AWARENESS ON THE PANDEMIC DISEASE BETWEEN BOTH RURAL AND URBAN POPULATION

[1]E. Dhivya sri, [2]A. Jothi Priya, [3]Hannah R, Lakshminarayanan Arivarasu[4]

[1]*Saveetha dental college and hospitals, Saveetha Institute of Medical and Technical Sciences, Saveetha University, Chennai - 600 007*

[2]*Assistant Professor, Department of physiology, Saveetha dental college and hospitals, Saveetha Institute of Medical and Technical Sciences, Saveetha University, Chennai - 600 007*

[3]*Senior Lecturer, Department of Oral and Maxillofacial pathology and Microbiology, Saveetha dental college and hospitals, Saveetha Institute of Medical and Technical Sciences, Saveetha University, Chennai - 600 007*

[4]*Assistant Professor, Department of Pharmacology, Saveetha Dental College, Saveetha Institute of Medical and Technical Sciences (SIMATS), Saveetha University, Chennai - 600 007*

[1]*edhivyasri2002@gmail.com*
[2]*jothipriya.sdc@saveetha.com*
[3]*hannahr.sdc@saveetha.com*
[4]*lakshmin.sdc@saveetha.com*

ABSTRACT

To investigate the awareness about pandemic disease between both rural and Urban populations.Self - administered questions were prepared. The questions were distributed in Google forms and hundreds of participants participated. The statistical data was analysed.Present study showed that a substantial number of participants have adequate awareness regarding an infectious respiratory illness (45% close), risk of pandemic (42.3%), available vaccines (52.3%), majority of participants (82%) would pandemics cause sudden, widespread morbidity and mortality as well as social political and economic disruption.Although there is an appropriate knowledge and awareness regarding various aspects of pandemic disease both Urban and rural population still, active interventions are required in all areas of pandemic not only to improve their knowledge and awareness regarding pandemic between both rural and Urban population adults also.

KEY WORDS: Awareness; infectious disease;Pandemic; population.

INTRODUCTION

Infectious diseases have not only become the world's leading cause of premature death, but they also threaten to cripple the society, social and economic development in third world countries (Scalera and Mossad, 2009).New epidemics of infectious disease continue to hit the deck and a pandemic disease is one of them.This is a viral disease and till date no specific treatment is available (Shah, 2017).Tamiflu is available but effectiveness is demonstrated in early diagnosed cases which is not always the case in low and middle income countries especially in India (Michaelis, Doerr and Cinatl, 2009). Coupled with this, declaration of phase 6 level pandemic by WHO presents a scenario of high mortality and morbidity rates and interrupts normal productive economic activities that will result in increasing worry in general masses (McCracken, 2009) .Furthermore, vaccine trials are going on but these still require time (Majno, 1991). Transmission of pandemic disease from an infectious source case to people with whom they share air is governed by several factors (Majno, 1991; Sinha *et al.*, 2009). These factors determine whether pandemic disease transmission will occur and establish a new infection are related to the source case, the virus, the

environment, and the people who are exposed to the source case (Goodwin *et al.*, 2009).

Contacts of the pandemic disease cases constitute a high - risk groups for acquiring pandemic disease.In addition for primary prevention sound scientific knowledge, about pandemics is the prerequisite for

suggesting preventive measures (World Health Organization, 2005).Hence in current situation prevention is the most appropriate measure to control pandemic and awareness is ranked very high in preventive measures ((Bharati and Bhattacharya, 2014; Ramamurthy and Sharma, 2014).The distribution of proper information to the public on the status of the pandemic will be important to achieve a broad awareness of the potential risk and the optimum code of behaviour during the pandemic. (Swetha, Anantha Eashwar and Gopalakrishnan, 2019)Besides this, through awareness public should be convinced that although pandemic but it is not severe (Huremović, 2019).The common clinical features are fever, common cold and cough with muscle ache ('Martin, Paul', no date; Martin and Martin-Granel, 2006). These symptoms are similar to seasonal flu but due to havoc created by H1N1 flu every case of fever with cough and cold is being considered as H1N1 flu by general public (Morse, 2007).The aim of this study is to assess the awareness of pandemic disease between both rural and urban population (R and Sethu, 2018; Worobey, Cox and Gill, 2019).

MATERIALS AND METHODS:

Self-administered standardized questionnaires were designed based on the disease spread among both rural and urban populations. The questionnaire was distributed through online google forms link, the study population included 100 participants. The study was done in chennai. The participants were explained about the purpose of the study in detail. The questions were carefully studied and the corresponding answers were marked by the participants. The data was collected and statistically analysed in SPSS. Chi-Square analysis was performed and $p<0.05$ was considered as statistically significant

