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KNOWLEDGE AND AWARENESS OF PREVENTIVE MEASURES AGAINST COVID-19 INFECTION

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ABSTRACT

The coronavirus disease (COVID-19) has been identified as the reason for a virus of respiratory disorder in Wuhan, Hubei Province, China beginning in December 2019. As of 31 January 2020, this epidemic had spread to 19 countries with 11, 791 confirmed cases, including 213 deaths. The world Health Organization has declared it a Public Health Emergency of International Concern. A structured Questionnaire was prepared and administered to 150 participants through google form an online survey. The study was approved by the scientific review board. The total number of questions was 15 and the answers obtained from the participants are recorded and the answers given by each question are represented in the form of pie charts. A total of 100 participants were included in the study out of 150 participants 63.3% of the participants haven't gone to any crowded places during this lockdown and 36.7% of participants have gone to crowded places during this lockdown. 94% of participants say isolation and treatment of people that may prevent from Covid-19 virus transmission to others is the effective way to reduce the spread of the virus. This study creates awareness of preventive measures for coronavirus infection. The population based survey could provide baseline data to the government for preventive measures in case of future outbreaks.

Keywords: COVID-19; Prevention; Awareness; Outbreak

INTRODUCTION

Coronavirus has spread globally affecting all health care systems **[1]**. Coronavirus are a large family of viruses that cause illness ranging from the common cold to more severe diseases such as Middle East Respiratory Syndrome (MERS-CoV) and Severe Acute Respiratory Syndrome (SARS-CoV). Which first emerged in China in December 2019, and has since spread to most countries around the world, resulting in the 2019-20 coronavirus pandemic **[2]**. Common symptoms include fever, cough, fatigue, shortness of breath and loss of sense of breath. Complications may include pneumonia and acute respiratory distress syndrome.

In response to the outbreak, the Chinese Center for Disease Control and Prevention (China CDC) dispatched a rapid response team to accompany health authorities of Hubei province and Wuhan city to conduct epidemiological and etiological investigations **[3]**. The WHO confirmed that the outbreak of the coronavirus epidemic was related to the Huanan South China Seafood Marketplace, but no specific animal association was identified **[4]**. Scientists immediately began to research the source of the new coronavirus, and therefore the first genome of COVID-19 was published by the research team led by Prof. Yong-Zhen Zhang, on 10 January 2020 **[5]** . Within 1 month, this virus spread quickly throughout China during the Chinese New year – a period when there's a high level of human mobility among Chinese people **[5]**. Although it is still too early to predict susceptible populations, early patterns have shown a trend similar to Severe Acute Respiratory Syndrome (SARS) and Middle East respiratory syndrome (MERS) coronaviruses **[6]**. COVID-19 has now been declared as a Public Health Emergency of International Concern by the WHO **[7]**.

The virus that causes COVID-19 is believed to spread mainly from person to person, mainly through respiratory droplets produced when an infected person coughs or sneezes **[8]**. These droplets can land in the vicinity of the mouth or nose of individuals who are nearby or possibly be inhaled into the lungs[9].SARS-CoV It could be transmitted indirectly by invading some patients through oral mucosa **[10]** or by contact with polluted water source and food. The routes have also been implicated for the transmission of coronaviruses, like contact with contaminated fomites and inhalation of aerosols, produced during aerosol generating procedures. Transmission of SARS-CoV-2

from asymptomatic individuals (or individuals within the incubation period) has also been described. However, the extent to which this happens remains unknown **[8, 11]**. Unfortunately, there's no medication that has been approved by the FDA **[12]**. Although cures are being discovered for illnesses at a rapid rate and developments in science occur at a rapid rate in our day, the strongest and best weapon that society has against this virus that's affecting not just health but also economics, politics, and social order, is the prevention of its spread. The interim guidance published by the WHO on 7th March 2020, "Responding to community spread of COVID-19," states that preventing COVID-19 from spreading is thru the event of coordination mechanisms not just in health but in areas like transportation, travel, commerce, finance, security and other sectors which encompasses the whole lot of society **[13]**.

