

Awareness About Oral Manifestations Of Covid-19 Among Pre-Clinical Dental Students

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ABSTRACT :

BACKGROUND: Among the health care personnel, dentists face the highest exposure and risk. At this high risk, there are many problems a dentist might face. Dentists face a major threat while diagnosing the patients having covid 19, but not displaying any symptoms. The range of oral manifestation of Covid 19 has been considered and has a broad interest.

AIM: The aim of the study is to assess the awareness about the oral manifestations of covid 19 among pre clinical dental students.

MATERIALS AND METHODS: An online questionnaire was created and 121 responses were collected in total from the survey. The data was collected and entered in SPSS software and a chi square test was done, represented by bar graphs and pie charts.

RESULTS: The Dentists have treated patients with irregular ulcers where the 18-20 age group counted for 53.3% and 21-24 counted for 18.9% and above 44 had 24.6% which was also statistically significant. 58.20% participants knew that loss of taste is a symptom of covid 19. 37.70% of the participants did not know that loss of taste is a symptom of covid 19. Taste disorder may be the common symptom in patients with COVID 19 and should be

considered in the scope of the disease onset. Considering the pandemic situation the dentist have taken proper precautions and are aware about the oral manifestation.

CONCLUSION: Dental health professionals need regular educational activities and training programs on infection prevention practices with respect to COVID 19 infection to help the health care sector in case the demand arises.

KEYWORDS: Oral manifestation, COVID 19, dental students, Innovative method.

INTRODUCTION:

A global pandemic burden occurred in December 2019 in Wuhan, China has emerged by human to human transmission. The new coronavirus (SARS-COV-2) was isolated and it caused severe respiratory syndromes (1). The most common symptoms of coronavirus are fever, cold, shortness of breath(Guan et al). 20% of the infected patients develop severe disease, 5% are critically ill and develop respiratory syndromes. Corona virus infected patients are at high risk and are vulnerable to severe respiratory syndrome which was found from the previous study(2). As the pandemic was increasing by each passing day the frontline health workers were particularly vulnerable to this infection. By the World Health Organisation(WHO) coronavirus disease was declared as a pandemic on March 11,2020(3). Among the health care personnel, dentists face the highest exposure and risk. At this high risk, there are many problems a dentist might face. Dental procedures, where a large number of droplets and aerosols containing microorganism from an infected individual are at the high risk of cross infection between the patients and the dentists(4). It is difficult for the dentist to identify the pathogen carrying patients which can increase the spread of the virus. 14 days is reported to be the medical incubation period for the infected patients. Dentists also face a major threat while diagnosing the patients having covid 19, but not displaying any symptoms. Covid 19 acute infection contributes to adverse outcomes concerning oral health. Taste disorder, oral ulceration, gingivitis, are some of the oral signs and symptoms(5). The range of oral manifestation of Covid 19 has been considered and has a broad interest.

In order to monitor and resolve its spread the dentist should take a high number of precautions. It is recommended that all the dentists should use PPE, patient assessment, washing of hands, proper usage of rubber dams, proper oral rinsing before the procedure, and clinical disinfection should be done during diagnosing the patients (3). There are some

guidelines and publications which have provided information about signs, symptoms and referral processes of dentists in order to improve their awareness to prevent the spread of the disease. The risk of viral transmission is higher for the dentists as they are close or work near the patients.

Our team has extensive knowledge and research experience that has translate into high quality publications

(6),(7),(8),(9),(10),(11),(12),(13),(14),(15),(16),(17),(18),(19),(20),(21),(22),(23),(24),(25).

The aim of the study was to assess the awareness about the oral manifestations of covid 19 among pre clinical dental students.

MATERIALS AND METHODS:

This study is a cross sectional study and was done at a dental college in Chennai. It is a questionnaire based survey. In total 12 questions were included for the survey. There were 121 responses for the question asked. The response was collected through google forms .The questionnaire asked in the study are as below:

1. Age
2. Gender
3. Level of education
4. Aware about the symptoms of covid 19
5. Do you think loss of taste is a symptom of covid 19
6. Did you consult patients suffering from covid 19
7. If yes, what was the primary symptom
8. Did you take precautions before treating any covid 19 patients
9. Have you treated covid patients with gingivitis
10. Have you treated patients with ulcers
11. Have you treated patients with small blisters
12. Were the patient's tongue, palate, lips, gingiva and buccal mucosa affected

DATA ANALYSIS: Final data analysis was done using SPSS software. The chi square test was used to assess and bar graphs and pie charts were applied.

STATISTICAL ANALYSIS:

P value less than 0.05 was considered statistically significant.

RESULTS:

In (fig1) 67.21% were aware about the symptom, 28.69% were not aware about the symptom of covid 19. In (fig2) 58.20% participants knew that loss of taste is a symptom of covid 19. 37.70% of the participants did not know that loss of taste is a symptom of covid 19. In (Fig 3) 47.54% of the participants consulted patients suffering from covid 19. 48.36% of the participants did not consult patients suffering from covid19. In (Fig4) 36.07% of the participants consulted patients having fever.36.07% of the participants consulted patients having cold and 22.97% of the participants consulted patients who were asymptomatic. In (fig 5) 54.10% of the participants took precaution before treating covid 19 patients. 38.52% of the participants did not take precautions before treating covid 19 patients. In (fig 6) 56.56% of the participants did not treat patients with gingivitis. 34.43% of the participants treated patients with gingivitis. In (fig 7)39.34% of the participants treated patients with irregular ulcers. 53.28% of the population did not treat patients with irregular ulcers. In (fig 8) 38.52% of the participants treated patients with small blisters. 56.56% of the participants did not treat patients with small blisters. In (fig 9) 58.20% of the participants treated patients who were affected. 36.07% of the participants did not treat patients who were affected. In (fig 10) 39.34% of the participants treated patients with erythematous. 53.28% of the participants did not treat patients with erythematous. Correlation was done using chi square test ($p < 0.05$) between gender and few questions and depicted in Figure 11-14.

