



COVID-19 and Its Implications in Dental Care

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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Short Communication

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ABSTRACT

COVID-19 was first reported in Wuhan, Hubei Province of China a few months ago (December 2019) and had since become a major challenging public health problem for not only China but also many countries around the world. It was on March 11, 2020, characterized by WHO as a pandemic. The pandemic so far has killed more than 526,465 people and infected more than 11,046,917 people around the world as of 05 July 2020. Nigeria currently has 28,167 confirmed COVID-19 cases with 11,462 (40%) discharged, 16,071 (57%) currently receiving treatment at designated facilities across the country and unfortunately 634 (3%) deaths as at the time of writing this manuscript. As far as the authors are aware, there are little or no work carried out on the implications of COVID-19 on dental practices in Nigeria. Recently, COVID-19 was identified in saliva of infected patients and so transmission via aerosols and splatter generated during dental procedures is sure. To limit exposure, there was a need to avoid scheduling patients except for emergency dental care during this outbreak. This limitation on activities of the dental sector has a very huge impact on the economy of the sector as it has already resulted in serious monetary implications for dental practices worldwide. While dental practices in the high-income countries are getting help from their respective Government, those in the middle and low-income countries like Nigeria have been left to wallow in bankruptcy without support. The authors highly recommend that the Government of these neglected countries, step up and support dental practices that are on the brink of closing down due to the low turnout of patients to their practice during this outbreak.

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1. INTRODUCTION

The pandemic COVID-19 is caused by a coronavirus. Coronaviruses are from a large family of viruses that are common in humans and many species of animals which include bats, cats, camels, and cattle. The novel coronavirus (COVID-19) is a betacoronavirus and apart from it, six other known coronaviruses affect humans: HCoV-229E, HCoV-OC43, SARS-CoV, HCoV-NL63, HCoV-HKU1 and MERS-CoV [1-3]. Severe Acute Respiratory Syndrome (SARS) and Middle East Respiratory Syndrome (MERS) Coronaviruses has caused the large scale pandemics in the last two decades [4-6]. COVID-19 is reported to have higher levels of transmissibility and pandemic risks than SARS-CoV and MERS-CoV [7].

In December 2019, a large number of the patients at the epicenter of the outbreak in Wuhan, Hubei Province in China had some link to seafood and live animal market suggesting that the coronavirus may have been spread by animal-to-person [7]. The cases outside China didn't have this exposure and this indicates person-person spread [7]. There are also various reports of infection among health workers taking care of infected patients [7-9]. Since then it has become a major challenging public health problem for not only China but also countries around the world [10] and had made WHO to characterize the outbreak as a pandemic on March 11, 2020, making it the first time to call an outbreak a pandemic since the H1N1 "swine flu" in 2009 [11].

The most common symptoms of COVID-19 according to a report by WHO that draws on more than 70,000 cases in China include fever (in 88% of cases), dry cough (68%), fatigue (38%), and sputum/phlegm production (33%). Shortness of breath occurred in nearly 20% of cases and about 13% had a sore throat or headache [12]. The average incubation period of COVID-19 is estimated to range from 2 – 14 days [7,13]. The complete clinical picture of the coronavirus disease has not been fully elucidated. Reported cases of the disease have ranged from very mild in severity (with some patients asymptomatic) to severe respiratory, enteric, hepatic, and neurological symptoms, sometimes resulting in death [14,15]. Mortality from COVID-19 is commoner in older populations

and people of all ages who have co-morbidities such as heart disease, lung disease, and diabetes [8,16].

As at this time, there is no vaccine to protect against COVID-19 and no antiviral medication has yet been approved to treat. What is being practiced currently are non-pharmaceutical interventions to try to delay the spread of the virus with symptomatic management and supportive care of hospitalized patients [1,9]. Non-pharmaceutical interventions in use include case isolation, identification and follow-up of contacts, use of personal protective equipment like face masks along with basic hand hygiene and social distancing of at least 1 meter [17]. On March 26, 2020, President Muhammadu Buhari announced a total lockdown of activities in Lagos, Abuja, and Ogun states as a nationwide effort to slow the spread of COVID-19 through the implementation of social distancing at all levels of the society.

The index COVID-19 case in Nigeria was an Italian businessman, who arrived Lagos from Milan, Italy on 25 February 2020. The pandemic so far has killed more than 526,465 people and infected more than 11,046,917 people around the world as of 05 July 2020. Nigeria currently has 28,167 confirmed COVID-19 cases with 11,462 (40%) discharged, 16,071 (57%) currently receiving treatment at designated facilities across the country and unfortunately 634 (3%) deaths as at the time of writing this manuscript [18].