Preventive measures are the strategies to limit the spread of cases. Early screening, diagnosis, isolation, and treatment are necessary to forestall further spread **[14]**. Preventive strategies are focused on the isolation of patients and careful infection control, including appropriate measures to be adopted during the diagnosis and therefore the provision of clinical care to an infected patient **[15]**. The most important strategy for the population to undertake is to frequently wash their hands and use portable hand sanitizer and avoid contact with their face and mouth after interacting with a possibly contaminated environment **[16]**. To reduce the risk transmission within the community, individuals should be advised to scrub hands diligently, the affected should practice respiratory hygiene (i.e., cough into sleeves or cloth) **[17]**, and avoid crowds and shut contact with ill individuals **[16]**, if possible. Social distancing strategies aim to reduce contact with infected persons, large public gatherings, closing of school, work places, restrictions on travel **[18]**. The WHO also issued detailed guidelines on the utilization of face masks within the community, during care reception, and within the health care settings of COVID-19 **[19, 20]**. During the writing of this document, health care workers are recommended to use particulate respirators like those certified N95 or FFP2 when performing aerosol-generating procedures and to use medical masks while providing any care to suspected or confirmed cases **[21]**. In step with this guideline, individuals with respiratory symptoms are advised to use medical masks both in health care and residential care settings properly following the infection prevention guidelines.

In step with this guideline, a person without respiratory symptoms isn't required to wear a medical mask when not mobile publically. Proper use and disposal of masks is very important to avoid any increase in risk of transmission **[11]**. There are many studies about knowledge and awareness **[22-26]** of some specific diseases in dentistry **[27-33]**, many authors have come forward to do more studies about COVID-19. The aim of this study is to create awareness of preventive measures for Covid- 19 infection.

MATERIALS AND METHOD

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 of preventive measures for coronavirus infection. The questionnaire was validated in the 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 platform " google form" and the link was circulated through the social media to the respondents. The responses were recorded and with the collected responses descriptive analysis such as chi- square test was performed and the results of the analysis test carried out was represented in the form of pie chart.

RESULTS AND DISCUSSION

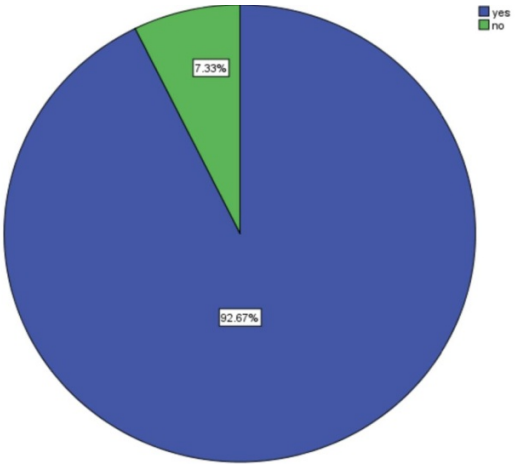

Figure 1: The pie graph represents responses to the question on washing hands frequently among the participants, 92.67% (blue) of participants washed hands frequently, 7.33% (green) of participants did not wash hands frequently.

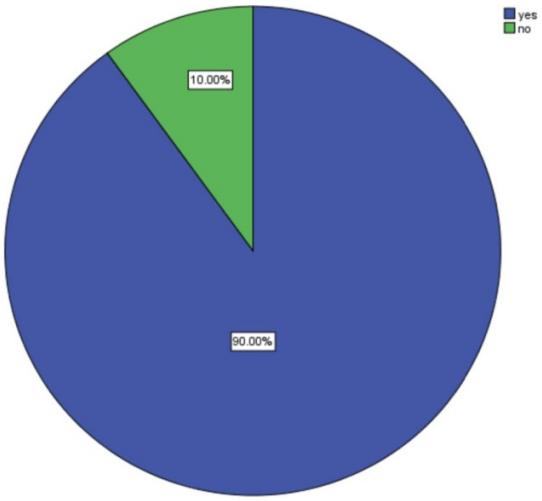

Figure 2: The pie graph represents responses to question on what type of infection is caused by Covid-19 among the participants, 90% (blue) of participants were aware of the types of infection caused by Covid-19, 10% (green) of participants weren't aware.

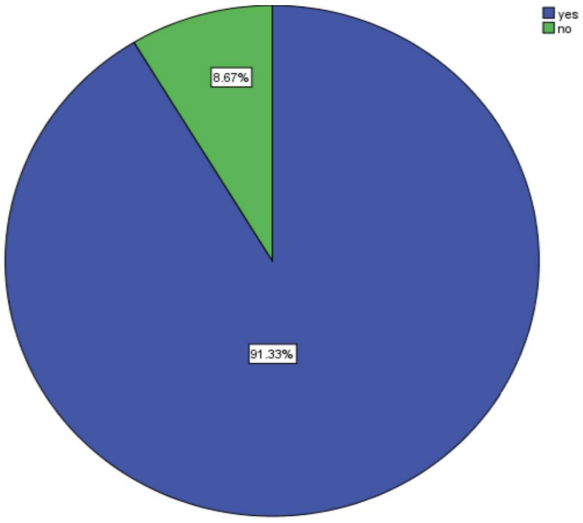

Figure 3: The pie graph represents responses to question on the perception of eating traditional food in aid to prevention of Covid-19 among the participants, 91.33% (blue) of participants responded that eating traditional food can prevent covid -19 infection because traditional food contains more nutrition and immunity power, 8.67% (green) participants responded that only eating traditional food cannot prevent from covid -19.