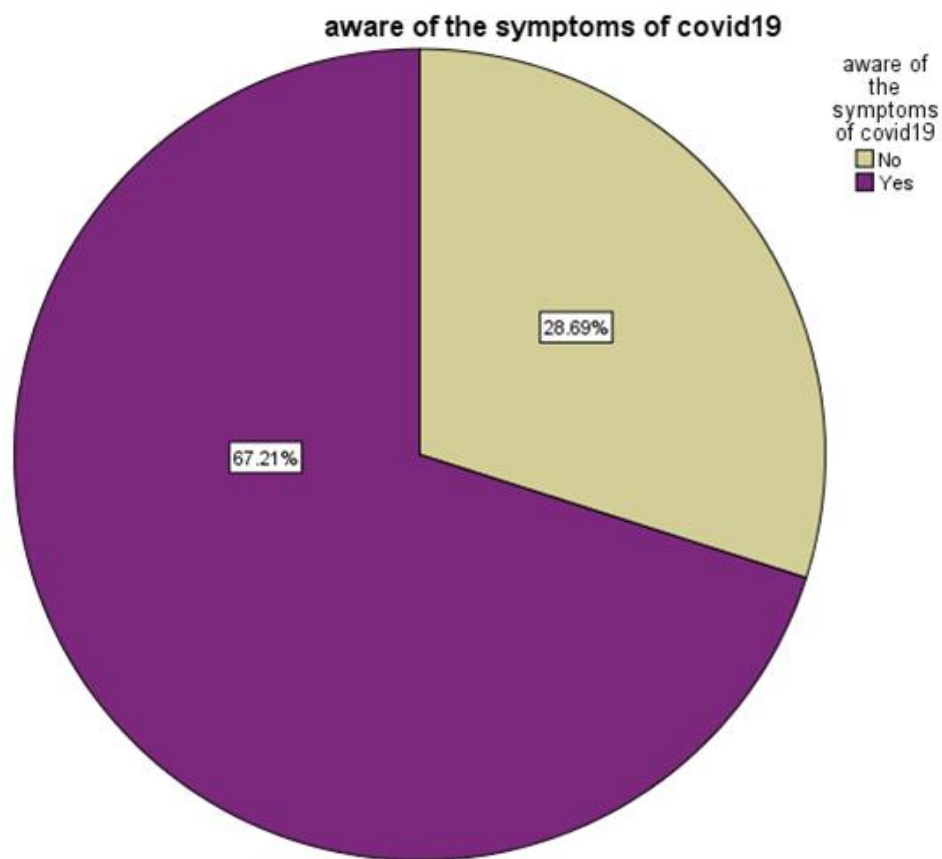


Fig 1: shows the response of the awareness about the symptoms of covid 19 among dental students. Purple represents the population who chose Yes and yellow represents the population who chose No. 67.21% are aware about the symptom, 28.69% are not aware about the symptom of covid 19. Majority of the participants were aware of the symptoms of COVID-19.

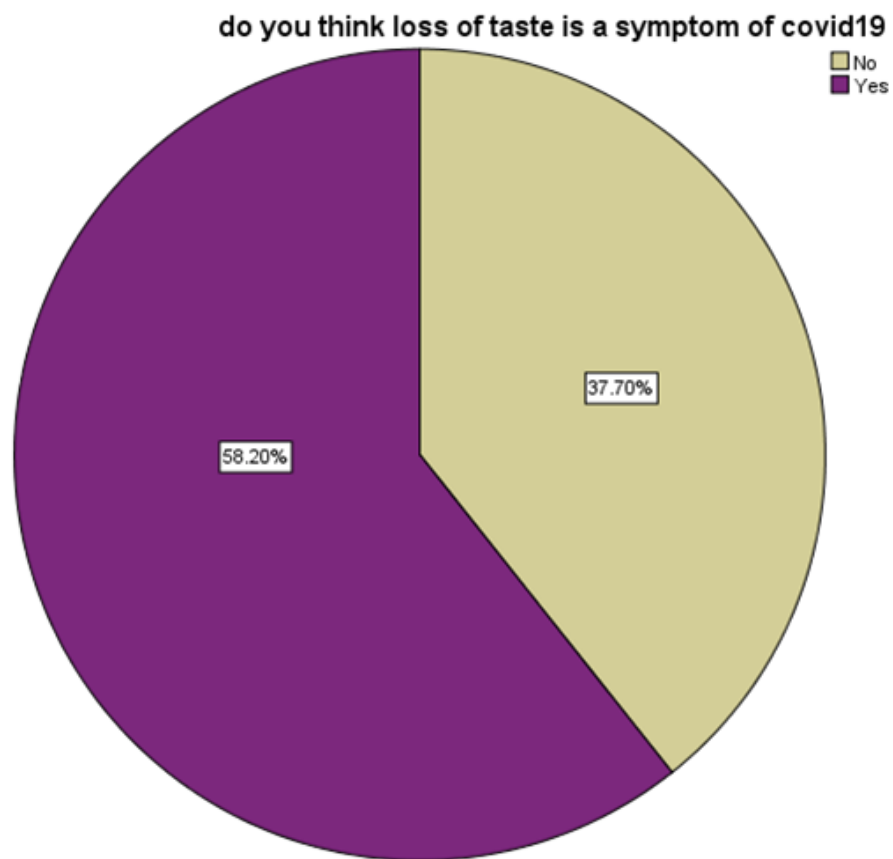


Fig2: shows the response of the people who think loss of taste is a symptom of covid 19. 58.20% participants knew that loss of taste is a symptom of covid 19. 37.70% of the participants did not know that loss of taste is a symptom of covid 19. Purple represents the population who chose Yes and yellow represents the population who chose no. Majority of the participants think that loss of taste is a symptom of COVID-19.

