



## Awareness about coronavirus symptoms among school teachers and students -A knowledge-based survey in south Tamilnadu

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### ABSTRACT

Corona virus Belong to a family of viruses that cause various symptoms like pneumonia, fever, breathing difficulty and lung infection. The aim of the study is to assess the awareness about COVID-19 symptoms among school teachers and students to improve the knowledge among the teaching fraternity in educational institutions. A survey-based questionnaire was prepared to assess the awareness about the symptoms of COVID-19. A questionnaire of a total of 20 questions was sent to the teachers and students and the responses were collected by Google forms app, SPSS statistical analysis was also done. The overall awareness for all subgroups was fair. The highest percentage of correct responses were from the teachers compared to students. There is a need for regular interventions and educational training programs on COVID-19.

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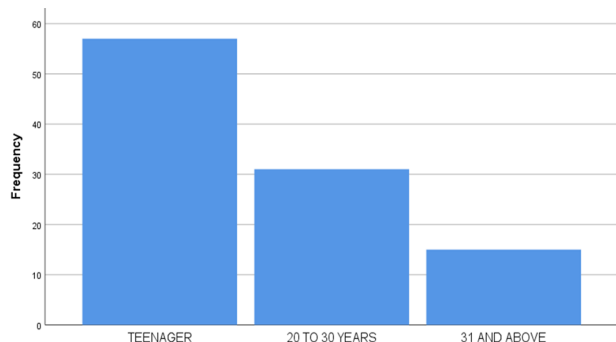
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### INTRODUCTION

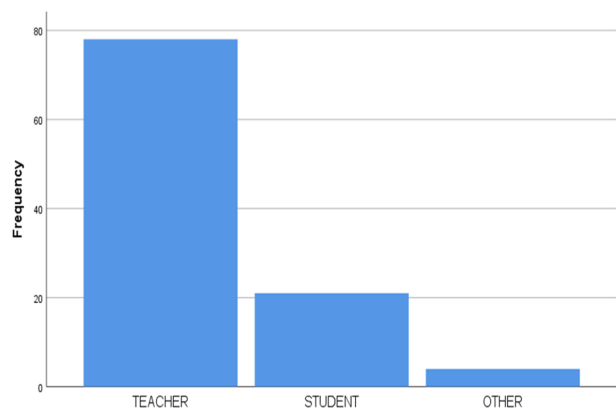
Corona virus Belong to a family of viruses that cause various symptoms like pneumonia, fever, breathing difficulty and lung infection (Modi *et al.*, 2020). Middle East respiratory syndrome is also somewhat similar to the corona virus symptoms (Almutairi, 2016). The world health organisation has informed that Coronavirus affects lower respiratory tract and is later named as COVID-19. Older adults and those with underlying health conditions are at greatest risk for severe infection and death due to COVID-19. The same that make individuals more vulnerable

also are associated with reduced ability to assist and understand health information, make well-informed decisions and take optimal health producing actions. We did a time sensitive survey among students and teachers to determine the current awareness of COVID-19, how they deal with the perception of the seriousness of its threat, their level of worry and concern related to contracting the virus, whether it is affecting their daily routine or existing plans. Other study reports the awareness among health-care students and professionals on COVID-19 (Guo *et al.*, 2020). Certain recent studies showed epidemiology, Causes, clinical manifestation, Diagnosis and control of Corona virus disease (Casella *et al.*, 2020). Oral dryness and increasing functional limitations make the older person more susceptible to oral diseases and other infectious diseases (Palati *et al.*, 2020). The saliva is used as diagnostic tool in many oral disease including oral cancers (Shree *et al.*, 2019) In general many studies are conducted among dental students to assess the knowledge of various parameters in dental identification, oral hygiene practices, tooth hypersensitivity, specimen handling, microbial implication etc but in school students such studies are rare (Abitha and Santhanam, 2019; Ahad and Gheena, 2016; Gunasekaran and