RESULTS & DISCUSSION

About 50.5% are female and 47.7 % are male (figure 1).About 45% are choose the pandemic is an infectious respiratory illness caused by the influenza virus and 36.7 % are choose it is an rapid spread of a new human influenza around the world (figure 2).Is the coronavirus disease pandemic 65.8 % are say yes and 21.6 % or say no (figure 3).Could a pandemic start in europe 54.1 % are say yes and 23.4 % are say no and 22.5 % are say not sure (figure 4). Risks of pandemic 42.3 % are choose the increasing emergence of viral disease from animals, 36% are choose the estimating the pathogen to cause a severe pandemic (figure 5).Pandemics can cause sudden widespread, morbidity and more mortality as well as social, political and economic disruption 82% are say true and 18 % are say false (figure 6).Is pandemic can cause and damage to economic growth 51.4 % are say yes, 33.3 % are say no and 15.3 % are say not sure (Figure 7).Environmental and population trends that could increase the severity of pandemics 57.7 % are say yes and 24.3 % are say no (figure 8). 52.3 % of people are at risk of the pandemic occurring in the first place being reduced(figure 9). 59.5 % is everyone equally at risk in a pandemic (figure 10).Are presently available seasonal Vaccines useful in an pandemic 52.3 % say yes and 31.51 % say no (figure 11). Are any drugs available for prevention and treatment for pandemics 51.4 % say yes and 34.2 % say no (figure 12).Are you saying difference between pandemic and epidemic 50% say yes and 30% say no (figure 13).

We have seen the association between gender (X axis) and responses to awareness of coronavirus disease a pandemic (Fig 14). responses to knowledge on the outburst of pandemic diseases in Europe (Fig 15). responses to awareness of the pandemic disease causing economic disruption, morbidity and mortality (Fig 16). responses to reduction in the impact of pandemic disease (Fig 17). responses to the awareness on the availability of vaccines (Fig 18).

Very few epidemiological studies on pandemics are available because of its recent origin(Carr and Vissers, 2018; Iyer, Gayatri Devi and Jothi Priya, 2019).To the best of our knowledge, this is the first study of its kind among urban and rural population in India so we are unable to compare the results of this study with other Indian studies (Samuel and Devi, 2015; Choudhari and Jothipriya, 2016)(Samuel and Devi, 2015).Nonetheless, few comparable studies from other parts of the globe be added in the literature in recent past (Baheerati and Gayatri Devi, 2018). The present study showed that majority of the participants are adequately aware of the pandemic disease regarding causative agent, mode of spread and prevention but only half of the participants were clear of the origin of the pandemics (Fathima and Preetha, 2016). In our study, the respondents where more knowledgeable about following preventive measure as; frequently washing hands, avoid going out and in crowded places as compared to study by Hao etal (Rj and R, 2016).However, our study's findings for isolation of infected person and wearing Mask were differing from the study by Balkhy etal (Harsha *et al.*, 2015). The reasons may be that our population is highly literate and the study area has seen more deaths of pandemics.Hence population is more aware of pandemic diseases (23). The most important findings of our study were : most of the participants (82 %) are believe that hand washing will prevent pandemic disease and also majority of the participants (96%) would consult the doctors for management of pandemic disease says (Dave and Preetha, 2016; Dave, Vishnupriya and Gayathri, 2016).The pandemics & epidermic are deadly diseases compared to other diseases (Abigail *et al.*, 2019).The consequence are very large and the preventive measures to stop is very less (David *et al.*, 2019).The term epidemic existed in 430 BC.The Greek word epidermic's means constructed and demics means the "country" before taking the connotation" the people in classified greek (Swathy and Gowri Sethu, 2015).The strongest and most consistent malnutrition increase the risk of death like acute respiratory infection (Renuka and Sethu, 2015). During the risk of outbreak of natural disasters are low,particularly disaster does not result substantial population displacement(Ganapathy and Renitta, 2018). Cholera global health problems are several thousand death cases that occur each year (Timothy, Gayatri Devi and Jothi Priya, 2019).

LIMITATIONS
The numbers of articles collected are less compared to other review and article selection bias.The study is limited by cross-sectional design so temporal or cause - effect relationship cannot be established.

FUTURE SCOPE
In future I want to do a study based research to check the awareness, knowledge, attitude and practice towards the pandemic disease in between both the rural and urban population.

CONCLUSION
The goal of the present study is to create awareness on pandemics disease between both rural and urban populations. This Survey was done to know awareness about the pandemics in rural and urban populations as it can be useful for future studies when the same type of new pandemics occurs. Although there is an appropriate knowledge and awareness regarding various aspects of pandemic disease both Urban and rural population still, active interventions are required in all areas of pandemic not only to improve their knowledge and awareness regarding pandemic between both rural and Urban population adults also.

AUTHOR CONTRIBUTION
Dhivya sri.E participated in Structuring study design, data collection, Dr. Hannah.R helped in collection of reviews, drafting manuscript, Dr. jothi priya and Lakshminarayanan Arivarasu carried out revising manuscript, final approval of manuscript.

CONFLICT OF INTEREST

The author declares that there was no conflict of interest in the present study.

REFERENCES

[1]   Bharati, K. and Bhattacharya, S. K. (2014) 'Cholera Outbreaks in South-East Asia', Cholera Outbreaks, pp. 87–116. doi: 10.1007/82_2014_362.

[2]   Carr, A. C. and Vissers, M. C. M. (2018) Vitamin C and Human Health. MDPI.

