

# DENTAL TRIBUNE

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## COVID-19: Health ministry releases new guidelines for dentists

DT Pakistan Report

**K**ARACHI - The Ministry of National Health Services and Regulations and Cooperation (NHSRC) recently released fresh guidelines for dentists and dental patients' management during COVID-19 pandemic. The

Hence, dental professionals should make sure to limit the contamination which can be done via airborne spread, contact spread and contaminate spread.

"During the course of this pandemic, given the high transmissibility of the disease and considering that routine dental

entering and social distancing be maintained within the practice.

Patients should continue to practice basic hygiene routines and should wear a mask when NOT receiving treatment.

"Standard and Transmission-based Precautions and Personal Protective Equipment (PPE) are recommended



detailed official document included Standard Operating Procedures (SOPs) that got instantly viral among dental community on social media platforms.

According to the new guidelines, dental care settings invariably carry the risk of SARS-CoV-2 infection due to the specificity of its procedures, which involves face-to-face communication with patients, and frequent exposure to saliva, blood, and other body fluids, and the handling of sharp instruments.

procedures usually generate aerosols, alterations to dental treatment should be considered to maintain a healthy environment for the patients and the dental team," an official release said.

The guidelines stated that only emergency dental cases should be catered. "If dental treatment can be delayed, provide patients with detailed home care instructions and any appropriate pharmaceuticals," NHSRC document said.

The recommendations briefed that all patients be screened before

and must be in practice", the release adds.

NHSRC officials also recommended that if a patient with a confirmed diagnosis for COVID-19 within the last 14 days, presented with respiratory symptoms, was treated in the dental office, or if any patient was treated without the appropriate PPE, they would be considered as high-risk scenarios. Dentist and members of the dental team should proceed to 14-day quarantine.

## PMDC cancels registrations of 10 medical, dental colleges

DT Pakistan Report

**I**SLAMABAD - The Pakistan Medical and Dental Council (PMDC) has recently declared the accreditation of 10 medical and dental colleges unlawful and stopped them from further admissions.



The council has also decided that already admitted students will be adjusted in other colleges so their studies are not disturbed. The 10 colleges were inspected and registered during the tenure of the Pakistan Medical Commission (PMC), which the Islamabad High Court (IHC) declared illegal when it decided that the ordinance under which the PMC was established was null and void.

Pakistan Association of Private Medical and Dental Institutions (PAMI) General Secretary Khagan Waheed Khawaja said that he met with the PMDC president and was assured that the inspection process would be completed within a month.

According to a public notice issued by the council, since all the actions taken and decisions made by the PMC have been declared unlawful, provisional accreditation and registration would also be considered unlawful, especially since there is no provision for such accreditation or registration.

The notice said that 10 colleges have been stopped from admitting

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# Nation must take measures against COVID-19 or prepare for the worst

DT Pakistan Report

ISLAMABAD - Federal Minister for Planning, Development and Special Initiatives, Asad Umar said that amid sharp rise in death toll and coronavirus cases, the government still hope that the virus will not spread as rapidly as previously had been estimated but takes measures to prepare the nation for the worst.

Federal Minister for Planning, Development and Special Initiatives, Asad Umar recently at a media briefing said that besides easing the restrictions, the government was taking certain steps including the use of latest technology to identify COVID-19 hotspots and ensure 'smart' lock down in order to control local transmission.

The minister expressed the hope that the coronavirus would not spread rapidly. However, he said, the government was preparing for the worst.

Even in big cities like Peshawar and Lahore, some specific areas such as Thokar Niaz Beg were severely hit by the virus, he said, adding that hotspots were being identified across the country and latest technology would be used for enforcing smart lockdown.



Photo: DT Pakistan

"Under the new policy of smart lockdown, specific areas having COVID-19 cases will be cordoned off to stop the spread of the virus. As the lockdown has been eased so the individual responsibility of every person has increased and now everyone should take precautionary measures," he added.

While asserting that the countrywide lockdown could not be enforced for an indefinite period, Mr Umar appreciated that the decision of easing the restrictions was taken after deliberations with the provincial governments and analysing data of the National Command and Operation Centre (NCOC).

Talking about use of technology in the fight against COVID-19, the federal minister said a web portal and an app were being launched in Punjab. It would help even ambulance drivers to check

availability of beds and ventilators at hospitals.

"As general public will be able to download the portal, while shifting a patient to hospital in a private car, they will also be able to know where they have to take the patient," the federal minister said, adding that the portal could be replicated in other provinces.

Mr Umar urged citizens to visit hospitals if they had COVID-19 symptoms and get themselves tested without any hesitation or fear. He suggested to patients that they could even isolate themselves at their houses as it was not necessary for every patient to stay at government-built quarantine centres.

