

ORAL MANIFESTATION OF COVID-19 IN EGYPTIAN PATIENTS

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ABSTRACT

Objective of this study: This questionnaire analysis aimed to state oral manifestations that have been seen in Egyptian infected with (severe acute respiratory syndrome coronavirus 2 – SARSCOV-2) during the pandemic second wave.

Material and methods: patients were asked to fill out a questionnaire about their symptoms in dental clinics and. The questionnaire was completed by 60 patients (43 females and 71 male) aged between (25-55), questionnaire included questions about these symptoms pain related to prosthesis, dryness, mouth burn, candida, inflammation, and the recovery time.

Results: only 30% of patients who completed the survey said they had oral manifestation during infection period, varies between inflammation, dryness, and candida infection and the symptoms sustained after recovery from infection by COVID-19, patients took this survey and had complete dentures mentioned no symptoms related to denture foundation area excepts one patient mentioned problems with denture fit after recovery.

Conclusion: As any part of the body oral cavity has also been affected by the novel COVID-19 viruses, symptom and oral manifestation is still under investigations. Absence or presence of symptoms and its severity varies from one person to another.

Keywords: COVID-19, Oral symptoms, Candidal infection, Xerostomia

INTRODUCTION

The worldwide outbreak of COVID-19 (severe acute respiratory syndrome coronavirus 2 – SARSCOV-2) spread during 2020. Due to the rapid transmission of the virus and its low fatality rate compared to other viruses it has been spread globally leading to a high number of infected individuals and fatalities. ⁽¹⁾ by March 2020, The World Health Organization (WHO) declared COVID-19 a pandemic ⁽²⁾

Center of disease control restricted the dental services only to critical services to minimize COVID-19 infection exposure, WHO also recommended lockdown of infected cities, self-isolation of non-symptomatic cases, border closure, social-distance ⁽³⁾ these policies were delayed in Egypt due to reduced rate of infections and mortalities in relations to countries such as Italy and USA. ⁽⁴⁾

Although COVID-19 affects several body organs, the main cause of fatality is severe pneumonia due to respiratory tract infection by the Corona virus, symptoms of infection by COVID-19 vary between fever, dyspnea, dry cough, and severe respiratory complications.^{(5), (6)}

Severe acute respiratory syndrome coronavirus (SARS-CoV-2) transmission routes include direct transmission (sneezing, and inhalation of respiratory secretion droplets) and contact transmission (contact with the oral, nasal, and eye mucous membranes)⁽⁷⁾

Patients infected with COVID 19 primarily suffered from loss of taste sensation associated with the manifestation oral cavity, but an olfactory dysfunction should be studied as the primary cause of taste disorder⁽⁸⁾. A result of direct infection of SARS-CoV-2 or are secondary manifestations of COVID-19. Oral ulcers, petechiae and reddish macules, mainly in the palate⁽⁹⁾, in addition to desquamative gingivitis, and lower lip and buccal mucosal blisters. It should be stressed that other opportunistic diseases, such as herpes simplex, candidiasis can be predisposed to the acute condition induced by COVID-19⁽¹⁰⁾, which may have a clinical appearance comparable. Since there is no specific treatment for COVID-19, many different drugs are administered to patients, especially those who experience respiratory complications. In addition to drugs that can cause oral side effects, the length of hospital stay, with the potential need for orotracheal intubation, can also produce changes in the oral mucosa⁽¹¹⁾.

MATERIAL AND METHODS

60 patients between online questionnaire and from the out-flow of dental clinics in Egypt were selected and filled a questioner for research purpose about their oral health during their covid-19 infection period.

The questionnaire was held in Arabic and had questions about the problems that they faced during infection period which varied between pain, inflammation, candida infection, burning sensation, altered taste, xerostomia, dryness

The objective of this study was to assess the oral manifestations of people infected by COVID 19 during the past six months (1st wave of pandemic) in Egypt, using a questionnaire for the follow of patients is different dental clinics and online.

