



COVID-19: a novel coronavirus and a novel challenge for oral healthcare

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Abstract

Objectives Explore how to manage oral healthcare during the COVID-19 outbreak.

Materials and methods In order to solve oral healthcare during the COVID-19 outbreak, our hospital has taken effective measures: build a team of experts, which provide a 24-h hotline, online video consultation, and online training and push popular science articles on WeChat. For the treatment of emergency patients aside from routine epidemic prevention measures, some special measures for oral treatment need to be added.

Results From January 23, 2020, to March 2, 2020, a total of 3035 patients received oral therapy during the COVID-19 epidemic in our hospital. To our knowledge, no oral health worker or patient has been infected with COVID-19 due to oral treatment, and no patients have complained about the suspension of treatment by complaints hotline.

Conclusion COVID-19 is a novel challenge for oral healthcare. Attention should be paid to oral healthcare during the outbreak of COVID-19.

Clinical relevance These experiences of oral healthcare can be used as a reference by stomatological hospitals and oral clinics during public health emergencies.

Keywords Novel coronavirus pneumonia · COVID-19 · SARS-CoV-2 · Oral healthcare · Oral treatment

In December 2019, a novel coronavirus pneumonia (COVID-19) appeared in Wuhan, Hubei Province, China; it then quickly spread to most provinces of China as well as many other countries, such as Iran, Korea, and Italy, showing an outbreak trend. It quickly attracted worldwide attention [1] and was evaluated as an infectious public health emergency by the World Health Organization. China has therefore launched a first-level response to this major public health emergency. By 24:00 on February 20, 2020, a total of 74,675 confirmed cases and 2121 deaths in China, 1073 confirmed cases and 8 deaths outside China, had been reported by Wu and McGoogan [2]. However, As of March 24, 2020, there are confirmed cases of COVID-19 in more than 100 countries; a total of 81,847 confirmed cases and 3287 deaths in China, a total of 331,533

confirmed cases and 15,386 deaths outside China, including 69,176 in Italy, 53,268 in the USA, and 42,058 in Spain, had been reported. The numbers of confirmed cases and deaths of COVID-19 in China, in Hunan Province, and outside China are also shown in Table 1.

COVID-19 can be transmitted by droplets, contact [3], and aerosols [4], and it carries a high risk of infection [5]. A total of 1716 medical staff had become infected and 5 have died (0.3%) in China [6]. During oral treatment, doctors' and patients' faces can be in close proximity for a long time. Moreover, equipment such as high-speed turbines and oral cleansers create a lot of water vapor. As such, there is an increased risk of the spread of the virus during this type of work. If a patient conceals his or her illness or visits the dentist during the incubation period, the doctor, the disease can be easily spread during oral diagnosis and treatment. Therefore, in most provinces and cities in China now, all private stomatological hospitals, oral outpatient departments, and oral clinics are required to stop treatment; only public stomatological hospitals and general hospitals retain the necessary emergency stomatological department and operations to deal with acute toothaches, tooth trauma, maxillofacial

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Table 1 The confirmed cases and deaths of COVID-19

Region	Confirmed cases	Deaths
China	81,847	3287
Hunan Province	1018	4
Outside China	331,533	15,386

infection, and other emergencies. Optional treatments have been suspended. While such measures can effectively reduce the occurrence of cross-infection during oral treatment, timely treatment will be delayed for many oral diseases. If an oral emergency is not treated in a timely manner, the result can be a serious damage to oral health.

Changsha Stomatological Hospital is the largest stomatological hospital in Hunan Province, China, with as many as 500,000 outpatient visits a year. After implementing epidemic prevention and control measures, the outpatient volume of our hospital decreased from the daily average of 1340 to 76. This means the majority of oral diseases are not receiving timely and effective treatment. As such, how to deal with oral diseases during the epidemic is a problem, which urgently needs to be solved.

In order to solve this problem, our hospital has taken effective measures: the first one is to build a team of experts, which provide a 24-h hotline to advise patients with oral disease and determine whether they to come to the hospital, or how to deal with it. The second is to provide online video consultation for patients, who have difficulty judging their oral diseases through telephone consultation. Third, oral experts use online training to teach patients how to deal with non-acute oral diseases. The fourth measure is to push popular science articles on WeChat to educate the public about oral health knowledge, strengthen prevention and treatment, and reduce oral-disease occurrence.

For the treatment of emergency patients aside from routine epidemic prevention measures, such as wearing goggles, protective masks, isolation clothes, and gloves, the following protective measures have been added at our hospital: screening patients before diagnosis and treatment; ensuring the use of one clinic for each patient; having patients gargle with a mouthwash that can counter the virus before treatment; improving the cleaning and disinfection of the clinic; using rubber barriers, and using high-capacity aspirators.

The question of how to maintain oral healthcare during an epidemic is still being explored. The measures we implemented have achieved good results and have been used as a reference by many other parts of the country. From January 23, 2020, to March 2, 2020, a total of 3035 patients received oral therapy during the COVID-19 epidemic in our hospital. To our knowledge, no oral health worker or patient has been

infected with COVID-19 due to oral treatment, and no patients have complained about the suspension of treatment by complaints hotline. COVID-19 is a novel challenge for oral healthcare. During an epidemic, how to maintain the oral healthcare is a serious problem that requires attention and appropriate measures. The experiences of healthcare described here can be used as a reference by the Chinese government and in other parts of the world during public health emergencies.

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Compliance with ethical standards

Conflict of interest The authors declare that they have no conflict of interest.

Ethical approval This article does not contain any studies with human participants or animals performed by any of the authors.

Informed consent For this type of study, formal consent is not required.

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