Amid the situation, the easing of lockdown is a challenge for traders, buyers as well as authorities to ensure that everyone adhere to the Standard Operating Procedures (SOPs).

DENTAL TRIBUNE

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## Publisher and CEO

Syed Hashim A. Hasan

hashim@dental-tribune.com.pk

## Editor Clinical Research

Dr. Inayatullah Padhiar

## Editors Research & Public Health

Prof. Dr. Ayyaz Ali Khan

## Editor - Online

Haseeb Uddin

## Designing & Layout

Sheikh M. Sadiq Ali

## Dental Tribune Pakistan

3rd floor, Mahmood Centre, BC-11, Block-9, Clifton, Karachi, Pakistan.

Tel.: +92 21 35378440-2

Fax: +92 21 35836940

www.dental-tribune.com.pk

info@dental-tribune.com.pk

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## International Headquarters

Publisher and Chief Executive Officer  
**Torsten R. Oemus**

Chief Content Officer  
**Claudia Duschek**

## Dental Tribune International GmbH

Holbeinstr. 29, 04229 Leipzig, Germany

Tel.: +49 341 48 474 302

Fax: +49 341 48 474 173

## General requests:

info@dental-tribune.com

## Sales requests:

mediasales@dental-tribune.com

www.dental-tribune.com

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## DRAP warns against chloroquine for COVID-19

DT Pakistan Report

ISLAMABAD - In a recent Press Conference, the Drug Regulatory Authority of Pakistan (DRAP) has warned citizens against taking chloroquine as it can severely damage the liver and become a reason for heart attack. The conference was held to clear the air after receiving reports of a number of people using the drug, a medicine prescribed for treating malaria, as prophylactic treatment against COVID-19.

"It is unfortunate that people have started using the medicine without

consulting health experts. We want to warn them that the drug has adverse side-effects, which is why it has been decided to put it in the prescription medicine list," DRAP Chief Executive Officer Dr Asim Rauf told.

He said just like controlled drugs, medical stores will have to keep a copy of the medical expert's prescription before selling chloroquine.

"We have carried out the stock taking of the medicine and as per our record there are around 25 million tablets in the market and 9,000kg raw material.

This stock can last a year but irrational use and



Photo: DT Pakistan

storage of medicine by people can create shortage in the market," he said.

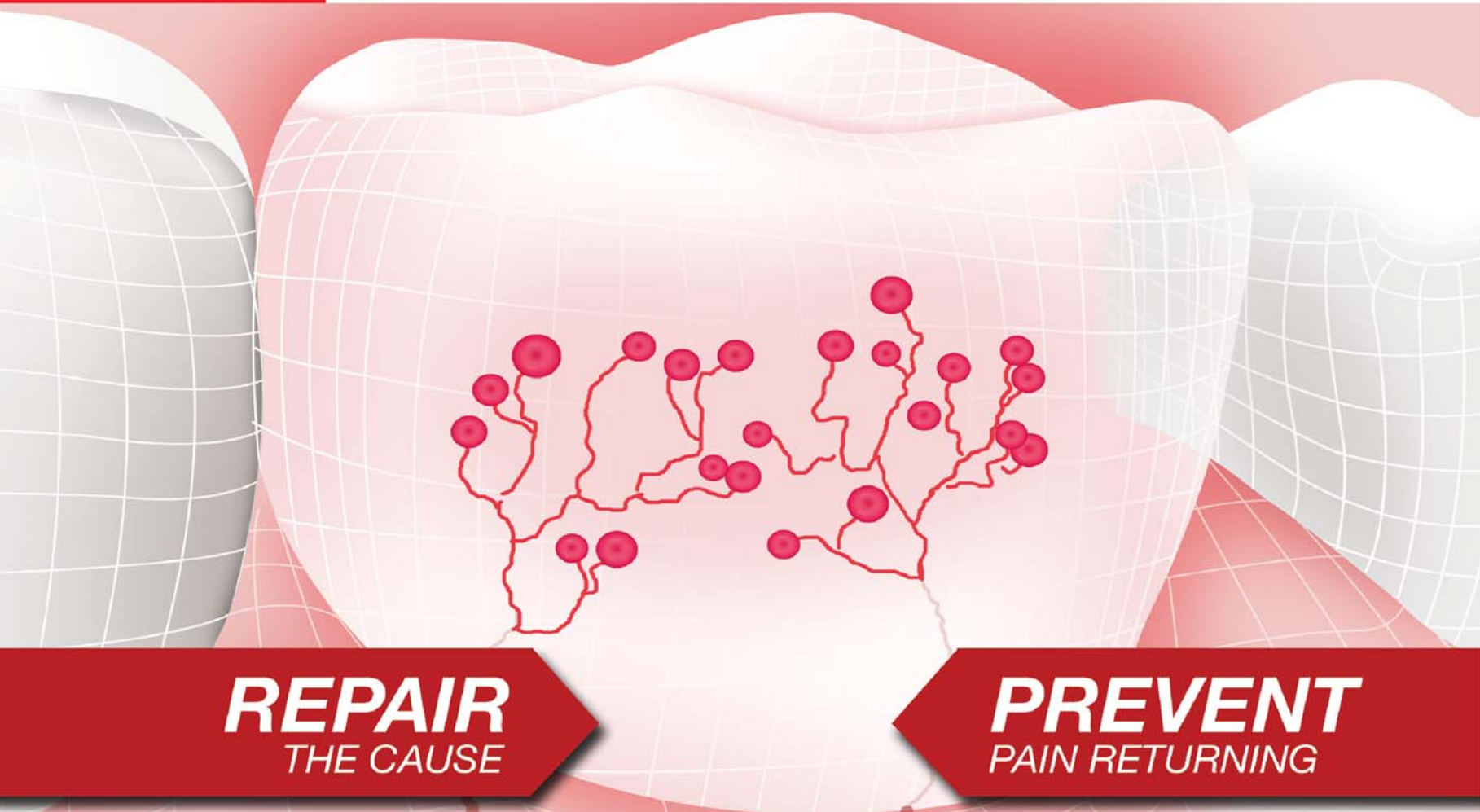
Dr Rauf said the use of chloroquine, without the supervision of a doctor, could damage vital organs, including liver and heart, as it was a toxic medicine.

