WHAT IS THE SOURCE AND ORIGIN OF COVID 19 -A SURVEY ON POPULAR PERCEPTION

[1]Shradha Jalan, [2]Dr. Ganesh Lakshmanan, [3]Dr. R. Gayathri
[1]*Department of Anatomy, Saveetha Dental College and Hospitals, Saveetha Institute of Medical and Technical Sciences, Chennai, India*
[2]*Senior lecturer, Department of Anatomy, Saveetha Dental College and Hospitals, Saveetha Institute of Medical and Technical Sciences, Chennai, India*
[3]*Assistant Professor, Department of Biochemistry, Saveetha Dental College and Hospitals, Saveetha Institute of Medical and Technical Sciences, Chennai, India*
[1]*151901005.sdc@saveetha.com*
[2]*ganeshl.sdc@saveetha.com*
[3]*gayathri.sdc@saveetha.com*

ABSTRACT

COVID-19 is a respiratory syndrome affecting countless numbers of lives all over the world. It is reportedly caused due to the SARS-CoV-2 virus which is known to impair the lower respiratory tract causing distress.Over 4 million laboratory confirmed cases of COVID-19 have been reported worldwide in about 187 countries. The study aims at analyzing the public perception on the source and origin of COVID- 19 and to spread its awareness among citizens. A questionnaire was distributed through an online google forms link to about 100 people. The study population was asked to fill out the online form after reading each question thoroughly. The results were collected and the data was analysed using SPSS version 20. From the results analysed from the responses of the study population, the majority of the participants gave a positive response and awareness about the source and origin of COVID-19. This study gives an insight on the public perception towards the source and origin of covid 19.

KEY WORDS: COVID-19, origin, public perception, source, survey

INTRODUCTION

COVID-19 is a respiratory syndrome affecting countless numbers of lives all over the world. It is reportedly caused due to SARS-CoV-2 virus which is known to impair the lower respiratory tract causing distress (Seppan et al., 2018) is reported till date (May 2020), that over 4 million laboratory confirmed cases of COVID-19 have been reported worldwide in about 187 countries (Atchison et al., no date; Babu et al., 2015). Available evidence suggests that COVID-19 is to have natural origin and is transmitted by inhaling the droplets expelled from the septum of infected patients (Abu-Taleb and El Beshlawy, 2015) The major clinical characteristics associated with COVID-19 disease as reported by patients from China (Bhirud and Hiremath, 2013), South Korea (Osime and Irowa, 2011; Muthusankar and Shanmughavel, 2013; 'Typhoid vaccine (including typhoid-paratyphoid vaccine)', 2016; Akram et al., 2020; Assadi et al., 2020; Mukherjee, 2020; Ndako et al., 2020; Pereira and Shah, 2020), and the United States (Nandhini et al., 2018)have mentioned dry cough, fever, fatigue, loss of taste and shortness of breath being the most common clinical features. antibody tests (Samuel and Thenmozhi, 2015) and detecting viral proteins while antigens which is present inside our body (Naidoo, Ramsugit and Pillay, 2014; Mehta and McSweeney, 2018; Akram et al., 2020; Balhara et al., 2020)

The detection of early human cases of COVID-19, which is named for the disease condition formed due to novel coronavirus, which was first called as COVID-19 and later renamed as SARS-CoV-2 were first reported by officials in Wuhan City, China, in December 2019. Retrospective investigations by Chinese authorities have identified human cases with onset of symptoms in early December 2019. The common symptoms are fever, dry cough, tiredness, sore throat, diarrhea, loss of taste, conjunctivitis and headache. While some of the earliest known cases had a link to a wholesale food market in Wuhan, some did not. Many of the initial patients were either stall owners, market employees, or regular buyers to this market. Environmental samples taken from this market in December 2019 tested positive for SARS-CoV-2, further suggesting that the market in Wuhan City was the source of this outbreak or played a role in the initial amplification of the outbreak.

