



METHODS OF SAFETY OF DENTAL PROSTHETIC PRACTICE DURING THE COVID-19 PANDEMUM

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Abstract

The 2019-nCoV was different from SARS-CoV, but shared the same host receptor the human angiotensin-converting enzyme 2 (ACE2). The natural host of 2019-nCoV may be the bat *Rhinolophus affinis* as 2019-nCoV showed 96.2% of whole-genome identity to BatCoV RaTG13. The person-to-person transmission routes of 2019-nCoV included direct transmission, such as cough, sneeze, droplet inhalation transmission, and contact transmission, such as the contact with oral, nasal, and eye mucous membranes. COVID-19 can also be transmitted through the saliva, and the fetal–oral routes may also be a potential person-to-person transmission route. The participants in dental practice expose to tremendous risk of 2019-nCoV infection due to the face-to-face communication and the exposure to saliva, blood, and other body fluids, and the handling of sharp instruments. Dental professionals play great roles in preventing the transmission of 2019-nCoV. Here we recommend the infection control measures during dental practice to block the person-to-person transmission routes in dental clinics and hospitals.

Annotation: In this article, we will touch on several ways to keep the practice of dental prosthetics intact during the Covid-19 pandemic from them, including personal protective measures for dental prosthetics professionals, mouthwash before dental prosthetics practice, intraocular dam separation (Roterdam), anti retraction nakanechnik, hospital disinfection and medical waste management.

KEY WORDS : "coronavirus", "SARS-CoV-2", "COVID-19", "dentistry", "oral cavity", "biofilm", "saliva", "dental health", "infection control", "prevention", "Training" and "operations management"

COVID-19 virusning exile emergency pandemic bronze epidemic of March 2019 or December, finally Wuhan shahrandi. Pneumonia is an acute infection in the region and in 24 countries of Ukhandan crackaldi [1,2]. Zhakhan soglikni saklash



organization 2020 yil 30-January ushbu global pneumonia avj oliganligligi Hallaro saglik buzirsh emergency situation announcement of the Ministry.

Treatment of all vires, pneumonia clinic symptoms of ogrigan patients with temperature fluctuation new habit, feeling or fatigue wheezing yital, a, o, i, bylib the soreness of the paranormal kycrak cafe, phlegm kamrok abandoned symptoms azhralasi, maybe diarrhea and ogrigi E. [3, 4, 5]. The clinician identified some symptoms of 2002-2003 G. The Hillarid combined SARS Corona virus (SARS-CoV) was caused by causing and differential hair from chikhan Ogir Aleppo syndrome (SARS), which causes hidden Turin, found in churganlig and viral pneumonia that is loaded from Adam [6,7]. China research laboratory of the virus-infected distributed representation of the alishdi sample and the of its comparison genome (29,903 nucleotides) [8].Uhanda exporter smirk viral pneumonia yukumli was named the seventh member of the Semin of coronavirus (Covid-19), which finally loads on Adams [9]. 2020 February 11 CJSC viral pneumonia named "Crown disease virus (COVID-19)", viruses taxonomy of friendship narodarmitas (ICTV) Jan taxonomic taxonomic coronavirus Yang rated as "SARS-CoV-2" [10].

This covid-19 virus has not bypassed our Republic of Uzbekistan either. According to Bahrom Almatov, Chief Sanitary doctor of Uzbekistan, director of the sanitary and epidemiological tranquility Agency of Uzbekistan, a citizen of Uzbekistan who returned for the first time in France will be diagnosed with the Covid-19 virus on March 15 at 6:00.

To date, as of March 14, 2021, the number of cases of coronavirus infection in the Republic of Uzbekistan amounted to 80678, and on the same day (+111). Photo 1





Of the new cases of the disease: 4 were detected in Andijan region, 1 in Bukhara Region, 1 in Surkhandarya Region, 12 in Tashkent region, 93 in Tashkent. As of March 13, 2021, 7 patients have recovered in Andijan region, 15 in Tashkent region, 67 in Tashkent City, and those who have recovered from the disease have reached a total of 79,331 (+89), and the recovery rate is 99% [11].

As of March 6, 2021, the number of women in the Republic is 17,235,889, the number of men is 17,430,019, the total population is 34,665,908, according to The Information Service of the Republic of Uzbekistan [12].

To date, the recovery rate is 99 percent if a Coronavirus infection has been recorded in 0.23 percent of the total population in our republic.

Our organs such as the mouth, nose and eyes are the door to the coronavirus. If, with a decrease in immunity in the oral mucosa, optimal conditions are created for an increase in infection, the virus binds to the ace-2 molecule (angiotensin-converting enzyme 2 membrane protein) and affects the epithelium. If the oral cavity is not protected, serious damage to the mouth may be observed in the future, not only in the oral mucosa, but also in the surrounding tissues of the tooth and in the throat, such as petechiae and ulcers [13].

It is no secret that dental prosthetics doctors enter the hafvli group on the transmission of the disease. And without dentists, it is impossible to imagine tomorrow. Therefore, based on the scientific authorities of the world, we give variations to maintain their bitterness in the practice of oral and dental doctors.