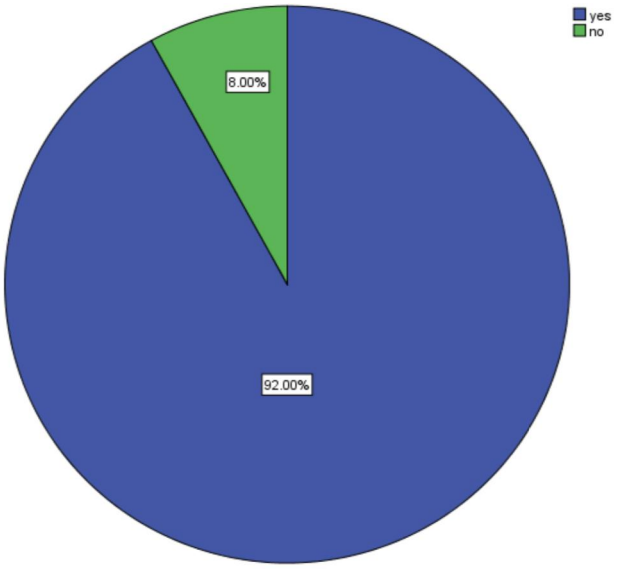

Figure 4: The pie graph represents responses to the question on maintenance of social distancing among the participants, 92% (blue) of participants maintained social distancing, 8% (green) of participants weren't maintaining social distancing.

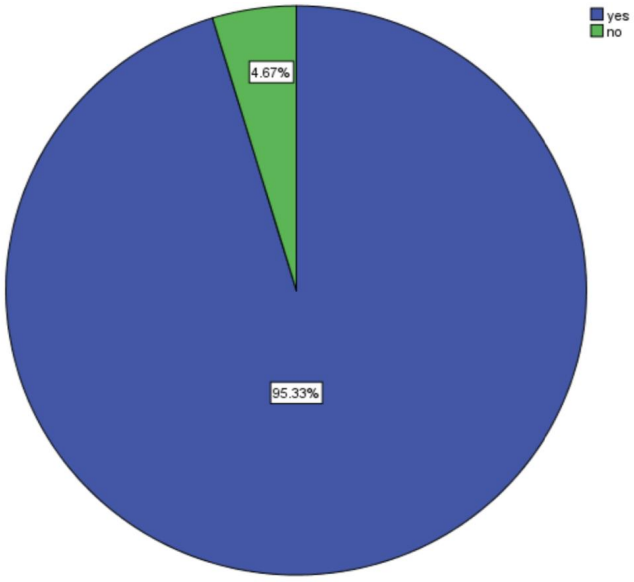

Figure 5: The pie graph represents responses to question on perception on the successful controlling of Covid- 19 infection among the participants, 95.33% (blue) of participants responded that Covid-19 can be controlled, 4.67% (green) of participants responded that Covid-19 can't be controlled.

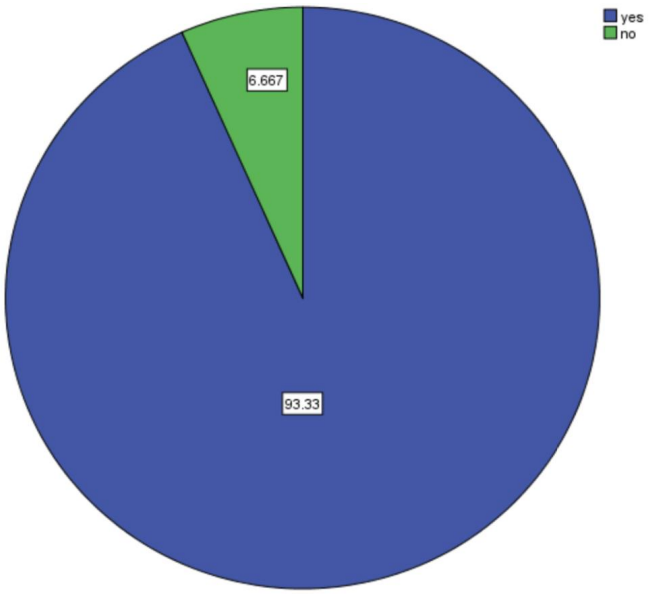

Figure 6: The pie graph represents responses to the question on awareness of the fact that Covid-19 virus spreads via respiratory droplets of infection among the respondents, 93.33% (blue) of participants were aware; 6.667% (green) of participants weren't aware.