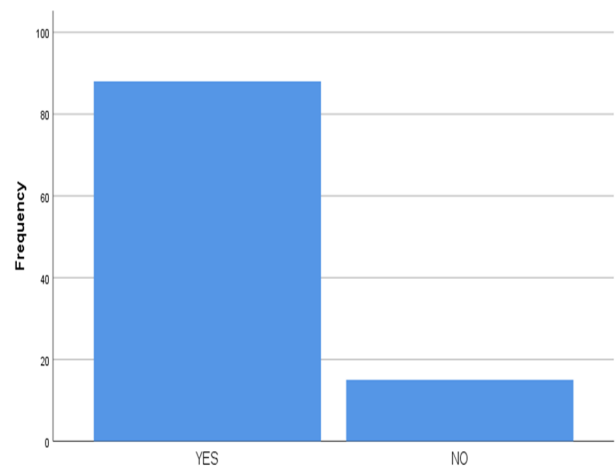
Abilasha, 2016; Krishnan *et al.*, 2018; Sarbeen and Gheena, 2016; Sheriff and Santhanam, 2018; Harrita and Santhanam, 2019; Palati *et al.*, 2019). Hence in order to improve their awareness and knowledge it is mandatory to conduct more questionnaire based surveys.



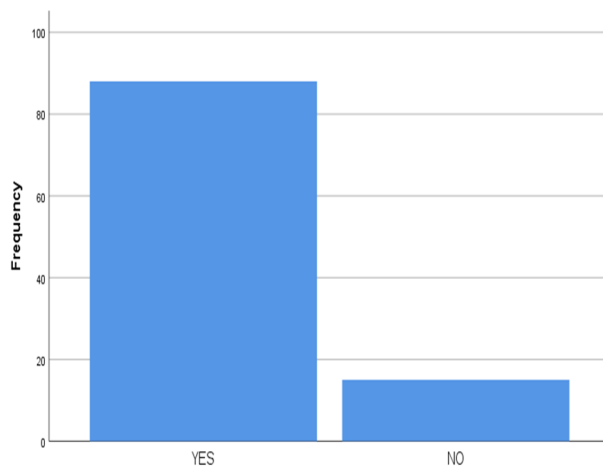
Graph 1: Shows the distribution of age group among study population



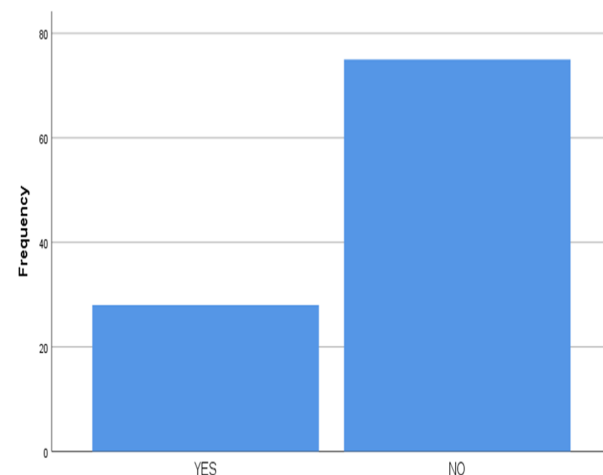
Graph 2: Shows the distribution of occupation among study population



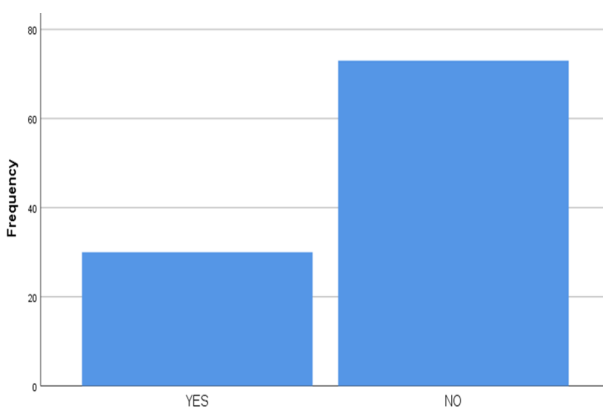
Graph 3: Shows the distribution of response on symptoms of COVID among study population



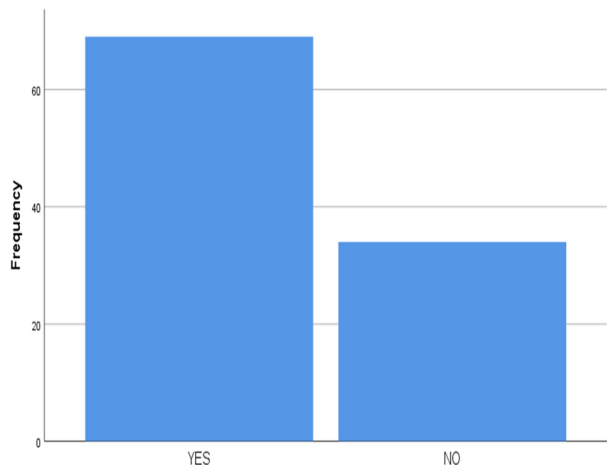
Graph 4: Shows the distribution of response on respiratory infection in Covid among study population



