COVID-19: Health ministry releases new guidelines for dentists

DT Pakistan Report

KARACHI - 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 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 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 and must be in practice", the release adds.

NHSCR 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

ISLAMABAD - 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

Continued on Page 11
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.

"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).

---

**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 9,000 kg raw material. This stock can last a year but irrational use and 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 ‘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**
**TREATING SENSITIVE TEETH: A SIDE BY SIDE COMPARISON**

<table>
<thead>
<tr>
<th>TECHNOLOGY PLATFORM</th>
<th>PRO-ARGIN™</th>
<th>POTASSIUM NITRATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Helps repair sensitive areas of teeth³ arginine and calcium formulation</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Clinically proven instant and superior sensitivity relief²,³</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Acid-resistant occluding layer⁴</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Relieves the pain of sensitive teeth⁵</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Inhibits Plaque and Calculus Buildup</td>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>

**REPAIR**
Forms a calcium-rich layer and helps repair sensitive areas of teeth for instant and superior relief²,³

**PREVENT**
Regular use helps strengthen gums and provides lasting protection to prevent further tooth sensitivity.

**REPAIR & PREVENT**
Dental community should join hands together against COVID-19: Prof. Dr Ayyaz

**DT Pakistan Report**

Karachi - 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 tele-dentistry for the assistance of patients.

While sharing many tips, Prof. Dr Ayyaz highlighted the recent international recommendations for clinic practices. **Continued on Page 11**

Bahria University celebrates Distinguished Teacher Award

Karachi - 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 form 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) Kameem 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 Kadiq grace the ceremony along with other senior faculty members. **PR**

Researchers link amoeba to severe periodontitis

Berlin, 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 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 their 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**
SENSODYNE

REPAIR & PROTECT

ACTUALLY HELPS REPAIR SENSITIVE TEETH*

Cause of sensitivity pain
Tiny holes in dentine
A hard layer
Repairs these holes
Helps protect from pain

No.1 DENTIST RECOMMENDED BRAND FOR SENSITIVE TEETH

*Forms a protective layer over the sensitive areas of the teeth. Brush twice a day for lasting sensitivity protection.
COVID-19: Protecting healthcare personnel with 3-D printed masks and face shields

By Iveta Ramonaite

LEIPZIG, 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 face masks 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. 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 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 swallowing 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
BLEEDING GUMS WHEN YOU BRUSH?
THE CLOCK IS TICKING ON GUM DISEASE

BLEEDING GUMS
TOOTH LOSS
BAD BREATH
RECEDING GUMS

NEW parodontax HERBAL FRESH
Helps stop and prevent bleeding gums

NEW WITH HERBAL EXTRACTS FOR A CLEAN & FRESH SENSATION

4x MORE EFFECTIVE VS REGULAR TOOTHPASTE* AT REMOVING THE MAIN CAUSE OF BLEEDING GUMS
Ask your dentist about gum problems

*after a professional clean and twice daily brushing
Minimising spread of SARS-CoV-2 in dental clinics

By Jeremy Booth

MUMBAI, 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 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," 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 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

Recent 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 USD$44.41 billion. The direct cost, measured as dental expenditure, accounted for USD$356.80 billion, and the indirect cost, measured as productivity loss, was USD$187.61 billion. Among oral diseases, periodontitis was the second greatest contributor to global productivity loss. Severe periodontitis accounts for USD$4 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)

Teethbrushing 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.

Editorial note: A list of references is available from the publisher. This article was published in prevention-international magazine of oral health, Vol. 4, issue 1/2020.
Researchers develop model to automatically localise mandibular canals

ESPOO, FINLAND - To place an implant, dental professionals first have to localise the mandibular canal, which is typically done using CBCT imaging techniques. Since this often requires considerable time and energy, Finnish researchers have recently developed a method for automatically localising mandibular canals with the help of artificial intelligence in order to facilitate the placement of dental implants.

The study was a collaboration between researchers at the Finnish Center for Artificial Intelligence, Tampere University Hospital in Finland, Finnish manufacturer Planmeca and the Alan Turing Institute in the UK. In the study, the researchers developed a novel deep learning method that helps automatically determine the exact location of mandibular canals. The model is based on training and using deep neural networks, employing a dataset consisting of CBCT scans.

After training the model on the coarsely annotated volumes, the researchers were able to accurately localise the mandibular canals of the voxel-level annotated set, the mean curve distance and average symmetric surface distance being 0.56 mm and 0.45 mm, respectively. The results show that the model successfully outperformed the statistical shape models typically used in research.