2. RELEVANCE TO DENTISTRY

An article entitled "The workers Who Face the Greatest Coronavirus Risk", published in the New York Times on 15th March 2020 used an impressive schematic figure to explain that the dentists are the healthcare workers most at risk to contracting COVID-19 far more than medical doctors, nurses, and other hospital staff [19]. Thus, the American Dental Association (ADA) has recommended that dentists take personal protection measures seriously and minimize carrying out procedures that produce droplets or aerosols such as with the use of ultrasonic scalers in oral prophylaxis, air polishers in polishing, dental handpieces in tooth preparation for crown and bridges and also with the use of air abrasion units for tooth bleaching [20].

A fundamental point to note is that the virus is transmitted mainly through inhalation/ingestion/direct mucous contact with saliva. Since the viral load of coronavirus is very high in COVID-19 infected patients (symptomatic or asymptomatic), the use of antiseptic mouthwashes such as Chlorhexidine, Listerine and others can reasonably help to reduce the viral loads in the saliva [21,22]. To minimize aerosol and splatter formation, the use of saliva ejectors with a low or high volume is recommended [22]. Considering the risk faced by a dentist in treating patients who may be positive for COVID-19, it is, therefore, necessary that dentists follow the guideline as documented by researchers from Wuhan University School and Hospital of Stomatology and also that by the American Dental Association (ADA) [21].

To limit exposure to the virus and to reduce the waiting time of patients at the dental reception area, it is recommended that dentists avoid scheduling patients unless it is for emergency dental care during the coronavirus outbreak. Patients presenting for emergency treatment should be adequately screened with infra-red thermometers and history taking about recent travels, health condition, and risk of having been in contact with an infected person taken. Patients presenting with a fever higher than 37.5⁰C should be further investigated and questioned. As much as possible, the dentist and its team should work at an adequate distance from the patient. Handpieces used should be equipped with anti-reflux devices to prevent contamination and reduce the risk of cross-infection.

3. IMPLICATIONS IN DENTAL CARE

The limitation on activities of the dental sector has a very huge impact on the economy of the sector as it has already resulted in serious monetary implications for dental practices worldwide. Dental practices most especially the private facilities are currently experiencing huge monetary losses as they are only allowed to carry out emergency dental treatments. Routine dental procedures like restorations, scaling and polishing, tooth bleaching and extraction of asymptomatic teeth for orthodontic and other reasons have been suspended to reduce the spread of coronavirus. In a study by Guo and colleagues, 38% fewer patients visited the dental emergency centers in China for treatment during the beginning of the COVID-19 outbreak compared with a month before the outbreak (970 vs. 1570) [23].

Reports from a survey of dentists practicing in Ireland stated that one-fifth of the 369 study respondents have closed their practices (temporarily or permanently) [24]. Also, estimates of about three-fourth of the dentist are experiencing a financial loss of more than 70% [24]. In Nigeria, some private dental practices are being closed down due to the low turn-out of dental patients whereas some are not closing since they still manage to get few patients coming in for emergency dental treatments. Government-owned dental facilities are still functional and open for emergency dental services. Dental practices in the United Kingdom according to the British Dental Association are facing huge financial losses due to the suspension of routine dental care [25]. While awaiting reports from other countries, it is very much likely that they are going to also report huge financial losses during this COVID-19 outbreak period.

Due to the huge monetary losses being experienced by owners of dental facilities, the Government of many high-income countries has come to their rescue by offering support in form of loans [26]. The Government of Ireland has agreed to give business loans to dental practices having issues with payment of salaries and staying afloat [27,28]. The government of the UK has also put aside loans for business owners including dental services providers to avoid them folding up during this outbreak [29]. Similarly, the Canadian Government has kept aside \$C 27 billion to support businesses that may be facing huge financial losses during the COVID-19 outbreak [30].

While dental practices in the high-income countries are getting help from their respective Government, those in the middle and low-income countries like Nigeria have been left to wallow in bankruptcy without support. The authors highly recommend that the Government of these neglected countries, step up and support dental practices that are on the brink of closing down due to the low turnout of patients to their practice during this outbreak.

4. CONCLUSION

As most of the routine dental care is not available during the outbreak, it is expected that demands for dental services will likely soar after the COVID-19 outbreak. Therefore the government is encouraged to support the dental practices so they can be able to offer comprehensive dental care at the end of the tunnel.

CONSENT AND ETHICAL APPROVAL

It is not applicable.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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