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Survey Regarding Awareness of Continuance of Mask Practices Post Vaccination

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ABSTRACT
Introduction: The knowledge that the use of face masks delays the SARS-CoV-2 transmission is rapidly gaining popularity in the general population. Respiratory masks (RM) are protective devices covering a part of the face. They are designed to protect both the person who wears them and the immediate environment from breathable pollutants. Researchers have used various approaches to develop vaccines that protect against COVID-19 and as a result, they have developed different types of vaccine, including covishield which is found to have efficacy of 71% whereas covaxin has the efficacy rate of 82%.
Aim : To evaluate awareness level regarding continuance of mask practices post vaccination among Dental students .
Materials And Methods: In this study, a survey was conducted among 100 dental students of a private dental college by circulating a questionnaire . Google forms and links were shared in various social media. 10 questions consisting related to awareness, usage of mask after vaccination were included in the study. Undergraduates, postgraduate students of the private dental colleges were only included in the study.The data was collected and analysed using SPSS software version 23 and the statistical significance was checked using Chi-Square analysis . ($p < 0.05$ was considered as statistically significant)
Results: It was observed that students are aware of various masks and the importance of masks, vaccination and usage of masks post vaccination.
Conclusion: It was noted that there is still a lack of awareness prevailing , hence more updates have to be given among undergraduate students regarding the use of mask practices post vaccination for better knowledge .

Keywords: nCov, mask, Vaccine, N95 mask, Novel analysis.

INTRODUCTION

There is a new public health crisis threatening the world with the emergence and spread of the 2019 novel coronavirus (2019-nCoV) or the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2).The symptoms are usually fever, cough, sore throat, breathlessness, fatigue, malaise among others. The disease is mild in most people; in some (usually the elderly and those with comorbidities), it may progress to pneumonia, acute respiratory distress syndrome (ARDS) and multi organ dysfunction(1).Many people are asymptomatic.Since at this time there are no approved treatments for this infection, prevention is crucial. Several properties of this virus make prevention difficult namely, non-specific features of the disease, the infectivity even before onset of symptoms in the incubation period, transmission from asymptomatic people, long incubation period, tropism for mucosal surfaces such as the conjunctiva, prolonged duration of the illness and transmission even after clinical recovery(2).Patients should be asked to wear a simple surgical mask and practice cough hygiene. Masks should be used as part of a comprehensive strategy of measures to suppress transmission and save lives; the use of a mask alone is not sufficient to provide an adequate level of protection against COVID-19(3).Masks can play at least two roles in viral transmission and prevention in the general population.. Research demonstrates that masks can either block the rapid spread generated by coughing or redirect in much less harmful ways for airborne infection control (4).Second, the mask material can filter viral particles such as aerosols or droplets. Additionally, for asymptomatic infected individuals, wearing a mask can potentially reduce the risk of infecting other people when the exact individual wears a mask to protect him or

herself(5).The percentage of people avoid wearing a mask during a pandemic depends on several factors such as infection, hot weather, inability to breathe properly, allergy and various other reasons. In response to the critical shortage of medical masks resulting from the COVID-19 pandemic, large portions of the population are mobilizing to produce cloth masks using locally sourced fabrics which is not as efficient as surgical and N95 mask .(6)

Fabric masks are recommended to prevent onward transmission in the general population in public areas, particularly where distancing is not possible, and in areas of community transmission and this could include the school grounds in some situations. Masks may help to protect others, because wearers may be infected before symptoms of illness appear. Wearing a surgical mask is one of the prevention measures to limit spread of certain respiratory diseases, however the use of a mask alone is insufficient to provide the adequate level of protection and other equally relevant measures should be adopted(7).An N95 mask is a type of respirator and it offers more protection than a medical mask does because, it filters out both large and small particles when the wearer inhales(8).Because N95 masks have been in short supply, the Centre for Disease Control And Prevention (CDC)has said they are in shortage. Like surgical masks, N95 masks are intended to be disposable and much research is undergoing regarding the reuse of masks (9) .Some N95 masks, and even some cloth masks, have valves that make them easier to breathe through. Unfortunately, these masks don't filter the air the wearer breathes out and it is not recommended as it is not safe for surrounding people.The CDC doesn't recommend using face shields instead of masks because it's unclear how much protection shields provide.(10)

