

Impact of Drugs Given during COVID 19 on Oral Health

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Abstract: *Aim of the survey: Impact of COVID - 19 on oral disease Patients were asked about their history of diabetes, cardiovascular and cerebrovascular diseases, chronic respiratory diseases and oral diseases during the epidemic and made self - assessments of the changes in the original diseases during the epidemic (worse, better, or no change). The results showed the patients with these diseases with a history of oral disease thought that the disease worsened, which was the highest proportion compared with that of other diseases This survey made us to work on creating awareness among the public about the impact of drugs on oral health during epidemic. We also included questions based on the awareness regarding various mouthwashes used in clinical practice during the pandemic and how safe it is, the effect of drugs given to treat COVID 19 on our oral health, also if there are any chances of experiencing any oral health issues on post recovery from covid. Also, to understand effects that were seen more commonly in the oral cavity in response to administration of drugs during COVID 19.*

Keywords: COVID - 19, oral health, Oral diseases, oral medicine, drugs and therapy

1. Introduction

COVID - 19 is an infectious disease caused by the SARS - CoV - 2 coronavirus transmitted from person to person via droplets in the air or by contact with contaminated surfaces. It can have a significant impact on oral health, while oral health can influence a patient's susceptibility to the virus and can influence the oral health of an individual¹. COVID - 19 has seriously threatened the health and lives of people. The above survey aimed to conduct an investigation survey among our friends. This study aimed to investigate the awareness of impact of COVID - 19 on the oral health of adults amid the epidemic and to evaluate attitudes towards dental care in the post - epidemic period The effects that the drugs have caused on the oral health and its implications. Major symptoms of COVID - 19 include fever, dry cough, and tiredness. Less common symptoms include loss of smell with or without loss of taste, sore throat, headache, conjunctivitis, and body pain. Severe symptoms include chest pain, breathing difficulties, and loss of speech or movement¹ People most at risk of COVID - 19 include older people and those with chronic systemic diseases such as cardiovascular diseases, pulmonary diseases, hypertension, diabetes, and cancer Healthcare professionals use multidisciplinary approaches, including multi - drug treatment and intensified therapeutic measures, that can potentially affect oral health and mucosal tissue²

2. Literature Survey

COVID - 19 has seriously threatened the health and lives of people. The above survey aimed to conduct an investigation survey among our friends. This study aimed to investigate the awareness of impact of COVID - 19 on the oral health of adults amid the epidemic and to evaluate attitudes towards dental care in the post - epidemic period Medications used routinely and experimentally in the treatment of COVID-19 patients cause side effects, however their benefits outweigh the disadvantages. Also, it includes the study that conducted to find out the implications on oral health based on the drugs that were given during COVID 19.

Few drugs are: Fabiflu, Remdesivir, Dexamethasone, Doxycycline. It is an antiviral drug that is given to treat cough, stuffy Nose, Body ache, fever, Headache, sore throat, flu and other breathing illness. Side effects Dizziness, Drowsiness, nausea, nervousness.

Dexamethasone: It is glucocorticoid medication used to treat rheumatic problems, a number of skin diseases, severe allergies, asthma, chronic obstructive lung disease, brain swelling, eye pain following eye surgery, and along with antibiotics in tuberculosis². Side effects: Stomach irritation, vomiting, Headache, Dizziness, insomnia. Doxycycline: Doxycycline can also treat bacterial super - infection, which is a potentially important pathway to severe COVID - 19— particularly in older people or those with comorbidities. Side

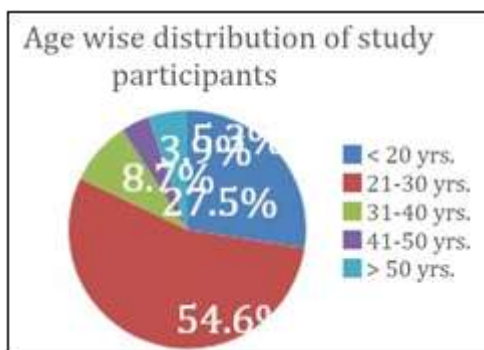
effects: Side effects of doxycycline include: Diarrhoea. Difficulty swallowing. Drug rash. Oesophageal ulcer. Esophagitis Facial redness. Headache. Limcee: Limcee Tablet is a Tablet It is commonly used for the diagnosis or treatment of cell damage, red blood cell production, low levels of vitamin c effects such as side Diarrhoea, Headache, Abdominal cramp, Flushing or redness of skin. Antibiotics are the most commonly prescribed medicine in children. Narrow - spectrum antibiotics target a few types of bacteria. Broad - spectrum antibiotics target many types of bacteria. Both types work well to treat infections. But using broad - spectrum antibiotics when they're not needed can create antibiotic - resistant bacteria that are hard to treat. They may also have side effects, such as diarrhoea or rash. These drugs given during COVID 19 was found to affect the oral health in the following ways: Halitosis. Gingival bleeding. Swelling Ulcers. TMJ disorders.

