
Awareness About Viral Infections and Its Prevention Among Public After Covid-19 Pandemic

L.SAI CHARAN¹, R.V. GEETHA^{2*}, V. VISHNU PRIYA³

¹Saveetha Dental College & Hospitals, Saveetha Institute of Medical and Technical Sciences, Saveetha University, Chennai - 600 077.

²Department of Microbiology, Saveetha Dental College & Hospitals, Saveetha Institute of Medical and Technical Sciences, Saveetha University, Chennai - 600 077.

³Department of Biochemistry, Saveetha Dental College & Hospitals, Saveetha Institute of Medical and Technical Sciences, Saveetha University, Chennai - 600 077.

*Corresponding Author

Email: geetha@saveetha.com

Abstract: Information on awareness of public towards viral infections, it's coverage in general public, prevention of viral infection is like Covid-19 is the major challenge for every country and it formed the basis of healthcare forces. Therefore, it is important to assess the attitude and awareness towards viral infections after Covid-19 pandemic, for the further health policies implementation as well as taking safety measures and following the guidelines. The study objective was to assess the awareness about viral infections and its prevention among the public after Covid-19 pandemic, from the various places of the country. Study was carried out by using multiple-choice structured questionnaires among 119 attendees. The questionnaire was prepared in such a way as to assess the knowledge of the public towards the infection, transmission, screening and prevention of viral infections. The data was collected and it analyses statistically. Although most of the attendants were aware of the existence of COVID-19 and the many other viral infections, the level of awareness regarding prevention, transmission and following the safety guidelines was found to be dissatisfactory. Direct correlation was found between educational level and awareness, which reversed the fact that the attendants with better knowledge and information had better attitudes towards the infection and prevention of COVID-19. Within the limitations of the study, the moderate level of awareness about viral infections and prevention after COVID-19 pandemic is observed

Keywords: viral infections; awareness; COVID-19; prevention.

INTRODUCTION

India braces for COVID-19 pandemic, (Ashwin and Muralidharan, 2015) healthcare workers on the frontline are particularly vulnerable to this infection (Selvakumar and Np, 2017; Girija *et al.*, 2019). The virus that causes COVID-19 was initially called as 2019-nCoV and was then termed as syndrome Coronavirus 2 (SARS-CoV-2) by the international committee of taxonomy of viruses (ICTV) (Marickar, Geetha and Neelakantan, 2014). It is a new strain discovered in 2019 which was not found previously in humans (Shahana and Muralidharan, 2016). Previously, the severe acute respiratory syndrome Coronavirus (SARS-CoV) and the Middle East respiratory syndrome Coronavirus (MERS-CoV) have been known to affect humans (Marickar, Geetha and Neelakantan, 2014). Outbreaks of respiratory diseases caused by this virus seem to have originated in animal before moving into other hosts like humans (Marickar, Geetha and Neelakantan, 2014; Pratha, Ashwatha Pratha and Geetha, 2017). MERS-CoV -was found to be transmitted from Arabian camel to humans (Vaishali and Geetha, 2018), whereas SARS CoV1 seem to have originated from bats and first reports of cases were in Wuhan, Hubei province in China, suggesting an animal to person spread from my live animal market (Maajida Aafreen M, Geetha RV and Lakshmi Thangavelu, 2019). The virus spread outside Hubei and subsequently, to the rest of the world via human transmission (Girija *et al.*, 2019). Several countries have reported community spread. The world health organisation declared coronavirus disease as a pandemic on March 11, 2020 (Girija As and Priyadharsini J, 2019)