The media and public at large are placing an onus on the launch of a vaccine that protects against COVID-19. Vaccines stimulate the immune system to manufacture antibodies to defend against specific diseases(11). After vaccination, the person develops immunity to the disease and their body can fight off the infection if exposure to the pathogen, such as the novel coronavirus, occurs. Covaxin is an inactivated vaccine, which has been prepared on a tried and tested platform of dead viruses.This vaccine is developed with Whole-Virion Inactivated Vero Cell-derived technology(12) .They contain inactivated viruses, which can not infect a person but still can teach the immune system to prepare a defence mechanism against the active virus. Covishield has been prepared using the viral vector platform which is a totally different technology(13).Even though the person is fully vaccinated has high risk and CDC recommended to wear the mask in high risk areas and to avoid spread of virus.Our team has extensive knowledge and research experience that has translated into highqualitypublications(14),(15),(16),(17),(18),(19),(20),(21),(22),(23),(24),(25),(26),(27),(28),(29),(30),(31),(32),(33)

This research is needed to obtain the awareness level prevailing among dental students regarding Covid-19 outbreak and its various routes of transmission , different types of vaccines and its uses , mask usage , types of mask and post vaccination mask practices.The aim of the study is to evaluate awareness level regarding continuance of mask practices post vaccination among Dental students.

MATERIALS AND METHODS:

In this study, a survey was conducted among 100 dental students of a private dental college by circulating questionnaire . Google forms and links were shared in various social media. 10 questions related to awareness, usage of masks after vaccination were included in the study. Undergraduates, postgraduate students of the private dental colleges were only included in the study.The data was collected and analysed using SPSS software version 23 and the statistical significance was checked using Chi-Square analysis . ($p < 0.05$ was considered as statistically significant)

RESULTS

Out of 100 students participated, 50% were postgraduate students and 50% were undergraduate students respectively (fig1) .Majority of the population, that is 91% students are aware about the routes of transmission (fig2).94% of the students are aware that mask is used as basic line protecting in Covid -19(fig 3). 92% of the students witnessed the usage of mask practices post lockdown has decreased (fig4).Majority of the dental student population (76%) preferred using N95 mask (fig 5).Majority of the students (74%) of the students are not aware about the vaccines' role in prevention of the disease(fig6).

On evaluating the association between the preferred mask and the designation of the students , among post graduate students they preferred using N95 mask (41%) whereas among undergraduate students, 35% preferred using N95 mask (fig7).In the association between mask practices post vaccination, post graduates suggested using mask after vaccination (44%) (fig8). Fig 9 represents that the majority of the dental students population 46% among postgraduates and 46% among undergraduate students are aware that vaccines help in preventing Covid-19.

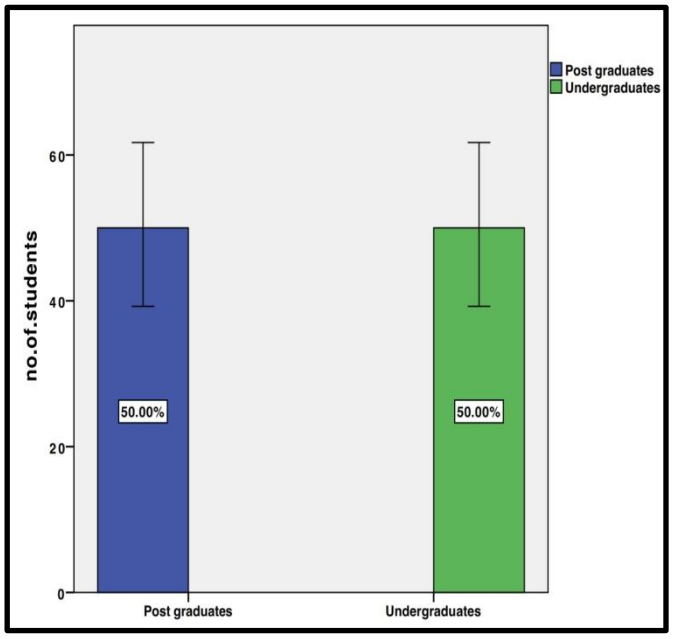

Fig 1: Designation Of Students Participated.