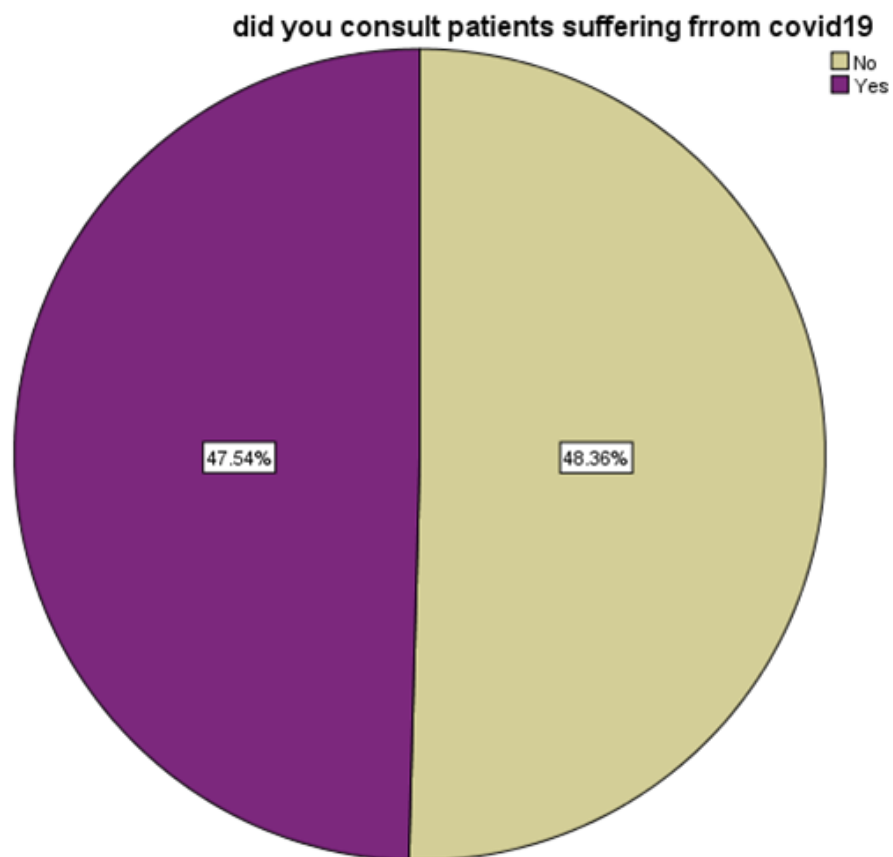


Fig 3: shows the response of the dental students who consulted patients suffering from covid 19. Purple represents the population who chose yes and yellow represents the population who chose no. 47.54% of the participants consulted patients suffering from covid 19. 48.36% of the participants did not consult patients suffering from covid19. Majority of

the population did not consult patients suffering from COVID-19.

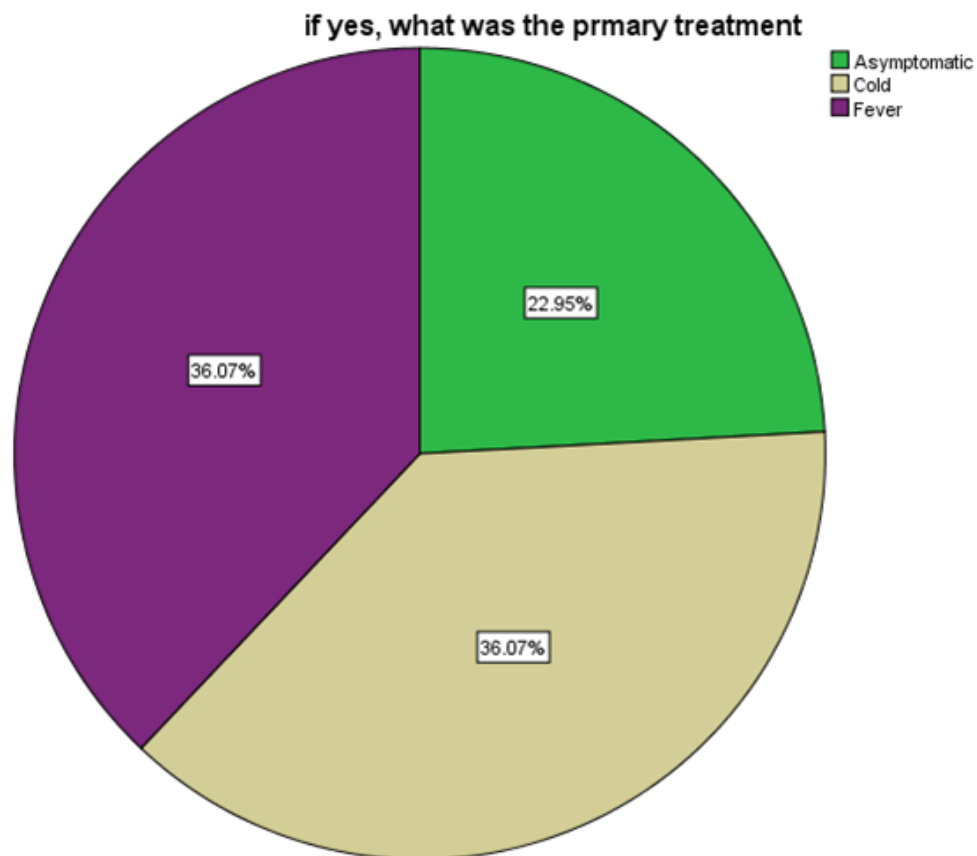


Fig4: shows the response of the dental students who consulted patients and their primary treatments. Green represents the population who are asymptomatic, yellow represents the population who has cold, purple represents the population who had fever. 36.07% of the participants consulted patients having fever. 36.07% of the participants consulted patients having cold and 22.97% of the participants consulted patients who were asymptomatic.

