



COVID 19: Impact on Public Oral Health Care

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Received Date: December 08, 2021

Published Date: December 18, 2021

Abstract

This article focuses on the effect of covid-19 on the public oral health and changes required as well as the opportunities for improvement in oral health care system focusing more on prevention.

Introduction

Data from the Global burden of disease 2017, elicited that approximately 2.3 billion people had untreated permanent tooth caries and about 530 million children suffer from primary tooth caries. [1] Apart from this, the recent increase in the rate of periodontal disease, oral cancer, oral manifestations of HIV and Oro-dental trauma should also be taken into consideration, requiring attention and a more committed response towards public oral health. [2] Therefore, dental health or oral health problems are considered one of the most common Global health concerns. To provide the same, various public oral health care delivery systems and private dentistry are delivering effective care globally.

Due to the declaration of covid-19 a pandemic on March 11, 2020, by the World Health Organization and explaining coronavirus a new virus with no vaccine and treatment.⁴ The primary mode of spread of coronavirus is direct and indirect personal contact through airborne droplets from the affected person.

[3] Thereafter, the public oral health care delivery system has been greatly impacted by the outbreak of the covid-19 pandemic. The risk of oral diseases has been disproportionately increased and affected by covid-19 because it has led to the closure of dental practices and reduced hours of care only in cases of emergency, indirectly reducing the oral healthcare services. The prime cause of it is the production of aerosols during dental procedures, eventually acting as the mode of viral transmission. [5]

Postponement of dental procedures and treatment of only emergencies and elective care in dental health departments to minimize the spread of Covid-19 was recommended by American Dental Association on March 16, 2020. [5] The concern has been raised for the dental profession to shift more towards non-aerosol using preventive approaches to public health care and regulating proper barrier techniques and change in the public oral health delivery systems. This article focuses on the effect of covid-19 on the public oral health and changes required as well as the opportunities for improvement in the oral health care system focusing more on prevention.

Covid-19 And Oral Health Care

Although, oral healthcare is of utmost importance as the progression of oral diseases may cause inflammation, pain, infection, and sepsis yet, it can be reversed or controlled with appropriate methods of oral hygiene measures, changes in diet, fluoride exposure and much more. The improvement in the oral health care delivery systems has always remained a challenge in many parts of the world [6] because while assessing the overall health status it tends to exclude the oral health risk factors and determinants. [7]

Even Pre-covid inadequacies in treating populations suffering from oral diseases became much more apparent during the outbreak of covid-19. During, the COVID-19, while the oral health authorities in some countries were suspended the oral health treatment services while the others promoted a preventive approach emphasizing infection control. [8] The population, who are more susceptible to covid-19 included those who belong to low socio-economic background, older adults, adults with associated systemic health problems, low literacy individuals and those living in rural areas. Similarly, these are also at great risk of oral diseases. [9] Studies show that the covid-19 pandemic had a great impact on the mental and social well-being of individuals and health care providers took special care in monitoring the psychosocial needs and delivering psychosocial support to their patients. [10] Researchers also suggest a strong association between oral health conditions like periodontal disease, caries and erosion with stress, anxiety, depression and loneliness. [11] The emergence of new variants in COVID-19 has made the disease far more transmissible, thereby placing a greater strain on the health system. [12] At the same time, diet and obesity are linked to acquisitions of unhealthy lifestyle practices that are deeply rooted in social and economic circumstances [13-15], which could limit the selection of healthier choices. These determinants could thus impact oral health status as well. [16]

Access to public oral health Care is especially limited to the individuals at a higher risk for COVID-19. Patients with symptoms of COVID-19 or similar symptoms are advised to not undergo any dental care treatment and the providers such as oral health care delivery providers are advised to delay the oral care until the symptoms subside and the patient has recovered. [17] Concurrently, access to oral care for people afflicted with COVID-19 disease could be compromised due to ongoing restrictions in social movement during state-imposed lockdowns.

Thus, it results in limited dental and oral services in the interest of public health safety. This also decreased the oral health care access to the normal individuals unrelated to COVID-19 showing a significant drop in visits for oral health problems. [18] Because of the school closures, the mandatory preventive care health services provided in schools were also suspended increasing the risk of oral diseases. [19] Hence, a more committed focus is needed on the prevention of commonly occurring oral diseases and the promotion of healthier behavioral practices.