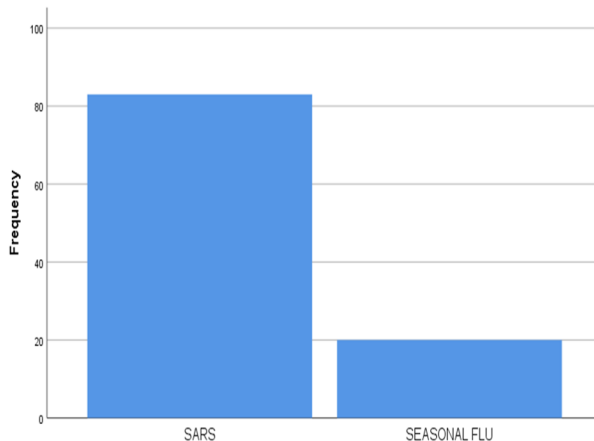
Graph 5: Shows the distribution of responses on respiratory illness in COVID among study population



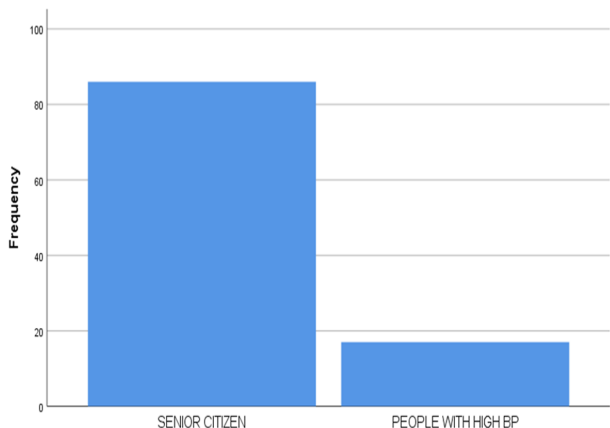
Graph 6: Shows the distribution of response on symptoms of lower respiratory illness in COVID among study population



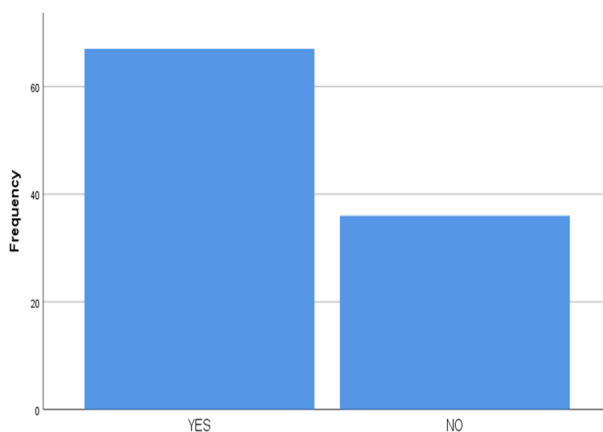
Graph 7: Shows the distribution of responses on the transmission of the virus through air among the study population



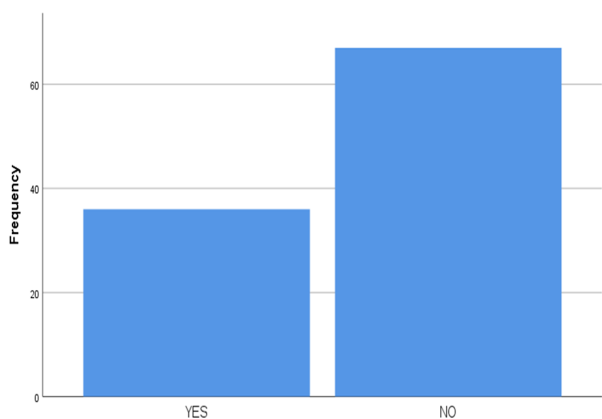
Graph 10: Shows the distribution of responses on comparison of virus to other diseases among study population