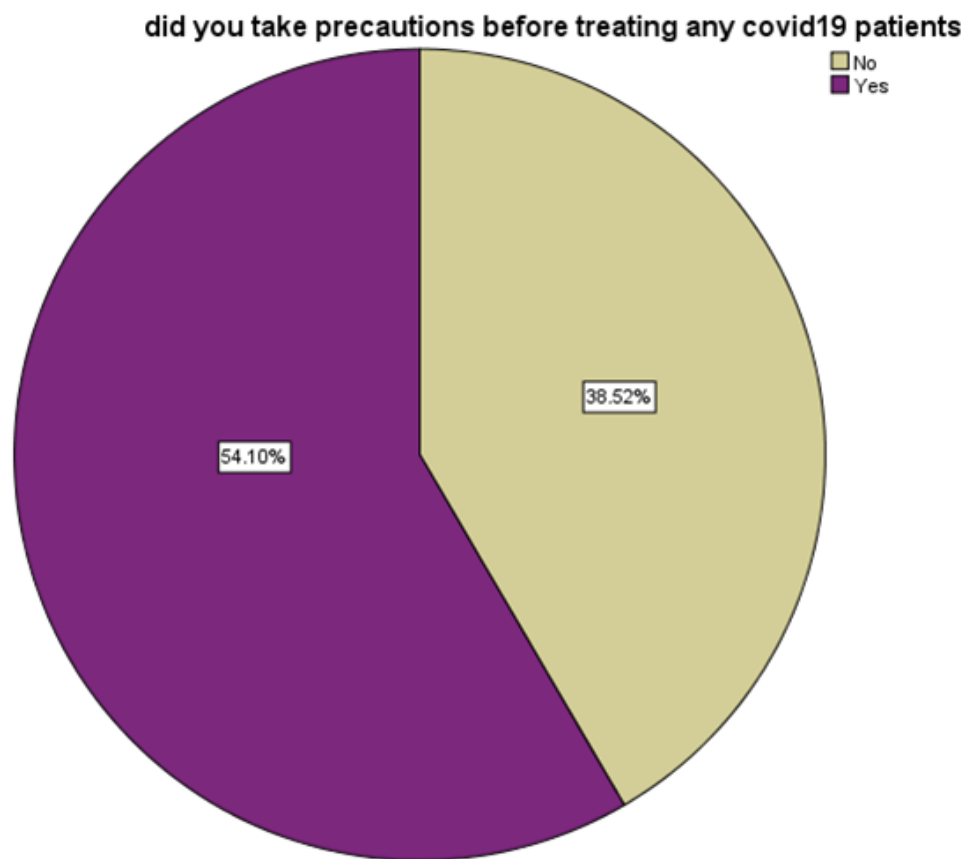


Fig 5: shows the response of the participants who took precautions before treating any covid19 patients. 54.10% of the participants took precaution before treating covid 19 patients. 38.52% of the participants did not take precautions before treating covid 19 patients. Majority of the population took precautions before treating COVID-19 patients.

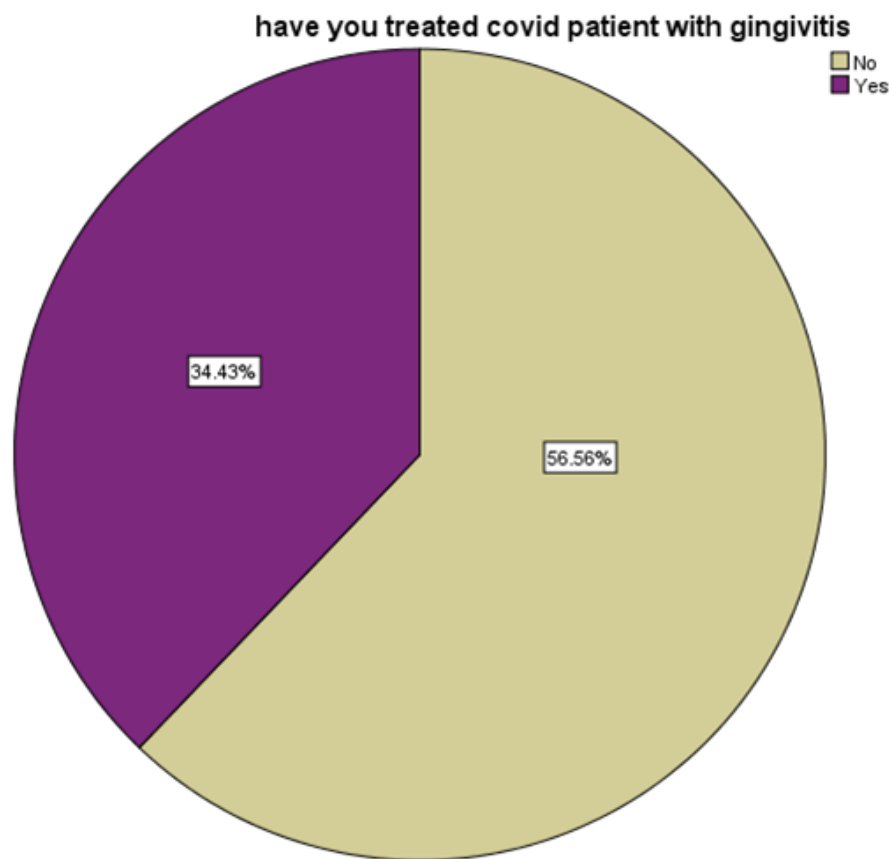


Fig6: shows the response of the participants who treated covid patients with gingivitis. Purple represents the population who chose yes and yellow represents the population who chose no. 56.56% of the participants did not treat patients with gingivitis. 34.43% of the participants treated patients with gingivitis. Majority of the population did not treat covid

patients

with

gingivitis.