Bar graph represents the percentage distribution of students.Blue colour denotes postgraduate(50%) and green colour denotes undergraduate students (50%) .

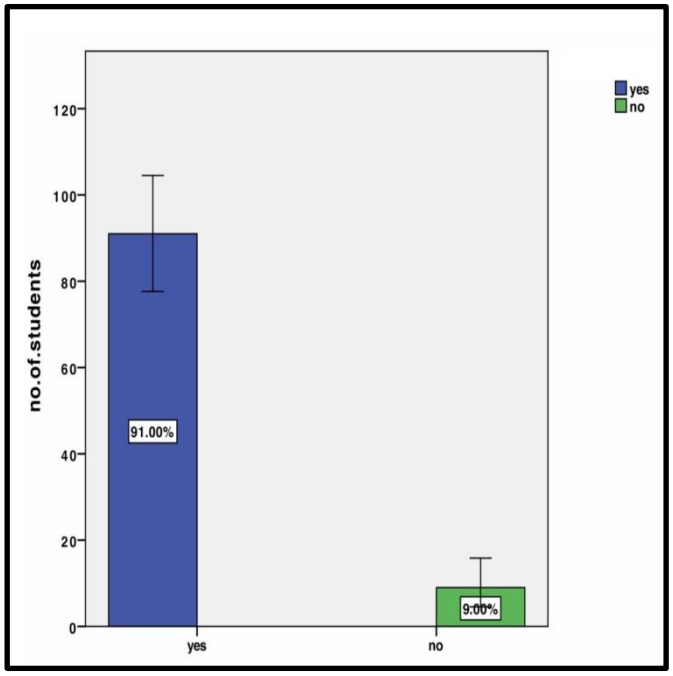

Fig 2: Awareness on routes of transmission of Covid-19.

Bar graph represents the percentage of awareness level of routes of transmission in the spread of Coronavirus.Blue colour denotes that students are aware about the various routes of spread of transmission(91%) whereas the green colour denotes that remaining of the students are unaware about the routes of spread of virus(9%).

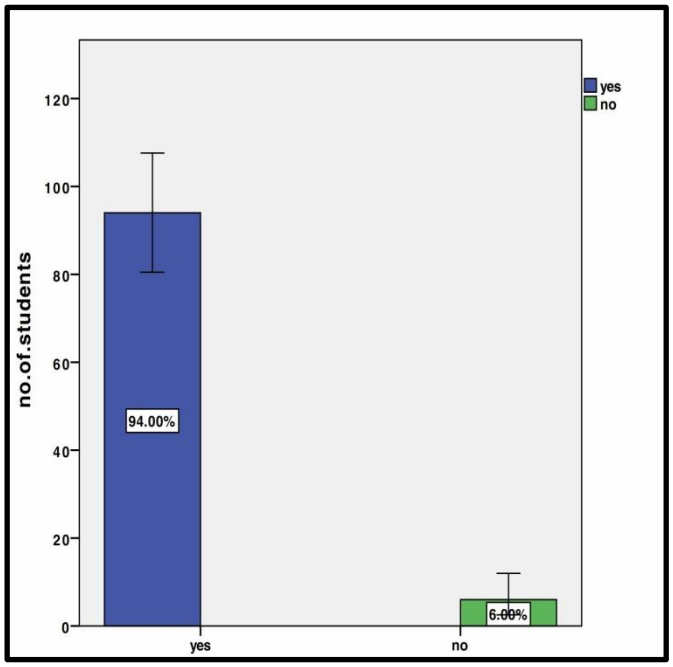

Fig 3: Awareness level of using mask as a basic line protection in Covid-19.

