From Standard Controls for Prevention Infection in the Dental Practice to CoVid-19 Guidelines for Minimizing Risk of Transmission

Ahmed Abulwefa
Department of Orthodontic-Pediatric-Preventive Dentistry, Tripoli University, Faculty of Dental Medicine and Oral Surgery, Tripoli, Libya.
* Corresponding Email: abulwefa2009@yahoo.com

ABSTRACT

The recent spread of CoVid-19 infection and its associated disease has gripped the entire international community and caused widespread public health concerns. Despite global efforts to contain the disease spread, the outbreak is still on a rise because of the community spread pattern of this infection. Responsible behavior of dentists, aimed at stopping the spread of the virus from dental offices showed that only emergency procedures were to be performed, in cases of toothache, trauma and odontogenic infections that might put organs or systems at risk. At the same time, with the cessation of all types of treatments, there was an immediate cessation of teaching processes in all university settings for dental medicine, since the data from World Health Organization strongly suggested death rates among doctors and students in close contact with infected persons. Guidelines for minimizing risk of CoVid-19 transmission in dental clinics have been fabricated together with responsible behavior in dental medicine; will result with a staged inclusion of teachers, students, researchers and clinicians in everyday work. While we are expecting an efficient vaccine, the only way to counter the virus are epidemiological measures and responsible behavior of every individual, in order to stop the spread of CoVid-19 virus.

Keywords: Corona virus, CoVid-19, Dental, Libyan-CoVid-19 guidelines, Pandemic.

INTRODUCTION

The novel corona virus (CoVid-19) belongs to a family of single-stranded RNA viruses known as Coronaviridae [1]. This family of viruses are known to be zoonotic or transmitted from animals to humans. These include severe acute respiratory syndrome corona virus (SARS-CoV), first identified in 2002, and the Middle East respiratory syndrome corona virus (MERS-CoV), first identified in 2012 [2]. The World Health Organization (WHO) proclaimed the pandemic on March 11, 2020. The pandemic caused by the corona virus turned the world upside down overnight and made living completely different. In this change, our profession, the dental medicine, an extremely affluent area, was stopped. Responsible
behavior of dentists trying to stop the spread of the infection deemed only emergency situations treatable — toothache, traumas and prevention of odontogenic infections that may endanger other organs or systems [3]. CoVid-19 has become the singular priority of our health care delivery system- disrupting patient care processes, halting many research activities, and profoundly affecting medical education [4].

**Significance**
Dental care providers need to be aware and prepared for tackling any impending infectious disease challenge as might be the case in the current outbreak of CoVid-19 transmission and its associated corona virus disease, which can be life-threatening to susceptible patients. Stress and the unease that has grown among the population due to isolation and quarantine, one way of protection among the invisible enemy, will leave visible and long-term consequences on mental disturbance, most frequently anxiety and depression [5]. There will also be some health issues in the oral cavity due to the lack of regular check-ups care and dental treatments, and furthermore, caries and periodontal disease will appear more frequently.

**Oral healthcare during the CoVid-19 pandemic**
Dental settings have unique characteristics that warrant specific infection control considerations. Dentists are well-informed on the health issues such as hepatitis B or C, as well as on infection risk issues. Many other professions do not have to consider infection on such a level. The New York Times reminded its readers that the dentists are the most exposed professionals when it comes to CoVid-19 risk [6]. The reason is to be found in the fact that the oral cavity, already overflown with various microorganisms, has become the habitat of CoVid-19. A question was raised: How acceptable it the risk to the dentists during the CoVid-19 pandemic? This implies that patients are not infected, if they do not have symptoms [7]. Some articles were published, discussing the fact that dentists are at high risk due to the proximity of their faces and patient’s mouth during work. Investigations were published, confirming the possibility of CoVid-19 transfer via aerosol formed during dental procedures, indirectly from saliva, water and particles smaller than 50 um. Dentists should follow standard, contact, Corona-19 guidelines, and airborne precautions including the appropriate use of personal protective equipment and hand hygiene practices.

A skilled dentist may be an extremely important element in breaking the spread of the coronavirus based in her/his knowledge, professional attitude and strict performance of all preventive epidemiological measures. This includes apart appointments, anamnestic information, antiseptic rinsing before a procedure, the use of rubber dam, reduced use of drills, minimized use of ultrasonic instruments and 3-way syringes (in order to reduce the risk of generating contaminated aerosols) extra oral radiography, single-use instruments, protective overalls, visors, hats, face masks and detailed disinfection and sterilization of instruments and offices [6, 8-10].