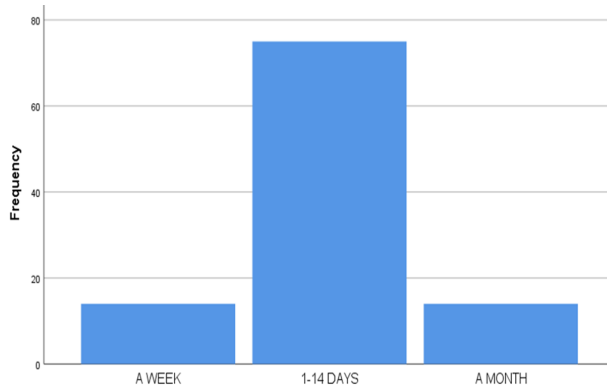
Graph 8: Shows the distribution of responses on the person at high risk for COVID among study population



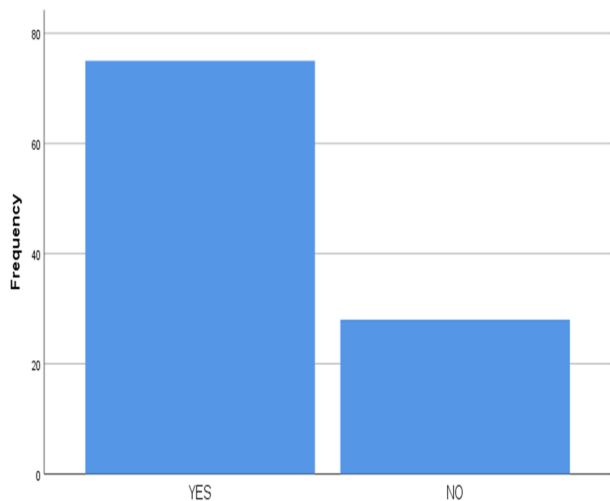
Graph 11: Shows the distribution of responses on comparison of COVID with SARS among study population



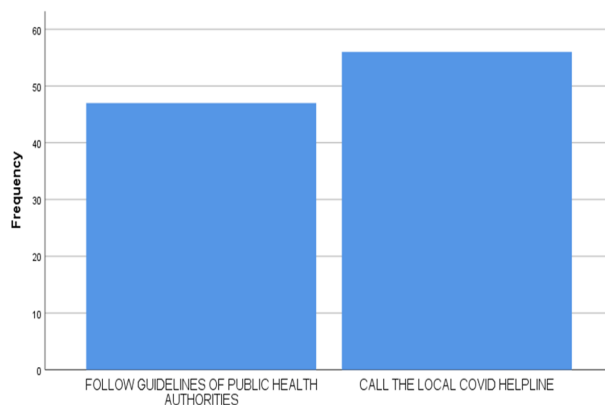
Graph 9: Shows the distribution of responses on the availability of vaccine for COVID among study population



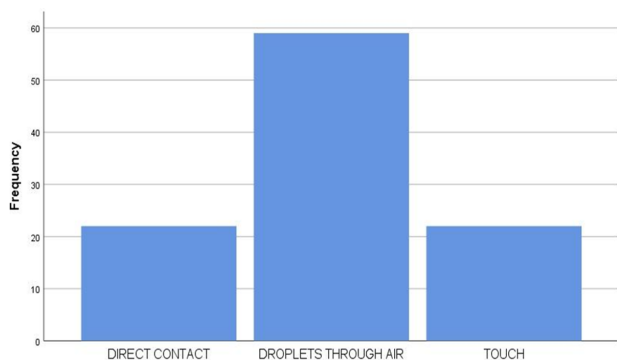
Graph 12: Shows the distribution of responses on the incubation period of COVID among study population



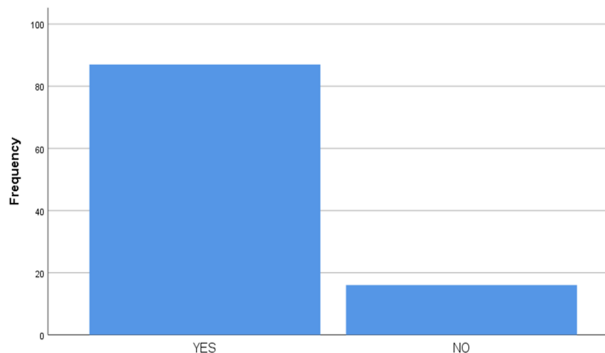
Graph 13: Shows the distribution of responses on can a person gets affected with corona without any symptoms among study population