Last week during a briefing at the White

House, US President Donald Trump had claimed that the Food and Drug Administration (FDA) had approved the 'very powerful' drug chloroquine to treat COVID-19. He had said the medicine had shown very encouraging results and will be available

*Continued on Page 11*





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<sup>¥</sup> Vs. toothpastes with 5% potassium nitrate. For instant relief, apply directly to the sensitive tooth and gently massage for 1 minute.  
Reference: 1. Li Y et al. J Clin Dent. 2012;23(5):103-107. 2. Nishio S et al. J Clin Dent. 2009;20(5):123-130.  
3. Amini F et al. J Clin Dent. 2009;20(5):108-110. 4. Amini F et al. J Clin Dent. 2009;20(5):111-112.  
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## Dental community should join hands together against COVID-19: Prof. Dr Ayyaz

DT Pakistan Report

**K**ARACHI - Dental fraternity must work together and help each other to counter this pandemic disease. It is the sole responsibility of every dental practitioner to be careful in their practice and teach practical ways to minimise infection.

Referring to the current situation of the dental community amidst COVID-19 lockdown, Prof. Dr Ayyaz Ali Khan said that it is a fact that dental practices can become a potential risk of higher infection. But the point of closing clinics can never be the option. This will not only cause a massive setback to dentists financially but will further increase problems for patients. Hence dentists should open practices, catering only urgent and emergency cases.

He was speaking at a live session on Facebook and moderator for the event was Dr Muattar Hanif.

He said that COVID-19 has challenged all health systems and professionals moreover it has shown all the weaknesses and gaps in the healthcare system. This also taught us which medical profession and facility are responding efficiently. He urged that dentists can initiate teledentistry for the assistance of patients.

While sharing many tips, Prof. Dr Ayyaz highlighted the recent international recommendations for clinic practices.

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## Bahria University celebrates Distinguished Teacher Award

**K**ARACHI - Distinguished Teacher Award is yearly custom and is conferred upon the faculty members of Bahria University for their outstanding performances. Nominations for this are invited from the college and after scrutiny the selection is made. The ceremony includes conferring monetary award as well as certificate and shield to the faculty member selected due to the recognition of their contribution in the field of teaching and research.



This year after evaluation of the nominees, Bahria University selected Dr. Tabassum Ahsan Qadeer, Associate Professor and Head of Department of Orthodontics, the Distinguished Teachers award for the year 2020.