[3]   Ganapathy, J. and Renitta, E. (2018) 'EVALUATION OF DIETARY SUPPLEMENTATION OF PLEUROTUS OSTREATUS AND CALOCYBE INDICA IN SWISS MALE ALBINO MICE', Asian Journal of Pharmaceutical and Clinical Research, p. 540. doi: 10.22159/ajpcr.2018.v11i10.28497.

[4]   Goodwin, R. et al. (2009) 'Initial psychological responses to Influenza A, H1N1 ("Swine flu")', BMC Infectious Diseases. doi: 10.1186/1471-2334-9-166.

[5]   Huremović, D. (2019) 'Brief History of Pandemics (Pandemics Throughout History)', Psychiatry of Pandemics, pp. 7–35. doi: 10.1007/978-3-030-15346-5_2.

[6]   Majno, G. (1991) The Healing Hand: Man and Wound in the Ancient World. Harvard University Press.

[7]   'Martin, Paul' (no date) International Year Book and Statesmen's Who's Who. doi: 10.1163/1570-6664_iyb_sim_person_36251.

[8]   Martin, P. M. V. and Martin-Granel, E. (2006) '2,500-year Evolution of the Term Epidemic', Emerging Infectious Diseases, pp. 976–980. doi: 10.3201/eid1206.051263.

[9]   McCracken, J. (2009) 'Diagnosis of swine-lineage influenza A (H1N1) virus infection', The Lancet, p. 2107. doi: 10.1016/s0140-6736(09)61141-7.

[10]   Michaelis, M., Doerr, H. W. and Cinatl, J., Jr (2009) 'An influenza A H1N1 virus revival - pandemic H1N1/09 virus', Infection, 37(5), pp. 381–389.

[11]   Morse, S. S. (2007) 'Pandemic influenza: Studying the lessons of history', Proceedings of the National Academy of Sciences, pp. 7313–7314. doi: 10.1073/pnas.0702659104.

[12]   Ramamurthy, T. and Sharma, N. C. (2014) 'Cholera Outbreaks in India', Cholera Outbreaks, pp. 49–85. doi: 10.1007/82_2014_368.

[13]   Scalera, N. M. and Mossad, S. B. (2009) 'The First Pandemic of the 21st Century: Review of the 2009 Pandemic Variant Influenza A (H1N1) Virus', Postgraduate Medicine, pp. 43–47. doi: 10.3810/pgm.2009.09.2051.

[14]   Shah, D. (2017) 'Awakening to the alcohol epidemic - need of the hour', Indian Journal of Public Health, p. 205. doi: 10.4103/ijph.ijph_226_16.

[15]   Sinha, N. K. et al. (2009) 'Evolutionary complexities of swine flu H1N1 gene sequences of 2009', Biochemical and biophysical research communications, 390(3), pp. 349–351.

[16]   Swetha, G., Anantha Eashwar, V. M. and Gopalakrishnan, S. (2019) 'Epidemics and Pandemics in India throughout History: A Review Article', Indian Journal of Public Health Research & Development, p. 1570. doi: 10.5958/0976-5506.2019.02328.3.

[17]   World Health Organization (2005) Communicable Disease Control in Emergencies: A Field Manual. World Health Organization.

[18]   Worobey, M., Cox, J. and Gill, D. (2019) 'The origins of the great pandemic', Evolution, Medicine, and Public Health, pp. 18–25. doi: 10.1093/emph/eoz001.

[19]   Abigail et al. (2019) 'Evaluation of Muscular Endurance among Dentists', Indian Journal of Public Health Research & Development, p. 258. doi: 10.5958/0976-5506.2019.02808.0.

[20] Baheerati, M. M. and Gayatri Devi, R. (2018) 'Obesity in relation to Infertility', Research Journal of Pharmacy and Technology, p. 3183. doi: 10.5958/0974-360x.2018.00585.1.

[21] Choudhari, S. and Jothipriya, M. A. (2016) 'Non-alcoholic fatty liver disease', Research Journal of Pharmacy and Technology, p. 1782. doi: 10.5958/0974-360x.2016.00360.7.

[22] Dave, P. H. and Preetha (2016) 'Pathogenesis and Novel Drug for Treatment of Asthma-A Review', Research Journal of Pharmacy and Technology, p. 1519. doi: 10.5958/0974-360x.2016.00297.3.

[23] Dave, P. H., Vishnupriya, V. and Gayathri, R. (2016) 'Herbal Remedies for Anxiety and Depression-A Review', Research Journal of Pharmacy and Technology, p. 1253. doi: 10.5958/0974-360x.2016.00237.7.

[24] David et al. (2019) 'Physical Fitness among the Dental Physician, Dental Undergraduates and Postgraduates Students', Indian Journal of Public Health Research & Development, p. 223. doi: 10.5958/0976-5506.2019.02801.8.

[25] Fathima, F. and Preetha, P. (2016) 'EVALUATION OF THYROID FUNCTION TEST IN OBESE PATIENTS', Asian Journal of Pharmaceutical and Clinical Research, p. 353. doi: 10.22159/ajpcr.2016.v9s3.12959.