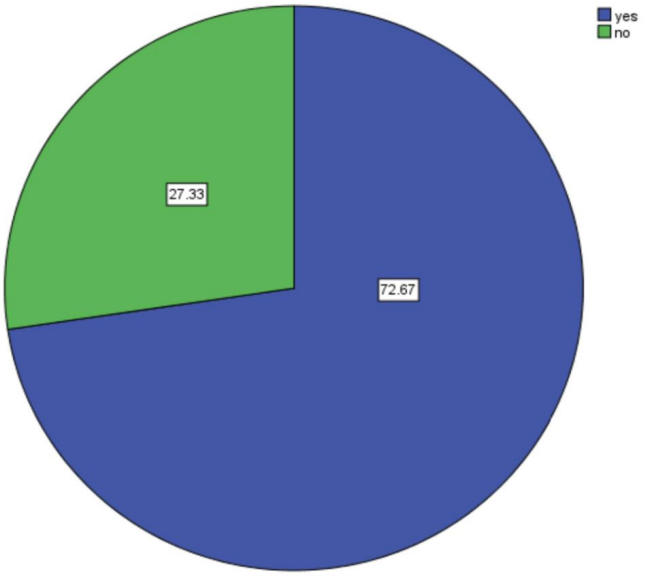

Figure 7: The pie graph represents responses to the question on perception related to whether eating or contacting wild animals would result in Covid- 19 infection among the participants, 72.67% (blue) of participants responded yes, 27.33% (green) of participants responded no.

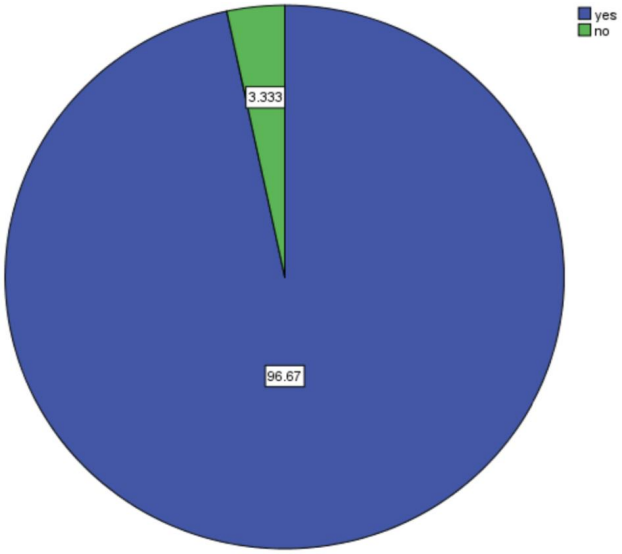

Figure 8: The pie graph represents responses to the question on early symptomatic and supportive treatment that can help most patients recover from the infection, 96.67% (blue) of participants responded positively, 3.33% (green) of participants responded negatively.