Bar graph represents the awareness level of using mask as a basic line prevention in Covid-19.Blue colour denotes that the students are aware that using masks can prevent and limit the spread of disease(94%) and green colour denotes that the students are not aware and that masks can limit the spread of viruses (6%).

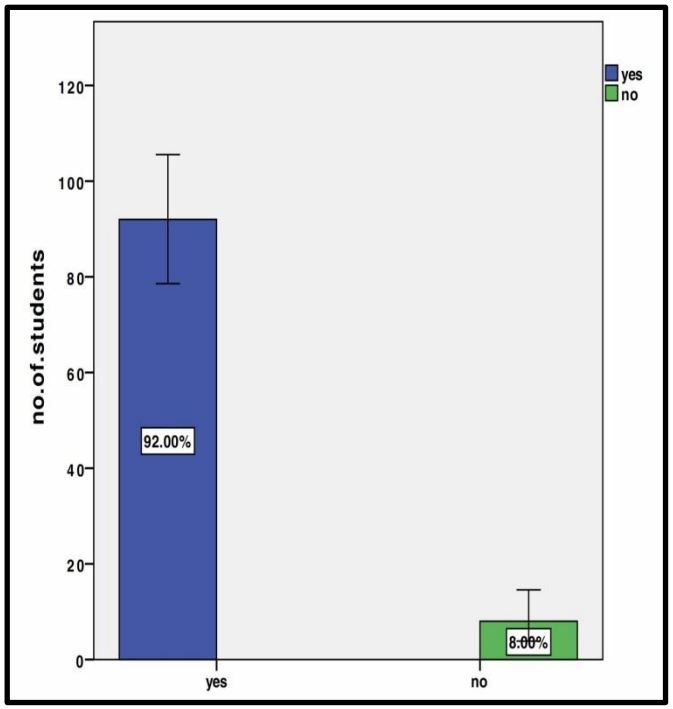

Fig 4:Awareness level of usage of masks before and after lockdown

The above mentioned bar graph represents the awareness level of usage of masks before and after lockdown.Blue colour denotes that the students aware that of using mask was more during before and after lockdown(92%) and green colour denotes that the students says that usage of a masks was comparatively reduced after lockdown(8%).

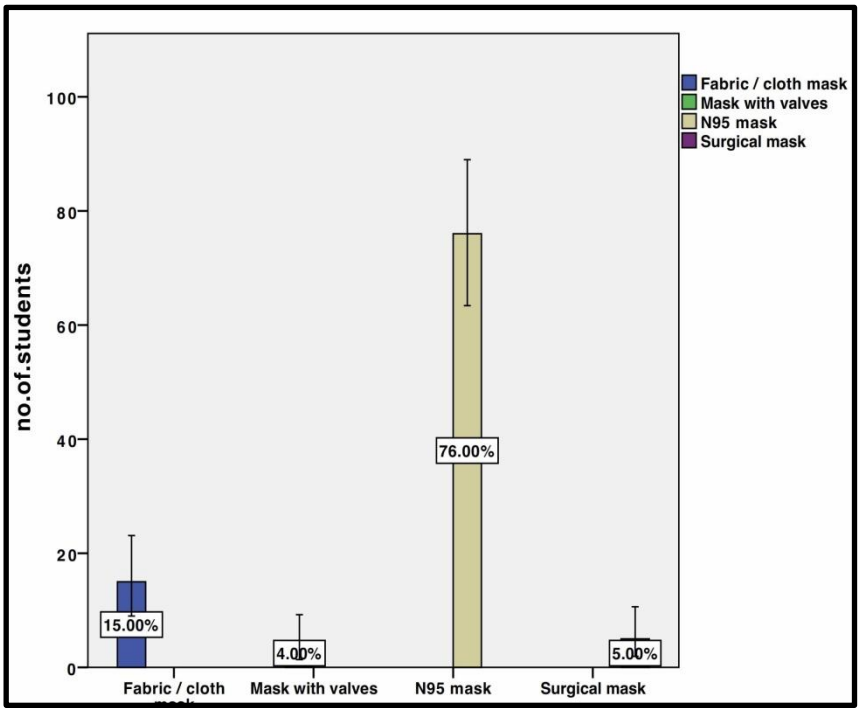

Fig 5: Different types of Mask used.

