ISSN: 2581-5989
PubMed - National Library of Medicine - ID: 101738774

International Journal of Dental Science and Innovative Research (IJDSIR)

IJDSIR : Dental Publication Service

Available Online at: www.ijdsir.com

Volume – 4, Issue – 2, March - 2021, Page No. : 410 - 416

The role of an oral physician in the pandemic era – An Insight

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Citation of this Article: Dr. G. Jeevitha, "The role of an oral physician in the pandemic era – An Insight", IJDSIR- March - 2021, Vol. – 4, Issue - 2, P. No. 410 - 416.

Type of Publication: Review Article

Conflicts of Interest: Nil

Abstract

The covid 19 pandemic has cast the entire dental fraternity into an unexplained perplexity. It has abruptly affected the delivery of all dental services including routine check-ups, elective procedures, and patients on surveillance for various oral diseases. Because of the inability to keep most of the clinics open throughout the pandemic for public service, there has been a steady rise in home remedies among the public for dental ailments. The mainstream medical doctors are not very clear about the oral manifestations of covid 19 infection. Inspite of the vagueness in the oral care delivered to covid 19 affected patients, the role played by the oral physician in a covid affected society remains unclear. There are a number of oral manifestations that can arise in covid affected patients especially among the immune compromised ones. A multi disciplinary approach with the inclusion of an oral physician at all covid health care facilities is highly suggested and also oral screening as an opportunistic screening tool has to be carried out at all screening camps. When the required recognition and opportunities are being provided to oral physicians, their role is definitely inevitable in the current pandemic.

Keywords: Covid, Oral Physician, Immune Compromised, Oral Screening, Oral Manifestations

Introduction

One of the monumental health adversities that affected mankind in this century is the spread of the novel corona virus (SARS-CoV-2) disease that exploded in massive proportions across nations. It created an abrupt healthcare crisis globally shattering populations physically, emotionally and economically. The healthcare workers were affected hugely and are still struggling to cope up with the outbreak. The effect of SARS-CoV-2 on dental professionals was also intense and it makes us analyze our present strategies and vote for a change. The present essay enumerates the impact of SARS-CoV-2 on oral medicine and radiology practice.

SARS-Cov-2 and The Abrupt Abeyance Of Oral Care

The covid 19 pandemic has cast the entire dental fraternity into an unexplained perplexity. It has abruptly affected the delivery of all dental services including routine check-ups, elective procedures, and patients on surveillance for various oral diseases. As per the recommendation of the American Dental Association (ADA) on March 01, 2020, dental professionals were asked to postpone all elective procedures. [1] The WHO later released a set of guidelines on the triage, assessment, and protocols for emergency procedures. [2] At the very beginning of the pandemic, the dental clinics were looked upon as a positive source of cross-infection spread due to various reasons like the technical aspects of a dental setup, the infrastructure, types of equipment used, the rotary instruments, and the inevitable generation of aerosols. As we work in such proximity to the oral cavity, oral health care professionals were left with anxiety and stress regarding the mysterious spread of the virus and the consequent turn of events. With no established literature or documents pertaining to the pathology of SARS-CoV-2 and its characteristics, it was a nightmare for the health care workers globally.

The veil of anxiety among oral health care professionals

Peng Zhou et al identified and mapped the characteristics of the novel corona virus in the journal "Nature" in February 2020. Peng and his team further established that the angiotensin-converting enzyme-2 (ACE-2) played a vital role in the pathogenesis and disease progression of covid-19. [3] The numbers and proportion of the ACE-2 expressing cells in the nasal and oral mucosa are very much remarkable and can be compared to the numbers seen in the respiratory tissues and the colon as well. Thus the authors laid down the basis for the discussion that nasal and oral tissues could be the first part of our body to be infected by Sars-CoV-2. [4]

Another study also reported that there was a presence of ACE receptors in the oral mucosa and especially over the epithelial cells of the tongue. [5] All these findings suggested that the risk of transmission through the oro-fecal route cannot be neglected. It further firmly delivered the fact that the standard operating measures followed by oral physicians were not enough to combat this contagion. Oral care experts work in the direct field of the oral cavity and if the patients report to our clinic in an incubation phase and the patients are not aware of their infection, they can pose a major risk to the operator and his entire team. [6]

Several studies have assessed the levels of anxiety and stress among dentists during this pandemic. A cross-sectional study done with dental professionals from around 30 countries reported that 78% of dental professionals were anxious about SARS-CoV-2. Despite having sound knowledge of the respective disciplines and the treatment modalities, still fear lurked the majority of the dentists worldwide. [7]

Definition of urgent oral care

At the onset of the pandemic no definition of emergency oral care was provided by any organization and this forced all dental professionals to shut their clinics till further directions. Though covid 19 was the disease of priority, it did not mean that dental and orofacial emergencies did not show up among the population, throughout the lockdown period. With oral diseases affecting 3.5 Billion people globally, the pandemic has definitely created a vacuum in oral care delivery. Beginning with dental caries in the permanent tooth being the most common oral condition according to the global burden of diseases in 2017 to vast populations of immune-compromised patients who have oral manifestations, the role played by the oral medicine experts though subtle, is certainly trivial. [8] The inability of oral physicians to perform elective procedures, routine

oral care can reflect higher rates of disease in the near future. The routine opportunistic screening and monitoring of patients with serious conditions like pemphigus, pemphigoid, etc., has also taken a toll. This can lead to an alarming rise in oral lesions among masses especially in geriatric patients and immune-compromised individuals.