[26] Harsha, L. et al. (2015) 'Systemic Approach to Management of Neonatal Jaundice and Prevention of Kernicterus', Research Journal of Pharmacy and Technology, p. 1087. doi: 10.5958/0974-360x.2015.00189.4.

[27] Iyer, P. K., Gayatri Devi, R. and Jothi Priya, A. (2019) 'A Survey Study on Causes, Treatment and Prevention of Onychocryptosis', Indian Journal of Public Health Research & Development, p. 807. doi: 10.5958/0976-5506.2019.01990.9.

[28] Renuka, S. and Sethu, G. (2015) 'Regeneration after Myocardial Infarction', Research Journal of Pharmacy and Technology, p. 738. doi: 10.5958/0974-360x.2015.00117.1.

[29] R, G. D. and Sethu, G. (2018) 'EVALUATION OF ADENOIDS BY ORONASAL AND NASAL SPIROMETRY', Asian Journal of Pharmaceutical and Clinical Research, p. 272. doi: 10.22159/ajpcr.2018.v11i10.27365.

[30] Rj, I. and R, G. D. (2016) 'Role of environmental factors on sleep patterns of different age groups', Asian Journal of Pharmaceutical and Clinical Research, p. 124. doi: 10.22159/ajpcr.2016.v9i6.13832.

[31] Samuel, A. R. and Devi, M. G. (2015) 'Geographical distribution and occurrence of Endemic Goitre', Research Journal of Pharmacy and Technology, p. 973. doi: 10.5958/0974-360x.2015.00162.6.

[32] Swathy, S. and Gowri Sethu, V. (2015) 'Acupuncture and lower back pain', Research Journal of Pharmacy and Technology, p. 991. doi: 10.5958/0974-360x.2015.00165.1.