3. Methods/ Approach

It was an anonymous survey of 350 people with the participants belonging to diverse age groups, social backgrounds and economic strata. The questionnaire included. What are the common oral clinical features see in viral infection, The effects of stress due to COVID on oral health can its cause, What are the antiviral drugs used in treatment of COVID 19 patient, Dexamethasone drug in COVID 19 patient is used as, Side effects of medications given during COVID 19 include, Doxycycline is used recently in treatment of COVID.

4. Results/ Discussion

Variable	Category	N	%
Age	< 20 yrs.	98	27.5%
	21 - 30yrs.	195	54.6%
	31 - 40 yrs.	31	8.7%
	41 - 50 yrs.	14	3.9%
	>51 yrs.	19	5.3%
		Mean	SD
	Mean	25.8	9.2
	Range	17 - 58	



The survey included around 350 participants ranging between 17 - 58 years, the mean age being 25 years. It included 227 female participants and 123 male participants.

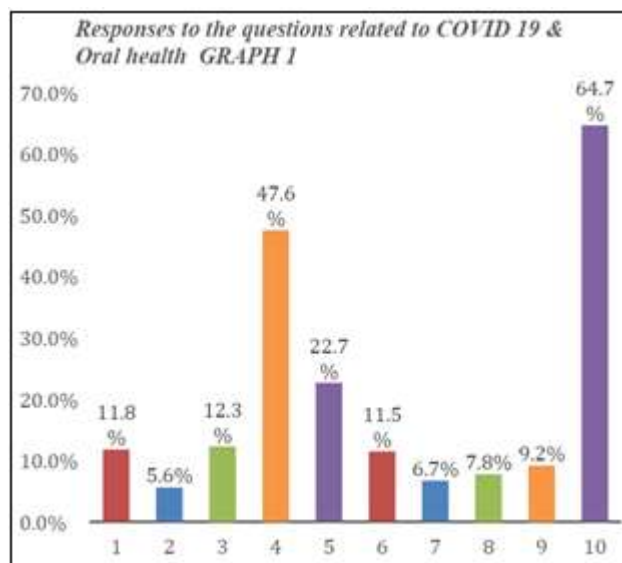
The results showed that a significant proportion of study participants used Chlorhexidine [55.2%], followed 25.2% of

them either using 1% H2O2 or 0.2% Povidine as the pre - procedural mouth rinse for dental practice. Majority of the study participants [81.0% (47.1 + 33.9%)] agreed there was an impact on oral hygiene due to spread of SARS COV - 2 infection. These findings were statistically significant at P<0.001.

A compilation of the results showed that there were impacts on oral health due to intake of drugs given during the treatment of COVID 19 From graph1, Table 1 (question 1) it represented those effects of drugs taken during viral infection affected the oral health and showed that the common oral clinical features like oral vesicles, ulcerations, blisters, halitosis. According to the results interpreted by graph 1 there was a marked increase in the response to 64.1% all the clinical features like oral vesicles, ulcerations, blisters, halitosis. From graph 1 table 1 (question 2) it also represented the effects of stress due to COVID on oral health can also lead to cracked teeth, chipped teeth, wearing down of enamel and resulted marked increase to 47.6% in all the conditions cracked teeth, chipped teeth, wearing down of enamel.

Table 1

Questions	Responses	n	%	X ² Value	P - Value
What are the common oral clinical features see in viral infection	Only b and c	81	22.7%	448.196	0.001
	Oral Vesicles	41	11.5%		
	Ulceration	24	6.7%		
	Blisters	28	7.8%		
	Halitosis	33	9.2%		
The effects of stress due to COVID on oral health can cause	All of the above	231	64.7%	9.531	0.04
	Cracked teeth	22	11.8%		
	Chipped teeth	8	5.6%		
	Wearing down of enamel	17	12.3%		
	Only b & c	21	22.7%		



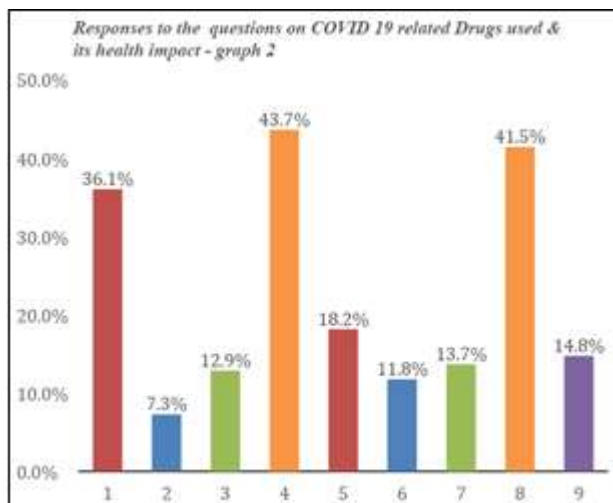
A compilation of the results showed that there were impacts on oral health due to intake of drugs given during the

treatment of COVID 19 From graph 2 and table 2 (question1) it represented the names of antiviral drugs given to treat COVID 19 effects which were Remdesivir, Fabiflu, Chloroquine and both Remdesivir and Fabiflu together and showed that 43.7% of them chose Remdesivir and Fabiflu commonly. According to the results interpreted by graph 2 there was a marked increase in the response of 43.7% to Remdesivir and Fabiflu. From graph 2 and table 2 (question2) it represented the use and significance of the drug Dexamethasone in COVID 19 as Anti - inflammatory, immunosuppressants, antibiotics and showed that 41.5% of them chose Anti - inflammatory and immunosuppressant. According to the results interpreted by graph 2 there was a marked increase in the response of 41.5% to Anti - inflammatory and immunosuppressant.