With this mode of transmission, health care workers are among the highest risk of being infected (Smiline, Vijayashree and Paramasivam, 2018). The highly contagious SARS-CoV-2 Virus is an additional hazard for the healthcare system apart from the burden of extended work hours, physical and psychological stress burnout and fatigue (Paramasivam, Vijayashree Priyadharsini and Raghunandhakumar, 2020). The objective of this study is to assess the awareness of COVID-19 disease and it related infection control practices among healthcare professionals in the Indian healthcare scenario. This was a questionnaire-based survey adapted from the current

interim guidelines as an information for healthcare professionals provided by Center for disease control and prevention (CDC) and WHO. Our team has rich experience in research and we have collaborated with numerous authors over various topics in the past decade (Deogade, Gupta and Ariga, 2018; Ezhilarasan, 2018; Ezhilarasan, Sokal and Najimi, 2018; Jeevanandan and Govindaraju, 2018; J *et al.*, 2018; Menon *et al.*, 2018; Prabakar *et al.*, 2018; Rajeshkumar *et al.*, 2018, 2019; Vishnu Prasad *et al.*, 2018; Wahab *et al.*, 2018; Dua *et al.*, 2019; Duraisamy *et al.*, 2019; Ezhilarasan, Apoorva and Ashok Vardhan, 2019; Gheena and Ezhilarasan, 2019; Malli Sureshbabu *et al.*, 2019; Mehta *et al.*, 2019; Panchal, Jeevanandan and Subramanian, 2019; Rajendran *et al.*, 2019; Ramakrishnan, Dhanalakshmi and Subramanian, 2019; Sharma *et al.*, 2019; Varghese, Ramesh and Veeraiyan, 2019; Gomathi *et al.*, 2020; Samuel, Acharya and Rao, 2020)

METHODOLOGY

The present study was a survey, conducted online through docs.google.com. The study protocol was approved by Saveetha Dental college review board, Chennai.

The study was conducted among students and other public, from various places of India, email addresses of respondents were collected, for study purpose. A list of 150 emails were collected and the questionnaire was sent to. A self designed, close ended questionnaire consisting 10 questions was prepared. It was prepared in such a way that we can know the attitude, knowledge, awareness and perception about viral infections and its prevention after COVID-19 pandemic. The questionnaire was uploaded in the Google docs. The web link sent to 150 members in total, out of which 109 have responded. The responses were collected and tabulated. In MS Excel sheet. Then the data was subjected to statistical significance level [$p < 0.05$] using SPSS – 16, statistical test done are chi-square test. Here independent variables are, age, gender and lifestyle, and dependent variables considered as, awareness, knowledge and perception, and the type of analysis done was correlation and Association of the chi-square

RESULTS AND DISCUSSION

Out of 150 students approached, 109 has responded and the responses are statistically analysed using SPSS software. Out of 109 respondents, 88.2% thinks that viral infections can get transmit to other people from the infected person very easily (Fig-1), when compared to the study done by MM Deniston in the year 2012, in our study more percentage of people think that viral infection can get transferred to others from an infected person very easily to others. 56.5% think that, viral infections transmitted by injecting illegal drugs even if it is only few times (Fig-2) which is unsatisfactory, viral infections can get transmitted to one another very easily and people should be aware of that. 78.1% think, they can get infected by COVID-19 by working with someone who is already infected by COVID-19 (Fig-3), which is true. People can avoid getting infected by following all the preventive measures. 64.2% think that, why are infections can get transmitted through shake hands (Fig-4), which is true, During the time of pandemic we should avoid practices like shake hands because there's a chance of transmission of viral infections through it. 62.6% of respondents think that the person infected by COVID-19 might look and feel fine (Fig-5), which is true, in a recent study done by KS Yuen, 25% of the people who are infected with COVID-19 look and feel fine. 69.2% respondents think that, people who don't have any travel history can also get infected by COVID-19 (Fig-7), which is true, the infections can get transmitted through many sources, not only by travelling, 75.7% of respondents think that social gatherings can speed up the spread of viral infections and pandemics (Fig-6), which is true, social gatherings have many chances to spread of viral infections, in the time of pandemics, people must avoid the social gatherings. 72% of respondents think that using sanitiser and maintaining self hygiene helps in controlling the virus (Fig-8), which is true, maintaining self hygiene is very important to prevent viral infections, usage of hand sanitiser kills virus on hands. When compared to the study done by George et al in 2014, The awareness about using hand sanitizers and maintaining self hygiene is more in our study. 81.7% people think that viruses can be transmitted from person to person very easily by currency notes (Fig-9), which is very true, confederation of all India traders (CAIT) stated that currency notes are most vulnerable to health of people and are easy carriers of communicable diseases. 75.2% of the respondents think that viral born infections like COVID-19 can transmit through aerosols (Fig-10), which is true, WHO stated that, In the context of COVID-19, airborne transmission may be possible in specific circumstances and settings in which procedures or support treatments that generate aerosols are performed