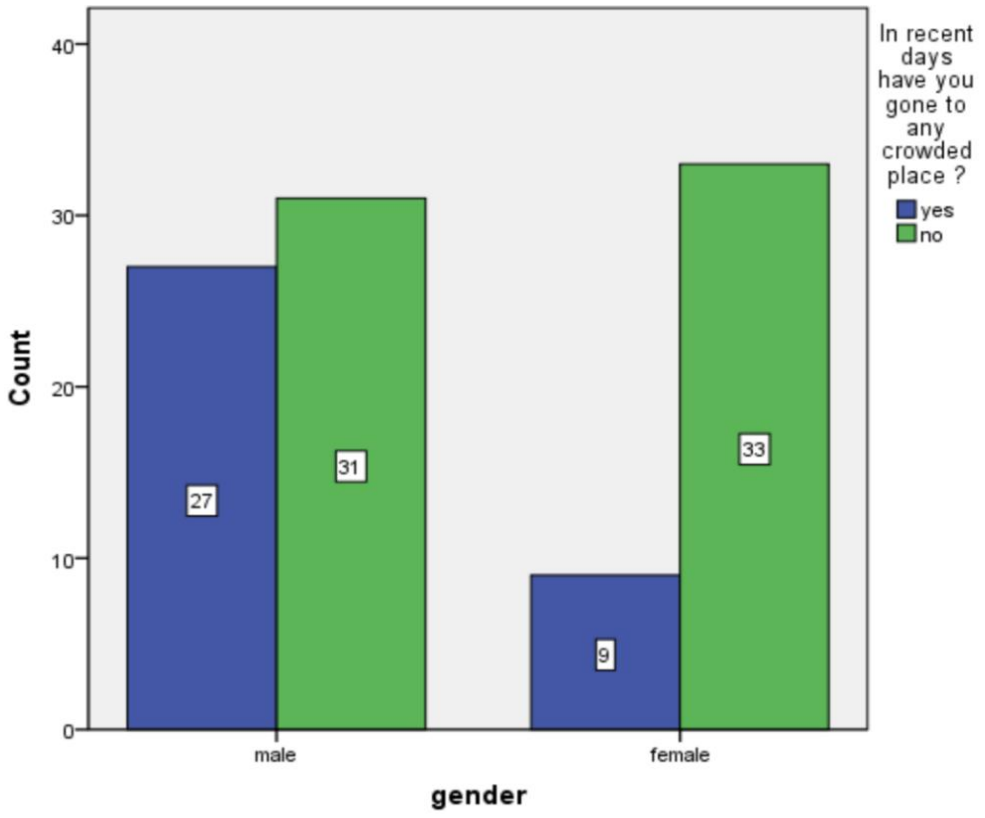

Figure 9: The bar chart represents association between gender and question on having gone to any crowded place in recent days. X axis represents gender and Y axis represents the number of participants who have gone to any crowded place in recent days. The blue colour bar represents the participants who have gone to crowded places during the spread of Covid-19 and green colour bar represents the participants who haven't. The chi square test was done and the association between the gender and the visit to crowded places yielded. *p* value - 0.010 (*p* value<0.05), hence statistically significant implying that males visited crowded places more than females amongst the study population.

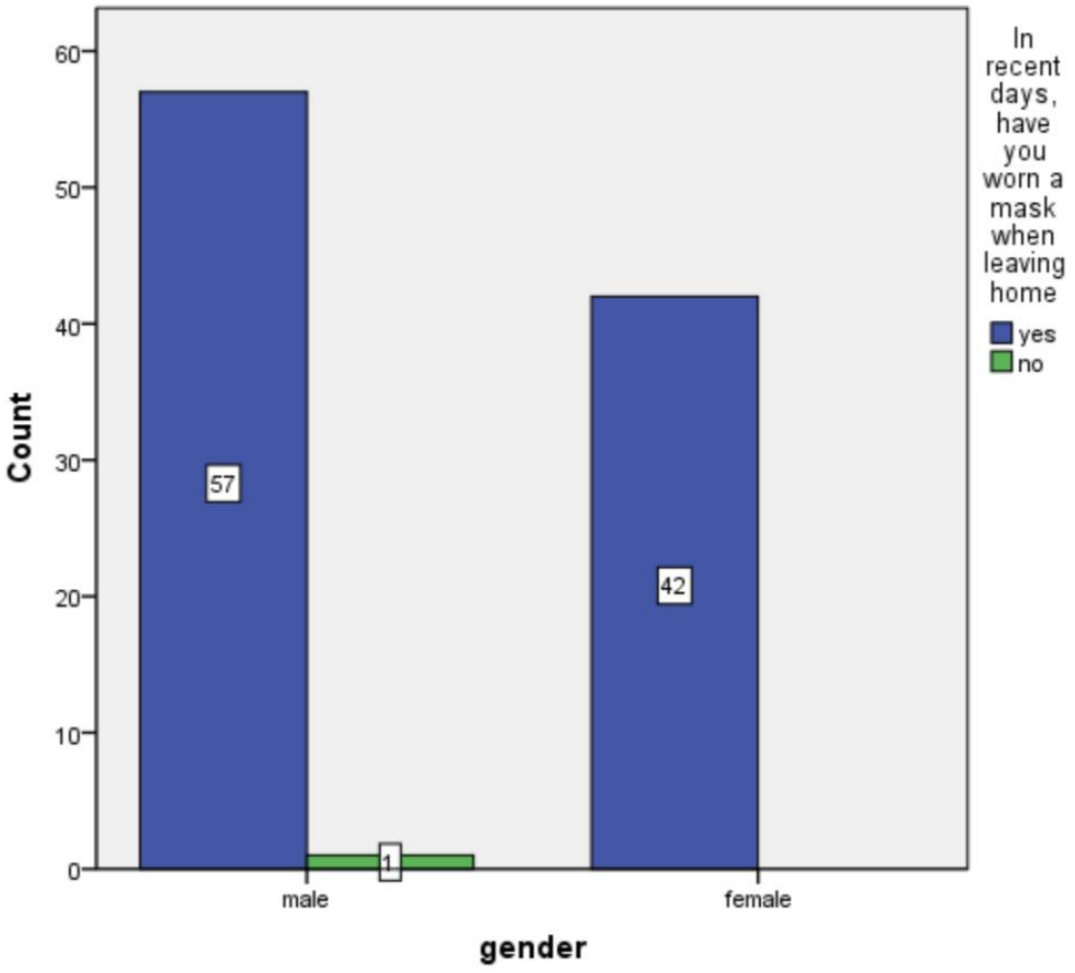

Figure 10: The bar graph represents association between gender and wearing a mask when they leave home among the participants. X axis represents gender and Y axis represents the number of participants wearing a mask when they leave home. The blue colour bar represents wearing a mask when they leave home and the green colour bar represents not wearing a mask when they leave home. *p* value- 0.395 (*p* value>0.05)by chi square test, hence statistically not significant. Association between the gender and wearing of masks did not differ among males and females.