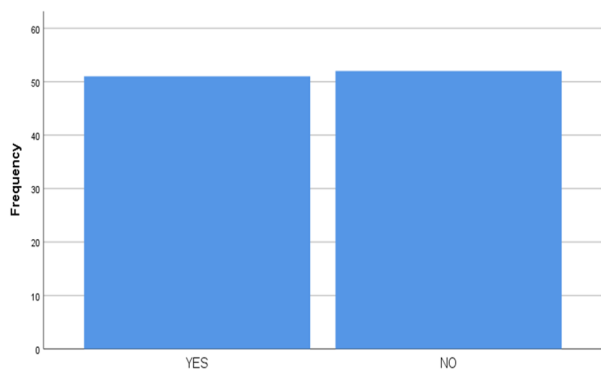
Graph 16: Shows the distribution of responses on the protocol to be followed after noticing the symptoms of COVID among study population



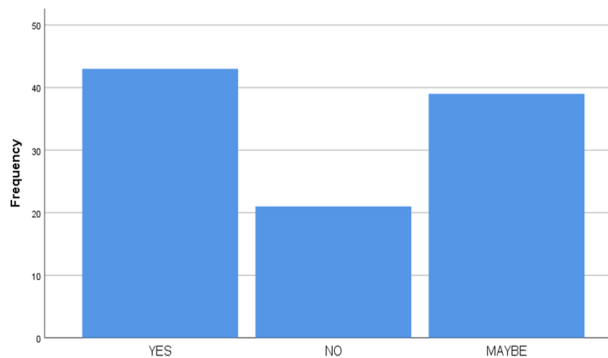
Graph 14: Shows the distribution of responses on spread of the COVID among the study population



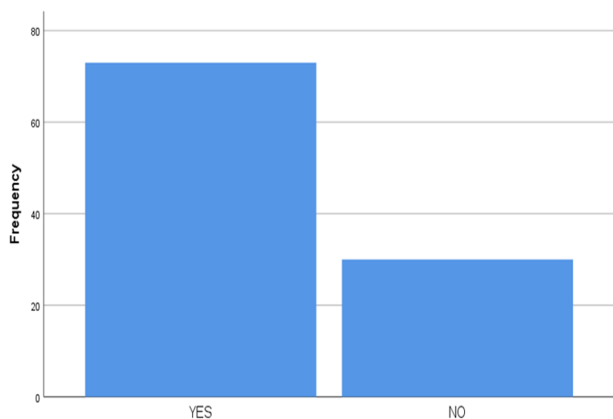
Graph 17: Shows the distribution of responses on uses of mask against COVID among the study population



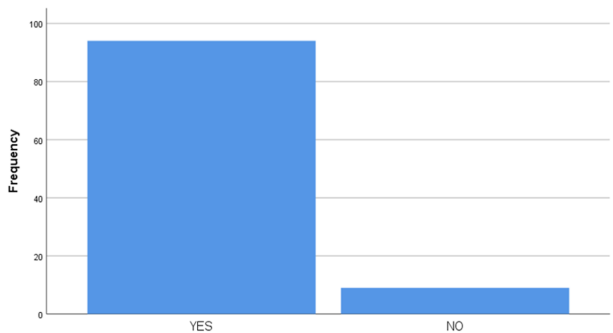
Graph 15: Shows the distribution of responses on anosmia a symptom of COVID among study population



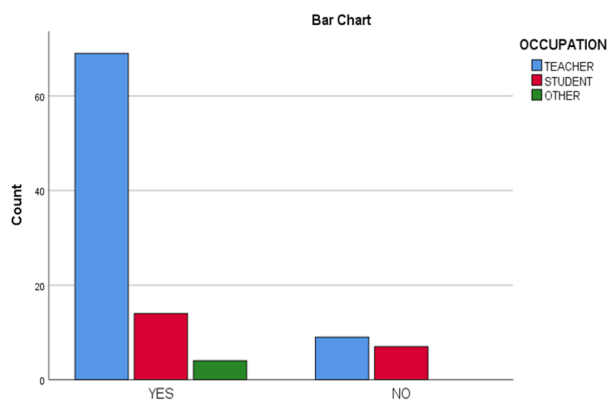
Graph 18: Shows the distribution of responses on risk of infection in pregnant women among the study population



