

KNOWLEDGE, AWARENESS AND IMPACT OF EPIDEMIC OUTBREAK AMONG UNDERGRADUATES

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ABSTRACT

Extraordinary measures have been taken to control the quick spread of the covid-19. People's adherence to control measures is affected by their knowledge, attitudes and practices towards covid-19 during the rapid rise of outbreak. A self developed online questionnaire was created and was completed by the participants. The questionnaire consisted of 12 questions regarding the knowledge towards covid-19 and also it includes the questions on confidence in winning the battle against covid-19. Most undergraduate students are knowledgeable about covid-19, optimistic attitudes and preventive practices towards covid-19. Health education programs aimed at improving covid-19 knowledge that are helpful for the undergraduates to hold optimistic attitudes and maintain appropriate practices.

KEYWORDS:

Awareness; Covid 19; Epidemic; Undergraduates.

INTRODUCTION

Covid-19 has become an epidemic these days and it is a topic of high public concern and particularly medical students are directly or indirectly related to it. The mode of transmission of coronavirus is still ambiguous and not well established (Koul and Dhar, 2020). However it is believed that the virus spreads through respiratory aerosol by coughing and sneezing of the infected person or via close personal contact (Balasubramanian, 2020). Infection may spread by touching contaminated objects. There is no specific antiviral medicine or vaccine to treat or prevent the disease. But the treatment for symptomatic relief can be done (Ness, 2020). Possible vaccines and medications are under trial. Undergraduates particularly students in the medical field are directly or indirectly related to such epidemics. So, they must have a higher level of knowledge and better attitude towards such diseases. This virus was initially called as 2019-n cov and was then termed as syndrome coronavirus 2 by the ICTV (Kakar and Nundy, 2020). It is another strain found in 2019 which was not found in people. Previously, the severe acute respiratory syndrome coronavirus (SARS-COV) and the middle east respiratory syndrome coronavirus (MERS-COV) have been known to affect humans (Kutsuna, 2020). Outbreak of the respiratory disease caused by these viruses seem to have originated in animals before moving into other hosts like humans. The virus spread to the rest of the world via human transmission (Mathews, no date). The WHO declared coronavirus disease as an epidemic in march 11, 2020. Previously we have done so many reviews (Kannan and Venugopalan, 2018)(Vijayalakshmi and Ganapathy, 2016)(Subasree, Murthykumar and Dhanraj, 2016)(Ganapathy,

Kannan and Venugopalan, 2017)(Ganapathy *et al.*, 2016)(Venugopalan *et al.*, 2014)(Selvan and Ganapathy, 2016) and research studies (Ashok *et al.*, 2014)(Ajay *et al.*, 2017)(Jyothiet *et al.*, 2017)(Duraisamy *et al.*, 2019)(Ranganathan, Ganapathy and Jain, 2017) and awareness programs (Ariga *et al.*, 2018)(Basha, Ganapathy and Venugopalan, 2018)(Ashok and Suvitha, 2016) on various fields which led us to conduct awareness study on covid 19 epidemic among undergraduates.

The aim of this study is to assess the awareness of covid-19 disease among the undergraduates.

MATERIALS AND METHODS

The advantage of this study was the properly defined population, as the study settings were online surveys. We were able to reach more people and the study population was educated so they were able to make better knowledge choices. People involved in this study were the undergraduates. The total sampling size of the survey was 100 and the sampling method used was a simple randomised method. Inclusion criteria was a general population consisting only of undergraduate students and the exclusion criteria was the students other than undergraduates were not considered .

The primary data collection was done through an online portal, prominently known as google forms. The questionnaire totally consisted of ten questions. Questionnaire validity checking was done in a standard manner. Output variables, the data collection software scores and represents the participants awareness as a bar graph.

The statistical test used was descriptive analysis and the mean variable statistics software used was SPSS. Analysis used was comparative analysis, correlation and association. Steps followed in software analysis were entering the data in excel sheet and making the necessary steps and entering them in SPSS and generating the pie chart was required.