[33] Timothy, C. N., Gayatri Devi, R. and Jothi Priya, A. (2019) 'Evaluation of Peak Expiratory Flow Rate (PEFR) in Pet Owners', Indian Journal of Public Health Research & Development, p. 803. doi: 10.5958/0976-5506.2019.01989.2.
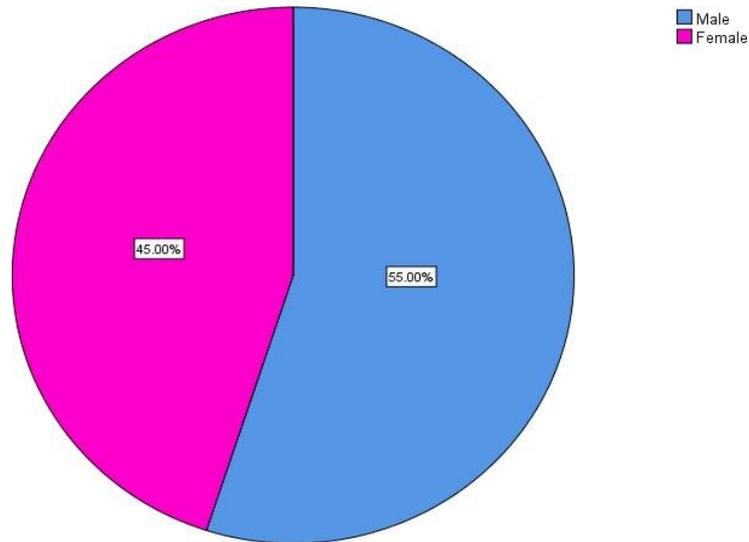
Figure-1: Pie chart showing percentage distribution of gender. Majority (55%) (blue) of the participants were male and the remaining 45% (pink) were male participants.
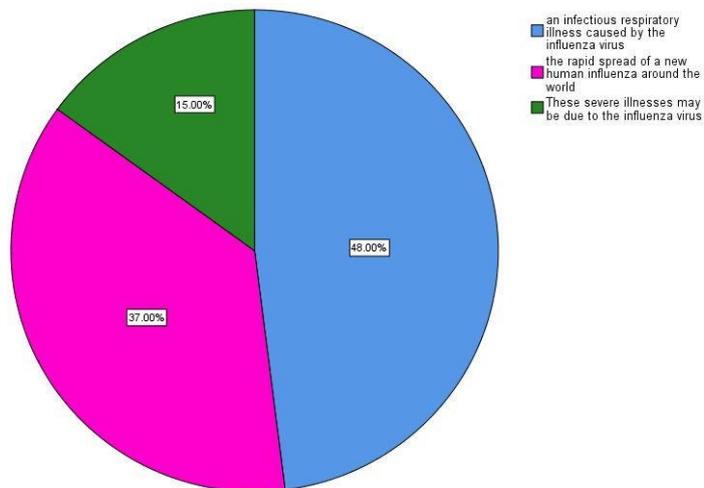
Figure-2: Pie chart showing percentage distribution of' awareness about pandemic. Majority (48%) say coronavirus is an infectious respiratory illness caused by the influenza virus, 37% (pink) say it is the rapid spread of a new human influenza around the world, 15% (green) sya these severe illnesses may be due to the influenza virus.
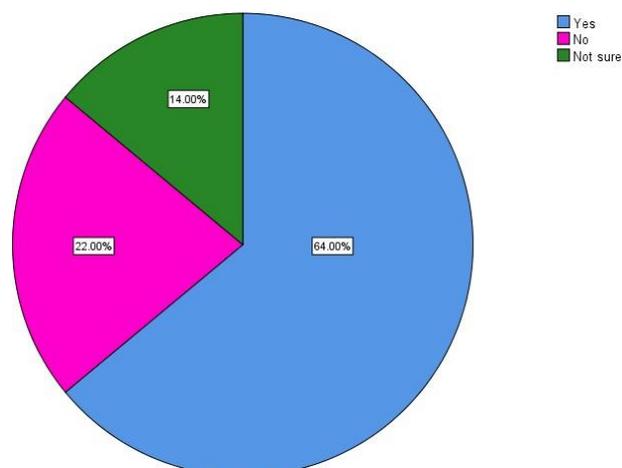
Figure-3: Pie chart showing percentage distribution about awareness of coronavirus disease a pandemic. Majority 64. % (blue) are aware about this pandemic diseases and 22 % (pink) are not aware about the pandemic and the remaining 14 % (green) are not sure about the pandemic diseases.
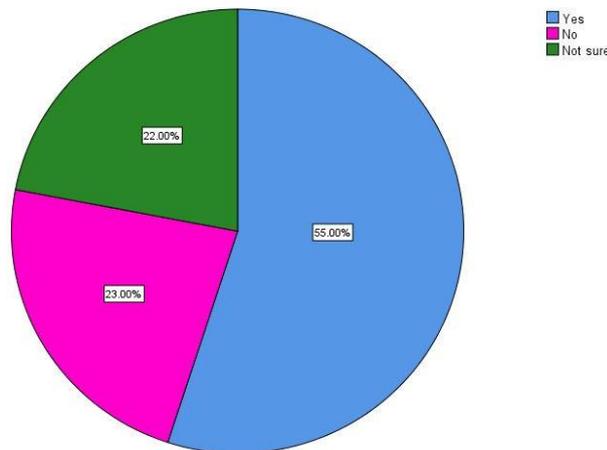
Figure-4: Pie chart showing percentage distribution on the awareness of pandemic in Europe. Majority 55% (blue) are aware about a pandemic start in europe and 23% (pink) are not aware about could a pandemic start in europe and the remaining 22% (green) are not sure about could a pandemic start in europe.
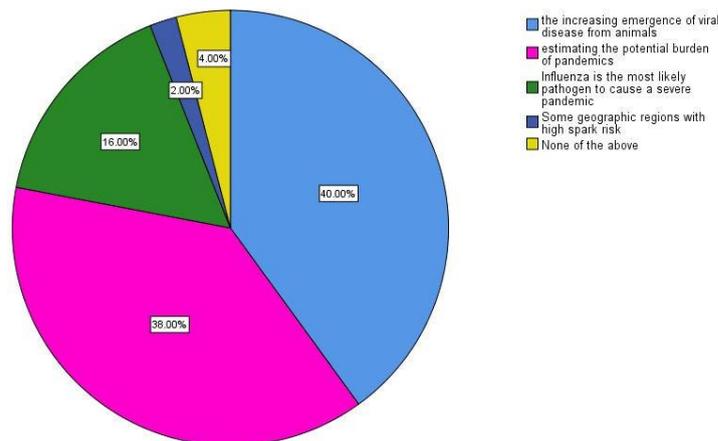
Figure-5: Pie chart showing percentage distribution of risk factors of pandemic. Majority 40 % (blue) are the increasing emergence of viral disease from animals and 38% (pink) are estimating the potential burden of pandemics and the 16% (green) are influenza is the most likely pathogen to cause a severe pandemic and the 2% (Dark blue) are some geographic regions with high spark risk and the 4% (yellow) are none of the above .
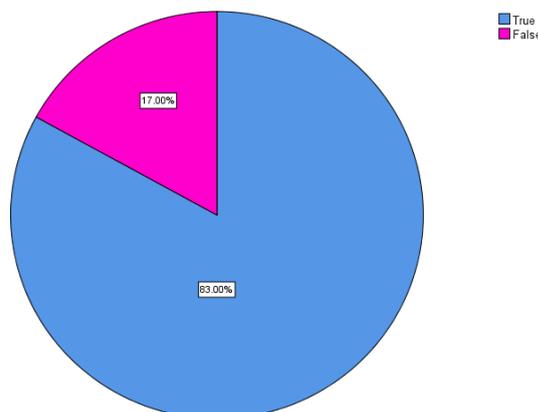
Figure-6: Pie chart showing percentage distribution of participants responses on true or false about the pandemics.Majority 83% (blue) are represented true about the pandemic and 17% (pink) are