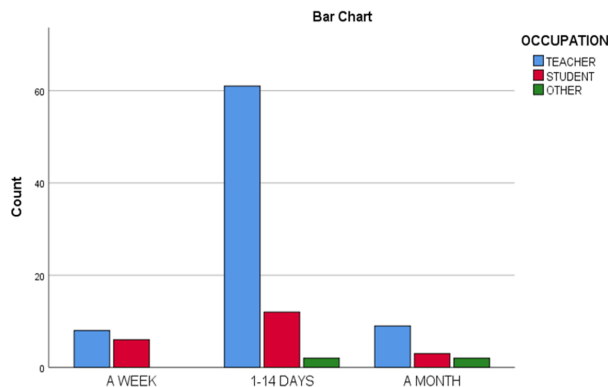
Graph 19: Shows the distribution of responses on risk of developing infection in person having allergy among study population



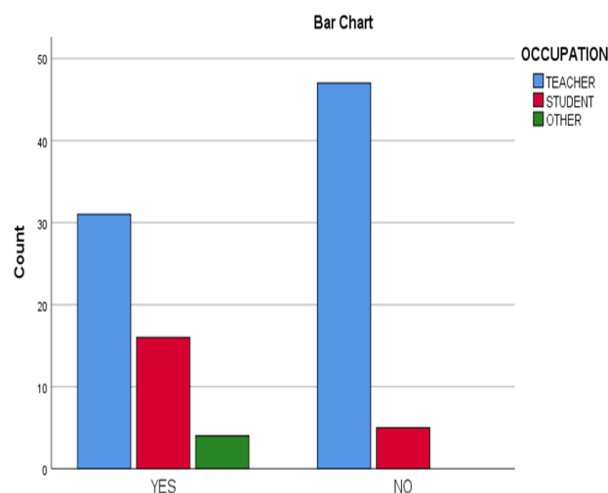
Graph 20: Shows the distribution of responses on the usefulness of this survey among the study population



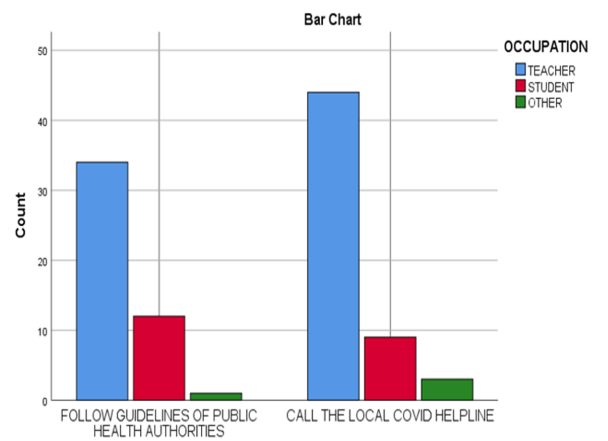
Graph 21: Association between the occupation and response regarding effectiveness of the face mask



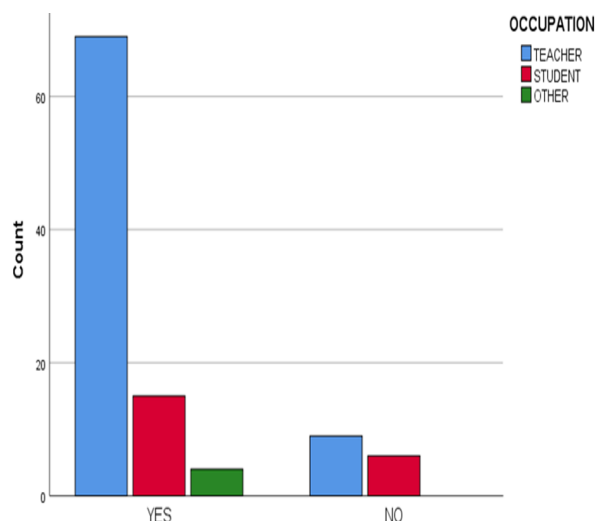
Graph 22: Association between the occupation and response regarding incubation period



Graph 23: Association between occupation and awareness regarding anosmia as a symptom of COVID-19



Graph 24: Association between occupation and awareness regarding protocol to be followed after developing symptoms



Graph 25: Association between occupation and response regarding knowledge about symptoms of COVID-19

This study is to determine COVID-19 awareness, knowledge, attitude and related behaviours among the students and teachers who are more vulnerable to the complications of infection because of age and comorbid conditions.