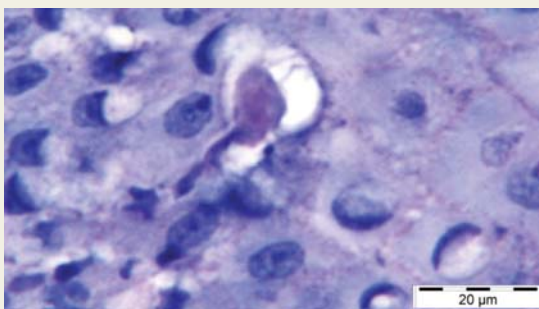
She was honored with a shield, certificate of appreciation and cash award of fifty thousand rupees by the Rector of Bahria University Vice Admiral (R) Kaleem Shaukat HI (M). On this occasion, Director General BUMDC Rear Admiral (R) Imtiaz Ahmed HI(M), Dean of Health Sciences Prof Asadullah Khan, Principal Dental College Prof. Dr. Wahab Kadri graced the ceremony along with other senior faculty members. -PR

## Researchers link amoeba to severe periodontitis

**B**ERLIN, GERMANY - For the first time, researchers from Charité-Universitätsmedizin Berlin have shown that the amoeba *Entamoeba gingivalis*, commonly found in the oral cavity, plays a role in both severe tissue inflammation and tissue destruction. Once the parasite has invaded the gingival tissue, it feeds on its cells and causes tissue destruction. According to the study findings, most patients with severe and recurrent periodontitis showed an increased presence of the unicellular organism in their oral cavities.

In Germany, approximately 15% of people are affected by a particularly severe form of periodontitis. The disease has a strong association with arthritis, cardiovascular disease and cancer. In patients with gingival disease, a decrease in the diversity of the oral flora coincides with an increase in the presence of *E. gingivalis*.

Scientists have long been aware of the virulence potential of this genus of amoebae. The gastrointestinal parasite *Entamoeba histolytica*, for instance, causes a disease known as amebiasis, one of the most common causes of death from parasitic diseases worldwide. "We have shown that an amoeba like *E. gingivalis*, which colonises the oral cavity, will invade the oral mucosa and



The unicellular organism *Entamoeba gingivalis* penetrates the gingival tissue, feeding on host cells. (Image: Arne Schäfer/Charité)

destroy gingival tissue. This enables increased numbers of bacteria to invade the host tissue, which further exacerbates inflammation and tissue destruction," said lead researcher Prof. Arne Schäfer, head of the research department in the Department of Periodontology and Synoptic Dentistry at the Institute of Dental and Craniofacial Sciences at Charité.

The researchers are the first to describe the precise role of *E. gingivalis* in the pathogenesis of inflammation. During their analysis of inflamed periodontal pockets, they detected evidence of the amoeba in approximately 80%

of patients with periodontitis, but in only 15% of the control group. Observations revealed that, after invading the gingivae, the parasites migrate inside the tissue, feeding on and killing host cells. Cell culture experiments showed that infection with *E. gingivalis* slows the rate at which cells grow, eventually leading to cell death.

**"This parasite, which is transmitted by simple droplet infection, is one potential cause of severe oral inflammation"**  
— Prof. Arne Schäfer, Charité Berlin

The researchers concluded that the amoeba's role in inflammation shows distinct parallels to the pathogenesis of amebiasis. "*E. gingivalis* actively contributes to cell destruction inside the gingival tissue and stimulates the same host immune response mechanisms as *E. histolytica* during its invasion of the intestinal mucosa," explained Schäfer. "This parasite, which is transmitted by simple droplet infection, is one potential cause of severe oral inflammation." Treatment success is often short-lived in patients with periodontitis. This might be due to the high virulence potential of this previously unnoticed,

*Continued on Page 11*





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# COVID-19: Protecting healthcare personnel with 3-D printed masks and face shields

By Iveta Ramonaite

**L**EIPZIG, GERMANY - Owing to mask supplies fast becoming exhausted, many healthcare professionals around the world are increasingly unable to comply with the recommended infection control practices. The shortage has prompted extended use and reuse of face masks in healthcare settings, thus increasing the professionals' risk of contracting SARS-CoV-2. To help ease the depleted supplies, many federal agencies have relaxed regulations on mask use and some institutions have taken the initiative to help those fighting on the front line against COVID-19 by producing 3D-printed face masks and shields. In new guidance, the U.S. Food and Drug Administration (FDA) has relaxed regulations on medical and surgical masks and face shields and approved the use of improvised face masks in the case that no FDA-cleared masks are available. Similarly, the British government has extended the recommended wearing time and necessity of changing of face masks to better protect healthcare workers from SARS-CoV-2.

Additionally, some branches of the military have made efforts to support infection control and relieve face mask shortages. For example, the U.S. Air Force is using 3D printers to produce reusable plastic N95 face masks for medical personnel. It is also producing face shields to extend the time of use of face masks.