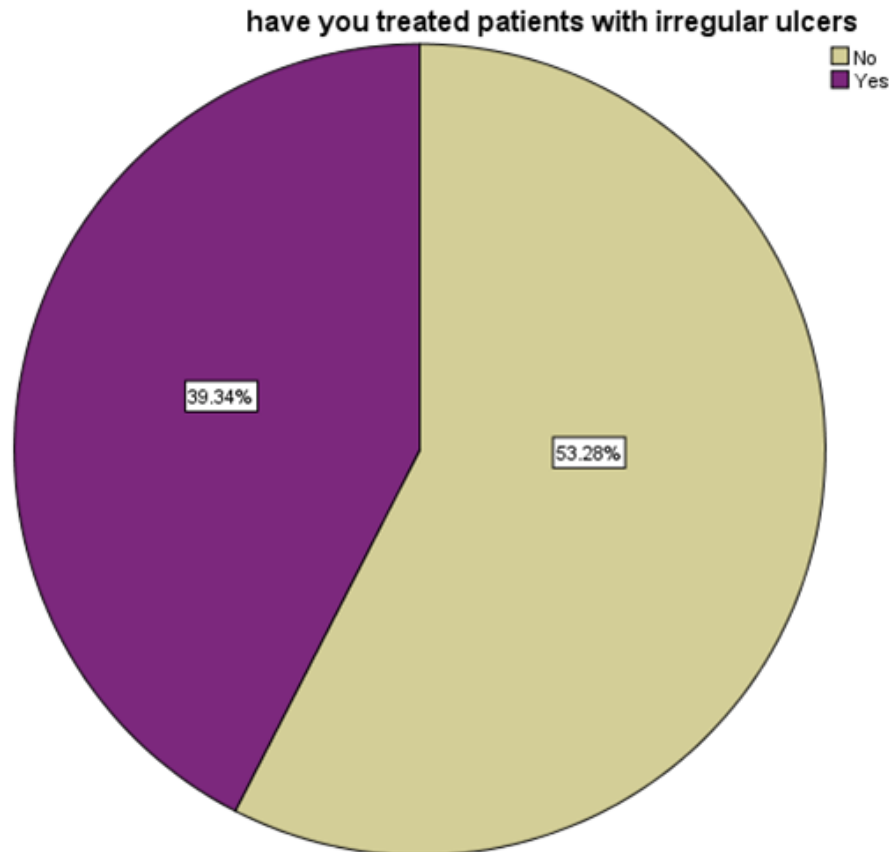


Fig 7 : shows the response of the participants who treated covid patients with irregular ulcers. Purple represents the population who chose yes and yellow represents the population who chose no. 53.28% of the participants did not treat patients with irregular ulcers. 39.34% of the participants treated patients with irregular ulcers. Majority of the population did not treat covid patients with irregular ulcers.

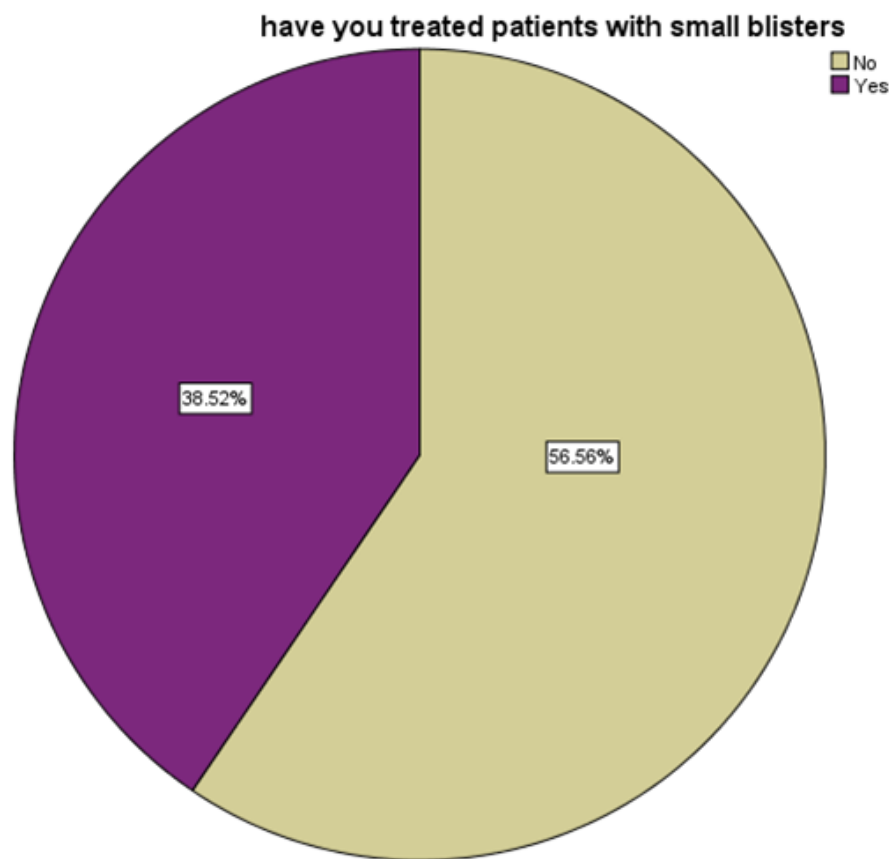


Fig 8 : shows the response of the participants who treated covid patients with small blisters. Purple represents the population who chose yes and yellow represents the population who chose no. 56.56% of the participants did not treat patients with small blisters. 38.52% of the participants treated patients with small blisters. Majority of the population did not treat covid patients with small blisters.