RESULT AND DISCUSSION

83 % of the population who took the survey are aware of the epidemic and 13.7% are unaware of it (Figure 1). Majority of the people that are 83.9% of them said the epidemic is a sudden outbreak of disease. Very few that is 16.1% of them said the epidemic is a slow outbreak of a disease (Figure 2). People were asked whether they know the difference between Pandemic and epidemic. 83.9% answered yes and 16.1% answered no (Figure 3). Majority of 89.5% responded that there is an influence of epidemic in education and 10.4% of the respondents answered that there is no influence of epidemic in education (Figure 4). Majority of 96% follows social distancing. Only very few that is 4% doesn't follow social distancing (Figure 5). 13.7% of the people who took the survey said that travelling is safe. 86.3% of the people who took the survey said that it is not safe to travel during this epidemic (Figure 6). The people who took the survey were asked the causes of an epidemic. 4.8% of them chose infected water, 7.3% of them chose virulence of a disease, 20.2% of them chose increased influence of a pathogen and 62.9% of them chose all the above that includes infected water, increased influence of a pathogen, virulence of a disease (Figure 7). They were asked by what means can we maintain social distancing in universities. 13.7% of them chose to avoid overcrowding in the canteen. 32.3% chose online class and 54% of them chose all the above that includes online class and avoiding overcrowding in the canteen (Figure 8). 11.3% of the people who took the survey said there is a vaccine to cure corona infection. 88.7% of the people who took the survey said that there is no vaccine to cure corona infection (Figure 9). The association between gender and awareness of epidemic was analysed using chi square test and was found to be insignificant (Figure 10). The association between gender and knowledge of difference between pandemic and epidemic among undergraduates was analysed using chi square test and was found to be insignificant (Figure 11). The association between gender and social distancing among undergraduates was analysed using chi square test and was found to be insignificant (Figure 12). The association between gender and the knowledge of the influence of epidemic in education was analysed using chi square test and was found

to be significant (Figure 13). The association between gender and awareness of travelling during epidemic was analysed using chi square test and was found to be insignificant (Figure 14).

Students are using several online learning platforms to join daily meetings with teachers and classmates. Some schools and universities have paid for their classes to take place on google hangouts meet. Others use zoom, microsoft teams, google duo or high blue buttons. Webinars (Khurana, 2020) should make access to real time communication easy (G.m. and Bhuvan, 2020). In present, however, students have experienced some challenges. Epidemic is a periodic phenomena. People in the community face several challenges during such a period. Lack of awareness often leads to an unconcerned attitude, which may adversely affect the epidemic (Mota, 2020), which may also adversely affect the mental well being of the undergraduate students. The fear and anxiety related to epidemics also influence the behaviour of students in the community. Hence this study attempted to evaluate the awareness and attitude of the corona virus among undergraduates. This covid-19 is viral in origin involving the respiratory system and spreading by droplet infection. Lower respiratory tract infection related symptoms include fever, dry cough and dyspnea. A large number of countries have implemented social distancing (Davey *et al.*, 2020) and lockdown (Belfinet *al.*, no date)(The Lancet, 2020)(Belfinet *al.*, no date) to mitigate further spread of the viruses. Social distancing is designed to reduce interactions between people in a community in which individuals may have infections but have not yet been identified, hence not yet isolated (Singh, Barai and Shinde, no date). Social distancing is particularly useful in settings where community transmissions (Knipl, 2016) are believed to have occurred, so that it helps to reduce the spread of coronavirus (Bhadoria *et al.*, 2020).

CONCLUSION

During this coronavirus epidemic, most of the undergraduate students are aware of this infection, preventive measures and the importance of social distancing. However, there are increased worries and apprehensions among the students regarding the COVID-19 infection. The undergraduate students have higher perceived needs to deal with the mental health difficulties. There is a need to intensify the awareness program during this epidemic.

AUTHOR CONTRIBUTIONS

Pinky Ruskin contributed for the conception of the study, developed the questionnaires and performed data collection, interpretation of the results, and wrote the manuscript from the support of the Guide.

Dr. Venkatesh contributed for guidance, the design of the work, verified the analytical methods, supervised the findings of the work, revised the article and final approval for publication.