represented false about pandemic.
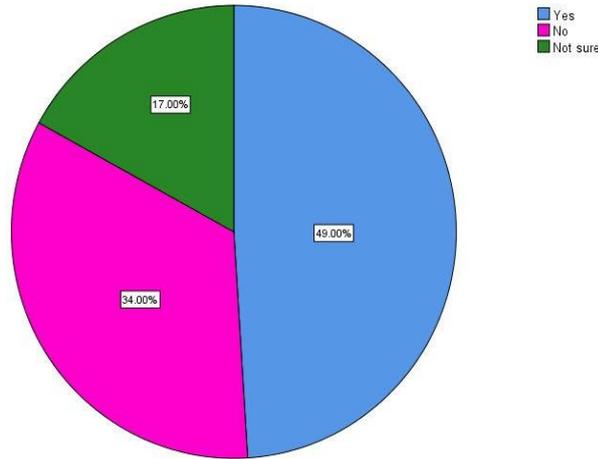
Figure-7: Pie chart showing percentage distribution of cause and damage to economic growth due to pandemics.Majority 49% (blue) are aware about the cause and damage to economic growth due to

pandemics and 34% (pink) are not aware about the cause and damage to economic growth due to pandemics and the remaining 17% (green) are not sure about the cause and damage to economic growth due to pandemics.
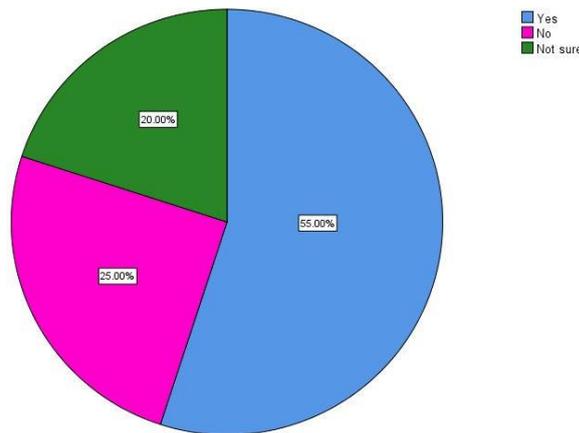
Figure-8: Pie chart showing percentage distribution of environmental and population trends increases due to the Severity of pandemics. Majority 55% (blue) are aware about the environmental and population trends increases due to the Severity of pandemics and 25% (pink) are not aware about