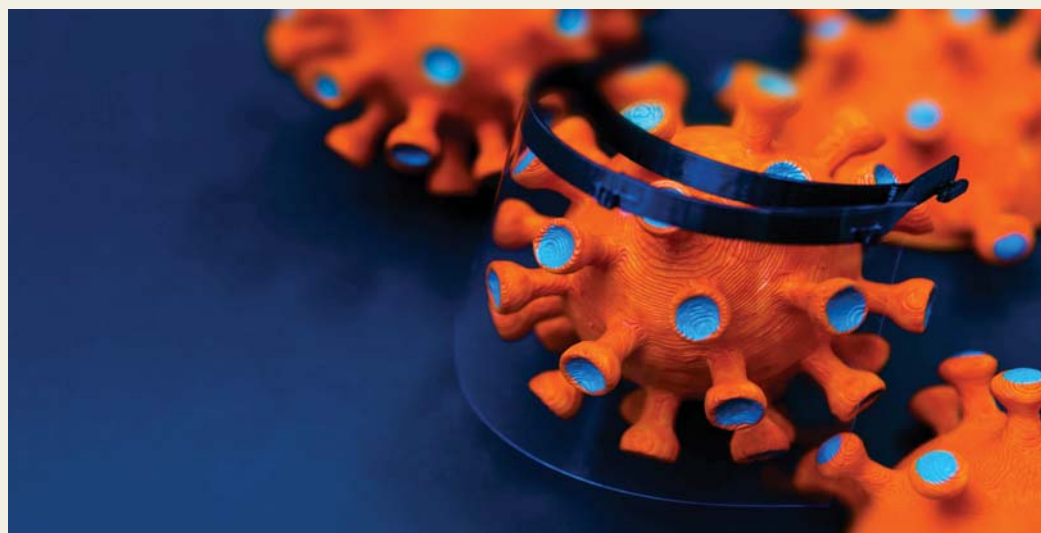
In response to the crisis, many universities and dental schools, such as the LSU Health New Orleans School of Dentistry in the US, too have started producing 3D-printed protective gear that is generally reusable, for donation to healthcare professionals. Taking it one step further, some dentists are developing face masks that can be constructed with items found in the dental surgery.

Commenting on the situation, Prof. Chris Whitty, chief medical officer for England, said in a press release: "It is absolutely right that front-line staff have the appropriate PPE [personal protective equipment] so they are safe and can have the confidence they need to do their jobs."

## **World Health Organization's advice on the use of face masks**

In a recent publication, the World Health Organization (WHO) stated that it does not support the recommendation for healthy people to wear masks in the community setting, saying that "there is currently no evidence that wearing a mask (whether medical or other types) by healthy persons in the wider community setting, including universal community masking, can prevent them from infection with respiratory viruses, including COVID-19".

Similarly, the Centers for Disease Control and Prevention stated on its website: "In settings where facemasks are not available, healthcare personnel might use homemade masks (e.g., bandana, scarf) for care of patients with COVID-19 as a last resort. However, homemade masks are not considered personal protective equipment (PPE), since their capability to protect healthcare personnel is unknown.



To optimise medical supplies and offer COVID-19 relief, numerous institutions, such as universities, have started developing 3D-printed face masks and face shields. (Image: Atlantist Studio/Shutterstock)

Caution should be exercised when considering this option." It added that homemade masks should be used together with a face shield that covers the entire front and the sides of the face.

"The use of medical masks in the community may create a false sense of security, with neglect of other essential measures, such as hand hygiene practices and physical distancing, and may lead to touching the face under the masks and under the eyes, result in unnecessary costs, and take masks away from those in healthcare who need them most, especially when masks are in short supply," the WHO continued.

The WHO is currently collaborating with research and development partners to gain a better understanding of the effectiveness and efficiency of non-medical masks. Until then, decision makers have been permitted to advise the use of non-medical masks, making sure that features such as the number of layers of fabric or tissue, breathability of the material, water repellence or hydrophobic qualities, and the shape and fit of masks are being considered. Besides hand cleaning and social distancing, the WHO has recommended that all healthcare providers wear proper protective gear.

## **3D-printed face masks on the rise**

In order to help fight the crisis and assure the safety of healthcare professionals, 3D-printed masks are now available globally. These masks are based on facial scanning, 3D imaging and 3D printing and consist of two 3D-printed reusable polyamide composite components, a face mask and a filter membrane support produced with the help of CAD. Additionally, the masks employ a disposable head fixation band and a filter membrane, both available from industrial manufacturers producing FFP2/3 protective masks, according to a research article.

In the article, the researchers note that clinical testing, including dermatological considerations, leakage and virological testing of the reusable components of the masks, has not been performed yet. This, according to them, is crucial before use, as are proper cleaning and disinfection control.

