

What is Coronavirus Disease-19? Precautions to Be Taken In Dental Care

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Type of Publication: Review Article

Conflicts of Interest: Nil

Abstract

Coronavirus disease 2019, also known as COVID -19 is rapidly involving the whole world. It is a global pandemic and stated as a worldwide emergency. Severe acute respiratory syndrome coronavirus 2 (SARS- COV-2) is the pathogen which is responsible for this disease. This virus was recently found in saliva of an individual, and in human to human transmission saliva plays a major role. So, Dentists and all other healthcare professionals are on high risk. Virus is transmitted through inhalation or injection and this virus can also survive on hands or surfaces that were exposed to infected saliva. In this article we will discuss about COVID-19 and which precautionary measures should be taken by dentists in their clinics in order to overcome its risk factors.

Keywords: COVID-19, SARS-COV-2.

Introduction

The novel coronavirus belongs to a family of single-stranded RNA viruses known as Coronaviridae.¹ Covid-19 started in the area of Wuhan, China and then it spread into the whole world. Initially it was recognized by Dr Li Wenliang but the local government of Wuhan did not recognize its significance, with time the central

government took a rapid action and the COVID-19 cases got slowed down.² In all medical and dental fields covid-19 has posed many significant challenges in all the affected countries.³ This virus has similarity to the coronavirus species which is found in bats.⁴ The dentists can become potential carriers of this disease because of the high risk of nosocomial infections.^{5,6} So a dentist should be fully prepared to recognize the COVID-19 patient and then he should refer him immediately to the appropriate treatment centres.

Routes of Transmission

The major routes of transmission of this SARS-COV-2 is through respiratory droplets or by contact. It will cause infection to a healthy individual within the radius of 6ft if an infected person sneezes. So social distancing is important to maintain in this pandemic so as to stop the further transmission of the COVID-19 disease.⁷ SARS-CoV-2 is present in saliva and feces of the infected persons and this is mentioned in various studies. Human Angiotensin-converting enzyme 2 receptors are highly concentrated in salivary glands on which this SARS-CoV-2 can bind, so this could be the reason that in secretory saliva there is a presence of SARS-CoV-2.^{8,9} Therefore the

transmission of COVID-19 via aerosols or fecal-oral-route may lead to nosocomial spread in the dental clinics.¹⁰

Symptoms

Fever, myalgia, dry cough are the most common symptoms found in COVID-19 infected person. Other symptoms have also been noticed in infected persons such as nausea, loss of taste sensation, reduced sensation of smell. 80% of these patients have mild symptoms that resemble flu like symptoms and this lead to an increased number of undiagnosed cases.¹¹ These asymptomatic patients can act as carriers. SARS-CoV-2 is very highly transmissible when patients are most symptomatic. Chances of transmission can occur before any symptoms are apparent because it is said that the incubation period of this virus ranges from 0-24 days. A person with cardiovascular disease or immunosuppression are at higher risk.¹²

Precautions to Be Taken In Dental Clinic

Various dental emergencies which needs to get treated in this COVID -19 era are:

- Tooth fracture leading to severe pain
- Avulsion of tooth due to any trauma
- Uncontrolled bleeding
- Facial bones trauma
- Prior to any critical medical treatment any dental treatment required
- Cellulitis
- Abscess
- Pericoronitis
- Severe dental pain¹³

So before treating these dental emergencies various precautions are to be taken by dentists in their dental operatory:

- Personal protective equipment and hand hygiene practices should be followed by every dentist. A dentist should ask certain questions to the patient before starting the dental treatment.
- 1. In past 14 days have you or any household member travelled to areas with known cases of COVID-19
- 2. Have you had any history of cough or fever, breathlessness, nausea from past 14 days
- 3. Have you or any household member had any contact with COVID-19 positive patient in the past 14 days.¹⁴
- Appointments should be fixed through phone only.
- A patient should be advised to come alone in the dental clinic.
- Patients temperature should be recorded using non-contact infrared thermometer.
- Mask should be provided to everyone and use of hand sanitizer frequently.
- Consent form should be signed by the patient.
- Air circulation should be improved and air-conditioners should be avoided.
- Dental water lines should be disinfected by 0.1% of NaOCl.¹⁴
- In some earlier studies it was mentioned that SARS-CoV and MERS-CoV were highly susceptible to 0.2% of povidone-iodine mouth rinse if used as a preprocedural mouth rinse. SO, this 0.2% of povidone-iodine might reduce the load of corona virus in saliva for 1 min.¹⁰
- 1% Hydrogen peroxide can also be used as preprocedural mouth rinse.
- Use of IOPA should be minimized.¹⁴
- Rubber dam should be used so that it covers the nose.

- High speed handpieces, 3 way syringes and ultrasonic instruments should be avoided by dentists in order to reduce the risk of generating contaminated aerosols.
- Aerosol generating procedures should be ideally done in designated isolation rooms which should be equipped with HEPA (High- efficiency particulate air) filters.
- After the dental treatment is over the patient is advised to re -mask and move to reception area.¹⁵

This virus (SARS CoV-2) can survive upto 3 days on inanimate surface at room temperature, as it remains viable in aerosol. Therefore to curb the spread of SARS CoV-2 it is necessary to disinfect inanimate surfaces using chemicals which are approved for COVID-19 and dry environment should be maintained.¹⁶

Conclusion

In conclusion, it is a duty of any health care professional to protect the public by maintaining high standards of care and infection control. In this COVID-19 pandemic the dentist should wisely choose the dental emergency patients so that it will reduce the chances of community transfer. Dentists should properly follow the standard operating protocols for dental patients.

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How to citation this article: Dr. Nimra Iqbal, Dr.Asif Iqbal, Fayiq Farooq , Sidrat Fatima, “What is Coronavirus Disease-19? Precautions to Be Taken In Dental Care”, IJMACR- May- June - 2020, Vol – 3, Issue -3, P. No. 25 – 28.

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