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Editorial

The impact of the COVID-19 pandemic on dentistry

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The COVID-19 pandemic has affected the delivery of health services across the world. The World Health Organisation (WHO) declared the COVID-19 outbreak to be a global pandemic on 11th March 2020, prompting the closure of dental services worldwide. The main reason for this was the infection risk associated with Aerosol Generating Procedures (AGP), such as the use of high-speed drills (Al-Halabi *et al*., 2020). During this period, even access to emergency dental care has been limited.

A review of the current guidance issued by international organisations and professional bodies regarding the re-opening of dental services showed considerable variation in the safety procedures required. Most sources recommended triage of patients and an emphasis on only emergency and urgent care; wearing filtering facepiece class 2 masks; reducing the risk of transmission; and avoiding AGP. All sources stressed the need to focus on activities that minimise risk to staff, patients and the public, and to support high quality clinical care (CoDER, 2020).

The implementation of these guidelines in conventional dentistry may cause a significant financial burden for providers, compromising their financial sustainability. The investment necessary to equip practices to ensure that they are fit for purpose now includes specific COVID-19 concerns; Personal Protective Equipment for practice personnel; management of the clinical room, including post-operative cleaning and disinfection and waste disposal (CoDER, 2020). This will dramatically increase the cost of conventional dentistry. Accordingly, patients will be less able to afford dental treatment because it is already very expensive; further excluding the less fortunate from accessing dental treatment.

By contrast, Minimum Intervention Dentistry (MID) (Innes *et al*., 2017), the modern biological approach to the control of dental caries, offers a cost-effective solution to the delivery of dental services during and after the COVID-19 pandemic. This should be adopted comprehensively worldwide.

The current health services crisis increases the pressure on governmental and non-governmental organisations to adopt MID practices in dental care; and on universities to update their curricula in favour of modern dentistry. Given that it was possible for oral health professionals to learn to support health services in caring for patients with COVID-19 so quickly, it should be possible to train them to adopt simple procedures for the prevention and treatment of dental caries. This initiative would (a) greatly improve access to services due to its low cost; (b) increase the feasibility of including dental health care in Universal Health Care (UHC); (c) address the neglect of dental health and facilitate the running of dental health services during the pandemic and (d) reduce dental health inequities.

Much has been said about the negative impact of the COVID-19 pandemic on dental health and the opportunities this offers to address dental health system failures. I consider that it is unlikely that the closure of dental services will significantly impact on global dental health. The interpretation of global epidemiological data showed that dental decay is the single most prevalent human disease in the world, with 2.3 billion cases (Permanent teeth) and 532 million cases (deciduous teeth) worldwide requiring treatment (GBD 2017 Oral Disorders Collaborators, 2020). Population dental health has been neglected historically (Wang *et al*., 2020), independent of any closure of services caused by the pandemic. Dental practice closures for a few months will not significantly increase the number of diseased cases accumulated over three decades globally. Nor will their closure worsen the current dental health inequities. While closures may have short-term impacts on the limited affluent groups who have access to dental care, they will not affect the low socio-economic groups who have been neglected for decades.

The main lesson offered by the COVID-19 pandemic was that concerted efforts are crucial to address a pandemic successfully. Similarly, concerted efforts are necessary to control the burden of dental conditions by addressing the failures dental health systems. There is an opportunity to address system failures if collective action is taken. An inclusive global health network could be developed to increase participation. It should consist of dental and non-dental members with good representation from all sectors of society; and especially, dental health professionals working in local services across the globe. Their contribution is potentially as relevant as that of academic leaders who are distant from the reality of delivering dental care in their localities. The experience gained from daily activity in dental practice is highly

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relevant to the process of developing and implementing a new dental health strategy. While oral health and dental care policies should be based solidly on scientific evidence, it is equally important to recognise and address the challenges of implementing these policies at a local level (Proctor *et al*., 2011).

A major challenge for wider engagement is fragmentation and inclusion. Global advancement of dental health cannot be achieved by individual players or a small team of professional leaders working on their own. The complexity of developing a new cost-effective oral health system, reducing dental health inequities and integrating dental health into the health agenda requires broader participation. Dental health organisations and influential individual leaders in dentistry could join forces in a collective action under the leadership of the World Health Organisation (WHO) to modernise the current dental health systems.

There are areas of agreement. Promoting values of social justice and reducing dental health inequities must be central to any new approach to control the burden of dental caries. This is logical because dental caries clusters in low income communities (Peres *et al*., 2019), which also experience social exclusion from accessing dental care (Freeman *et al*., 2020). This is due to a constellation of economic, political, cultural and individual factors (Freeman *et al*., 2019). Therefore, tackling the oral health inequities felt by those excluded in societies across the world will have a major positive impact on dental health of the whole population.

It seems that there is also consensus that a new Primary Oral Health Care should be developed as an integral part of primary health care (Prasad *et al*., 2019). There are various ways of integration, such as interprofessional education, interprofessional collaborative practice, closed-loop referral processes and public and private partnerships. The redeployment of dentists, dental hygienists or therapists and dental nurses to support health services in caring for people with COVID-19 during this crisis was a step toward the integration of dental and general health care. Dental personnel have developed new skills and clinical knowledge to provide clinical procedures beyond their usual scope of practice. This opportunity should be seized.

Neglecting dental treatment to those in need is the basic failure of current dental health systems (Kassebaum *et al*., 2017), with consequences for general health. Poor dental health impacts on diet, nutrition, body mass index and the growth and development of children (Sheiham, 2006). Poor oral health affects mastication, which in turn impacts on selection of food (diet) with potential consequences for nutrition, grow and development. It also affects speech, smiling and psychosocial well-being (Lawrence *et al*., 2008).

Dental care systems need to be more responsive to the treatment needs of the global population, prioritising care in low-income communities where dental diseases are present (Peres *et al*., 2019). A focus on prevention will promote population dental health and reduce the burden on services of treating billions of cases of dental disease. Alleviating the suffering of those with untreated disease must be the fundamental purpose of dental health services reform.

A major challenge to promoting the necessary population-wide change to prevent dental disease is the choice of approach: in addition to implementing clinical preventive measures and exposure to fluoride, approaches to change population behaviour must be cost-effective and take into account cultural diversity. To do this effectively, dental policy makers need to move beyond the outdated belief that risk awareness programmes alone lead to behavioural change. Instead, the socio-economic barriers to adopting a healthy lifestyle must first be addressed. Then, the psychological determinants of behaviour change must be considered to address current system failures effectively. The Global Burden of Disease study showed that oral health throughout the world has not improved significantly over the last three decades and that it remains a major global public health challenge (GBD 2017 Oral Disorders Collaborators, 2020). Clearly, greater efforts and potentially different approaches are needed to promote global oral health (Kassebaum *et al*., 2017).

I declare no competing interests.

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