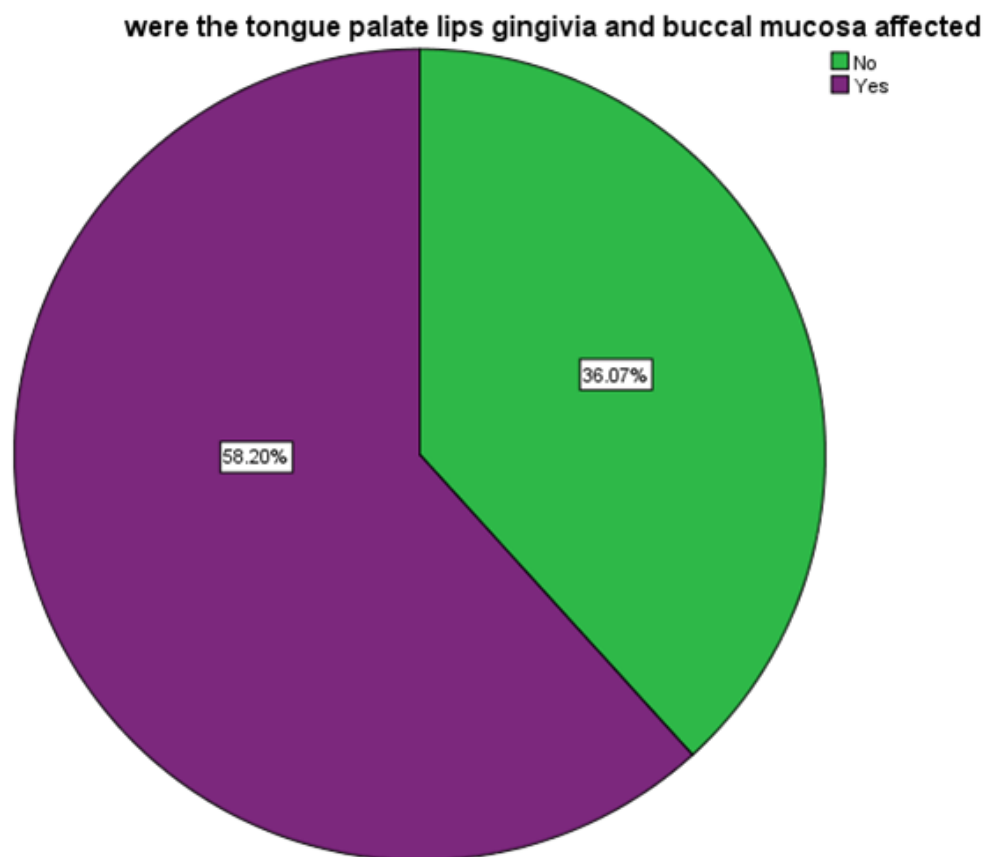


Fig 9: shows the response of the participants who treated patients affected with tongue, palate, lips, gingiva and buccal mucosa. 58.20% of the participants treated patients who were affected. 36.07% of the participants did not treat patients who were affected. Majority of the population's tongue, palate, lips, gingiva and buccal mucosa were affected.

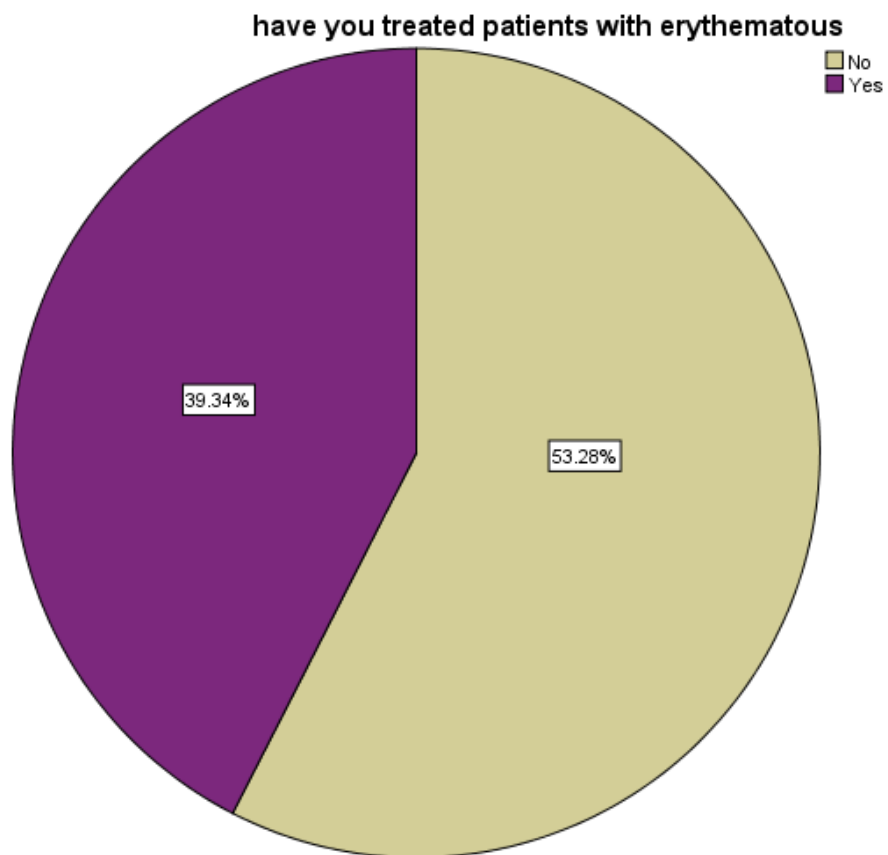


Fig 10: shows the response of the participants who treated patients with erythematous. Purple represents the population who chose yes and yellow represents the population who chose no. 39.34% of the participants treated patients with erythematous. 53.28% of the participants did not treat patients with erythematous. Majority of the population did not treat covid patients with erythematous.