Table 2

Comparison of distribution of responses for the questions related to covid19 and oral health using Chi Square Goodness of Fit Test

Questions	Responses	n	%	X ² Value	P - Value
What are the antiviral drugs used in treatment of COVID 19 patient?	Remdesivir	129	35%	133.409	0.001
	Fabiflu	26	7.3%		
	Chloroquine	46	12.9%		
	Both a & b		43.7%		
Dexamethasone drug in COVID 19 patient is used as	Anti- inflam matory	65	18.2%	106.627	0.001
	Immunosup pressant	42	11.8%		
	Antibiotic	49	13.7%		
	Both a &b	148	41.5%		
	Both b &c	53	14.8%		

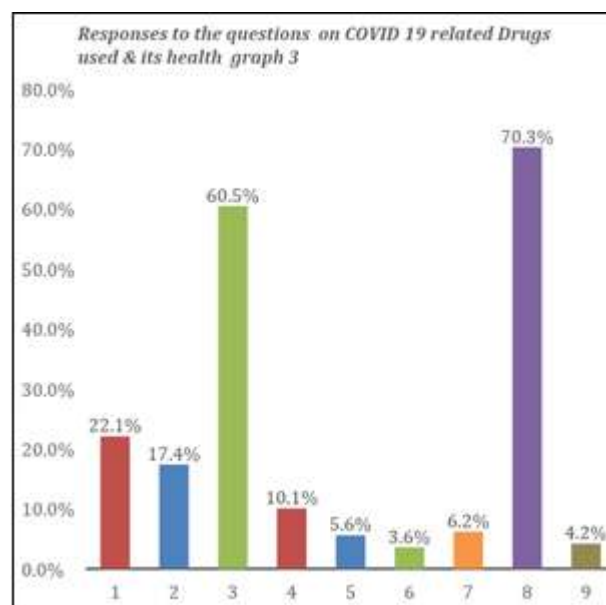


A compilation of the results showed that there were impacts on oral health due to intake of drugs given during the treatment of COVID 19 From graph 3 and table 3 (question1) it represented Side effects of medications given during COVID 19 include ulcers, xerostomia, stomatitis, oral thrush, gingival bleeding and all of the conditions mentioned together and showed that 70.3% of them chose Gingival bleeding commonly. According to the results interpreted by graph 3 there was a marked increase in the response of 70.3% to gingival bleeding. From graph 3 and table 3 (question2) it represented the use and significance of the drug Doxycycline in COVID 19 as Anti - inflammatory, antiviral, and both showed that 60.5% of them chose both

anti - inflammatory and antiviral. According to the results interpreted by graph 3 there was a marked increase in the response of 60.5% to Anti - inflammatory and antiviral.

Table 3: Comparison of distribution of responses for the questions related to covid19 and oral health using Chi Square Goodness of Fit Test

Questions	Responses	n	%	X ² Value	P - Value
Side effects of medications given during COVID 19 include	Ulcers	14	10.1%	0.870	0.97
	Xerostomia	7	5.6%		
	Stomatitis	4	3.6%		
	Oral thrush	7	6.2%		
	Gingival bleeding	87	70.3%		
	All of the above	4	4.2%		
Doxycycline is used recently in treatment of COVID as	Anti - inflam matory	79	22.1%	119.815	0.001
	Antiviral drug	62	17.4%		
	Both a & b	216	60.5%		



5. Conclusion

Through this research paper we would aim to bring this to the notice of the concerned authorities so as to facilitate timely intervention and education of the general public to help maintain healthy oral hard and soft tissues for the long run. Based on the findings of our present survey, we found that various oral manifestations like gingival bleeding, ulcers, halitosis, blisters xerostomia, oral thrush we could conclude that individuals tended to be more seriously affected and suffered more oral problems amidst the epidemic compared with people from other places. Keeping good oral health behaviours and mental status play an important role in preventing dental problems. It is crucial to establish and to follow the standard guidelines for the provision of dental care both during and after the epidemic. Our research is a preliminary study of the impact of COVID - 19 on oral health. This study is limited by the total sample size, and the population sampled may not be representative. More well - designed studies would contribute to a continuing understanding of this important issue

6. Future Scope

This response is an important message that reminds us of the importance of avoiding nosocomial infections in the post - epidemic period. Several studies have provided guidelines for the provision of dental care both during and after the epidemic, including the screening and assessment of patients, prevention of infection, hand hygiene, and personal protective equipment. These guidelines remain to be further improved and evaluated. The most important thing is to abide strictly by the relevant regulations and guidelines during regular dental procedures; thus, both the patients and the dentists will be protected and safe.

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