Bar graph represents the percentage distribution of different types of masks available and more commonly used masks among students.15% of the students(blue colour) prefer using fabric /cloth masks, 4% of the students(green colour) use masks with valves, 5% of the students(violet colour) prefer surgical masks whereas 76% of the students(yellow colour) prefer using N95 masks.

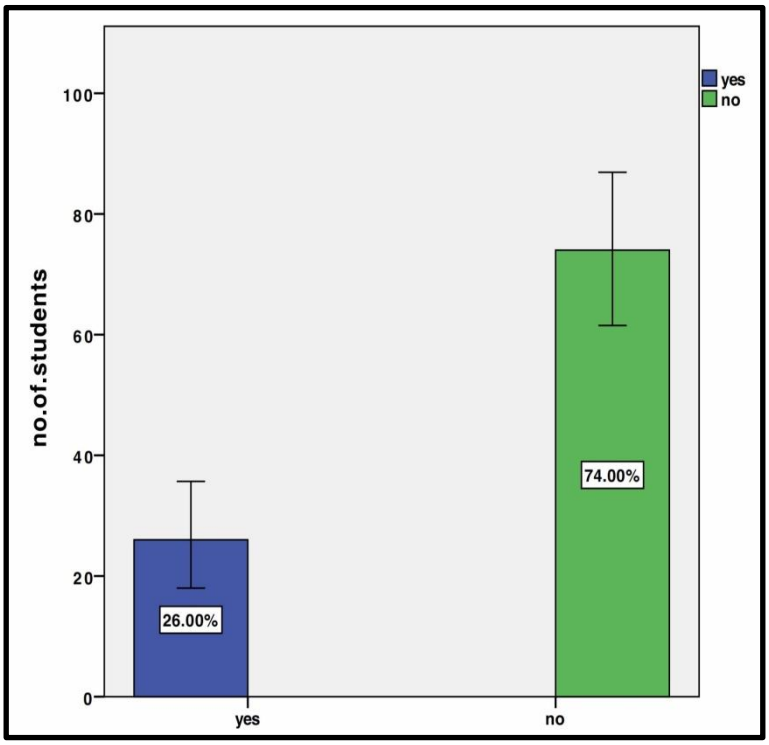

Fig 6: Awareness level of using vaccines in prevention against Covid-19

The above mentioned bar chart represents the awareness level of using vaccines in preventing against Covid-19. Blue colour denotes that the students are aware that vaccines help in preventing disease(26%) and green colour denotes that the students are not aware that vaccines act as base line protection but do not completely protect a person from virus(74%).

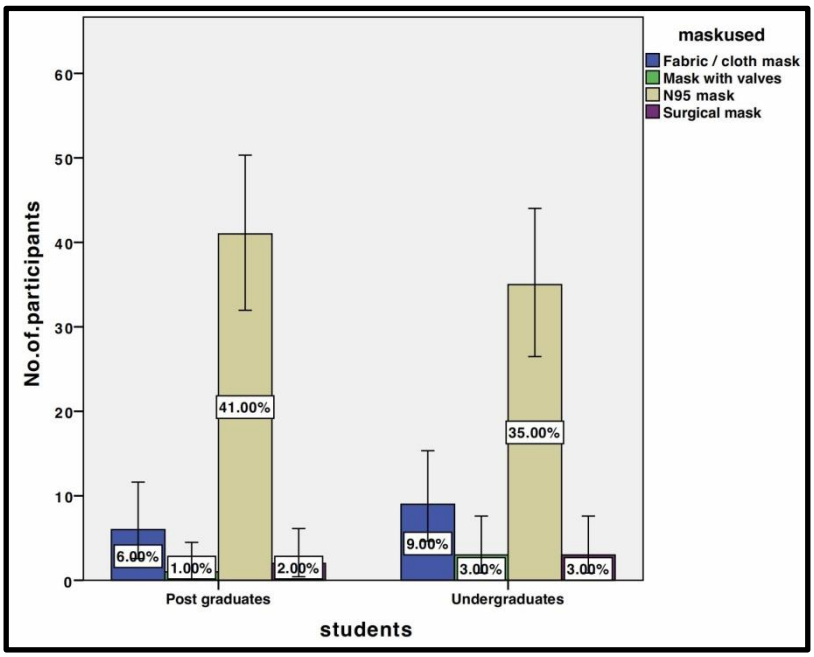

Fig 7: Correlation between different types of mask usage between students.