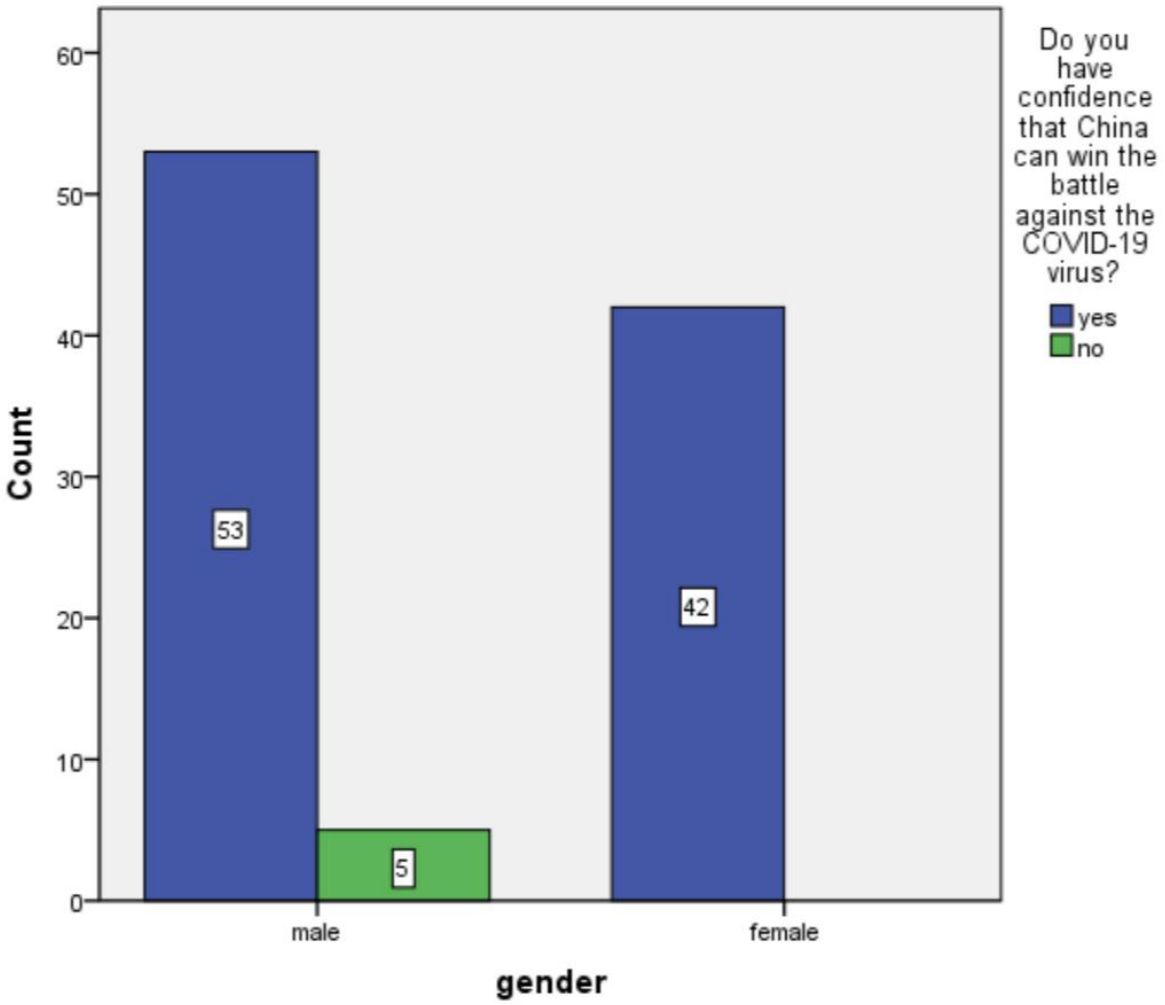

Figure 11: The bar graph represents association between gender and responses to the question on whether China can win the battle against the Covid-19. X axis represents gender and Y axis represents the number of respondents. The blue colour bar represents respondents who have confidence that China can win the battle against Covid-19 and the blue colour bar represents those who don't have confidence that China can win the battle against Covid-19. *p* value= 0.051(*p* value>0.05) ; chi square test, hence statistically not significant. The association between gender and public perception (confidence whether china can win the battle against Covid- 19) did not differ between males and females.