According to Zheng *et al* (2020), COVID-19 is a severe acute respiratory syndrome recognised by the ACE-2 receptors present predominantly in the lungs causing acute myocardial injury and chronic damage to the cardiovascular system (Bernheim *et al.*, 2020; Jaganath *et al.*, 2020). Studies have shown that coronavirus has originated from an animal called bat Weinberg, 2020(Gupta *et al.*, 2017). This disease originated from Wuhan,China (Kumar *et al.*, 2015; Das and Mohanty, 2016; Law, 2020). Coronavirus is a deadly disease which affects the upper respiratory tract in our body and causes shortness of breath (Sudhir and Nadh, 2013); (Pratha, Ashwatha Pratha and Thenmozhi, 2016). Previously our team had conducted numerous studies and reviewed trials (Thejeswar and Thenmozhi, 2015; Krishna et al., 2016; Subashri and Thenmozhi, 2016; Seppan et al., 2018; Sekar et al., 2019; Johnson et al., 2020) and survey based studies (Sriram, Thenmozhi and Yuvaraj, 2015); (Keerthana and Thenmozhi, 2016) review based studies (Menon and Thenmozhi, 2016); and *in vitro* studies (Samuel and Thenmozhi, 2015); (Choudhari and Thenmozhi, 2016); (Hafeez and Thenmozhi, 2016); (Kannan and Thenmozhi, 2016). This present study is done in order to spread awareness about the source and origin of COVID-19 and its effects on the public health and well-being. It mainly focuses on analysing the general public's perspective about the source and origin and the precautions they should take. The aim of the study is to analyse the public perception about the source and origin of COVID-19 and thereby spread awareness.

MATERIALS AND METHODS

An online survey was conducted with a self-structured questionnaire with a sample size of hundred participants comprising the general population. The questionnaire consists of questions that help in collecting socio-economic data, questions that help in provoking awareness among the participants and questionnaires also related to the awareness and knowledge about the source and origin of COVID 19. The questionnaire was validated in a standard manner. Measures such as selection of participants randomly, placing restrictions over the participant population and age groups are taken to minimise the bias occurring in sampling. The questionnaire was circulated using the online part from " google form" and the link was circulated through social media to the respondents. The results were collected and the data was analysed using SPSS version 20. The responses were recorded and the results of the analysis were represented in the form of pie charts and bar charts.

RESULTS AND DISCUSSION

The whole of the study population (100%) answered positively when asked a question about the source and origin of COVID-19 virus. Results of Fig.1 show that the population has a positive perception regarding the source and origin. According to the report of (Johnson *et al.*, 2020) the present study proves that COVID-19 spread has become weaker predominantly after following effectively and it is the laboratory prepared virus (Swathy and Thenmozhi, 2015; Sekar *et al.*, 2019). About 100% of the population answered positively regarding the shape of COVID-19 (Fig.2). According to an article, only 22.6% of the respondents were aware of the virus shape and another article shows that around 84% of the study population were not aware of the COVID-19 shape (Hafeez and Thenmozhi, 2016; Krishna, Nivesh

Krishna and Yuvaraj Babu, 2016; Srivastava *et al.*, 2020). Another study shows that the response time to COVID-19 awareness was different across different countries even though the overall duration of public response was short (Assadi *et al.*, 2020). When asked about whether the virus can spread from the droplets of an infected person (Fig. 3), about 91.7%% of the participants answered positively. According to a survey study 97.35% of respondents were aware of the COVID-19 symptoms and another study proves that 84.6% of the study population were aware about the COVID-19 symptoms (Atchison *et al.*, no date) When asked about the origin of COVID-19, about 95 % of the respondents answered positively that it originated from bats (Fig. 4). According to a study (Dodic *et al.*, 2010; Menon and Thenmozhi, 2016; Karapetian, 2017; Singh *et al.*, 2019; Pereira and Shah, 2020; Shereen *et al.*, 2020). The COVID-19 virus is highly contagious and a study by Shenbaga Vadivu et al. shows that 93.02% of the study populations were aware of the highly contagious nature of the COVID-19 virus and it originated from bats. The study population was asked a question that how can they safeguard themselves from being infected, about 72.9% of the population answered positively that they can self isolate, wear a mask, use hand sanitizer (Fig. 5). A study proved that ethnic minority backgrounds were less able to self isolate when compared to white backgrounds. A question was raised on whether wearing masks is enough, to which 62.6% of respondents answered negatively (Fig. 6). According to a study by Atchison *et al.* (2020), the adaptation to social distancing measures were found to be higher in those aged over 70 years of age than compared to younger adults (Daniel *et al.*, 2015; Kannan and Thenmozhi, 2016). A question was asked which age group has high chances to get infected and around 87.5% of the study population answered positively that older people have more chances to get infected due to the immune system (Fig.7). According to the article, it tells that patients facing psychological distress and patients who require psychological demands are finding it difficult to survive. Another study tells that a profound negative impact has been observed in patients with experience of eating disorders ('Determinants of Severity in Cancer Patients with COVID-19 Illness', no date).