## MATERIALS AND METHODS

A sample size of hundred school teachers and students participated in the study cross sectional, observational online study was conducted. Questionnaire Was constructed in Google forms with dichotomous responses and multiple choice questions. The study setting and approval was the institutional review board of Saveetha University. Questionnaire Contains 20 questions based on symptoms of corona virus and finally the data were collected and entered in Excel and it was converted into SPSS software. It involves both the statistical and percentage analysis and their cells were in the form of a bar graph with conclusion. The independent variables used were age and gender while the dependent variable included teachers and students.

## RESULTS AND DISCUSSION

Overall knowledge on Corona virus symptoms among teachers is good when compared to students. This survey was conducted to assess the awareness on COVID-19 among teachers and students (Graph 1) shows the age scale of the responders where 55.3% are teenagers and 30.1% are 20 to 30 years of age and 14.6% are 31yrs and above.

(Graph 2) shows the occupation of the responders where 75.7% are teachers and 20.4% are students

and 3.9% were others.

(Graph 3) shows the idea about COVID 19 symptoms where 85.4% answered yes they know about the symptoms while 14.6% answered no.

(Graph 4) shows the signs of respiratory infection where 29.1% answered yes they know the signs of respiratory infection while 70.9% answered no.

(Graph 5) shows the symptoms of respiratory illness where 27.2% answered yes while 72.8 % answered no.

(Graph 6) shows the symptoms of lower respiratory illness where 29% answered yes while 70.9% answered no.

(Graph 7) shows the knowledge about the mode of transmission of virus where 67% answered yes while 33% answered no.

(Graph 8) shows about the people at risk where 83.5% answered that senior citizens are at more risk while 16.5% answered that people with high bp are at risk.

(Graph 9) shows awareness of vaccines for the virus where 35% answered yes while 65% answered no.

(Graph 10) shows the relation of covid with other viruses where 80.6% answered that it's compared to SARS while 19.4% compared it to Seasonal flu.

(Graph 11) shows the awareness of responders that covid is similar to SARS where 65% answered yes while 35% answered no.

(Graph 12 ) shows about the incubation period of the virus where 13.6% of them answered it as a week and 72.6% answered it as 1-14 days while 13.6% answered it as a month.

(Graph 13) shows the general information of covid where 72.8% answered yes that this virus can be caught from a person who has no symptoms while 27.2% answered no.

(Graph 14) shows the way of spread of Covid where 21.4% answered that it spread through direct contact while 57.3% answered that it spreads through droplets of air while 21.4% answered that it's through touch.

(Graph 15) shows the awareness of Anosmia which is a symptom of this virus where 49.5% answered that they are aware of this while 50.5% are not aware of it.

(Graph 16) shows the steps to be followed once if we are diagnosed with this virus, where 45.6% answered that we must follow the guidelines of public health authorities while 54.4% answered that we must call the local covid helpline.

(Graph 17) shows the efficiency of face masks where 84.5% answered that it is effective while 15.5% answered that it is not effective.

(Graph 18) shows the risk of pregnant women where 41.7% answered that the pregnant women may get affected while 20.4% answered that they may not while 37.9% answered that they may be affected with this virus.

(Graph 19) shows about the risk of a person developing infection because of pollen allergy where 70.9% answered yes while 29.1% answered No.

(Graph 20) shows whether the survey was useful or not where 91.3% answered that this survey was useful while 8.7% answered that it was not useful.

Association between occupation and various parameters regarding knowledge about covid-19 was analysed using chi-square test and represented as graphs (Graphs 21, 22, 23, 24 and 25) and  $p < 0.05$  was considered to be statistically significant. In the association between the occupation and response regarding effectiveness of the face mask, regarding incubation period and regarding anosmia as a symptom of COVID-19 were considered to be significant with  $p$  values of 0.034, 0.039, 0.001 respectively. These prove that the teachers have a better knowledge and awareness of symptoms of COVID-19 than the students.