## **Effectiveness of surgical and cotton masks in preventing contamination**

Both surgical and N95 masks have been shown to be effective in preventing influenza virus transmission. However, the effectiveness of surgical and cotton masks, which are becoming increasingly popular, in blocking SARS-CoV-2 transmission has been little studied. Aiming to fill the gap in the literature, a recent study compared the effectiveness of both types of masks in four patients with COVID-19. The patients were admitted to negative-pressure isolation rooms and instructed to cough on to a Petri dish while wearing each mask or no mask at all. After swabbing the inner and outer mask surfaces to check viral loads, the researchers found that all swabs from the outer mask surfaces were positive for SARS-CoV-2, while the majority of the swabs from the inner mask surfaces were negative. The findings suggest that neither mask type was able to effectively filter SARS-CoV-2 particles during coughs.

## **Assuming all dental patients are SARS-CoV-2-positive**

In a recent discussion, Prof. Thomas Benton Dodson, chair of the oral and maxillofacial surgery department at University of Washington School of Dentistry in the US, said that he has advised his staff to treat every patient as if he or she has contracted SARS-CoV-2 with regard to the use of PPE. However, Dr Samir Mehta, an orthopaedic surgeon in Philadelphia in the US, said that taking such precautions is highly problematic owing to existing PPE shortages.

All the speakers agreed that there is an overwhelming amount of information coming in every day and guidelines are changing dynamically. Additionally, dentists have little time to conduct clinical trials, as they need to make immediate decisions to ensure the best possible care. As Dodson stated, dental professionals are trying to fly an aeroplane they are building and have no other option but to rely on expert opinion. - **Dental Tribune International**





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# Minimising spread of SARS-CoV-2 in dental clinics

By Jeremy Booth

**M**UMBAI, INDIA - Dentists and their patients are increasingly concerned about the elevated risk of infection with SARS-CoV-2 in dental clinics, owing to the generation of virus-containing aerosols through dental procedures. Mumbai-based periodontist and educator Dr Rajeev Chitguppi has proposed that adding povidone-iodine (PVP-I) to the water bottle that is attached to the dental unit for use as an irrigant with high-speed handpieces could minimise the spread of the virus in dental clinics.

Chitguppi says that such a safety protocol could represent a simple solution to overcoming the challenge of making dental clinics safer during the pandemic.

Chitguppi took three established pieces of evidence from the scientific literature as a starting point for what he has proposed as a hypothesis for further development by the international dental community: firstly, droplet and aerosol transmission of SARS-CoV-2 are the most critical concerns in dental clinics because it is difficult to avoid

the generation of high quantities of aerosol and droplets mixed with the patient's saliva and even blood during dental procedures; secondly, PVP-I formulations have demonstrated more than 99.99% activity against the Ebola virus, MERS coronavirus, SARS coronavirus, influenza virus and viruses that most commonly cause hand, foot and mouth disease; and, thirdly, the rapid bacterial and viricidal efficacy of povidone-iodine solutions (such as in mouthwashes) against pathogens that cause respiratory tract infections have been observed in *in vitro* and *in vivo* studies, and the antiseptic's established safety profile provides a strong rationale for use in hygiene management in high-risk environments.

Furthermore, evidence has emerged that PVP-I solutions have a higher viricidal activity than other commonly used antiseptic agents,

such as chlorhexidine and benzalkonium chloride. In one of the studies Chitguppi cites, the researchers thus proposed that a protocolised nasal inhalation and oropharyngeal wash of PVP-I should be used during the current COVID-19 pandemic to limit the spread of SARS-CoV-2 between patients and healthcare workers.

Considering that it is a recommended irrigant for use with an ultrasonic scaler at a specific dilution ratio, Chitguppi has proposed that dentists consider using a PVP-I solution as an irrigant with high-speed handpieces. He acknowledged

coronavirus. "The entire dental community got busy discussing and debating what needed to be done in order to reduce the risk of disease transmission in dental clinics. India announced a 21-day lockdown from 24 March, and the main concern among dentists in the country has been what they will need to do when they reopen their clinics after the lockdown ends," he explained.

