

Protection & Preventive Measures for Dentist on COVID-19

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Abstract

Currently, discovered coronavirus is a causative agent for infectious Coronavirus disease (COVID-19) which occurred in December 2019. Its approach of spread is primarily through droplets of saliva or discharge from the nose when an infected person coughs or sneezes. It is spreading quickly throughout the world. For COVID -19 there is no preventive vaccines at this time. Therefore, Dental health care professionals are at higher risk as they work in close proximity to patients. They are more prostrate to aerosol infections. Dentists should follow standard precautions to protect themselves from this virus. This article aims to provide all Protection and Preventive measures which can be taken by dental health care professionals while providing urgent dental care to the patients.

Keywords : COVID-19, Dentist, Protection and Prevention.

INTRODUCTION

COVID-19 is recently discovered viral infection that started in Wuhan China and caused the outburst of pneumonia in the rest of the world. It seem like that the speedily spreading virus is more transmissible than SARS-CoV and MERS-CoV^{1,2}. A novel corona virus (Covid 19) is associated with human to human transmission through aerial condensations, contact or touch an infected person or a contaminated surface. Dental health care Professionals are at the greatest risk as they work in close proximity to patients. Because of exposure to the virus many dentists are already under quarantine. The need of the hour is to prevent certain viral infections. The situation is disquieting as the graph of average no. of cases each day is rambling as shown in Fig. 1^{3,4}

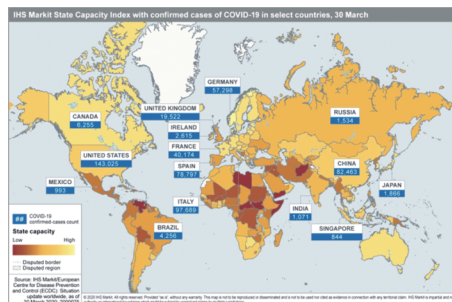


Figure 1. HIS market state capacity index with confirmed cases of COVID-19 in selected countries, 30 March 2020.

While treating patients keep following points in mind :

Identification

Dentist are exposed to oral cavity which is a common way for infection transmission, they should be alert. While providing the treatment the Dental Health Care personal have to be alert to prevent nosocomial spread of infection. The spread of COVID-19 is commonly via aerosol in the dental practice.⁴⁻⁵

- Therefore identify patients with an acute respiratory illness. Exclusive feature of COVID-19 is it causes both Upper & lower respiratory tract infection. Patient should fill out a comprehensive medical history.
- Its symptoms include Fever, fatigue, dry cough, sputum production, shortness of breath, sore throat, headache, chills, nausea & vomiting, nasal congestion, diarrhea, hemoptysis & conjunctival congestion.
- The dental practitioners should evaluate the body temperature of the patient using a camera having infrared thermal sensors or non-contact forehead

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thermometer. Patients who present with fever ($>100.4^{\circ}\text{F} = 38^{\circ}\text{C}$) and/or respiratory disease symptoms for at least 2-3 weeks the Elective dental care procedures should be deferred.

- Ask every patient about their travel history in the last 14 days or being in contact with such person having travel history.
- While confirming appointments or during the arrival of patients for treatment, appropriate questions should be asked which includes whether patients have been in close contact with someone who has been diagnosed with or is under investigation for COVID-19.
- Patients answering yes to these questions should be encouraged to contact their physician as early as possible for COVID-19 diagnosis. If dentists or staff member comes in contact with a COVID-19 patient, they should get screening immediately.

Infection Control Measures

- Personal protection equipment (PPE) is compulsory while treating such patients.
- Handpieces should be Autoclave after each use.
- High-speed evacuation should be used for dental procedures producing an aerosol (for e.g. In Endodontic procedures or ultrasonic scaling)
- According to WHO, hand hygiene involves either cleaning hands with soap and water for at least 20 seconds. 60% alcohol based Sanitizers should be used.
- Patient should wear a mask and practice appropriate respiratory hygiene, for example cover the mouth and nose with tissue when coughing and sneezing and then through the tissue away.
- To clean and disinfect the medical kits (Thermometers, Blood pressure cuffs etc.) apply 70% ethanol.
- Routine cleaning and disinfection strategies should be followed in dental offices.⁶⁻⁷

Pharmacologic Treatment

Patient who is suspected or confirmed with COVID-19 infections, requiring emergency dental care in case of tooth pain or swelling. The antibiotics and analgesics method may provide relief of symptoms. It will give dental practitioners some time to plan dental treatment and to minimize the infection spread.