Graph 21, X axis represents the responses for usage of the mask; Y axis represents the occupation of the responders in which blue denotes teachers, red denotes the students and the green denotes the rest. Majority responders were teachers who are aware of the effectiveness of face mask when compared to other students which shows statistically significant. Pearson chi square test shows  $p$  value is 0.034. ( $p$  value  $< 0.05$ ) Hence, it is statistically significant.

Graph 22, X axis represents the distribution of responses on incubation period in COVID; Y axis represents the occupation of the responders in which blue denotes teachers, red denotes the students and the green denotes the rest. Majority responders were teachers who are aware of incubation period of the COVID virus when compared to students which shows statistically significant. Pearson chi square test shows  $p$  value is 0.039. ( $p$  value  $< 0.05$ ) Hence, it is statistically significant.

Graph 23, X axis represents the distribution of knowledge on anosmia; Y axis represents the occupation of the responders in which blue denotes teachers, red denotes the students and the green denotes the rest. Majority responders were teachers who are aware of anosmia as a symptom of COVID when compared to students which shows statisti-

cally significant. Pearson chi square test shows  $p$  value is 0.001. ( $p$  value  $< 0.05$ ) Hence, it is statistically significant.

Graph 24, X axis represents the distribution of protocol to be followed after developing symptoms; Y axis represents the occupation of the responders in which blue denotes teachers, red denotes the students and the green denotes the rest. Majority responders were teachers who would call the local COVID helpline in case diagnosed with COVID symptoms but the differences are not statistically significant. Pearson chi square test shows  $p$  value is 0.379. ( $p$  value  $> 0.05$ ) Hence, it is statistically not significant.

Graph 25, X axis represents the distribution of response on ideas on symptoms of COVID-19; Y axis represents the occupation of the responders in which blue denotes teachers, red denotes the students and the green denotes the rest. Majority responders were teachers regarding the knowledge of symptoms of COVID-19 but the differences are not statistically significant. Pearson chi square test shows  $p$  value is 0.102. ( $p$  value  $> 0.05$ ) Hence, it is statistically not significant.

In this study approximately 78% teachers were majority responders while in the previous article 79.9% of age group 18 to 30 years were majority responders. Various awareness studies among students have shown a good amount of knowledge as compared to our study in which students are lacking the sufficient information about the disease (Hannah *et al.*, 2018; Manohar and Abilasha, 2019; Meng *et al.*, 2020; Sukumaran and Padavala, 2018). Another article reported that 94% participated in study and there was no significance and only 42.1% were aware of SARS and 31.9% students were not aware of SARS while nearly 80.4% used the nose protection method against SARS. While nearly 2537 patients participated and nearly 38% visited dental emergency during COVID-19 and dental trauma decreased 14.2% for females more than males (Prompetchara *et al.*, 2020). In similar article highest percentage responders where UG medical students and 71.9% were aware of infection control and 45.4% knew the correct sequence of application of mask while 52.5% preferred hand hygiene. WHO announced outbreak of corona virus which is at risk of cross infecting high dental practitioners (Ali *et al.*, 2020). Present outbreak of coronavirus is human to human transmission virus and there is high risk in close proximity of dentist patients (Kadam *et al.*, 2020) Empathy is a central aspect in ensuring quality communication and maintaining therapeutic communication between

healthcare professionals and patients (Prasanna and Gheena, 2016; Uma *et al.*, 2020). While in another article, they provided clinical evidence of similar part of SARS and MERS host pathogen interaction and also the pathogen immune evasion which helps in designing immune vaccine for COVID-19 (Prompetchara *et al.*, 2020). Coronavirus increases mortality rate and transmission is through direct contact or the droplets and hence screening tests to be done (Ali *et al.*, 2020). Hence the awareness regarding the symptoms is limited and more knowledge based seminars are mandated in such situations to improve their awareness.

## CONCLUSIONS

The limitations of the study includes limited sample size and geographical limitation. The future scope is to increase the sample size and analyse other aspects such as apt treatment and home care knowledge to treat covid patients. Teachers are more aware than students about the symptoms of COVID-19. Further periodic educational interventions and training programmes on infection control can be implemented to overcome the current pandemic situation.

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The authors declare that they have no funding support for this study.

## Conflict of interest

The authors declare that they have no conflict of interest for this study.

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