the environmental and population trends increases due to the Severity of pandemics and the remaining 20% (green) are not sure about the environmental and population trends increases due to the Severity of pandemics.
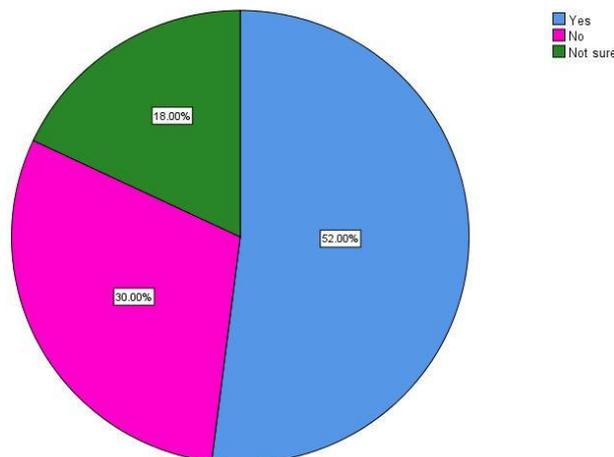
Figure-9: Pie chart showing percentage distribution of knowledge about risk of pandemic will be reduced in the first place. Majority 52% (blue) are aware about the risk of pandemic will be reduced in the first place and 30% (pink) are not aware about the risk of pandemic will be reduced in the first place and the remaining 18% (green) are not sure about the risk of pandemic will be reduced in the first place.
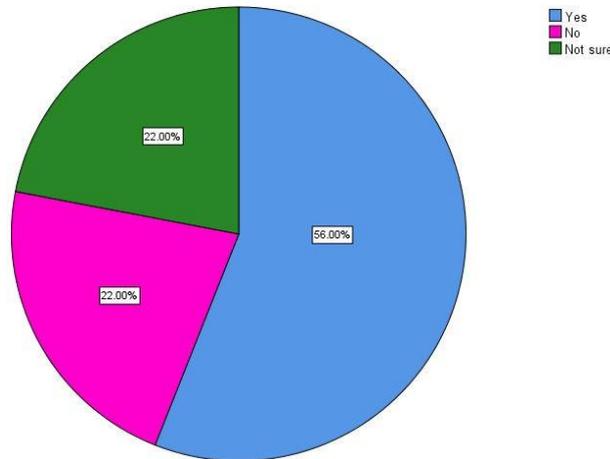
Figure-10: Pie chart showing percentage distribution of participants' responses about equal risk in a pandemic. Majority 56% said yes (blue), 22% said no (pink), 22% are not sure (green).
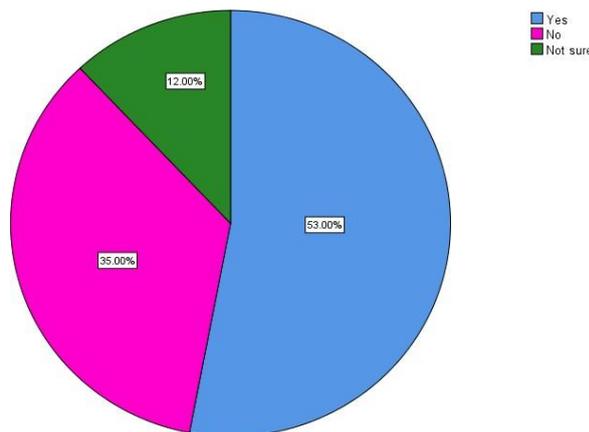
Figure-11: Pie chart showing percentage distribution of knowledge about the presently available seasonal vaccines useful in pandemic. Majority 53% - yes (blue), 35% - no (pink), 12% - not sure (green).
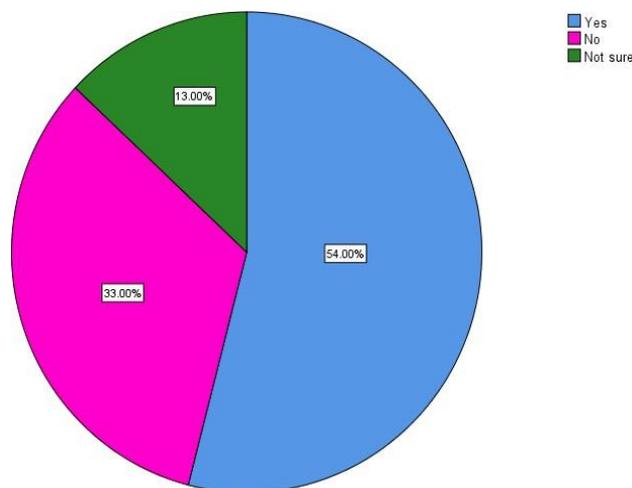
Figure-12: Pie chart showing percentage distribution of awareness about the drugs available for prevention and treatment for pandemics. Majority (54%) of the participants says yes (blue), 33% said no (pink), and the remaining 13% are not sure (green).
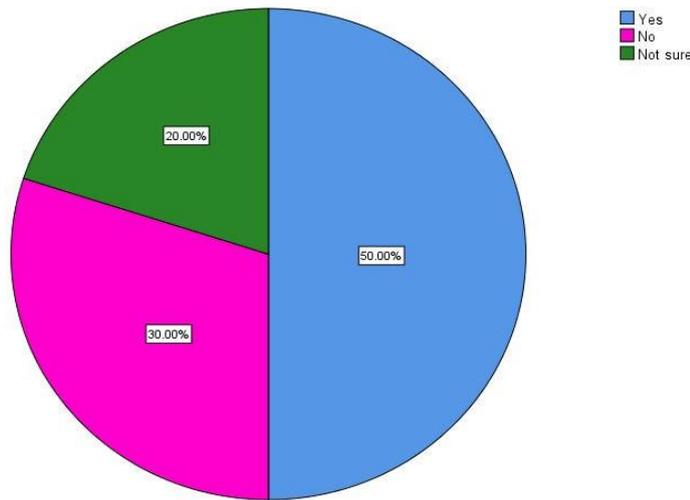
Figure-13: Pie chart showing percentage distribution about responses on difference between pandemic and epidemic. Majority (50%) says yes (blue), 30% says no (pink),and remaining 20% not sure (green).
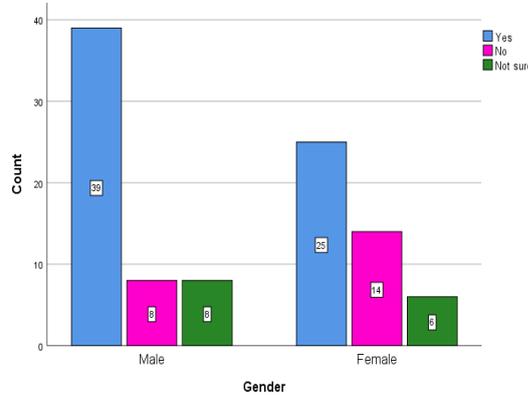
Figure 14: Bar graph representing association between the gender and awareness of coronavirus disease a pandemic. The X axis denotes gender and the Y axis denotes the number of participants of which blue indicates yes and pink indicates no. Majority of the male participants agreed that (39%) they had good knowledge and awareness of coronavirus. However the difference is not statistically significant, (Pearson Chi-square value = 4.025, P value= 0.134 (p> 0.05 statistically not significant).
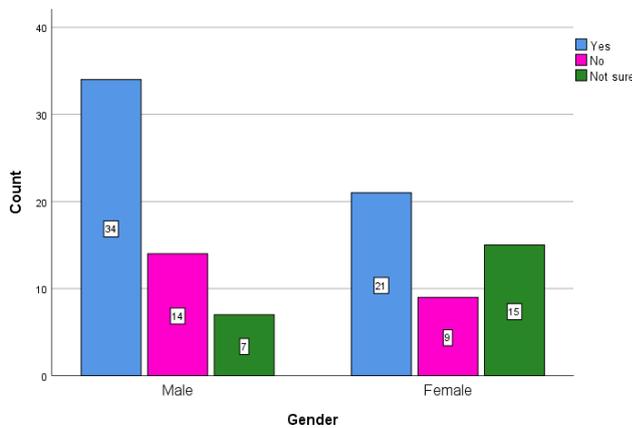
Figure -15: Bar graph representing association between the gender and knowledge on the outburst of pandemic diseases in Europe. The X axis denotes gender and the Y axis denotes the number of responses. 34% of male and 21 % of female gave an affirmative response on awareness and knowledge about outburst of pandemic diseases in Europe. Blue colour denotes yes, pink denotes no and green denotes not sure. Majority of the male participants agreed that (34%) they had good knowledge and awareness on