Dr. S. Preetha and Dr. KeerthiSashank contributed for the critical review and formatting of the draft manuscript and supervision.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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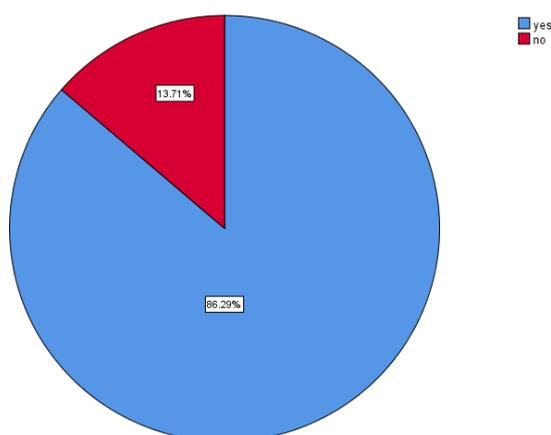


Figure 1: The pie chart showing the percentage distribution of the awareness of the epidemic. 86.2% of the respondents are aware about the epidemic (blue) and 13.7% of the respondents are not aware of the epidemic (red). Most of the respondents in the present study had awareness about epidemics.

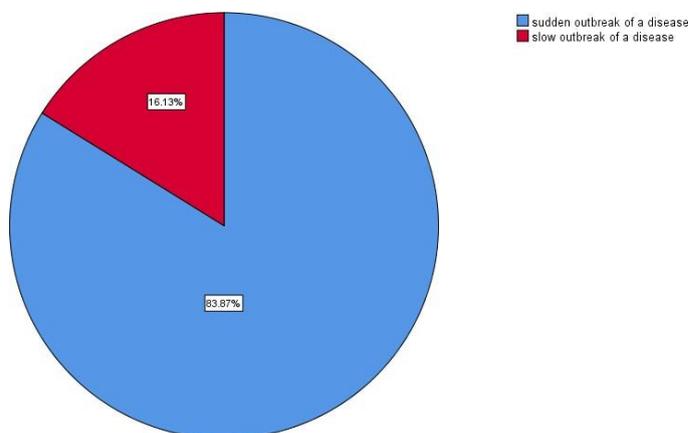


Figure 2: The pie chart showing the percentage distribution of knowledge of the epidemic. 83.8% of the respondents were about the epidemic (blue) and 16.1% of the respondents were not aware about the epidemic (red). Most of the respondents in the present study had knowledge about epidemics.

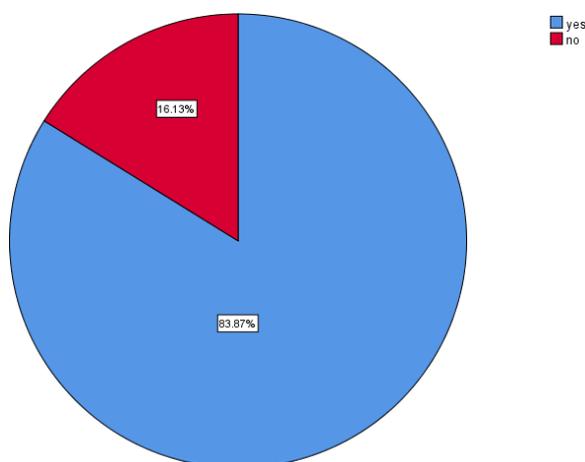


Figure 3: The pie chart showing the percentage distribution of the knowledge on the difference between pandemic and epidemic. 83.8% of the respondents know the difference between pandemic and epidemic (blue) and 16.1% of the respondents don't know the difference between pandemic and epidemic (red). Most of the respondents in the present study had knowledge on the difference between pandemic and epidemic.

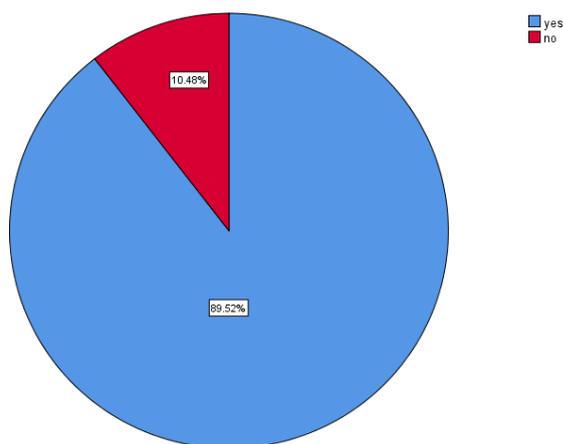


Figure 4: The pie chart showing the percentage distribution of the influence of epidemic in education. 89.5% of the respondents say that there is influence of epidemics in education (blue) and 10.4% of the respondents say that there is no influence of epidemics in education (red). Most of the respondents in the present study had awareness of the influence of epidemics in education.