The initial outbreak of coronavirus is in China in December 2019 the COVID-19 disease has had a cascading effect worldwide (Vijayashree Priyadharsini, Smiline Girija and Paramasivam, 2018a; Inserm and INSERM, 2020). According to the ICMR update on March 23, 2020 more than 400 individuals have been tested COVID-19 positive in India (Priyadharsini *et al.*, 2018). The identification and isolation of a suspected case is the most important step in curbing the spread of COVID-19. However, in our study, less than half of the respondents were aware of defining a close contact according to USCDC A close contact is defined as being within approximately 6 feet (2 meters) for a prolonged period of time for having direct contact with infectious a creation of a COVID-19 case (Sohaib Shahzan, Smiline Girija and Vijayashree Priyadharsini, 2019). Similarly various other key definitions have been provided (Team *et al.*, 2020) in the interim US guidance for risk assessment and public

health management of healthcare personal with potential exposure in the healthcare setting to patients with coronavirus disease ('COVID-19 Special Issue', no date)Published by CDC(Openshaw and Travassos, 2020).Awareness was lower among all subgroups with lowest being done on clinical staff. Having patient contact at some point in healthcare settings and therefore risk contracting the spreading the infection.

However following of all the safety guidelines given by WHO, like use of personal protection equipment(PPE) kits(Park *et al.*, 2020), (using N 95 masks, fumigating the places, maintaining the social distance and following the all safety measures can control the spread of virus(Sutton, 2020)(Girija, Jayaseelan and Arumugam, 2018)

Our institution is passionate about high quality evidence based research and has excelled in various fields ((Pc, Marimuthu and Devadoss, 2018; Ramesh *et al.*, 2018; Vijayashree Priyadharsini, Smiline Girija and Paramasivam, 2018b; Ezhilarasan, Apoorva and Ashok Vardhan, 2019; Ramadurai *et al.*, 2019; Sridharan *et al.*, 2019; Vijayashree Priyadharsini, 2019; Chandrasekar *et al.*, 2020; Mathew *et al.*, 2020; R *et al.*, 2020; Samuel,

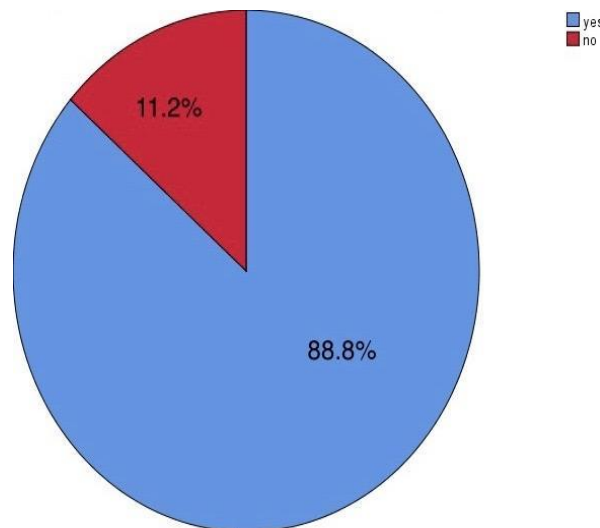


Fig:1 represents the perception of people about the transmission of the virus, 88.8% of people are aware and 11.2% are unaware. Aware (blue), unaware (red)