According to the researchers, the new model can achieve near-human accuracy in cases in which the patient does not have any pre-existing conditions and does not require special treatment. "In more complex cases, one may need to adjust the estimate, so we not yet talking about a fully stand-alone system," said lead author Joel Jaskari, a doctoral candidate at Aalto University in Finland, in a press release.

The researchers noted that the aim of the study was to optimise the workflows of radiologists. "The aim of this research work is not, however, to replace radiologists but to make their job faster and more efficient so that they will have time to focus on the most complex cases," explained Prof. Kimmo Kaski, senior adviser in computational science at Aalto University. Planmeca, which specialises in developing 3D and 2D digital imaging devices, dental units, and the study was optimised for clinical use.

Researchers develop mouth guard for illuminating early signs of cavities

GUANGZHOU, CHINA - One of the keys to controlling dental caries and periodontal disease is early detection of dental lesions and cavities. A novel mouth guard recently developed in China now promises to help make this easier for dentists by visually highlighting certain compounds released by bacteria that are harmful to oral health.

The fluorescent mouth guard, made from a zinc oxide-polydimethylsiloxane nanocomposite, was created by a team of biomedical engineers at Sun Yat-sen University in Guangzhou. In a recently published study, it was found to have a highly attuned and selective ability to detect the secretion of volatile sulphur compounds in oral cavities— a common sign of dental lesions.

According to the study, when the mouth guard was worn by an individual for 7 hours, its fluorescence notably diminished in areas where early signs of caries were able to be detected after further image analysis. The mouth guard was also found to exhibit high fluorescent stability as well as good levels of biocompatibility when in situ.

Dr Jianhua Zhou, professor of biomedical engineering at Sun Yat-sen University and lead author of the study, told Dental Tribune International that the mouth guard could be worn prior to a dental check-up and might be commercially available by 2021. "We are now working with a company that is helping to accelerate the mouth guard's time to market," he said. "It will take at least one year if everything goes well."

"We are also now conducting more clinical trials to further evaluate the accuracy of the mouth guard," Zhou added.

The study, titled "A transparent, wearable fluorescent mouthguard for high-sensitive visualization and accurate localization of hidden dental lesion sites", was published online on 2 April 2020 in Advanced Materials, ahead of inclusion in an issue. - Dental Tribune International

Canadian denturist kills 22 people

PORTAPIQUE, NOVA SCOTIA, CANADA - The person believed to be responsible for Canada’s worst-ever mass shooting was a denturist who ran two denture clinics in the eastern maritime province of Nova Scotia. According to media reports, Gabriel Wortman’s deadly rampage began on April 18 and spanned 12 hours before he was shot by police.

Canada is mourning the victims of the mass shooting, among whom were a primary school teacher, two health care workers, a Royal Canadian Mounted Police (RCMP) officer and a family of three. Tributes to the victims have been held virtually, owing to social distancing measures that are in place to stop the spread of SARS-CoV-2.

According to various media reports, the shootings began in the coastal town of Portapique, where the perpetrator is reported to have lived, and ended nearly 100 km away in Enfield, Nova Scotia. Wortman is thought to have arbitrarily traversed the territory in Nova Scotia, and his former girlfriend and her new partner are reported to have been the first two victims.
Free dental camp and screening by AMDC

Ahore - The department of community and preventive dentistry, Akhtar Saeed Medical & Dental College (AMDC), Bahria Town recently held free dental camps. The event took place under the supervision of Dr Rabia Asad, Head of department community and preventive dentistry at Mian Mahmood Fazal Memorial Hospital, trust hospital of Orient Group of Companies, Raiwind Road, Lahore.

The dental team included Dr Sohail Yasin, Dr Ahmed Chaudary, Dr Amina Rasheed, Dr Nabeel Asghar, Dr Rabiya Chaudary and Dr Sana. The primary objective was to provide screening and emergency treatments and to educate them regarding dental diseases, proper brushing technique and importance of oral hygiene. All patients were warmly welcomed by the dental surgeons where they first underwent the screening process and later on were referred to the mobile dental unit for emergency treatments. Screening process was quite interactive as doctors were educating them with basic knowledge of oral hygiene, brushing techniques and harmful effects of betel nut, tobacco and sweets.

The visit ended with lunch and group picture. -PR

PMDC cancels ...

Continued from front page

new students and students already admitted for the 2019-20 session will be adjusted in colleges that have been accredited and recognised by the PMDC and notified by the federal government.

Two colleges in Punjab, Watim Medical College in Rawalpindi and Aza Naheed Dental College in Lahore have been declared unlawful, as have Shifa College of Dentistry, Shifa Tameem-i-Millat and the Dental Section of the Rawal Institute of Health Sciences in Islamabad.