There have been reports of an increase in home remedies for tooth pain and related issues and even an extreme case of self-removal of a molar tooth without any anesthesia due to the desperation of the patient and the unavailability of dental services.

Recent studies from Israel and Poland have reported an alarming increase in bruxism, temporomandibular disorders, and orofacial pain during this covid 19 pandemic season. According to the authors, nearly 48.8% of the participants reported pain in the face, jaws, temporomandibular joints, and temple at least once a week, and 22.6% reported pain during mouth opening and chewing. 9.2% reported lockjaw at least once a week. [9] Subsequently, the WHO released a set of guidelines for dentists regarding dental emergencies but there was no reference to soft tissue lesions or orofacial pain-related emergencies. Thanks to a few organizations that took the leading step in laying down guidelines for oral medicine related emergencies and treatment protocols like the "Recommendations for Oral Medicine during COVID-19 pandemic" by the British and Irish Society of Oral Medicine and the Faculty of Dental Surgery, Royal College of Surgeons of England and the "Guidelines for oral medicine and radiology practice in dental college and hospitals" by the Indian Association of oral medicine and radiology.

The psychosomatic spectrum and related oral lesions

Since the announcement of SARS-CoV-2 as a public health emergency of international concern, many countries have been under stringent and scrupulous lockdown for many months. Forced domestic confinement, fear of contracting the virus, lack of social interaction, financial pressures, and lack of recreational activities have to lead to an escalation in behavioral disorders globally. Studies have shown the prevalence of a range of psychological conditions like phobia, anxiety, depression, dissociation, sleep disturbances, bipolar motor disorders, and even the tendency to commit suicide with the authors rightly referring to this situation as the "dual pandemic of suicide and covid-19". [10,11] An analysis of the common search topics in "google trends" revealed an increase in search for "mental distress topics" and an overall 1% global increase in suicides. [12] Considering the aspect of mental stress, it is a well-known fact that a majority of humans find delirious habits as a source of a vent to relieve their stress and negative emotions. A study by the Centre of Excellence for the acceleration of Harm Reduction (CoEHAR) carried out a questionnaire study in Italy to assess the behavioral changes among smokers. A huge majority of tobacco users reported to having stocked up tobacco products in large quantities to suit their needs. Also, 29.7% of former smokers expressed their thoughts of wanting to start smoking again in this lockdown period. [13] Needless to say that the illegal sale of tobacco and tobacco products was present everywhere.

May it be oral lesions arising due to psychosomatic disorders or the oral lesions that arise through an elevated use of tobacco and tobacco products, this is a definitive subject that needs immediate attention. The prevalence of oral potentially malignant disorders (OPMD) among the masses can rise. The patients who were already diagnosed with OPMDs and under surveillance also could not be assessed by the oral medicine experts due to the lockdown concerns. Moreover, the incidence patterns of dysplasia could not be assessed which may increase late stage cancerous lesions that could lead to higher morbidity and

mortality rates. A study that evaluated the history and progression of untreated head and neck cancers has reported a mean survival period of 4months and only 11% of patients survive more than a year. [14] This enumerates the importance of opportunistic screening that is performed routinely and exclusively by our dental fraternity.

Oral manifestations of sars-cov-2

Generally, viral diseases tend to produce disturbances in the stages of odontogenesis during vertical transmission. Though studies have not revealed any occurrence of oral manifestations in neonates born to covid 19 positive mothers, still the literature remains insufficient. On the other hand, several oral manifestations have been reported in other patients like petechiae, ulcers, macules on the palate, desquamative gingivitis, and even mucocutaneous lesions over the lips, buccal mucosa, tongue, and palate. Moreover, SARS-CoV-2 can predispose the occurrence of opportunistic infections like oral and oropharyngeal candidiasis, herpes simplex, etc. [15] A recent study found that more than 50% of patients diagnosed with SARS-CoV-2 presented with xerostomia and dysgeusia. [16]

As the pharmacological management of covid 19 is still not defined, the WHO commenced the SOLIDARITY trial to evaluate various medications like remdesvir, cloroquine/ hydroquine, combination of lopinavir and ritonavir, and interferon-β. [17,18] The use of antiviral drugs like lopinavir and ritonavir is very effective in reducing the viral load but still, it may lead to adverse effects in the form of mucosal lesions in the oral cavity (<2%) including oral ulcers, stomatitis, and dry mouth. Even broad-spectrum antibiotics like meropenem, moxifloxacin which is used to treat severely immune-compromised individuals, can produce oral lesions that can require an adjunct treatment like antifungal or antimicrobials. [19] Also, the risk of polypharmacy including steroids can cause various oral manifestations including drug-induced lesions like erythema multiforme, etc.