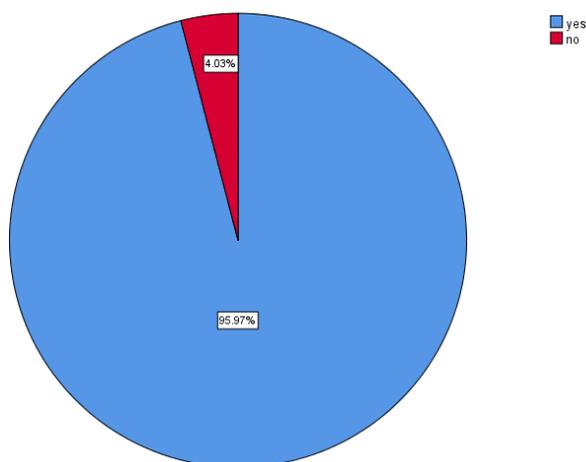


Figure 5: The pie chart showing the percentage distribution of the awareness of social distancing. 96% of the respondents follow social distancing (blue) and 4% of the respondents don't follow social distancing (red). Most of the respondents in the present study had awareness on social distancing.

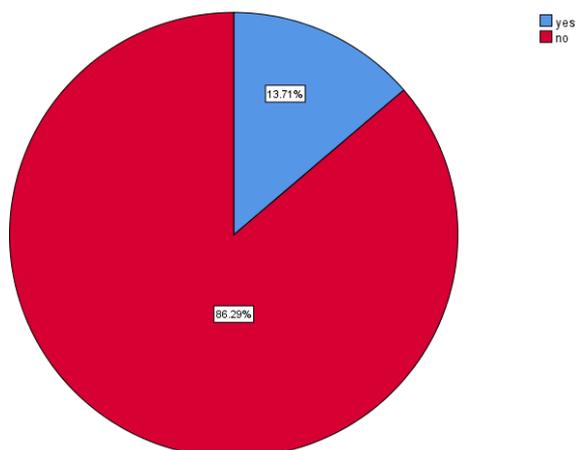


Figure 6: The pie chart showing the percentage distribution of the safety of travelling during the epidemic. 13.7% of the people say it is safe to travel during the epidemic (blue) and 86.2% of the respondents say it is not safe to travel during the epidemic (red). Most of the respondents in the present study had awareness of travelling during the epidemic.

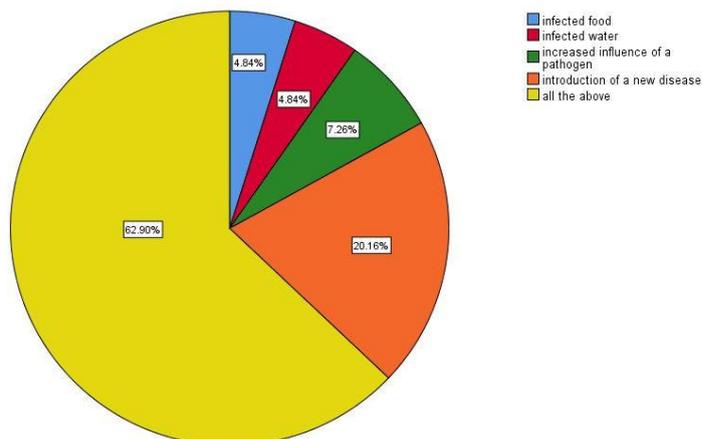


Figure 7: The pie chart showing the percentage distribution of the ways by which we can maintain social distancing. 13.7% of the respondents answered by avoiding over crowd in the canteen we can maintain social distancing (blue) and 32.2% of the respondents answered by learning through online classes we can maintain social distancing (red) and 54% of the respondents answered by following both we can maintain social distancing (green). Most of the respondents in the present study had knowledge on the ways to maintain social distancing.