Correlation chart represents the usage of different types of masks preferred by the students. Among postgraduate students, nearly 41% (yellow colour)preferred using N95 mask and 6% preferred using fabric / cloth mask(blue colour) whereas 2% of the students(violet colour) suggested using surgical masks and 1% of students suggested(green colour)using masks with valves. Among undergraduate students 35% of the students preferred using N95(yellow colour), 9% using fabric / cloth masks(blue colour), Green colour represents mask with valves 3% and violet colour 3% represents surgical masks.Statistical analysis was carried out with Chi -Square test ; p value = 0.518, which was not statistically significant .

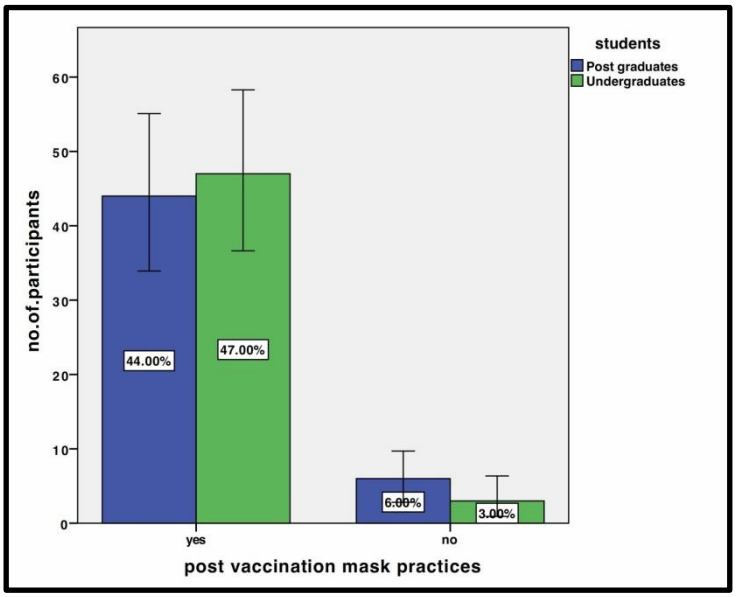

Fig8: Awareness level correlation of post vaccination mask practices .

Correlation chart represents the post vaccination mask practices among undergraduate students and postgraduate student.Among pg's 44% of students(blue colour) says that use of masks has been gradually reduced and remaining 6% of the students(blue colour) thinks that usage of masks has been reduced after vaccination. Among Ug's 47% students(green colour) say that there is decreased awareness prevailing regarding use of masks whereas 3% of the students(green colour) say that vaccination completely protects one from disease.Statistical analysis was carried out with Chi -Square test ; p value = 0.385, which was not statistically significant .

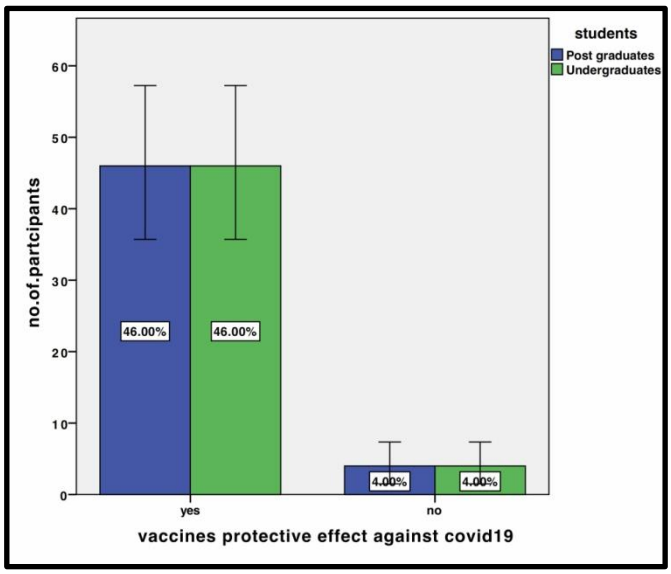

Fig 9:Awareness level correlation between levels of vaccines protecting against covid-19.