This is not a routine check. Based on the materials collected from the Med-Pub database, this manuscript is limited to the texts of the search, written in English, such as "coronavirus", "SARS-CoV-2", "Covid-19", "Dentistry", "Oral Cavity", "biofilm", "saliva", "dental health", "infection control", "prevention", "education" and "practice management".

Possible transmission routes of the covid-19 virus: the new coronavirus common transmission routes include direct transmission (coughing, sneezing and breathing) and contact transmission (contact with mouth, nose and eye mucous membranes) [14]. General clinical manifestations of the new coronavirus infection do not include eye symptoms, but analysis of conjunctiva and samples from confirmed and suspected cases of the Sovid-19 virus shows that the spread of Sovid-19 is not limited to the respiratory tract [3] and, as soon as the virus enters the body through the eye, is an effective method of spread [15]. In addition, air droplet viruses have shown to be transmitted from person to person through direct or indirect contact through saliva or air droplets, and Sovid-19 can enter directly or indirectly through saliva [16].



Research has shown that Covid-19 falls into the air through aerosols formed during medical procedures [18].

Possible transmission routes of the Sovid-19 virus in dental prosthetics hospitals: since the Sovid-19 can pass directly from person to person through air droplets, it can also be transmitted through contact and phenotypes [15,19], according to the evidence that appears. In addition, the asymptomatic incubation period for individuals infected with the Sovid-19 virus is ~ 1-14 days and symptom-free [3, 4, 20] viruses have been confirmed to be able to spread. It is also significant that people infected with the Covid-19 virus reported the presence of living viruses in their saliva [22]. In addition, it has been confirmed that Covid-19 enters the cell in the same way as SARS coronavirus, that is, through ase2 cell receptors [23] . Sovid - 19 can effectively use ASE2 as its receptors for cell invasion, which can increase person-to-person transmission [9]. It was found that ase2 + cells are very abundant in the respiratory tract, as well as that the cells correspond morphologically to the human mouth with the epithelium of the canal of the salivary glands. Ase2 + epithelial cells of the ducts of the salivary glands have been shown to be the initial targets of SARS-CoV infection [23] and Sovid-19 may have the same condition [22].

Dentist patients and specialists can be exposed to pathogenic microorganisms, including viruses and bacteria that damage the oral cavity and respiratory tract. Dental treatment of a tooth always carries the risk of infection with Sovid-19, since its stages have a unique feature, which includes face-to-face communication with patients, frequent exposure to saliva, blood and other body fluids, and work with sharp instruments. Pathogenic microorganisms remain suspended in the air for long periods of time, microorganisms remaining in the air can enter the tooth settings through breathing [24], direct contact with blood, oral fluids or other patient items [25], conjunctiva, nose or mouth formed from an unprotected person and [26, 27] can come into contact with drops and aerosols containing microorganisms that travel short distances Anyone who has been to dental prosthetics hospitals and hospitals as well as walking around it can be a carrier of coronavirus infection.

Air spread: the air spread of SARS-CoV (severe acute respiratory syndrome coronavirus) is well recorded in many literature. Dental data show that many dental practices are prone to contamination by viral aerosols and drops[28]. Thus, the transmission of the Sovid-19 virus by drop and aerosol is one of the most important problems in dental clinics and hospitals, since during dental practice it is difficult to prevent the formation of large amounts of aerosol and air droplets mixed with the patient's saliva and blood [26]. In addition to the cough and breathing of the infected patient, dental devices such as the high-speed dental lever use high-speed air to



circulate the turbine lever at high speeds and work with running water. When dental instruments work in the patient's oral cavity, a large amount of aerosol and air droplets mixed with the patient's saliva or blood are formed. Particles of drops and aerosols are small enough to stay in the air for a long time until they settle on the surfaces of the environment or get into the respiratory tract. Thus, Sovid-19 dental clinics and hospitals have the opportunity to spread through drops and aerosols from infected people [22].

Spread in close contact: frequent direct or indirect contact of the dentist with the person's fluids, patient items and contaminated dental equipment or environmental surfaces opens the way for the spread of viruses. In addition, dental specialists and other patients come into contact with drops and aerosols, which contain microorganisms formed from a person infected with a conjunctiva, nasal or oral mucosa, and cover a short distance by coughing, talking without a mask. There is a great extortion to measures that provide frustration to prevent the spread of the covid-19 virus in close contact.

Spread over surfaces: epidemic coronaviruses such as SARS-CoV, Middle East Respiratory Syndrome Coronavirus (MERS-CoV) or human Covid-19 [25, 30] can persist for several days on surfaces such as human, metal, glass, or plastic. Therefore, contaminated surfaces that often come into contact with health conditions are a potential source of coronavirus infection. During dental practice, drops and aerosols are spread from patients infected with Covid-19, which pollutes the entire surface in dental offices. In addition, it has been shown that at room temperature, Sovid-19 remains contagious from 2 hours to 9 days and is well maintained by 50% compared to 30% relative humidity. Thus, maintaining a clean and dry environment in the dental office can help reduce the stability of the Covid-19 virus [23].