The role of oral medicine specialists at covid-19 facilities

Being a specialty field, oral medicine is at the interface of medicine and dentistry. With the well-known fact that covid-19 affects various immunocompromised individuals, it is not a wonder that this is the vulnerable population that needs the highest oral care due to their enormous chances of developing oral manifestations. The SARS-CoV-2 patients need oral care during the stay at the hospital facility and need to be monitored even post-discharge. Moreover, the hospital stay poses risks of nosocomial infections and prolonged periods of oro-tracheal intubation, external ventilation, tracheostomy, mouth breathing, and hyposalivation can cause deterioration of the oral mucosal health. [20] The role of an oral medicine specialist in such a scenario is imperative but sadly an interdisciplinary gap between the medical and dental peers has resulted in the present situation. This lack of communication has been evaluated by numerous studies among which a recent study says that 52.2% of the medical professionals in their study were not aware of the specialty field of oral medicine and radiology. [21] This situation has to change by developing better integration between all disciplines of healthcare system. There has to be better communication with the primary healthcare workers so that they understand the need for oral physicians and the unique role played by them. Oral medicine specialists have to be incorporated in the primary covid-19 facilities so that we can evaluate and assess the patients admitted on daily basis thus providing timely diagnosis and care. The addition of an oral physician in the health care team can be very effective so that we could provide insights and contribute to the overall prognosis of covid-19 patients.

Covid-19- an opportunistic screening tool

Among oral diseases, oral cancer is emerging as a major health care burden with an estimation of 4 cases per 100000 people globally. [22] Oral and oropharyngeal cancers need immediate care and treatment protocols have to be put down at the earliest. Any delay can lead to increased mortality rates. A few oral medicine specialists have highly suggested conducting oral cancer screening at SARS-Cov-2 facilities as an opportunistic screening procedure and this suggestion is to be welcomed. The inclusion of an oral physician will serve the purpose. As covid-19 swabs are collected from the patients with their mouths wide open, a quick oral screening will not create inconvenience. This effort can help oral medicine specialists to provide immediate care and curb the alarming increase in oral diseases. [23] Also, it is suggested that at every covid-19 screening facility, the patients are screened using the "WHO Oral Health Surveys manual–Basic Methods (2013)". [24] This can help us learn more about the epidemiology of oral conditions in the present scenario and also help to contribute to the WHO Global Oral Health Data bank. The data from each patient is vital in learning about the nature and progress of SARS-CoV-2 and a survey tool plays an indispensable role in such evaluations. A disease of this magnitude has to be assessed at every primary health care center, tertiary hospitals, and private setups to understand the transmission dynamics of this novel virus, especially concerning the oral scenario.

Teledentistry

The time to change has come and oral healthcare professionals need to adapt to the era of teleconsultation and tele-screening. The need for teleconsultation is emphasized by our country's ministry of family and women health (MOHFW)- "Guidelines for Dental Professionals in Covid-19 pandemic situation" wherein the ministry explains the need to implement a set of three phases i.e the preparatory phase, implementation phase and the follow-up phase with significance given to teleconsultation. [25] An illustrated handout can be shown to the patients so that they understand the steps involved in the consultation and thereby keep some tools like a torch light, mirror, reflecting tools like spoons ready. Accordingly once the physician communicates with the patient through two way communication using both audio and video tools, photographs can be analyzed for providing provisional diagnosis. Knowing how important visualization is for an oral physician, proper light facilities can be used by the patient to provide well-lit photographs. Once the patient is given an appointment and called to the clinic, the oral physician with his personnel protective equipment (PPE) performs all procedures aseptically including careful use of radiograph techniques (preferably panoramic radiography). Organizations like the Australian dental association also have given the "Guidelines for teledentistry" which is of invaluable guidance and provides sufficient reference and reassurance to practitioners.

Conclusion

In 2000, the US department of health and human resources, the office of the Surgeon General, the National Institutes of Health (NIH) had released the first Surgeon General's report on oral health which clearly states that oral health is part of overall health and well being. [26] It is high time that the policy-making bodies internationally and nationally understand the importance of oral medicine and diagnosis of oral lesions and swiftly include oral medicine experts in expert panels to constitute further guidelines. Isolation of dental professionals especially oral physicians will create a huge vacuum in oral care and in the understanding of the disease pattern of SARS-CoV-2. Definitive emphasis has to be given to the integration of

oral medicine specialists with the wider health care system. This will broaden the scope of our practice, thus validating our efforts and contribution to healthcare as a whole.

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