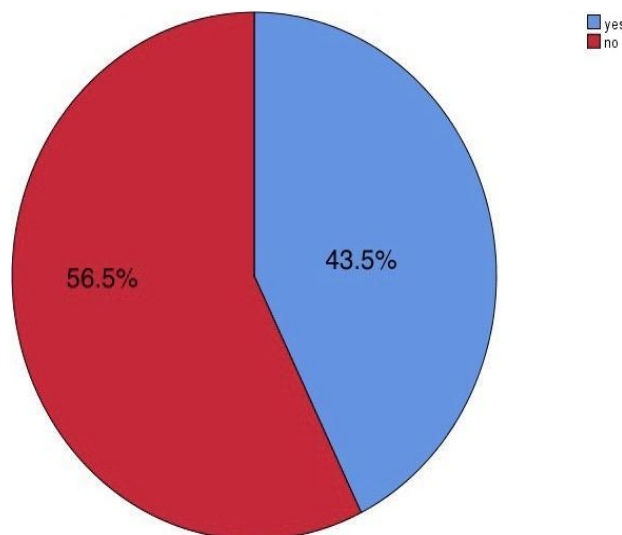


Fig:2 represents the knowledge of modes of transmission of viral infections by sharing injections by drug addicts, 43.5% of respondents are aware of this and the rest 56.5% are not aware. Aware (blue), unaware (red)

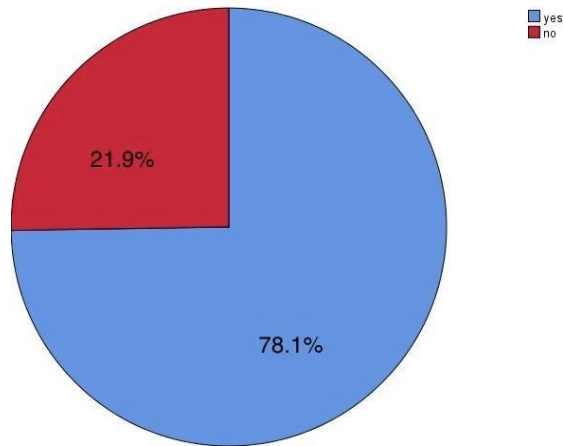


Fig:3 represents the attitude of the public about transmission of virus in workplaces. 78.1% are aware and 21.9% of the respondents are unaware.Aware (blue), unaware (red)

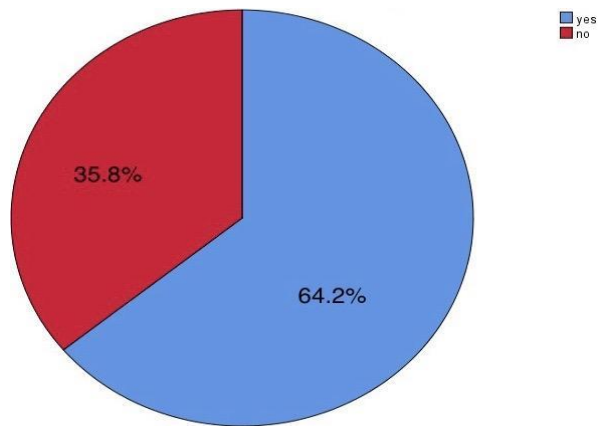


Fig:4 represents the modes of transmission of virus by practices like shake hands. 64.2% of the participants are aware.Aware (blue), unaware (red)

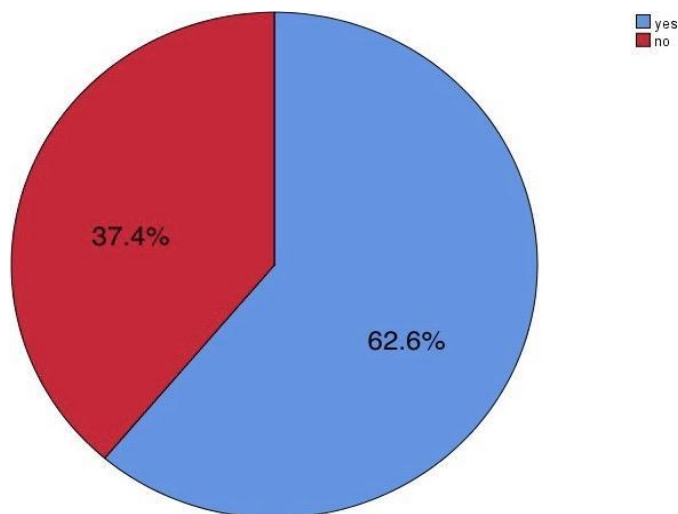


Fig:5 represents the knowledge about the symptoms of covid19, 62.6% of the participants are aware.Aware (blue), unaware (red)

