Promotion Board (HPB), (iii) free dental care to school children up to 18 years of age, and (iv) an extensive network of dental clinics in the private and public sector (Chong & Tseng, 2011). Despite all these benefits, the burden of poor oral health is mainly carried by members of lower socioeconomic groups and certain racial groups (Chong & Tseng, 2011).

Humanities can also challenge the lens through which a DPH trainee/practitioner views oral health problems. For instance, even the current epidemiological trends of dental caries was not always the case. For example, if we were to go back in time to about the late 18th century, dental caries in Europe was largely a disease of the affluent. This is even mentioned in a gastronomical literature text *'The Physiology of Taste'*, written by Brillat-Savarin (published in 1825), in which the author describes the poor oral health of his fellow diners. He writes *"what then if the mouth is neither fresh nor pretty? And what shall be said of those monstrous chasms which open up to reveal pits that would seem bottomless, if it were not for the sight of shapeless, time-corroded stumps?"* (Chong, 2012).

What caused the epidemiological shift such that dental caries was no longer a disease of the affluent but became one of the poor? This is because until about the late 18th century, sugar was not yet widely available to the masses for consumption frequently and/or in large quantities so as to cause widespread decay. For example, in England, the annual consumption of sugar per capita increased from almost zero in the 17th century to 1.8kg in 1704 to 8.2kg in 1800, and finally to 40.8kg by the mid-19th century (Chong, 2012). Several factors have been identified as the causes of increased consumption of sugar during this period: increased disposable income due to the industrial revolution; the availability of processed foods and beverages; and the change in dietary habits to add sugar as a sweetener to tea and coffee (Chong, 2012).

This historical trend is important for the modern DPH trainee/practitioner because it approximates ecological studies and supports our modern understanding that the intake of dietary sugars is the most important risk factor for developing dental caries. This should focus DPH trainees'/practitioners' efforts to tackle the Social Determinants of Health (including the commercial determinants, such as the health risks posed by the sugar and fast-food industries). Furthermore, the 180-degree shift in the epidemiology of dental caries should serve as a reminder that what is the norm of today can be changed drastically in the future, and therefore improvements at a societal-level are possible.

Despite being the most prevalent chronic disease condition globally, dental caries is seldom reported in the news save for the rare occasions where it is extremely headlines worthy, such as the case where a 12-year old American boy (Deamonte Driver) passed away because of an untreated tooth abscess arising from dental caries (Otto, 2017). In this regard, DPH trainees and practitioners can utilise the humanities (in the form of literature, narrative dentistry, and art) as useful media to showcase the plight of the poor and the injustice of oral health inequities. This is needful because sometimes key stakeholders and policy makers (who usually do not have healthcare backgrounds) may not quite comprehend or relate to quantitative data, whereas the narrative aspects such as the description of the individuals' experience can be very emotive to nudge those stakeholders and policy makers towards the right direction. Editors and reporters of traditional media channels are more likely to publish articles and editorial pieces that are deemed 'headlines worthy' with a compelling story to tell.

To highlight the potential power of humanities in telling a story, the author would like to quote a passage from the novel '*Les Miserables'* by Victor Hugo (originally published in 1862), that depicts the emotional and physical pain of those who were forced to sell their teeth out of dire economic circumstances; which was a fairly common practice in European society of that time.

Excerpt from Les Miserables (Hugo, 1982, p. 177 - 178):

He was an itinerant dentist selling sets of false teeth, opiates, powders, and elixirs… seeing Fantine laugh, the dentist cried:

'You've got a fine set of teeth, my lass. If you'd care to sell me your two incisors I'll pay you a gold napoleon for each.'

'What are my incisors?'

'Your two top front teeth.'

'How horrible!' exclaimed Fantine.

'Two napoleons,' grumbled a toothless old woman standing near. 'She's in luck!'

Fantine fled, covering her ears to shut out the man's hoarse voice as he shouted after her:

'Think it over, my girl. Two napoleons are worth having. If you change your mind you'll find me this evening at the Tillac d'argent.'…

When Marguerite entered Fantine's room next morning… she found her seated cold and shivering on her bed… and it seemed that she had aged ten years overnight.

'Lord preserve us!' cried Marguerite, 'What's the matter with you?'

'Nothing is the matter with me,' said Fantine, 'I'm happy. My baby isn't going to die of that dreadful disease for lack of medicine.'

She pointed to two napoleons that lay gleaming on the table.

'A fortune,' murmured Marguerite. 'A fortune! Where did you get them?'

'I earned them,' said Fantine.

She smiled as she said it, and the candle lighted her face. It was a bloodstained smile. There were flecks of blood at the corners of her mouth and a wide gap beneath her upper lip.

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The author declares that there is no potential conflict of interest.

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*Gabriel Chong
Singapore Armed Forces HQ Medical Corps,
701 Transit Rd,
Singapore 778910
Email: g.chong@mail.com