Correlation chart represents the awareness level of vaccines protecting against Covid-19.Among postgraduate students 46% of the students(blue colour) say that vaccination helps in prevention whereas 4% of the students(blue colour) are not aware about this. Among undergraduates 46% of the students(green colour)are aware and believe that vaccination helps in better immunity and remaining 4%(green colour) are not aware about this.Statistical analysis was carried out with Chi -Square test ; p value =0.364, which was not statistically significant

DISCUSSION

The previous article suggested that dentists are more exposed towards the pandemic disease even though they are vaccinated completely and use of mask post vaccination is much needed to avoid the rapid spread. Studies shows that oral pathologist were more aware about Covid outbreak and its pathogenesis and its severity better than any other dental students and also insisted that extensive research could help in therapeutics and better prevention(34).Previous study performed suggested that hyperglycemic conditions caused by odontogenesis suppresses cell proliferation which increases the risk factor of patients affected with Covid-19 and tend to cause post recovery serious infections in the oral cavity (35)(36).Current evidence shows that individuals who consume Khaini are at high risk to develop potentially malignant disorders increasing the risk associated with Covid-19 . In addition to that the study demonstrates that poor metabolising variants have modest increase in the risk of disease development in the individuals and may have increased risk in post recovery stages. The present study shows that need of considering chronic mucosal irritation as an etiological factor for the development of various potentially malignant lesions such as oral squamous cell carcinoma without the association of tobacco habit which may be increased risk in getting recovered from disease and may tend to still more worsen the condition of the patient(37).An article suggested that the subjects prevailing particular genotype seem to be predisposed to oral squamous cell carcinoma development and the individuals with metabolic function may be at increased risk if they use tobacco and areca nut products and patients recovered from the recent infection should be suggested to stop consuming which may be risk factor in the recovery of the diseases(38)(39).In order to reduce the apparent deficit in the early identification of potentially malignant disorders, it is imperative that various assays have to be performed to eliminate any shortfall in the treatment to be determined and addressed(40)(41). Previous study shows that there is a significant number of patients without habits like smoking, pan chewing presented with oral squamous cell carcinoma with the cause unknown(42)(43). Article suggested that improper oral habits may lead to many oral diseases causing severe bacterial infections(44).Various malignant transformation makes worser in post recovery stages in patients affected with Covid-19 and much more care and precautions has to be given to such patients where the death rate is higher(45)(46).The most common route is to spread through droplets or aerosols from person to person while coughing , sneezing and close contact with the affected person.Previous Study says that most contagious and major route of spread is naso oral route and it has been proved (47).CDC suggested that using masks can help in limiting spreading and protecting healthy persons from being affected and limits the spread of infection despite the type of the mask used (48). Various study shows that the usage is gradually reduced post lockdown and as a result many death occurring in second wave (49).CDC suggested that health care workers prefer using N95 masks as it controls the rate of spread and the absorption rate is comparatively more in N95

masks(50).Newer types of vaccines have been introduced and it is given among the population and its efficacy rate is found to be satisfactory and still not yet proved that vaccines can completely protect one from disease(51).

CONCLUSION

Thus from the preliminary study we can hypothesise that awareness of use of mask , post vaccination has been not prevailing among undergraduate students and much more information updation and awareness program will help in better awareness .We anticipate that this study will serve as a base for further breakthrough and still more awareness among students and general public helps in limited spread of disease, which has remained a topic of controversy for months and also prove to be of enormous importance in the practice of using mask post vaccination.

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CONFLICT OF INTEREST

None

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