Covid-19 and Dental Care

Dental professionals who are very familiar with occupational health issues have been practicing advanced infection control measures and taking universal precautions for minimizing the spread of the infection directly or through cross-contamination. [20] During the outbreak of pandemic the challenges being faced by them have tremendously increased because of their proximity to infected patients. These patients' mouths are unmasked and wide-open during dental treatments, significantly increasing the potential for direct and indirect exposure to infectious materials. The Occupational Safety and Health Administration designate the performance of aerosol-generating procedures on known or suspected COVID-19 patients as very high-risk patients. [21] Two of the highest aerosol-producing procedures in oral health systems involve inventions that have been considered major advances in dental practice, because they are faster and less painful for the patient: the high-speed handpiece with its water spray coolant and the ultrasonic scalers [22]. These dental procedures have become challenging during the pandemic, providing an opportunity to shift to non-aerosolizing procedures and a greater focus on prevention [23,24]

Methods Promoting Public Oral Health in Covid-19

1. Prevention and Promotion
2. Tele-dentistry
3. Improved collaboration between the health system and community-based settings.
4. Ease dental manpower restrictions.

Prevention and Promotion

Awareness programs and oral health self-care through oral health education, dietary counseling, teaching skills like tooth brushing and flossing and fluoride uptake importance can reinforce the prevention of oral diseases thus, modifying oral health. These oral health messages and interventions should be integrated into the creches, schools, medical sites such as primary care and pediatric offices. [25-27] Preventive measures [28] such as non-surgical caries management via the use of dental resin, sealants, glass ionomer and atraumatic restorative treatment should be performed with the hand instruments to prevent the production of aerosols, thus, reducing the risk of transmission of covid-19. Other initiatives include the incorporation and implementation of oral health education as well as oral health promotion at different levels such as primary, secondary, and tertiary level, or macro and micro level. [29,30] Mass media provides opportunities to advocate social and oral health messages during covid-19 focusing to prevent the spread of oral health-related misinformation.

Tele-Dentistry

Teledentistry supports the delivery of oral health services through electronic communication means, connecting providers and patients without the usual time and space constraints. Its unique ability to connect disadvantaged, primarily rural communities and the homebound with dental providers[31] makes it well-suited to address the lack of access during and after the pandemic.

The incorporation of digital interfaces such as Tele-dentistry in health communication also helped the population specifically when physical contact of travel to the local clinic was difficult. Oral healthcare providers use teledentistry to facilitate support and provide care in correctional service facilities and settings where public access during covid-19 was limited and ensured to reach a more vulnerable population at risk.

Teledentistry can be used for education, consultation, and triage, allowing providers to advise patients whether their dental concerns constitute a need for urgent or emergency care, whether a condition could be temporarily alleviated at home, or whether treatment could be postponed. [31,32] When many dental offices are closed and people are largely staying at home, communication and information via teledentistry can help lessen the burden of people seeking dental care at overwhelmed emergency departments and urgent dental care settings. In more usual circumstances, teledentistry can also be used to facilitate access to preventive services and oral health education when members of the dental team can provide such services in community settings, such as schools, without onsite dentist supervision. [32]

Improved Collaboration Between Health System and Community-Based Settings

A stronger collaboration is required between the health system and community-based settings for the safe delivery of oral health promotion services, [33] these settings additionally provide opportunities for integrated oral health such as good oral health habits, positive oral health behaviors, and developing personal oral health skills.

Isolation and quarantine during COVID-19 place additional strain on the individual's ability to cope with the pandemic. [34] Strategies could be developed to help individuals cope with COVID-19 and make healthier behavioral choices. Oral health care workers have a role to play in the early recognition of signs of depression in patients and to make the necessary referrals for appropriate care. Oral health interventions directed at the individual level should focus on unhealthy behavioral practices such as diet, smoking and alcohol consumption. Smoking is linked to several health complications such as diminished lung capacity, cardiac complications, and periodontal disease. [35] Further complications can be associated with COVID-19 given that this is a respiratory-related disease. Integrated oral health messages could thus be directly beneficial at an individual level.[36] Thus, the prevention of disease and promotion of healthier lifestyles are integrated into the overall community and social development.

Ease Dental Manpower Restrictions

Easing scope of practice and workforce restrictions would also increase access to public oral health care. Increasing opportunities for dental team members like dental therapists, community dental health providers, and expanded function dental assistants would help bring more needed and affordable services to communities during the COVID-19 pandemic.

Conclusion

The COVID-19 pandemic has provided opportunities for renewed interest in the oral health agenda and presents several opportunities for dental researchers to focus on key issues. Important research priorities may include estimating the costs and benefits of expanded PPE use (and other changes in dental practice workflows), developing and testing innovative approaches to minimize aerosol generation during dental procedures, testing and validating teledentistry models, and evaluating alternative dental workforce models, such as dental therapists. A re-organization of oral health systems with a focus on the social orientation of oral health self-care could see improved oral health gains in the long term. Concurrently, the role of oral health care workers and their preparedness for a public health emergency should be reviewed and addressed through appropriate training platforms.

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