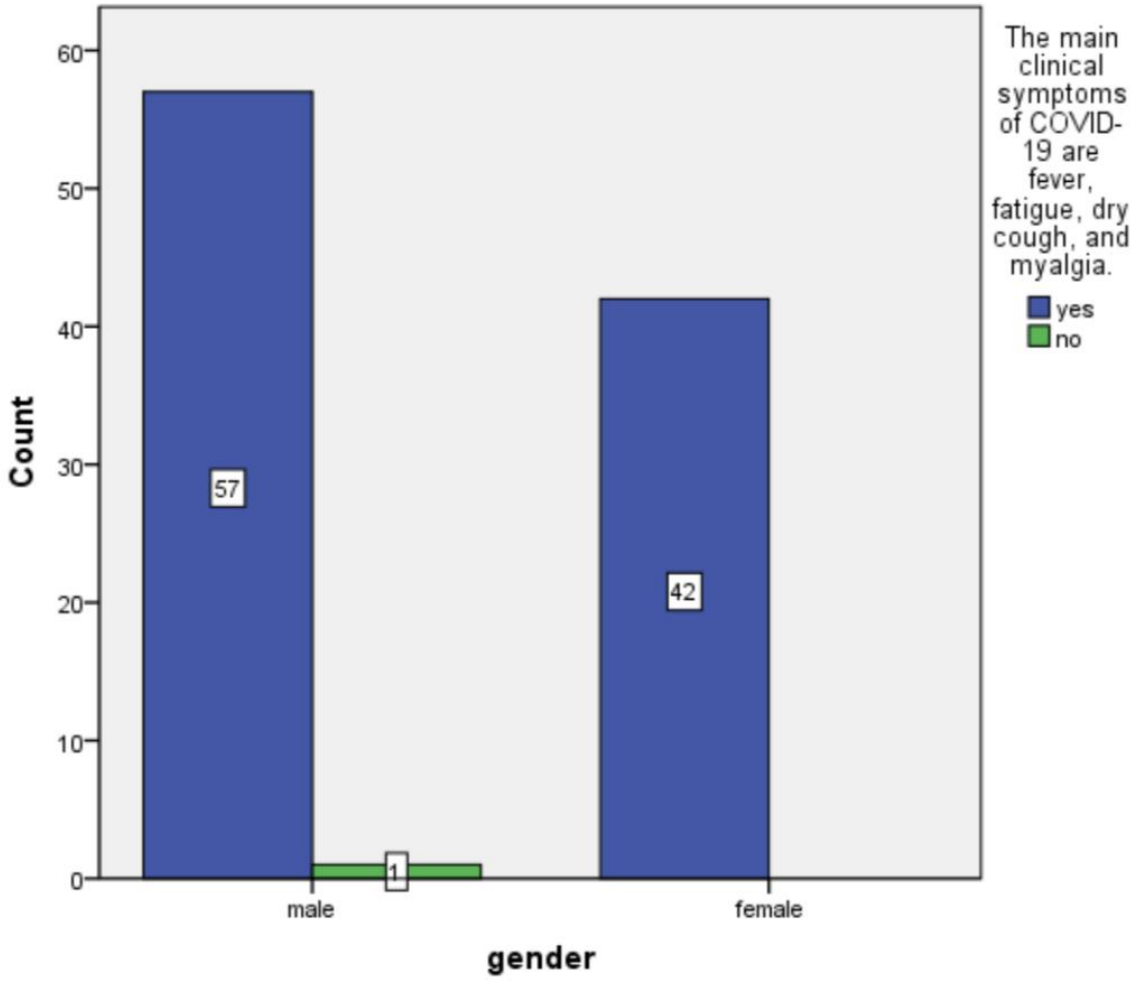

Figure 12: The bar graph represents association between gender and awareness of the main clinical symptoms of Covid-19 among the respondents. X axis represents gender and Y axis the number of participants who were aware of main clinical symptoms of Covid-19. The blue colour bar represents the number of participants who were aware of the main clinical symptoms of Covid-19 and the green colour bar represents the number of participants who weren't aware of the main clinical symptoms of Covid-19. *p* value- 0.392 (*p* value>0.05) by chi square test; hence statistically not significant. The association between the gender and awareness about the main clinical symptoms of Covid- 19 did not differ among the gender.