the outburst of pandemic diseases in Europe. Pearson Chi-square value = 6.130, P value = 0.047 (p <0.05 statistically significant).
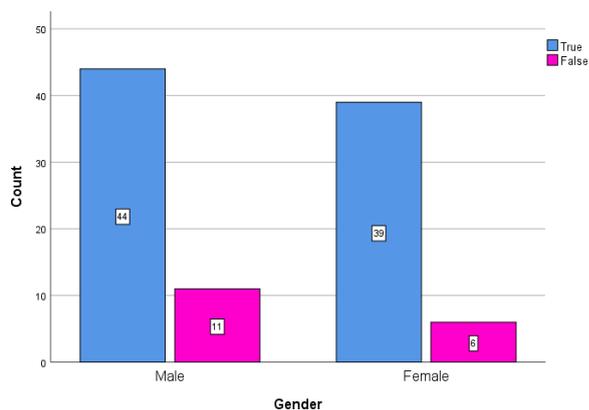
Figure -16: Bar graph representing association between the gender and the responses on awareness of the pandemic disease causing economic disruption, morbidity and mortality . The X axis denotes gender and the Y axis denotes the number of responses. 44 % of male and 39 % of females are aware about the consequences caused due to pandemic diseases. Blue colour denotes true and pink denotes False. Majority of the male participants agreed that (44%) they had good knowledge and awareness of the pandemic disease causing economic disruption, morbidity and mortality. Pearson Chi-square value = 0.780, P value = 0.377 (p> 0.05 statistically not significant).
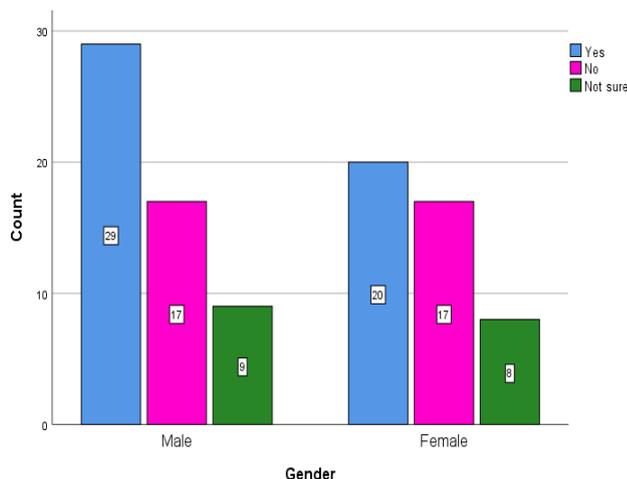
Figure 17: Bar graph represents association between the gender and responses on reduction in the impact of pandemic disease.The X axis denotes gender and the Y axis denotes the number of responses. 29 % of male and 20 % of females reported yes. Blue colour denotes yes, pink denotes no and green denotes not sure. Majority of the male participants agreed that (29%) they had good knowledge and awareness on reduction in the impact of pandemic disease. Pearson Chi-square value = 0.537, P value = 0.765 (p> 0.05 statistically not significant).
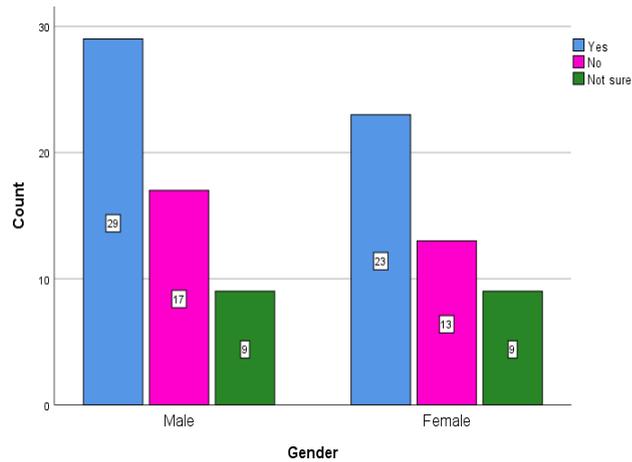
Figure -18: Bar graph represents association between the gender and the awareness on the availability of vaccines. The X axis denotes gender and the Y axis denotes the number of responses. 29 % of male and 23 % of females reported yes. Blue colour denotes yes, pink colour denotes no and green colour denotes not sure. Majority of the male participants agreed that (29%) they had good knowledge and awareness on the availability of vaccines. Pearson Chi-square value = 1.063, P value = 0.588 (p> 0.05 statistically not significant).