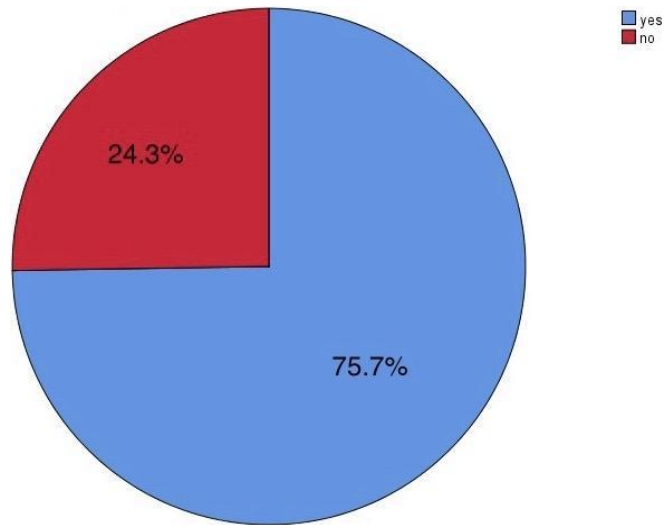


Fig:6 represents about the transmission of virus by social gatherings, 75.7% of the respondents are aware.Aware (blue), unaware (red)

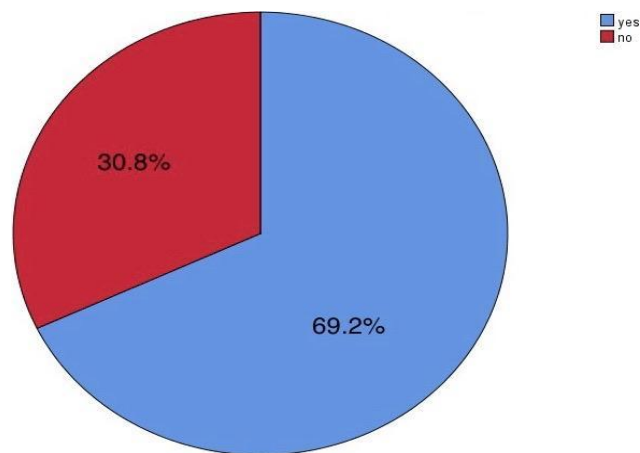


Fig:7 represents the response to travel history related to transmission of virus,69.2% of the respondents were aware.Aware (blue), unaware (red)

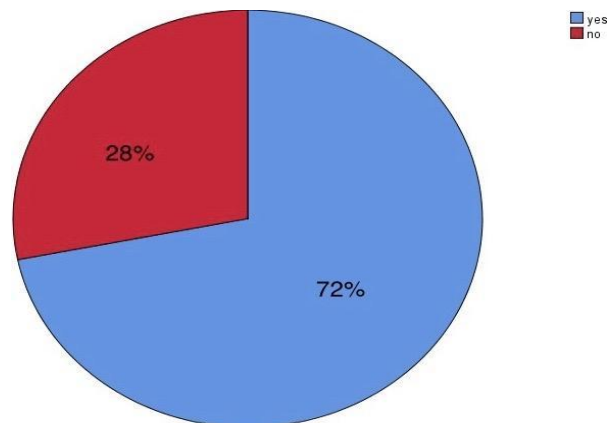


Fig 8: represents knowledge about the preventive measures to be followed, 72% of the participants were aware.Aware (blue), unaware (red)