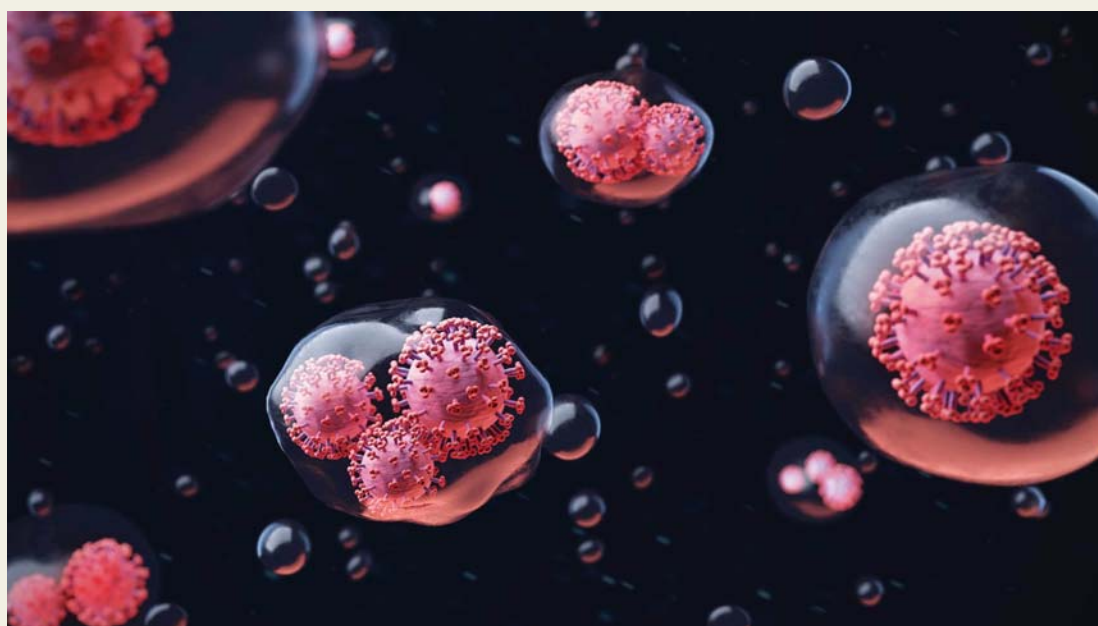
Further research confirmed that the most critical concern in dental clinics is the droplet and aerosol transmission of SARS-CoV-2 and that devices such as high-speed dental handpieces generate a large amount

and inexpensive. He emphasised that his hypothesis needs to be tested and has not been established, but added that the response from the dental community has been constructive.

"Within 24 hours of my publication, Dr Raghu Narayan, an endodontist from Bengaluru in India, created a prototype to test the idea: a simple experiment to check how well PVP-I mixes with the particles in aerosol generation. I am now trying to take it to different researchers and collaborate with them so that the hypothesis can be tested thoroughly in order for us to obtain concrete evidence about the modifications

required to make it applicable in clinical practice."

"The risk of transmission from aerosols is real, so we need to look at ways to control the quality [viral load] as well as the quantity [volume] of aerosols generated," he continued. "As far as the quality of aerosols is concerned, I am not only looking at PVP-I. There are other agents, too, that have demonstrated viricidal activity, such as sodium



*Dentists and their patients face a greater risk of infection with SARS-CoV-2 due to the volume and viral load of aerosols that are generated by dental procedures. (Image: Angelo Talia/Shutterstock)*

that one concern would be how the devices cope with the addition and what the corresponding maintenance protocols would be.

Chitguppi's hypothesis and supporting scientific evidence were published on ResearchGate at the beginning of April, and on Dental Tribune South Asia's website, and his proposals have received a high volume of interest and comments from dentists and fellow researchers.

## **Working to make dental clinics safer during the COVID-19 outbreak**

Dental Tribune International spoke with Chitguppi about the work he has been doing to reduce the risk of transmission of SARS-CoV-2 in dental settings.

He said that the work began after a 15 March *New York Times* article went viral in the dental community because it stated that dental professionals face a greater risk of becoming infected with the

of aerosol and droplets that are small enough to remain airborne for extended periods before settling on environmental surfaces or entering the respiratory tract.

Reducing the aerosol-based risk is critical, and Chitguppi asserts that it is the viral load in the aerosols, and not the aerosols themselves, that carries the risk. The basis of his research was his question: "We cannot prevent aerosol generation in dental clinics, but can we minimise the viral load in the aerosols?"

***"The risk of transmission from aerosols is real, so we need to look at ways to control the quality [viral load] as well as the quantity [volume] of aerosols generated"***

***— Dr Rajeev Chitguppi, periodontist***

Chitguppi said that dentists are looking for a solution that is practical

hypochlorite, chlorine dioxide and hydrogen peroxide. We need to work on all options and test them before coming up with the best recommendations and guidelines. Also, there is an increasing interest in the development of devices such as filters and extra-oral aspirators that can reduce the volume of aerosols generated in dental clinics. Many dentists are sharing with me the latest developments and emerging evidence, which I am adding to the project in order to keep it up to date."