About 74.2% of the population answered positively when asked about the symptoms of coronavirus are dry cough,sore throat,loss of taste, shortness of breath in order to stay safe and prevent the acquisition of the virus (Fig.8). According to study of (Menon and Thenmozhi, 2016), about 93.02% of the population has been observed to make proper use of PPE. An article ('Team adapt elements of the Spitfire to design new PPE for dentistry', 2020)states that PPE such as face masks are non-effective apart from clinical usage and that they only protect to a certain extent. When asked how many days does it take to show symptoms in our body, about 53.3% of the population answered positively that it takes five to six days to show symptoms (Fig.9). According to an article by Hein Lau *et al.* (2020), it proves that the COVID-19 spread has been decreased after the lockdown (Balhara *et al.*, 2020). When asked about whether animals can get infected around 72.5% of the study population answered positively and around 27.5% of the study population says that animals cannot get infected (Fig 10). Out of aware participants, females (66%) were more aware than males (21%) regarding coronavirus can spread from droplets of an infected person. Chi square test was done and association was found to be statistically not significant (Fig. 11). Out of aware participants, females (42%) were more aware than males (10%) regarding whether covering their mouth or wearing a mask can safeguard people from getting infected. Chi square test was done and association was found to be statistically not significant (Fig. 12). Out of aware participants, females (60%) were more aware than males (18%) regarding animals that can get infected from coronavirus. Chi square test was done and association was found to be statistically not significant (Fig. 13). Out of aware participants, females (58%) were more aware than males (19%) regarding which age group can get infected from coronavirus. Chi square test was done and association was found to be statistically not significant (Fig. 14).

The future scope of this study focuses on helping the population in understanding the public perception regarding the source and origin COVID-19 virus. It also focuses on ensuring the knowledge of various

preventive measures that can be taken in order to prevent the acquisition of the virus thereby leading to betterment of health and lifestyle of the population.

CONCLUSION

COVID-19 is a serious pandemic prevailing all over the world affecting lives and causing distress among the entire world population. This study gives an insight on the public perception towards the source and origin of COVID 19 and also raises awareness of the probable zoonotic transmissions that are possible and their serious repercussions in the society. Thus from this study, it can be seen that a positive perception has been attained among the public about the origins of infectious diseases and the steps to be taken to minimize those risks.

AUTHORS CONTRIBUTION:

All the authors contributed equally in concept,design, carrying out the research and analysis of the study

CONFLICT OF INTEREST:

The authors have none to declare.

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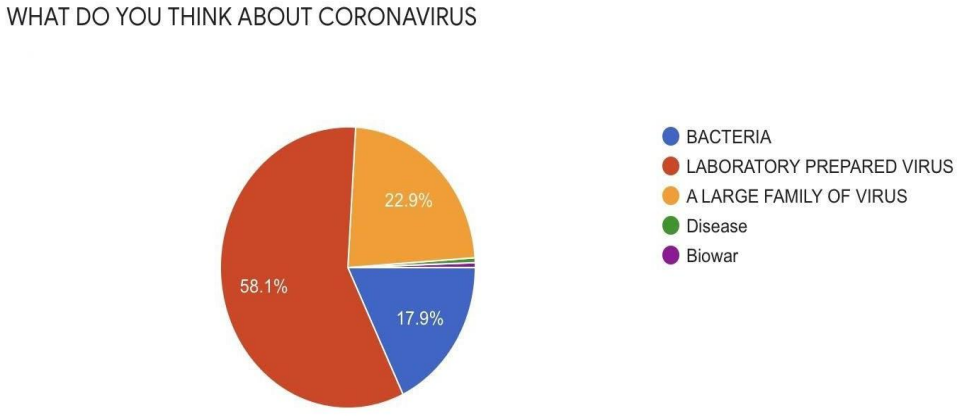

Figure 1: Pie chart representing the percentage distribution of awareness on what people think about coronavirus. 22.9% of study population responded that it is a large family of viruses (orange) and 58.1% of the study population responded that it is a laboratory prepared virus (red) and 17.9% of the study population responded that it is a bacteria (blue).