Measures to relieve infection in dental prosthetics practice: dental prosthetics professionals need to know well how to spread Covid-19 to prevent the spread of Covid-19, How to identify patients with Covid-19 infection, and what additional protective measures should be taken during the practice. Taking into account the fact that aerosols and drops in particular are perceived as the main focus of the spread of Sovid-19, infective measures that must be observed by dentists are recommended [23].

Patient assessment: first of all, dentists should be able to identify a suspected case of Covid-19 disease. To date, this document has been developed, and in the National guide of the Republic of Uzbekistan on Covid-19 of March 26, 2020 in Tashkent, in general, a patient with Covid-19, who is in the acute febrile stage of the disease, is not recommended to visit a dental clinic. If this happens, the dental specialist should be



able to identify a patient suspected of Covid-19 infection and not treat the patient in a dental clinic, first of all, immediately quarantine the patient and inform the infection control department as soon as possible, especially during the Covid-19 epidemic. The patient's body temperature must first be measured. A contactless forehead thermometer is recommended for viewing. Before taking patients infected with covid-19 near the dental table, a questionnaire should be used to examine them. These questions should include: [30] Have you had an increase in body temperature or have you had a body temperature in the last 14 days? [1] Have you recently experienced breathing problems such as coughing or difficulty breathing in the last 14 days? [2] Have you traveled in the cities and similar sites where Covid-19 has spread over the past 14 days, or have you visited a documented Covid-19-owned neighborhood? [3] Have you been in contact with a patient with confirmed Covid-19 infection in the last 14 days? [4] Have you been in contact with people from cities and surrounding areas where Covid-19 has spread over the past 14 days, or people from a neighborhood with recently elevated temperatures or respiratory infections? [5]. Have at least two people with body temperature or respiratory infections had close contact with you in the last 14 days? [31]. Have you recently attended any meetings, meetings, or have you had close contact with many unfamiliar people? Have you met people in your neighborhood with body temperature or breathing problems in the last 14 days? [5] if the patient answers "yes" to one of his clarifying questions and his body temperature is below 37.3°C , the dentist may postpone treatment 14 days after the exposure State. The patient should be instructed to self-quarantine at home and reported to the local health department about any body temperature or flu-like syndrome. If the patient answers "yes" to one of his clarifying questions and his body temperature is not less than 37.3°C , the patient must be quarantined immediately and dentists must inform the local health department or Control Department of infectious diseases of the hospital. If the patient answers all his clarifying questions "NO" and his body temperature is below 37.3°C , the dentist can treat the patient with additional protective measures and prevent the formation of air droplets or aerosols using methods consisting of several stages.

Personal protective measures for dental prosthetics specialists: currently, there is no specific instruction to protect dentists from Covid-19 infection in dental clinics and hospitals. Recent experience with SARS coronavirus has shown that many medical professionals in hospitals have been infected with infection [32]. Since infection with airborne droplets, especially in dental clinics and hospitals, is perceived as the main route, protective goggles, masks, gloves, caps, face shields and protective clothing with barriers are recommended in all health areas.



Based on the likelihood of the spread of covid-19 infection, three-level protective measures of dental specialists are recommended in certain situations. Primary protection (standard protection for employees in clinical conditions). Using protective goggles or a face shield, wearing a disposable cap, a disposable surgical mask, and work clothes (white robe), a disposable latex glove or nitrile glove if necessary. Secondary protection (modern protection for dental professionals). Wearing workwear (white robe) and disposable latex gloves with disposable doctor's cap, disposable surgical mask, protective goggles, face protection kit and disposable isolation clothing or surgical clothing outside. Third-degree protection protection is enhanced when in contact with a patient suspected or confirmed of having a Sovid-19 infection. Although treatment of a patient with a Sovid-19 infection in a dental clinic is not expected, it cannot be said that such a condition may occur, and the dentist will not be able to avoid close contact, special protective equipment will be needed. If there are no protective clothing, working clothes (white robe) with disposable protective clothing should be worn outside. It is also recommended that the Doctor wear a disposable cover, protective goggles, a face veil, a disposable surgical mask, disposable latex gloves, and disposable shoes [22].

Mouthwash before dental prosthetics: before starting the work process, be sure to ask the patient to rinse the oral cavity. It is believed that the fact that the mouth plays in the antimicrobial liquid before the operation usually reduces the microbes of the oral cavity. However, chlorgexidine, which is used as a conventional oral rinse in the diagnosis and treatment of new coronavirus pneumonia, as well as in the case of damage to the Sovid-19 virus, may not be effective [22]. Since Sovid-19 is anti-oxidant, it is recommended to rinse with special liquids containing oxidizing agents such as 1% hydrogen peroxide, in order to reduce the transmission of oral germs in the saliva, including for the transport of potential Sovid-19. Rinsing with special liquids shows its effectiveness in cases where the oral dam cannot be used.

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