On 17 March 2020, the patients who is infected with COVID-19 prescribed acetaminophen as analgesic instead of ibuprofen according to British Medical Journal because ibuprofen can interfere with the immune system function.^{7,8,9} In certain emergency cases such as dentoalveolar trauma, fascial space infection etc dentists should be aware of the following recommendations:

To prevent cross- contamination, it is mandatory to use disposable dental equipments.

• Radiographs

Extra-oral imaging such as Cone-beam computer tomography (CBCT) and panoramic radiograph should be used to prevent the cough or gag reflex that happened during

intraoral imaging. When intraoral imaging is required, sensors should be double-covered to avoid cross-contamination and perforation.

Rubber Dam

Rubber dam should be used to reduce splatter generation. The rubber dam basically used in endodontic treatment, Restorative and Pediatric Dentistry when rotary instrumentation is needed.

• Single Use Tools

To prevent cross- contamination the dentist should apply single used devices for example mouth mirrors, syringes, blood pressure cuff, thermometer etc.

Other Clinical Tips

- During tooth extraction, do the procedure in a supine position to prevent from operating in the patient's respiratory tract.
- During removable partial or complete denture try-in, stop touching other items in the dental workplace after contacting the saliva of the patient.
- All prosthodontics material such as bite registration and whatever removed from the patient's mouth (e.g., dental prosthesis, impressions, etc.) should be completely disinfected by an intermediate-level disinfectant.
- Salivary suction should be carefully carried out to prevent gag reflex.
- Choose and modify trays to have the proper size for doing the impression to prevent coughing.
- Using oral mucosa anesthesia to the throat before performing the impression is a good option for extremely sensitive patients.

REFERENCES

1. Meng L, Hua F, Bian Z. Coronavirus Disease 2019 (COVID-19): Emerging and Future Challenges for Dental and Oral Medicine. Journal of Dental Research. 2020. PMID: 32162995. doi: 10.1177/0022034520914246.
2. Yousef KhaderSCD, ; Mohannad Al NsourPhD, ; Ola Barakat Al-BataynehFRACDS, ; Rami SaadehPhD, ; Haitham Bashier; Mahmoud AlfaqihPhD, ; Sayer Al-AzzamPhD, ; Bara' Abdallah AlShurmanMScDentists': Awareness, perception, and attitude regarding COVID-19 and infection control: A cross-sectional study among Jordanian dentists, JMIR Public Health and Surveillance on: March 19, 2020.
3. htt1. Meng L, Hua F, Bian Z.
4. Jasmine Marwaha, Kianor Shah: Safety & Preventive Measures for Dental Health Care Professionals on COVID-19; International Journal of Science and Healthcare Research Vol.5; Issue: 2; April-June 2020.
5. Peng X, Xu X, Li Y, Cheng L, Zhou X, Ren B. "Transmission routes of 2019-nCoV and controls in dental practice". Int J Oral Sci (2020 Mar 3).
6. Ge ZY, Yang LM, Xia JJ, Fu XH, Zhang YZ. Possible aerosol transmission of COVID-19 and special precautions in dentistry. Journal of Zhejiang University-SCIENCE B. 2020 Mar 16:1-8.
7. Amber Ather BD, Nikita B. Coronavirus Disease 19 (COVID-19): Implications for Clinical Dental Care. Journal of Endodontics. 2020;46(5).
8. Li RW, Leung KW, Sun FC, Samaranayake LP. Severe acute respiratory syndrome (SARS) and the GDP. Part II: Implications for GDPs. British dental journal. 2004 Aug;197(3):130-4.
9. Michael Day "Covid-19: ibuprofen should not be used for managing symptoms, say doctors and scientists" 2020 BMJ page. 1
10. Xie X, Li Y, Sun H, Liu L. Exhaled droplets due to talking and coughing. Journal of the Royal Society Interface. 2009 Dec 6;6(suppl_6):S703-14.