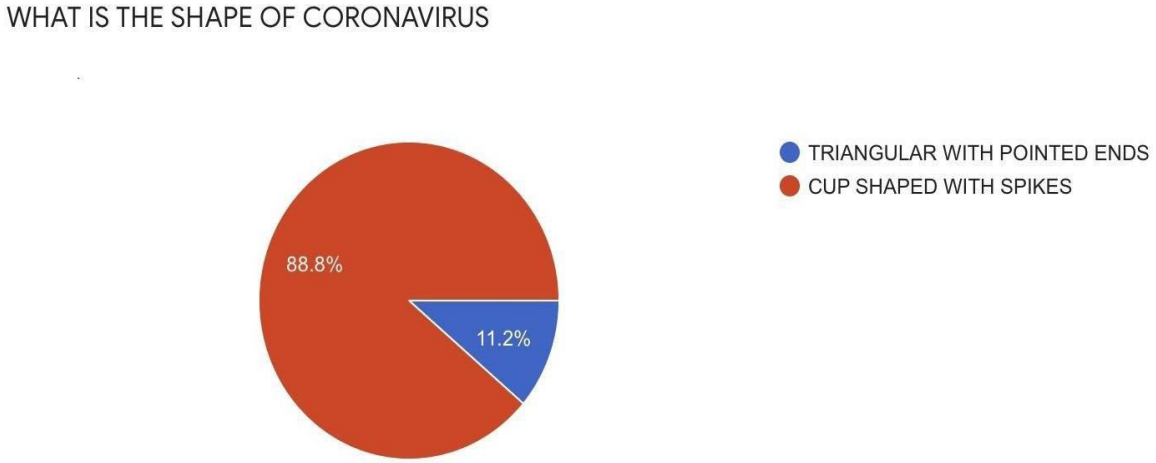

Fig 2: Pie Chart representing the percentage distribution of study population showing responses for the shape of coronavirus. 88.8% of the study population responded that coronavirus is cup shaped with spikes (red) and around 11.2% of the study population responded that it is a triangular with pointed ends (blue).

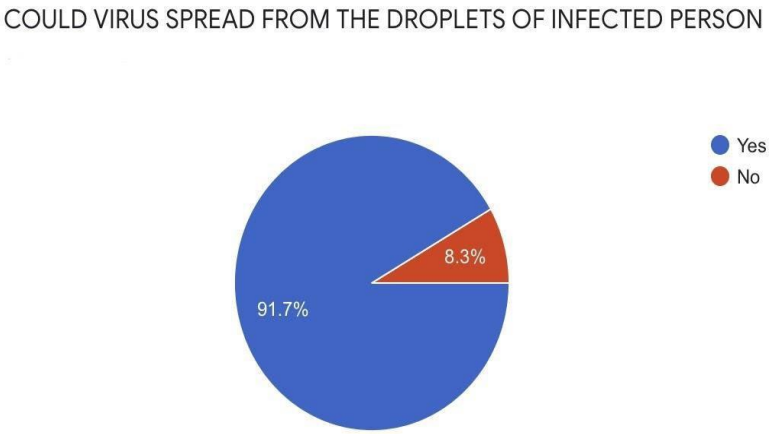

Figure 3: Pie chart representing the percentage distribution of study population showing responses that coronavirus can spread from droplets of infected people around 91.7% responded positively (blue) and around 8.3% responded negatively (red).

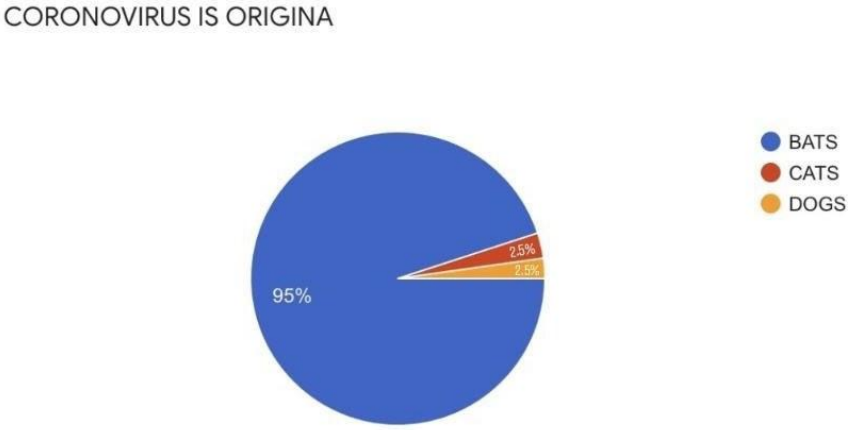

Figure 4: Pie Chart representing the percentage distribution of study population showing responses for origination of coronavirus around 95% of study population responded that it is originated from bats

(blue). And around 2.5% of study population responded that it is originated from cats (red) and around 2.5% of study population responded that it is originated from dogs (orange).