RESULTS

Answers collected from the questionnaire and statically evaluated as the following at the end of the research

DISCUSSION

This study is one of the first studies of oral clinical manifestations of Egyptians assessed by a questionnaire. The presence of oral lesions and symptoms have been reported, likely due to inflammatory processes, frequent use of antibiotics or the immune response alternation.

In this study, 60 patients took the questionnaire, 43 were females and 17 males, all of whom had infected by SARS-CoV-2. Only 23 of them had problems related to the oral cavity during the infection period and 68.3% said they did not face any problems. During the infection period 11 patients had

xerostomia, a recent study stated that more than 50% of COVID-19 patients presented xerostomia and dysgeusia, with a significant correlation between these two symptoms ^[12].

Candida infection was seen in 15 patients during the infection period, a study showed that due to the use of intensified therapeutic methods possibly exacerbated by SARS-CoV-2, an increase in cases with oropharyngeal symptoms/conditions, dental-oral problems associated with soft tissues, and saliva production (dry mouth) as side effects could be expected, even after recovery from COVID-19. Candida albicans is a normal inhabitant in many mouths; diagnostic confirmation of infection is always dependent on antifungal medications. A few cases of oral manifestations in patients with COVID-19 have been reported in recent literature, but it is still unknown if it is the result of direct action of the virus or a product of systemic degeneration increases the risk of opportunistic injuries. ⁽¹³⁾

Other reports revealed oral manifestations associated with human immunodeficiency virus) confirmed presence of cervical-facial lymphadenopathy, oral candidiasis, petechiae, and xerostomia in the patient. ⁽¹³⁾

Ten of total patients during infection suffered from inflammation of oral cavity soft tissues, Different factors generated during inflammation, such as prostaglandins, leukotrienes, cytokines, and inflammatory mediators, may play a role in this response and increased melanogenesis ⁽¹⁴⁾. Inflammation mediators, such as histamine and arachidonic acid metabolites, trigger melanogenesis and inflammatory cytokines such as TNF- α and IL-1 α induce the secretion of melanogenic agents (SCF, HGF,

bFGF, endothelin) by keratinocytes. Together, these agents describe the melanin pigmentation that is often seen in association with inflammatory conditions of the skin or oral mucosa. ⁽¹⁵⁾

Half of the patient total number said they have a prosthesis (fixed or removable) but they had no problems related to it except, one edentulous patient said that he had problems in eating with complete denture during infection period and did not feel comfortable with both dentures and four patients with fixed prosthesis said that they felt discomfort with their prosthesis, this may be due the infection of denture foundation area during the infection period.

Mostly all the patients said their symptoms begin to subside after recovery of infection.

CONCLUSION

As any part of the body oral cavity has also been affected by the novel COVID-19 viruses, symptom and oral manifestation is still under investigations. absence or presence of symptoms and its severity varies from one person to another.

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male/female

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	male	17	28.3	28.3	28.3
	female	43	71.7	71.7	100.0
Total		60	100.0	100.0	

problems with oral cavity

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid yes	19	31.7	31.7	31.7
no	41	68.3	68.3	100.0
Total	60	100.0	100.0	

dryness

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid yes	11	18.3	18.3	18.3
no	49	81.7	81.7	100.0
Total	60	100.0	100.0	

candida

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid yes	15	25.0	25.0	25.0
no	45	75.0	75.0	100.0
Total	60	100.0	100.0	

burning

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid yes	25	41.7	41.7	41.7
no	35	58.3	58.3	100.0
Total	60	100.0	100.0	

inflammation

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid yes	10	16.7	16.9	16.9
no	49	81.7	83.1	100.0
Total	59	98.3	100.0	
Missing System	1	1.7		
Total	60	100.0		

recovery

pain

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid yes	11	18.3	18.3	18.3
no	49	81.7	81.7	100.0
Total	60	100.0	100.0	