Chitguppi is also executive editor of the publication *Dental Tribune South Asia*, which has called on dental professionals to think laterally and share their ideas about solutions for improving safety in the dental practice. He hopes that this initiative will serve as a point of connection between dentists and industry partners. - **Dental Tribune International**



# The role of interdental cleaning for oral health, general health and quality of life

By Dr Anna Nilvéus Olofsson

**R**ecent research shows that oral health is an essential prerequisite for people's well-being and quality of life. In order to reach the global goals for oral health, the dental profession has a great responsibility to work with a preventive and health-promoting approach.

Oral health is multifaceted and includes the ability to speak, smile, smell, taste, touch, chew, swallow and convey a range of emotions through facial expressions with confidence and without pain, discomfort or disease of the craniofacial complex, according to the definition of FDI World Dental Federation. With this definition in mind, oral health is an undeniable part of general health and well-being.

## *The broad consequences of oral disease*

Periodontal disease is common worldwide. It affects approximately 50 per cent of the adult population, and severe periodontitis prevalence varies from 10 to 15 per cent; prevalence figures are positively associated with increasing age. Given the massive effects of the disease, it becomes clear that it should be a matter of global concern.

First, there is growing scientific support for a link between periodontal disease and several general diseases, including cardiovascular disease, diabetes and obesity. Thus, oral diseases are no longer considered local problems affecting the oral cavity but rather diseases with consequences for overall health.

Research has also shown a significant association between periodontal disease and oral health-related quality of life, independent of factors such as age, sex and other dental problems. The disease can contribute to anxiety, low self-esteem, and feelings of shame and vulnerability.

Oral disease has a vast impact from a financial perspective too. In 2015, the total global cost of oral disease was shown to be US\$544.41 billion. The direct cost, measured as dental expenditure, accounted for US\$356.80 billion, and the indirect cost, measured as productivity loss, was US\$187.61 billion. Among oral diseases, periodontitis was the second greatest contributor to global productivity loss. Severe periodontitis accounts for US\$54 billion yearly in indirect costs.

## *Causes and prevention*

Dental professionals have a central role in preventing disease through a health-promoting approach based on science and proven clinical experience. Evaluating individual needs and conditions and weighing them together with

scientific support should form the basis for instructions and recommendations, thus creating the best possible foundation for patient compliance and long-lasting oral health.

There are several risk factors for the development of periodontitis. Most important is the accumulation of plaque along and below the gingival margin. Control and removal of this biofilm are of utmost importance to maintain oral health. The significance of good oral hygiene in order to prevent oral disease is, therefore, indisputable.



*TePe offers a wide range of functional oral hygiene products, including a variety of interdental brushes. (Image: TePe)*



*All TePe products are developed in collaboration with dental professionals. (Image: TePe)*

Toothbrushing and interdental cleaning are cornerstones of high-quality oral hygiene. Interdental cleaning is associated with lower levels of periodontal disease, and periodontal health increases with a higher frequency of use of interdental cleaning devices. The recommendation of an interdental

cleaning device needs to be tailored, but for the majority of the adult population, an interdental brush is preferred.

A meta-review concluded that there is consistent evidence for interdental brushes being the most effective devices for interdental plaque removal. This is also stated in the report of the 11th European Workshop on Periodontology on primary prevention of periodontitis. According to the working group, interdental brushes are the preferred choice for interdental cleaning, while floss is an alternative only when sites are too narrow for an interdental brush and show gingival and periodontal health. These results were confirmed in a network meta-analysis in which interdental brushes achieved the best result regarding gingival inflammation, plaque reduction and pocket reduction.

From the presented articles, it appears that interdental brushes, when compared with other manual cleaning devices, have the highest efficacy in terms of plaque removal and periodontal parameters. Every recommendation

regarding interdental cleaning devices must be tailored; the sizes and shapes of the interdental spaces must be considered. In addition, an individual who is recommended to use interdental brushes needs to be instructed regarding the appropriate size or sizes and on an appropriate technique.

## *Conclusion*

Current research emphasises the importance of good oral hygiene in maintaining oral health and its consequences for general health and quality of life. Because the most common oral diseases are predominantly interdental diseases, preventive efforts must include interdental cleaning as an adjunct to toothbrushing in daily home care. In achieving optimal plaque control, the interdental brush is the preferred device for most of the adult population globally.

A preventive approach is well in line with FDI's 2020 global goals for oral health, one of the targets of which is to increase the population of people of all ages with a healthy periodontium. FDI also has a vision for 2020 of ensuring that oral health is recognised and accepted as a core element of general health and well-being. In light of financial reports, a preventive approach will most likely be beneficial also from an economic perspective, since it will limit the need for other dental treatments.

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