

Patient Management And Prevention Of Covid-19 Infection To Dental Practices During The Pandemic. Literature Review

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ABSTRACT

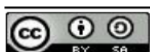
At the end of 2019 until now, dentists have experienced difficulties in practice due to Corona Virus Disease or Covid-19. The outbreak was first identified in Wuhan city of Huabei province, China in December 2019 and was declared a pandemic by the WHO on March 11, 2020. The main impact of the fatal nature of this virus is a fairly high transmission ability from human to human through contact with droplets and aerosols. Covid-19 can infect the respiratory tract, causing mild pneumonia to death. Dental health workers are at high risk for exposure to Covid-19 infection due to the inability to maintain a distance between people of more than one meter and exposure to saliva, blood and other body fluids during dental procedures. In addition, many dental procedures can produce aerosols. The purpose of this study was to analyze patient management and Prevention of Covid-19 virus infection in dental clinics. This study is a literature review analyzed using PICOS by identifying scientific articles from 2016-2021 in English and Indonesian and full text. The databases used are PubMed, Research Gate, Google Scholar and Science Direct with a total of 627 articles identified using keywords dental patient management or Covid-19 prevention or PPE or clinical disinfection. The study results obtained 8 articles that discuss factors that affect patient management and Prevention of Covid-19 infection in dental clinics. Conclusion: initial screening of patients before arrival needs to be applied to categorize the solubility of the treatment to be given. Each patient should be considered infected with this virus in anticipation of treatment measures. Dental hygienists must use level 3 PPE and remove the PPE in order. Disinfect the room and tools that have been used to avoid droplets that stick to the surface.

Keywords: Dental Clinic Patient Management, PPE, Disinfection

INTRODUCTION

The corona virus pandemic is an outbreak of the disease caused by SARS-CoV-2 (Severe Acute Respiratory Syndrome-Corona Virus-2). The outbreak was first identified in Wuhan city, Huabei province, China in December 2019 and was declared a pandemic by the WHO on March 11, 2020. Covid-19 is related to human-to-human transmission through contact with droplets and aerosols (Ruslin et al, 2020). Common signs and symptoms of Covid-19 infection include symptoms of acute respiratory distress such as fever, dry cough and shortness of breath. The incubation period is estimated between 5-6 days, with a range between 1-14 days and can change at any time according to the development of the case. The main impact that is fatal from this disease is a fairly high transmission ability, can infect the lower respiratory tract, cause pneumonia with symptoms that appear mild, can cause inflammatory storms (cytokine storm), respiratory failure to death (Chen et al, 2020). Some studies also reveal the oral cavity has ACE2 receptors. These receptors can be found on the tongue and salivary glands, suggesting that saliva plays a role in the transmission of Covid-19 (Rabi et al, 2020).

Dental health workers are at high risk for exposure to Covid-19 infection due to the inability to maintain a distance between people of more than one meter and exposure to saliva, blood and other



body fluids during dental procedures. In addition, many dental procedures can generate aerosols (Amato, 2020). The most recommended guidelines are: the dentist should limit the procedures in his practice and reduce the number of dental appointments. Based on this description, it is necessary to conduct a study of changes in patient management and virus infection prevention protocols in conducting dental practice during the Covid-19 pandemic. So it can be used as a reference for dentists and patients who will perform dental and oral care and prevent the spread of Covid-19.

METHODS

The design of the literature review search was carried out by identifying all types of international articles on patient management and Prevention of Covid-19 infection in dental practices. Electronic databases used are PubMed, ResearchGate, Google Scholar and ScienceDirect with search strategies using the PICOS (Patient, Intervention, Comparison, Outcome and Study Design) method. Articles obtained 8 inclusion articles from 1220 articles identified.

RESULT

The results of the literature review of the 8 journals showed a discussion of patient management in dental practices such as; screening and categorization of patients, implementing health protocols by washing hands, maintaining distance in the waiting room, wearing masks before dental treatment, providing hand sanitiser in every corner of the room. The results for the Prevention of Covid-19 infection in dental practices include; using level 3 PPE for dental health workers, knowing the procedures for the sequence of wearing and removing PPE, sterilization and disinfection of rooms and objects that have been used.

Chart 1. Research entitled “Patient Management and Prevention of Covid-19 infection of dental practices during the pandemic. Literature Review” it uses 8 journals, with Journal descriptions as follows :

Initial	1	2	3	4	5	6	7	8
Patient Management	Screening	Screening	Categorization & Screening	Screening	Screening	Screening	-	Screening
Infection Prevention	PPE & Disinfection	PPE & Disinfection	PPE	-	PPE & Disinfection	Disinfection	PP E	PPE

DISCUSSION

Based on the results of the study, it was found that patient management in dental practices has changed with the Covid-19 pandemic. During the pandemic, dentists were forced to reduce and even stop their practice for months so that visitors to dental clinics declined sharply.

Patient management at a dental practice during a pandemic

Because of the high transmission routes, dentists need to categorize treatments based on emergency conditions. The first to do is the initial screening of the patient, it can be by phone or text. Amber Ather (2020) presents some of the most relevant questions for initial screening including the presence of symptoms of respiratory disease fever or cough during the last 14 days, travel history to areas with high Covid-19 transmission during the last 14 days and history of contact with confirmed Covid-19 patients during the last 14 days. If the patient has more than 1 sign of Covid-19 symptoms it is better to postpone treatment and the patient is recommended to self-isolate for 14 days. Every patient should be considered potentially infected and all dental practices need to review infection control policies.

For clinic management that needs to be done when patients come to the dental practice is recommended to wash hands with soap in running water first and then do a body temperature check with a thermometer that is not in contact with the patient's body. The clinic waiting room needs to be arranged in such a way as to maintain a distance between patients of at least 1 meter in addition to the waiting room must be facilitated with hand sanitizer and required to wear double masks. Before starting

treatment of the oral cavity, the patient rinses the mouth with 0.5-1% hydrogen peroxide or 0.2% povidone iodine to weaken SARS-CoV2 contained in saliva.

Prevention of Covid-19 infection by using PPE and disinfection

Dentists belong to the category of professions with a high risk of transmission of the Covid-19 virus. This assessment is based on the potential for transmission from measures taken during treatment such as lack of distance between patients and direct contact with aerosols suspected of containing the Covid-19 virus. Therefore, during treatment, dentists and nurses must use level 3 PPE and post-treatment PPE must be removed in order. Level 3 PPE used is disposable headgear, disposable surgical mask, white coat, goggles or face shield, disposable latex gloves, protective clothing (hazmat). If hazmat is not available, then it can use a white coat with coated gown or disposable cloak and shoe cover.

Disinfection plays a much more important role in preventing Covid-19 cross-infection in dental clinics, as dental treatment will produce large amounts of droplets and aerosols. To prevent the occurrence of infectious contamination, the use of disinfectant materials using chemical liquids with the process of removing many or all pathogenic microorganisms, except bacterial spores on inanimate objects. Equipment that has come into contact with the skin and mucosa as well as the patient's saliva is recommended to be disinfected before performing the next working procedure.

CONCLUSION

Dental health workers are at high risk of being infected with the Covid-19 virus because they are in direct contact with patient aerosols. Initial screening of patients before arrival needs to be applied to categorize the solubility of the treatment to be given. Each patient should be considered infected with this virus in anticipation of treatment measures. Dentists and nurses should use level 3 PPE when practicing and remove the PPE in order after use. Do not forget to disinfect and clean the room and tools that have been used to avoid droplets that stick to surfaces.

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