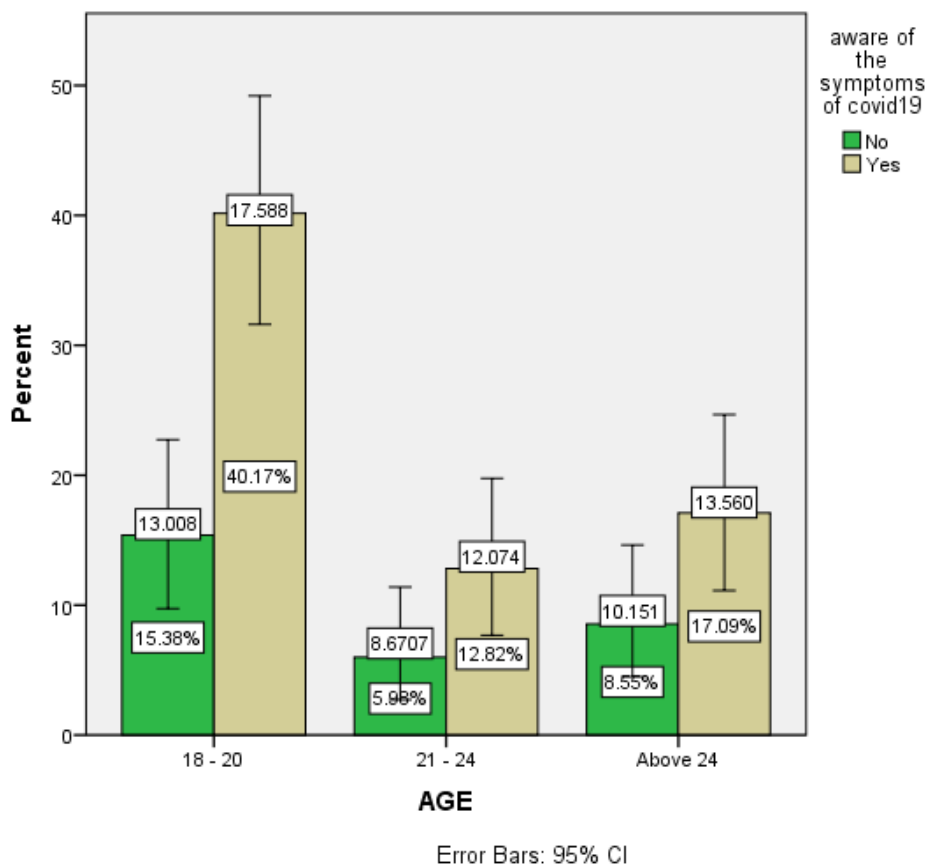


Fig 11: The bar graph represents the association between age and awareness about the symptom. The X axis represents the age and the Y axis represents the percentage of responses. Beige denotes the participants who were aware about the symptom and green denoted the participants who were not aware. 67% of the population were aware of the symptoms of COVID-19. Majority of the population of age group 18-20 were aware of the symptoms of COVID 19. P value is 0.042 which is less than 0.05, it is statistically significant.

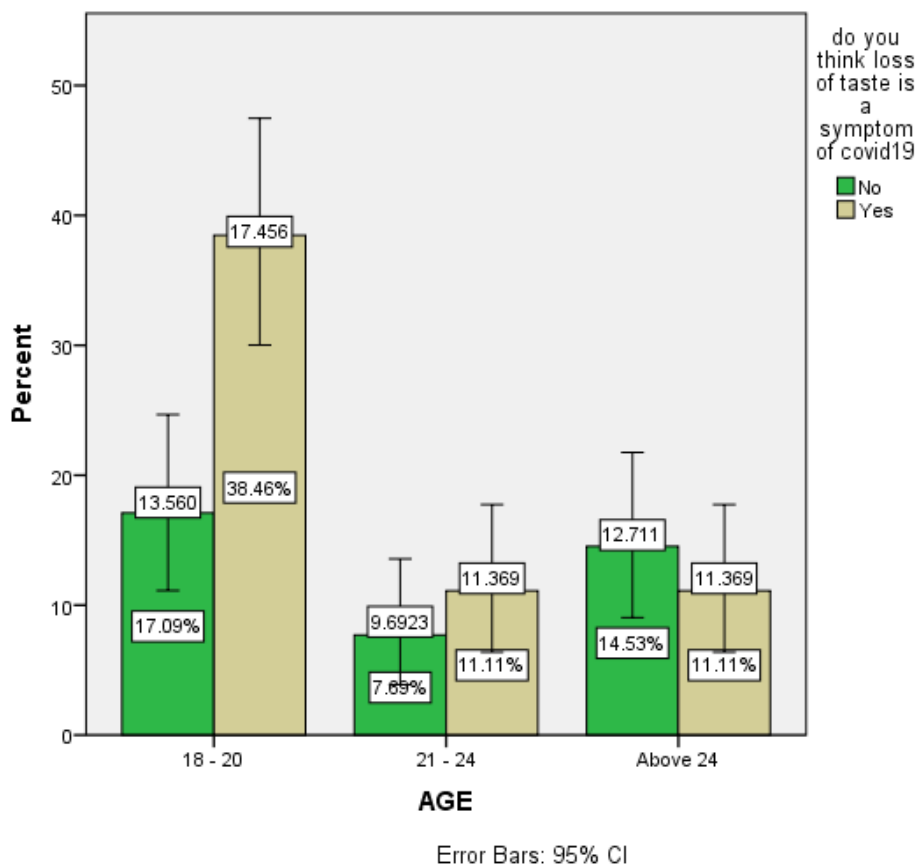


Fig 12: The bar graph represents the association between the age and the responses. The X axis represents the age and the Y axis represents the percentage of responses. Beige represents that loss of taste is a symptom of covid 19. Green represents that loss of taste is not a symptom of covid 19. 58% of the population thinks that loss of taste is a symptom of COVID-19. Majority of the population of the age group 18-20 think that loss of taste is a symptom of COVID-19. P value is 0.012 which is less than 0.05, it is statistically significant.