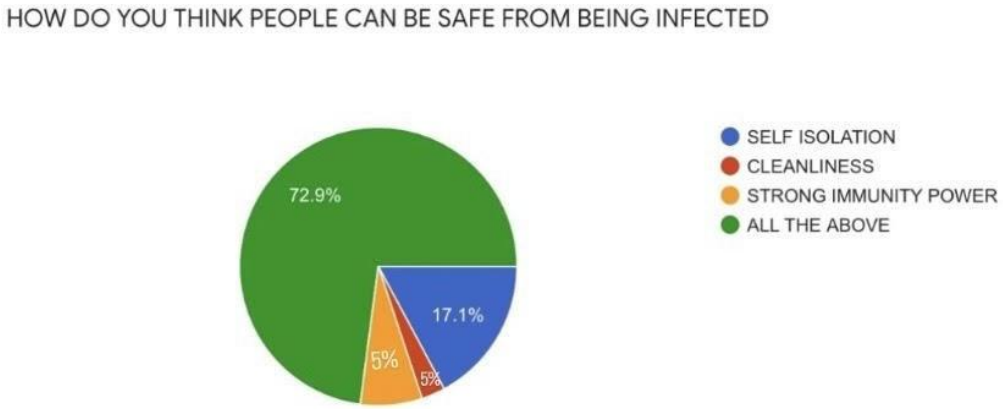

Figure 5: Pie charts representing the percentage distribution showing responses that how people can safeguard themselves from being infected. Around 72.9% of the study population said that self isolation, cleanliness, and having strong immunity power can safeguard themselves from being infected (green). And around 17.1% of study population responded that self isolation can safeguard from people being infected (blue) and around 5% of study population responded that keeping our surroundings clean can help us to stay safe (red)and around 5% of study population responded that having strong immunity power can make us safe from being infected (yellow).

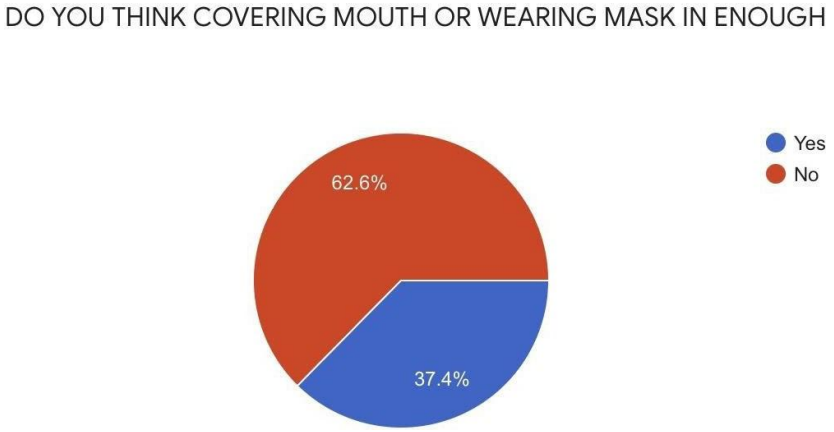

Figure 6: Pie Charts representing the percentage distribution showing responses for wearing masks around 37.5% of study population responded positively (blue) around 62.6% of study population responded negatively (red).

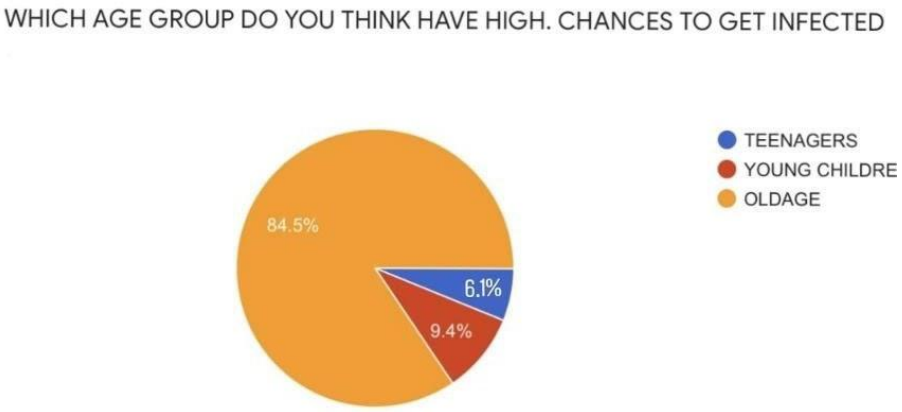

Figure 7: Pie chart representing the percentage distribution showing responses which age group have high chances to get infected around 84.5% responded that old age have high chances to be infected (yellow) and around 9.4% of study population responded that young children have chances to get infected easily