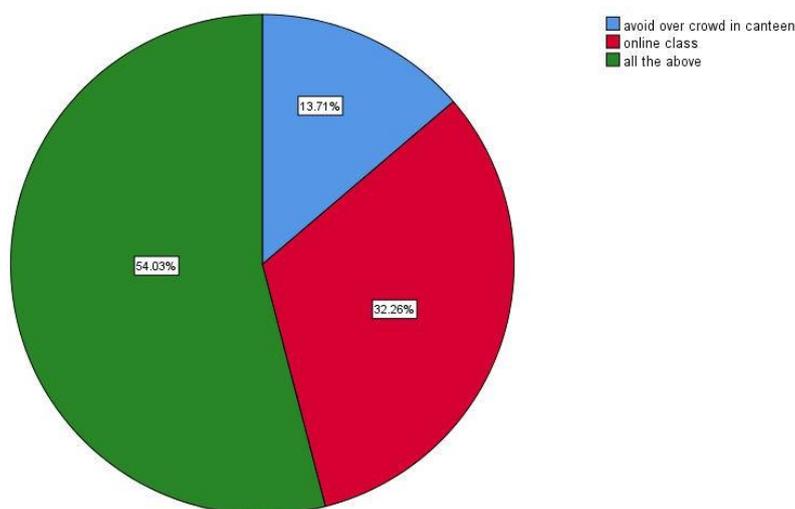


Figure 8: The pie chart showing the percentage distribution of the ways by which we can maintain social distancing. 13.7% of the respondents answered by avoiding over crowd in the canteen we can maintain social distancing (blue) and 32.2% of the respondents answered by learning through online classes we can maintain social distancing (red) and 54% of the respondents answered by following both we can maintain social distancing (green). Most of the respondents in the present study had knowledge on the ways to maintain social distancing.

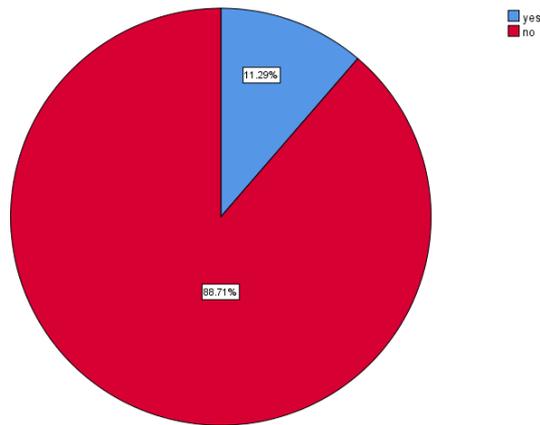


Figure 9: The pie chart showing the percentage distribution of the availability of the vaccine for covid infection. 88.7% of the respondents answered that there is a vaccine to cure covid infection (blue) and 11.2% of the respondents answered that there is no vaccine to cure covid infection (red). Most of the respondents in the present study had knowledge on the vaccine for covid infection.

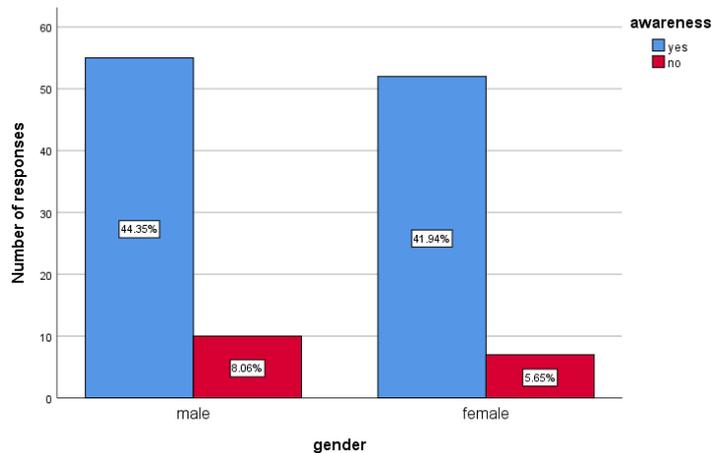


Figure 10: The bar graph showing the association of responses between gender and the awareness of epidemic outbreak among undergraduates. The X axis represents gender. The Y axis represents the percentage of responses. Yes is denoted by blue. No is denoted by red. Males are more aware of epidemic outbreak than females. Chi square test showing $p = 0.56$ ($p > 0.05$ - statistically not significant). In the present study males are more aware regarding epidemic outbreak but the results had no statistically significant difference.