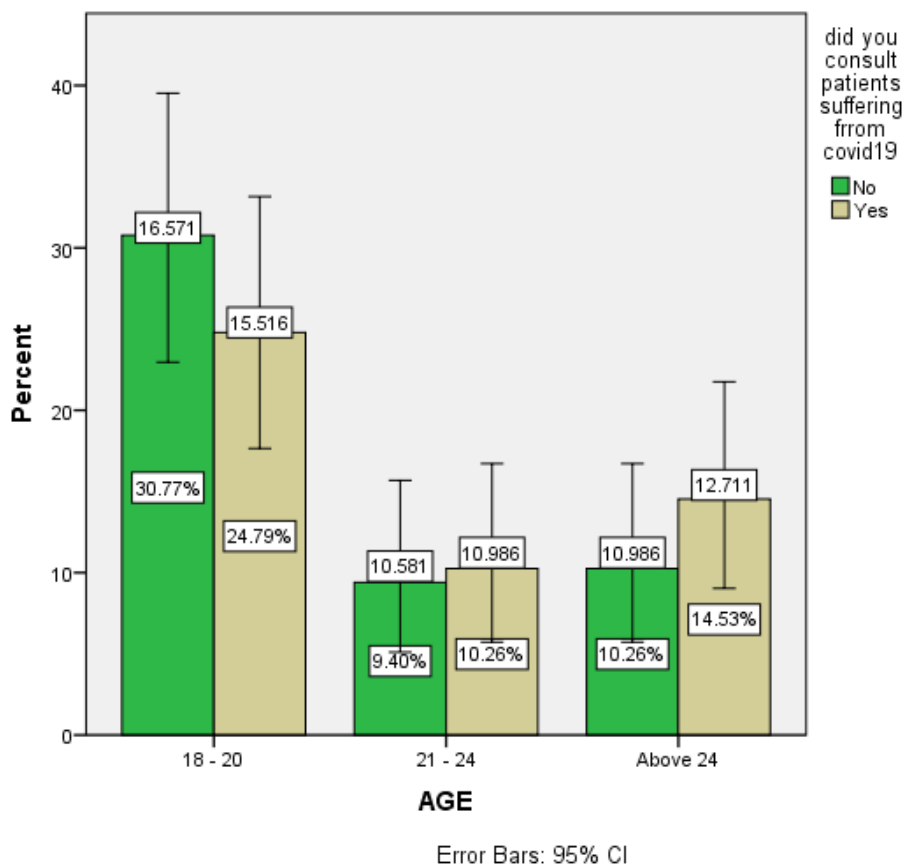


Fig13: The bar graph represents the association between age and the responses. The X axis represents the age and the Y axis represents the percentage of responses. Beige represents that the participants consulted patients with covid 19 and Green represents that participants did not consult patients with covid19. 48% of the population did not consult patients suffering from COVID-19. Majority of the population of the age group between 18-20 did not consult patients suffering from COVID-19. P value is 0.1 which is less than 0.05, it is statistically significant.

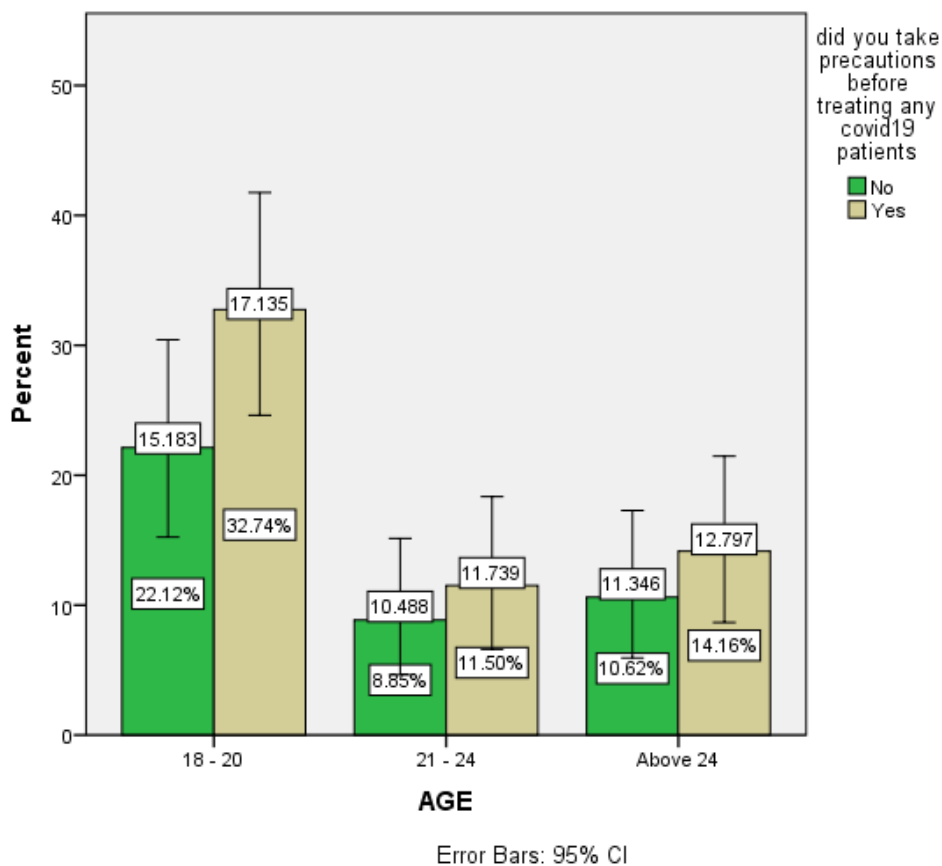


Fig 14 : The bar graph represents the association between the age and the number of responses. The X axis represents the age and the Y axis represents the percentage of responses. Beige shows that the participants took precautions before treating patients with covid19. Green colour represents the participants who did not take precaution before treating patients suffering from covid 19. 54% of the population took precautions before treating any COVID-19 patients. Majority of the population between the 18-20 age group took precaution before treating any covid-19 patients. P value is 0.02 which is less than 0.05, it is statistically significant.

DISCUSSION:

The covid 19 pandemic has a world wide effect. The alarming number of cases is attributed to the transmission by droplets or contacting the infected person(26). Dental health personnel are at high risk of transmission. The emergence of the pandemic has illustrated the importance of managing the infection. Dental schools are responsible for providing

appropriate measures for the prevention of the spread. Taste disorder is the earliest detectable symptom. Although taste disorder pathogen is not completely understood there is possibility of local inflammatory responses(27).

According to the previous study the dentists are aware of the symptom of covid 19 and are also aware that loss of taste is a symptom of covid 19(28,29).It counted for 53.3% for the 18-20 age group, 18.9% for the 21-24 age group and 21.6% for above 24 age group. The questionnaire asked were statistically significant. The results were found similar to our study. In the study by (30) 25% reported impaired sense of taste and smell. It was found similar when compared to our study as the participants were aware that loss of taste is a symptom of covid-19. In the study done by (31) stated that oral ulcers could be a symptom of covid-19.

In other studies, patients with covid positive shows various oral manifestations like oral candidiasis, gingivitis, blisters. The current situation requires knowledge about the infection, control practises and implementation at its individual level. Long term goals should include strategies in dental school and preparedness(32). The dental professionals have to take every needed step to provide optimum dental care with utmost safety measures. They must be aware of the infectious hazards that challenge the current infection regimen. Our study indicates a significant impact of covid-19 on oral manifestation based on limited sample sizes. Further studies with larger sample size are needed to clarify the full impact of covid-19 on oral manifestation.

CONCLUSION:

Oral symptoms are not frequently described in covid 19 clinical studies. Taste alteration is the most prevalent reported oral manifestation. From the survey it is concluded that most of the dental students are aware of the oral manifestation of covid 19. The survey is statistically significant. The research shows that there are many oral symptoms in COVID-19, but the coexistence with the main disease has not been fully stated and understood. There is still no clearance on whether the oral symptoms are the manifestation of the disease. Therefore , further studies on this subject should be conducted.

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