(red) and around 6.1% of study population responded that teenagers have high chances to get infected (blue).

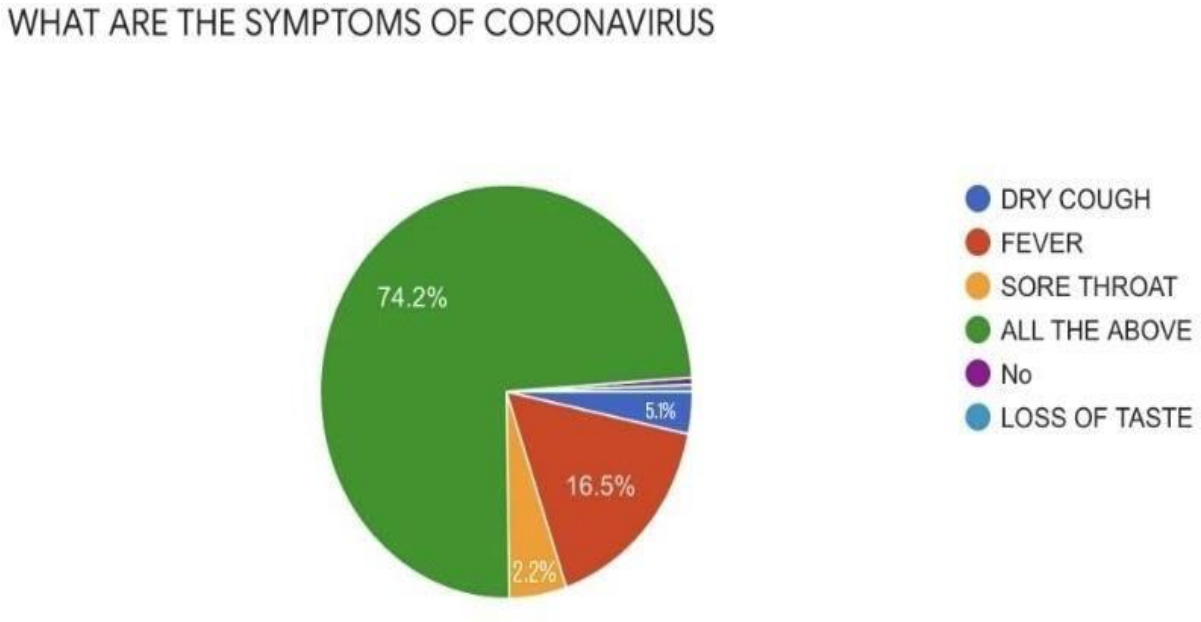

Figure 8: Pie chart representing the percentage distribution showing responses for the symptoms of coronavirus around 74.2% of study population says that dry cough, fever, sore throat,all the above are the symptoms if coronavirus (green) and around 16.5% of study population responded that fever is also a symptom of coronavirus (red) and around 1% of study population responded that none of the above are the symptoms of study population(violet) and around 1% of study population responded that loss of taste is also a symptom of coronavirus (blue) and around 5.1% of study population responded that dry cough is a symptom of coronavirus(dark blue) and around 2.2% of study population responded that sore throat is also a symptom of coronavirus (yellow).