The Fazaia Ruth Pfau Medical College and Dow Dental College in Karachi as well as Mohammad Dental College in Mirpurkhas and Khairpur Medical College have been declared unlawful. All students already studying in these institutions will be adjusted in other colleges.

The notice, issued by PMDC Registrar retired Brig Hafizuddin Siddiqui, said, "All these colleges are directed to transfer the entire amount received from the students to the receiving colleges as prescribed by the respective admitting universities as soon as possible but not later than one month, so that they could adjust the students at the earliest."

An official from the Ministry of National Health Services said that it takes a long time to hold inspections, so when the accreditation of a college is cancelled it is decided to move students to other institutions.

"It can take months to complete the inspection and the completion of an inspection cannot guarantee that the college will be allowed to admit students, as colleges sometimes fail to meet requirements and standards during inspections," he said.

Mr Khawaja from PAMI said that he recently met with PMDC President retired Justice Ejaz Afzal Khan. He told, "The president assured that the process of inspection will be completed in a month. We have no enmity with the council, earlier the PMC had inspected our colleges and now the PMDC can also do the same as we meet all the requirements," he said.

Mr Khawaja said he hoped the issue would be resolved amicably and no one, including students, teachers and college administrations, would suffer.

DRAP warns against ...

Continued from page 2

in the market almost immediately. He also said that normally FDA takes a long time to approve drugs but due to the nature of the case it was approved quickly.

As a result of this statement, people across the globe started using the medicine for prophylactic treatment.

In the meantime, FDA issued a statement in which it said that it had not approved the medicine for treating Covid-19 and was studying its use against the disease.

During a press conference, Special Assistant to the Prime Minister on Health Dr Zafar Mirza had said the sale of chloroquine without prescription was banned.

"It is an old medicine which is being used to treat malaria, but suddenly it has disappeared from the market. Though the export of the medicine is already banned, we have done stock taking across the country. We have also contacted experts of infectious diseases to find out if it should be used for treating coronavirus. There is no evidence that people can use it as prophylactic treatment," he added.

Dental community ...

Continued from page 4

He said that dentists could inculate such tips and practice accordingly.

He said that the use of technology could be beneficial in analysing the condition of the patient through pictures and videos. And first, try to advise the patient how an issue can be treated instead of directly calling them to the clinic.

Prof. Dr Ayyaz stressed that the dentist must follow all the standard safety protocols to prevent the spread of infection or virus. He discussed in detail regarding every possible way and procedures that must be opted before treating the patient till post-treatment practices.

In the end, he advised listeners to use the time available during COVID-19 lockdown effectively. A person should give time to family, manage finances, and look for the opportunities, learn new skills from online courses. He also thanked the organisers for arranging such great initiative.

Researchers link ...

Continued from page 4

yet extremely common, amoeba. "We identified one infectious parasite whose elimination could improve treatment effectiveness and long-term outcomes in patients with gum disease," said Schäfer. "Current treatment concepts for periodontitis fail to consider the possibility of infection by this parasite as a result of its successful elimination," he added. A clinical trial to determine the extent to which the elimination of this amoeba might improve treatment outcomes in patients with periodontitis is underway.

The study, titled "Entamoeba gingivalis causes oral inflammation and tissue destruction", was published online on 5 February 2020 in the Journal of Dental Research, ahead of inclusion in an issue. "Dental Tribune International"

Researchers develop ...

Continued from page 10

CAD/CAM solutions and software, is currently integrating the model into its dedicated software. The model will be used with Planmeca 3D tomography equipment.

The study, titled "Deep learning method for mandibular canal segmentation in dental cone beam computed tomography volumes", was published online on 3 April 2020 in Scientific Reports. - Dental Tribune International

Canadian dentist kills ...

Continued from page 10

The Canadian Broadcasting Corp. said that at least five buildings and cars were burnt in the course of the rampage, and the media agency confirmed that the shooter was wearing an RCMP uniform and driving a replica RCMP vehicle.

Wortman has been described as a wealthy dentist with a fixation with police memorabilia. He attended the University of New Brunswick and initially studied to become a moritian before pursuing dentism and becoming a licensed dentist. He owns a denture clinic in Dartmouth and another in Halifax, both in Nova Scotia.

According to the Associated Press, Wortman had been forced to temporarily close his Atlantic Denture Clinic practice owing to the COVID-19 pandemic. Police investigations are ongoing, including into the motive of the perpetrator. - Dental Tribune International
Join the largest educational network in dentistry!

www.DTStudyClub.com