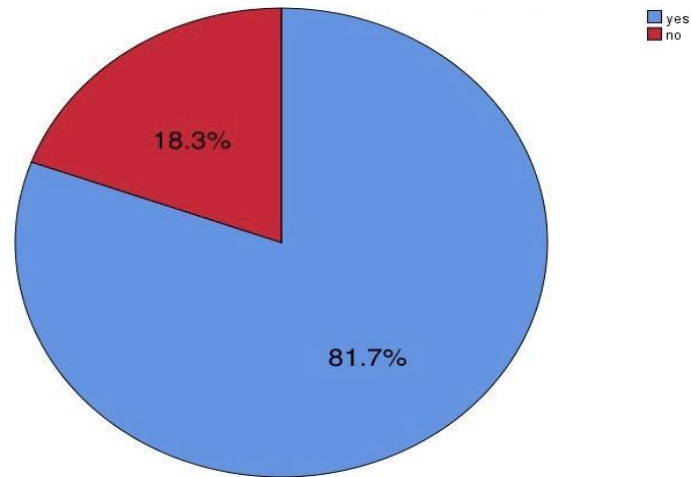


Fig 9: represents the knowledge about the transmission of virus through currency notes, 81.7% of the participants are aware. Aware (blue), unaware (red)

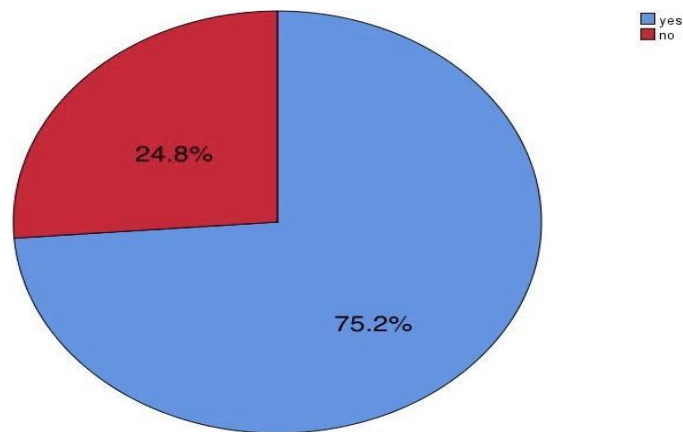


Fig 10: represents transmission of virus through aerosols, 75.2% of the participants are aware. Aware (blue), unaware (red)

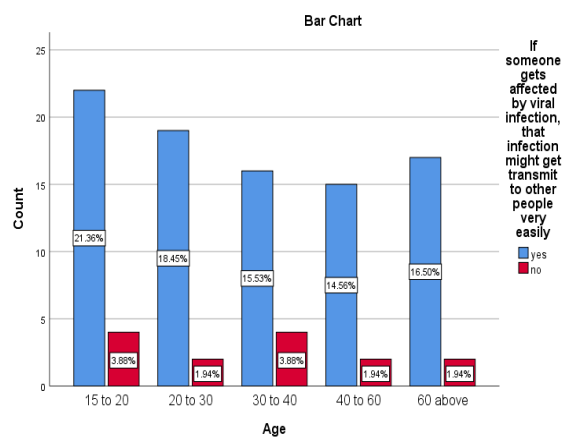


Fig:11 Bar chart representing association between age (X axis) and respondents to knowledge about transmission of viral infections(Y axis) .21.36% of 15-20 age group chose the option yes(blue color), 18.45% of 20 to 30 age group chose the option yes,15.53% of 30-40 age group chose the option yes, 14.56% of 40 to 60 age group chose the option yes, 16.5% of above 60 age group chose the option yes.Option yes (blue colour), Option no(red colour). [Chi square test was done (p)= 0.867 statistically not significant.