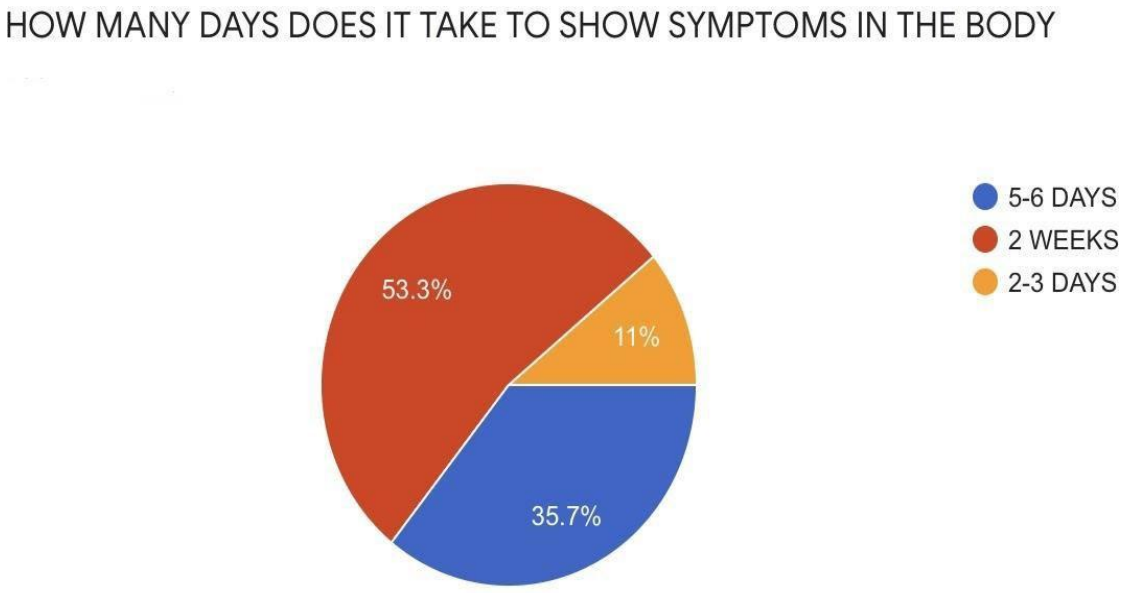

FIG 9: Pie chart representing the percentage distribution showing responses as to how many days does it take to show symptoms in our body .Around 53.3% of study population responded that it takes 2 weeks for the virus to show symptoms (red) and around 35.7% of study population responded that it takes five to six days for the virus to show symptoms (blue) and around 11% of study population responded that it takes two to three days to show symptoms in our body (yellow).

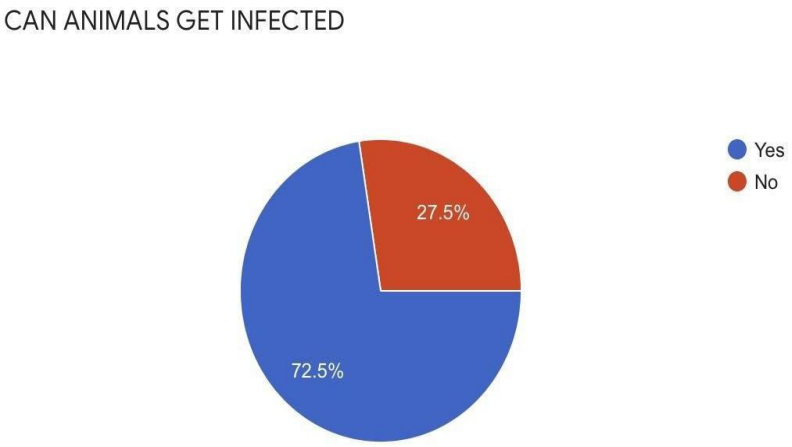

FIG 10: Pie chart representing the percentage distribution of study population showing responses that Animals can also get infected. Around 72.5% of the study population responded positively (blue) and around 27.5% of the study population responded negatively (red).

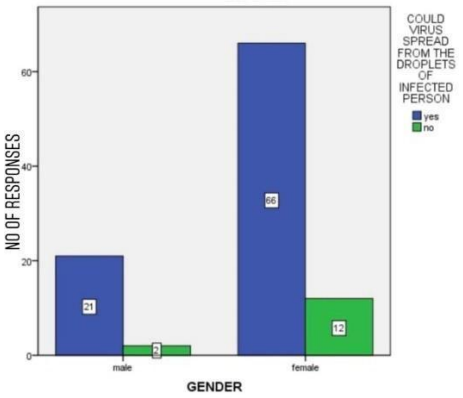

Figure 11: Bar charts represent association between gender and awareness among the study population regarding whether coronavirus can spread from the droplets of infected people. X axis represents the gender and Y axis represents the number of participants responded due to droplets of an infected person virus can be spread (blue) and number of participants who think there is no spreading of virus from droplets of an infected person (green). Out of aware participants, females (66%) were more aware than males (21%) regarding the spread of coronavirus due to droplets of an infected person. Chi square test was done and association was found to be statistically significant. [Pearson's Chi square value : 4.666, P value = 0.025 (<0.05)].