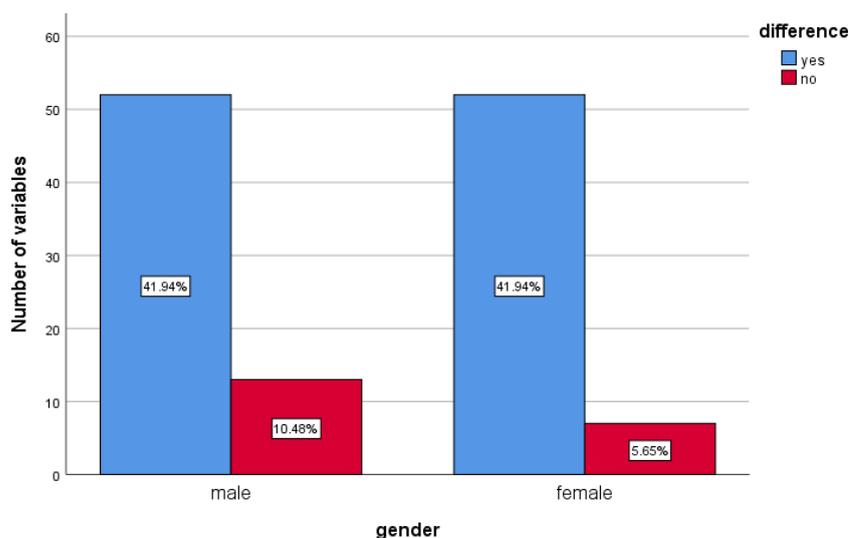


Figure 11: The bar graph showing the association of responses between gender and the knowledge of difference between pandemic and epidemic among undergraduates. The X axis represents gender. The Y axis represents the percentage of responses. Yes is denoted by blue. No is denoted by red. Males and females know the difference between pandemic and epidemic. Chi square test showing $p= 0.21(p>0.05$ - statistically not significant). Both male and female population are equally aware about the difference between pandemic and epidemic and there is not statistically significant difference between them.

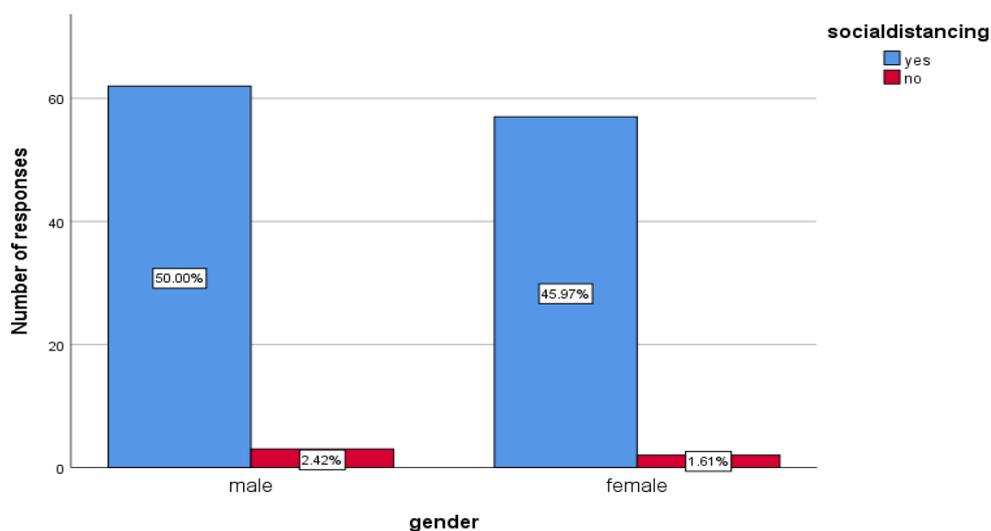


Figure 12: The bar graph showing the association of responses between gender social distancing among undergraduates. The X axis represents gender. The Y axis represents the percentage of responses. Yes is denoted by blue. No is denoted by red. Males are more aware of social distancing than women. Chi square test showing $p= 0.72 (p>0.05$ - statistically not significant). Though males are more likely to follow social distancing, the results are not statistically significant.