On entering the dental facility, all visitors to the dental care service should have their temperature checked, and they should be instructed to use hand sanitizer, and to avoid touching surfaces unnecessarily. Patient should be requested to wear a surgical head hats and cover shoes and new gloves, adhere to follow proper respiratory hygiene, such as covering the mouth and nose with a tissue before coughing and sneezing and to avoid touching any object of furniture [11-13].

**Tele-screening and triaging**
The rampant spread of CoVid-19 worldwide increases the likelihood that dental health care professionals will treat this subset of the patient population. Initial screening via telephone and e-mail to identify patients with suspected or possible CoVid-19 infection can be performed remotely at the time of scheduling appointments. The 3 most pertinent questions for initial screening should include any exposure to a person with known or suspected CoVid-19 presentation, any recent travel history to an area with high incidence of CoVid-19 or presence of any symptoms of febrile respiratory illness such as fever
or cough \[11\]. A positive response to any of the 3 questions should raise initial concern, and elective dental care should be deferred for at least 2 weeks (Note: the incubation period for CoVid-19 can range from 0–14 days). These patients should be encouraged to engage in self-quarantine and contact their primary care physician by telephone or e-mail \[10\]. Such patients should be instructed to call the toll-free number of the Quick Response Center (1448). They should also be reported to NCDC; the toll-free number (195). Dental treatment should be postponed or, in extreme cases, you can refer the patient for emergency care in a hospital setting where appropriate airborne infection isolation rooms and transmission-based precautions are available.

**Patient evaluation and cohorting**

Upon patient arrival in dental practice, patients should complete a detailed medical history form, CoVid-19 screening questionnaire and assessment of a true emergency questionnaire. Dental professionals should measure the patient’s body temperature using a non-contact forehead thermometer or with cameras having infrared thermal sensors \[14\]. Patients who present with fever (37.8 °C or over) and/or respiratory disease symptoms should have elective dental care deferred for at least 2 weeks. As per the National Center for Disease Control guidelines \[13\], individuals with suspected CoVid-19 infection should be seated in a separate, well-ventilated waiting area at least 2 meters from unaffected patients seeking care \[14, 15\].

**Pharmacologic management**

In suspected or confirmed cases of CoVid-19 infections requiring urgent dental care for conditions such as tooth pain and/or swelling, pharmacologic management in the form of antibiotics and/or analgesics is an alternative. This approach may offer symptomatic relief and will provide dentists sufficient time to either refer the patient to a specialist or deliver dental care with all appropriate measures in place to prevent the spread of infection \[11\].

Distance educations as a solution

At the same time with the treatment cessation, universities that have programs for young and upcoming dentists have stopped their work, since data from many countries warned about the death rate among doctors and medical students that were in close contact with infected persons \[3\]. The teachings and education of students of dental medicine switched to e-learning, with very little possibilities of direct laboratory, preclinical or clinical work. Also, many research projects have been suspended in both clinical and laboratory dental medicine, in order to prevent possible contamination in the laboratories among the researchers, as well as the contamination of samples that the research is performed upon \[11\]. New protocols that have been fabricated, together with responsible behavior in dental medicine, will result with a staged inclusion of teachers, students, researchers and clinicians in everyday work \[7,16,17\]. A question was raised: Can CoVid-19 catalyzes an educational shift? Our knowledge of the disease continues to grow; we are a truly targeted profession, information about how long the epidemic lasts is uninformed, unpredictable, and so far, there is no vaccine, and several countries have announced other waves of the disease and different forms of severity. We must change our professional and educational behavior and quickly change the frameworks within which we operate so that we can reduce the spread of the pandemic and gain time and be prepared during the challenging times. This scenario forces educators to transform competency-based advancement from a largely theoretical concept to the new reality. Dental schools should focus on re-evaluating and reprioritizing their policies and protocols and include a detailed contingency plan in case of future pandemics \[17\]. This experience should also prompt dental schools to re-evaluate their competency-based education, incorporate variations of distance learning permanently in their curricula, and invest in haptic technology to improve psychomotor skills and also in faculty training for teaching through technology. Extramural rotations and interprofessional education should be strengthened in the curricula to enable
dental students to have the ability to make an impact in the community and help during such a crisis.\textsuperscript{18, 19}

CONCLUSION

While we await the production of an effective vaccine, we cling to regular and strict epidemiological measures and professional and responsible behavior of every member of the dental team in the battle against the spread of CoVid-19 infection.

Disclosure

No conflict of interest was declared.

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