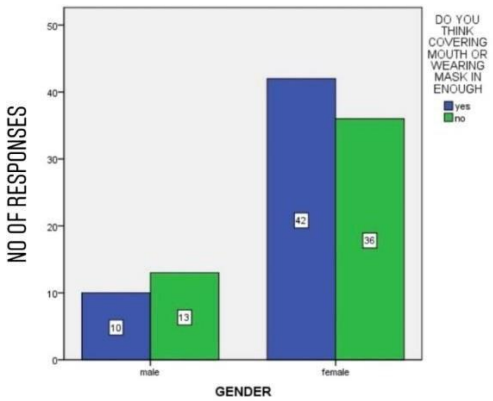

Figure 12: Bar charts represent association between gender and awareness among the study population regarding covering the mouth or wearing a mask can safeguard people from getting infected. X axis represents the gender and Y axis represents the number of participants responded that by wearing a mask

or covering mouth can safeguard people from getting infected (blue) and number of participants who think there is no safety even after wearing a mask or covering mouth (green). Out of aware participants, females (42%) were more aware than males (10%) regarding whether covering the mouth or by wearing a mask can safeguard people from getting infected. Chi square test was done and association was found to be statistically significant [Pearson's Chi square value : 5.764, P value = 0.003 (<0.05)]

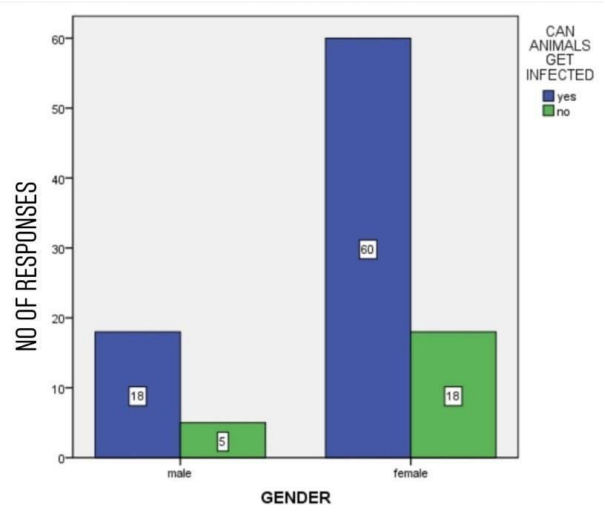

Figure 13: Bar charts represent association between gender and awareness among the study population regarding whether animals can get infected X axis represents the gender and Y axis represents the number of participants responded that coronavirus can infect animals (blue) and number of participants who think animals cannot get infected from coronavirus (green). Out of aware participants, females (60%) were more aware than males (18%) regarding animals can get infected . Chi square test was done and association was found to be statistically significant. [Pearson's Chi square value : 5.018, P value = 0.018 (< 0.05)].

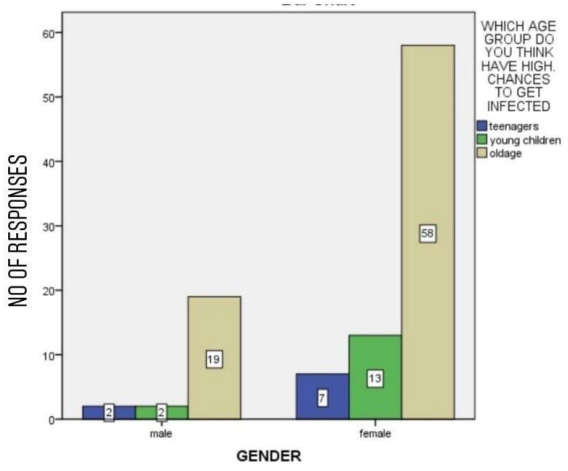

Figure 14: Bar charts represent association between gender and awareness among the study population regarding which age group can get infected from coronavirus. X axis represents the gender and Y axis represents the number of participants responded teenagers can get infected (blue) and number of participants who think young children can get infected (red) and number of participants who responded that old age people can get infected (yellow). Out of aware participants, females (58%) were more aware than males (19%) regarding which age group can get infected from coronavirus. Chi square test was done and association was found to be statistically significant. [Pearson's Chi square value : 4.920, P value = 0.031 (>0.05)].