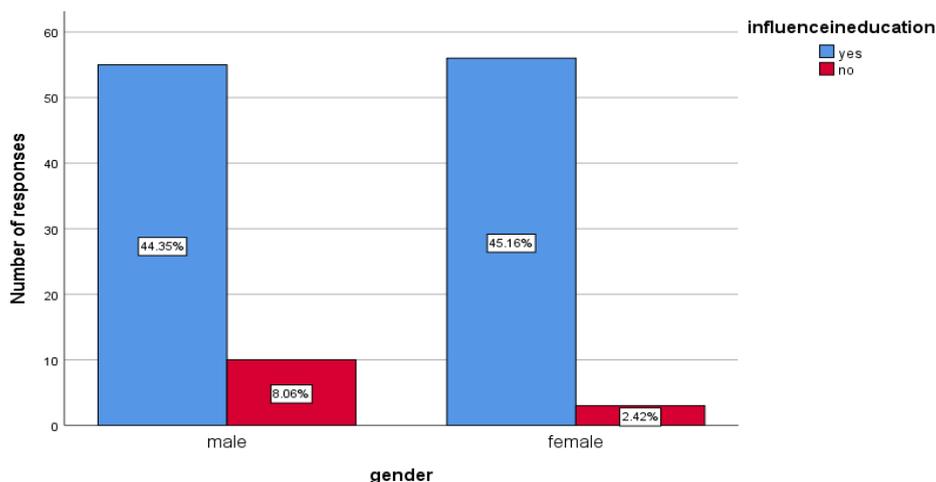


Figure 13: The bar graph showing the association of responses between gender and the knowledge of the influence of the epidemic in education. The X axis represents gender. The Y axis represents the percentage of responses. Yes is denoted by blue. No is denoted by red. Females are more knowledgeable on the influence of epidemics in education than males. Chi square test showing $p= 0.05$ ($p>0.05$ - statistically significant). The knowledge regarding the influence of epidemics on education is more among females, but the results aren't statistically significant.

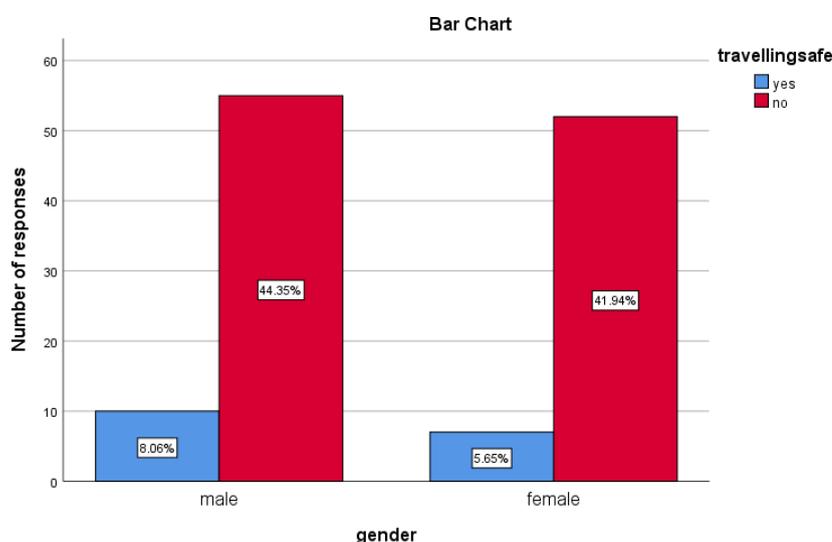


Figure 14: The bar graph showing the association between gender and awareness of travelling during epidemic. The X axis represents gender. The Y axis represents the percentage of responses. Yes is denoted by blue. No is denoted by red. Males are more aware of travelling during an epidemic. Chi square test showing $p = 0.56$ ($p>0.05$ - statistically not significant). The awareness regarding the travelling during epidemics was relatively better in males, but the results are not statistically significant.