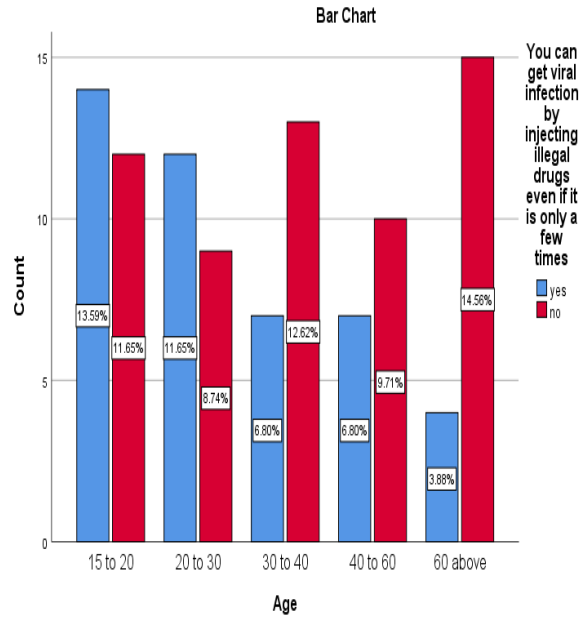


Fig:12 Bar chart representing association between age (X axis) and the percentage of knowledge about transmission of viral infections by injecting illegal drugs(Y axis) .13.59% of 15-20 age group chose the option yes(blue colour),11.65% of 20 to 30 age group chose the option yes,6.80% of 30-40 age group chose the option yes,6.80% of 40 to 60 age group chose the option yes,3.88% of above 60 age group chose the option yes,Option yes (blue colour), Option no(red colour). [Chi square test was done (p)= 0.123 statistically not significant.

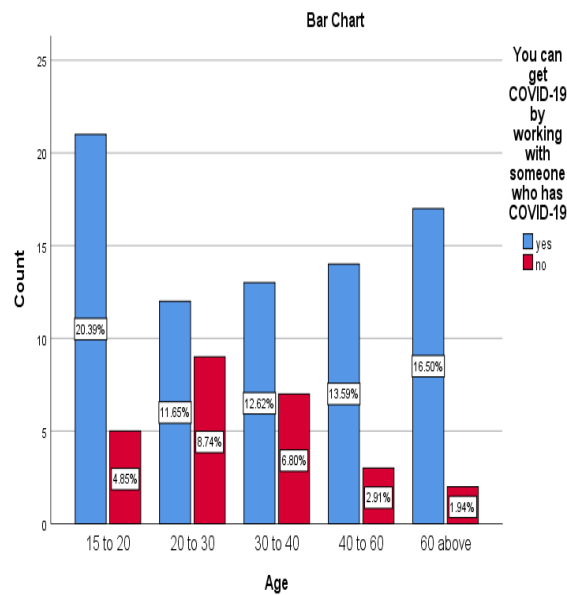


Fig:13 Bar chart representing association between age (X axis) and respondents to knowledge about transmission of covid19 in workplaces(Y axis) .20.39% of 15-20 age group chose the option yes(blue color), 11.65% of 20 to 30 age group chose the option yes,12.62% of 30-40 age group chose the option yes, 13.59% of 40 to 60 age group chose the option yes, 16.5% of above 60 age group chose the option yes.Option yes (blue colour), Option no(red colour). [Chi square test was done (p)= 0.105 not significant

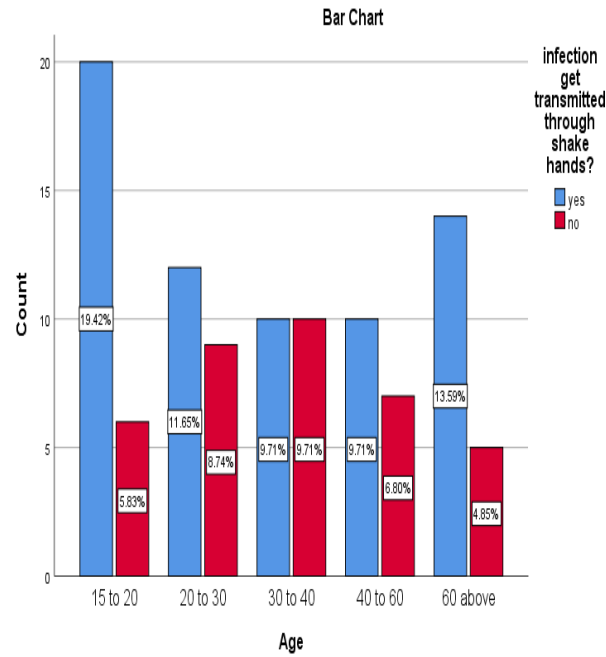


Fig:14 Bar chart representing association between age (X axis) and respondents to knowledge about transmission of virus by practices like shake hands(Y axis) .19.42% of 15-20 age group chose the option yes, 11.65% of 20 to 30 age group chose the option yes,9.71% of 30-40 age group chose the option yes, 9.71% of 40 to 60 age group chose the option yes, 13.59% of above 60 age group chose the option yes.Option yes (blue colour), Option no(red colour). [Chi square test was done (p)=0.288 not significant