In our study **Figure 1** depicts that washing hands frequently among the participants, 92.67% of participants are washing hands frequently, 7.33% of participants aren't washing hands frequently. **Figure 2** represents awareness that infection is caused by Covid-19 among the participants, 90% of participants are aware that infection is caused by Covid-19, 10% of participants aren't aware that infection is caused by Covid-19. **Figure 3** depicts that eating traditional food can prevent from covid-19 among the participants, 91.33% of participants responded that eating traditional food can prevent from covid -19 because traditional food contains more nutrition and immunity

power, 9% participants responded that not only eating traditional food can prevent from covid -19. **Figure 4** shows that maintenance of social distancing among the participants, 92% of participants are maintaining social distancing, 8% of participants aren't maintaining social distancing. **Figure 5** depicts that Covid-19 will finally be successfully controlled among the participants, 95.33% of participants responded that Covid-19 can be controlled, 4.67% of participants responded that Covid-19 can't be controlled. **Figure 6** reveals that Covid-19 virus spreads via respiratory droplets of infection individuals among the participants, 93.33% of participants are aware of Covid-19 virus spread via respiratory droplets of infection, 6.667% of participants aren't aware of Covid-19 virus spread via respiratory droplets of infection.

Figure 7 depicts that eating or contacting wild animals would result in the infection among the participants, 72.67% of participants responded that eating or contacting wild animals would result in the infection, 27.33% of participants responded that eating or contacting wild animals would not result in the infection. **Figure 8** depicts that early symptomatic and supportive treatment can help most patients recover from the infection, 96.67% of participants responded that early symptomatic and supportive treatment can help most patients recover from the infection, 3.33% of participants responded that not only early symptomatic and supportive treatment can help most patients recover from the infection. The bar graph through **Figure 9** to **Figure 12** depicts that association between gender and those who have gone to any crowded place in recent days **(Figure 9)** was statistically significant implying that males had gone to crowded places than females (p value<0.05); association between gender and wearing a mask when they leave home (figure 10); association between gender and confidence on whether China can win the battle against the Covid-19 **(Figure 11)**; association between gender and awareness of the main clinical symptoms of Covid-19 **(Figure 12)** were not significant statistically (p value>0.05).

In our study there are specific limitations linked to the data gathering method. Online surveys are cheap, simple to set up and do not require a physical contact between the interviewers and the respondents that was a concern during COVID-19 outbreak. However, online surveys restrict the limit of sampling methods they cannot reach people that are not comfortable with technology or don't have access to technology or the

internet, such as low income, poorly educated persons or elderly. Moreover, online surveys do not allow a deep analysis of the results. This can be achieved through qualitative studies **[34]**. The present study demonstrated that the occurrence of Covid-19 infection had an emotional impact and also increased people's attention to preventive measures and their knowledge about the necessity of early access to health care. In our study out of 150 participants 63.3% of the participants haven't gone to any crowded places during this lockdown and 36.7% of participants have gone to crowded places during this lockdown **(Figure 9)**. In a similar study The vast majority of the participants had not visited any crowded place (96.4%) and wore masks when going out (98.0%) in recent days. There was still a small portion of the participants who had visited crowded places (3.6%) and had not worn masks when leaving home (2.0%) recently **[35]**. In our study nearly 92.3% of participants had confidence China can win the battle against the COVID-19. In a similar study nearly all of the respondents (97.1%) had confidence that China could win the battle against COVID-19, while 2.9% had no such confidence **[35]**. In our study 95.3% participants believed that COVID-19 can be controlled successfully. In a similar study the vast majority of the participants also held an optimistic attitude towards the COVID-19 epidemic: 90.8% believed that COVID-19 will finally be successfully controlled. According to this guideline, individuals with respiratory symptoms are advised to use medical masks both in healthcare and home care settings properly following the infection prevention guidelines proper use and disposal of the mask is important to avoid any increase in risk of transmission. In our study 94% of participants say isolation and treatment of people that may prevent from Covid-19 virus transmission to others is the effective way to reduce the spread of the virus. In a similar study, the public health measures that may prevent and slow down the transmission of the COVID-19, were introduced including case isolation, environmental disinfection and use of personal protective equipment. Therefore, their population based survey could provide baseline data to the government for preventive measures in case of future outbreaks. These implied that precautionary activity in avoiding infection by coronavirus infection by coronavirus, it needed to be encouraged and strengthened.

CONCLUSION

This study shows a holistic picture of the current research in response to the outbreak

of COVID-19. In the present study, the general awareness of the participants among study population was adequate. The data collected in this survey could be used as baseline data to monitor perception and behaviour in the event of a future outbreak of infectious diseases in south India.

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