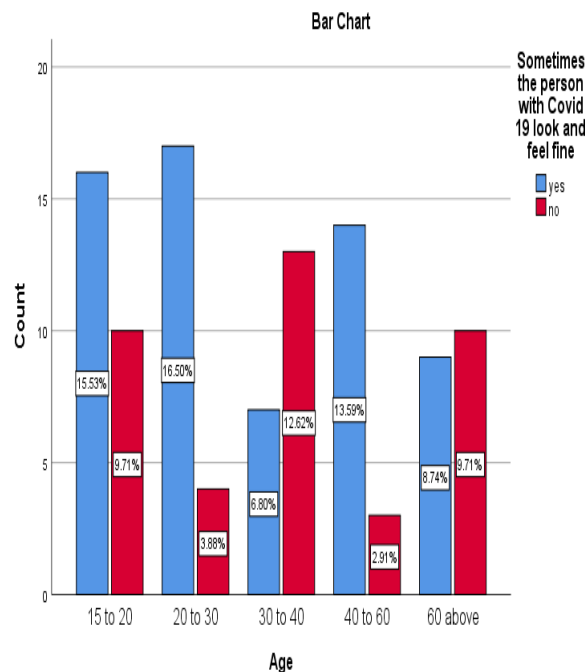


Fig 15: Bar chart representing association between age (X axis) and respondents to knowledge about symptoms of covid19(Y axis) .15.3% of 15-20 age group chose the option yes(blue color), 16.50% of 20 to 30 age group chose the option yes,6.80% of 30-40 age group chose the option yes, 13.59% of 40 to 60 age group chose the option yes, 8.74% of above 60 age group chose the option yes.Option yes (blue colour), Option no(red colour).[Chi square test was done, (p)= 0.404 statistically not significant

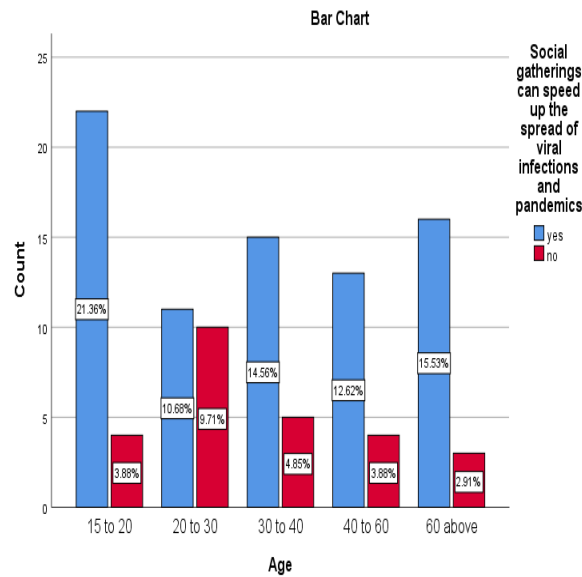


Fig:16 Bar chart representing association between age (X axis) and respondents to knowledge about symptoms of covid19(Y axis) .21.36% of 15-20 age group chose the option yes(blue color), 10.68% of 20 to 30 age group chose the option yes,14.56% of 30-40 age group chose the option yes, 12.62% of 40 to 60 age group chose the option yes, 15.53% of above 60 age group chose the option yes.Option yes (blue colour), Option no(red colour).[Chi square test was done, (p)=0.589 statistically not significant

CONCLUSION

Within the limitations of the study, above moderate level of awareness about viral infections and its prevention after COVID-19 pandemic is observed. But still, as some answers are unsatisfactory, there is a need for increasing more awareness of the public about viral infections.

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