



COVID-19 AWARENESS AMONG DIFFERENT AGE GROUPS OF THE GENERAL POPULATION OF KERALA, INDIA – A CROSS SECTIONAL STUDY

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ABSTRACT **BACKGROUND:** The WHO declared the Coronavirus outbreak 2019-20 as a public health emergency of international concern. It is essential that the community be aware of the disease condition COVID-19, and the preventive measures that need to be followed. This study analyses the level of awareness among different age groups of the general public in Kerala and helps identify lacunae, and the age groups which need to be given special emphasis.

METHODS: A cross-sectional questionnaire-based study was conducted and the questionnaire was distributed via social media platforms among four age groups, age 13-17, 18-29, 30-59, 60 years and above of the general population in Kerala. Since there were no similar studies conducted earlier in literature, a pilot study was conducted with 20 individuals, followed by main study, taking 70 individuals from each of the age groups. A total of 280 individuals were recruited. The mean score of the different age groups were compared using One-way ANOVA.

RESULTS: Maximum awareness was seen in the 30-59 years age group (mean score 19.97 out of total score of 25) while people with least awareness regarding the pandemic was in the 13-17 years age group (mean score 18.30 out of total score of 25).

CONCLUSION: It was observed that newspapers, news channels are reliable sources of information.

It was also noticed that the 13-17 year age group (least aware) relied more on social media as a source of information. Hence it is important that comprehensive and accurate information be disseminated through these platforms.

KEYWORDS : COVID-19, awareness, general population, age-based difference in knowledge

INTRODUCTION

With the availability of antimicrobials and vaccines most of the infectious scourges that mankind faced over the past centuries have been brought under control (e.g. small pox, measles, polio, diphtheria, pertussis etc.), to be replaced by emerging epidemics like the Ebola, Severe Acute Respiratory Syndrome (SARS), Middle Eastern Respiratory Syndrome (MERS) and now the COVID-19 pandemic.

Coronavirus Disease (COVID-19) was first identified in December 2019 in Wuhan, China.¹ In India, the number of cases reported is 46,06,149, with 35,86,216 recoveries and 76,744 deaths as of September 11th, 2020. India now stands second to the United States in the number of active Coronavirus disease cases, as of September 11th, 2020.² The small south Indian state of Kerala with high density of population had a total number of 99,266 cases with 26,229 cases being active as on September 11, 2020.³ People who recovered from this disease were 72,574 and deaths 396 as on September 11, 2020.³ The mortality and morbidity caused by COVID-19 pandemic is unlike any other before. For control of spread it is mandatory that the lay public be aware about the disease and the preventive measures required. The WHO declared the Corona virus outbreak as a public health emergency of international concern on 30 January, 2020 and a pandemic on 11 March, 2020.⁴ The pandemic can be controlled only if people are aware of the mode of spread and preventive measures to be adopted for the same. This study attempts to analyse levels of awareness among different age groups of the general public of Kerala and identify the areas where people lack awareness. It also aims to identify age groups which needs more sensitization regarding the pandemic.

METHODS

A cross-sectional questionnaire-based study was conducted among the general population of Kerala. The study population was divided into four age groups (in years), i.e., 13-17, 18-29, 30-59, 60 years and above. Online questionnaires were distributed via social media platforms (WhatsApp, Email) and phone calls to reach stratified age

groups of people residing in Kerala. Informed consent was taken prior to the study. Confidentiality of their response and the purpose of conducting the study were informed. Since a literature search revealed no studies on the line of ours, a pilot study was conducted with 5 individuals in each age group with a total sample size of 20 individuals. Based on the results of mean and standard deviation observed in the pilot study the minimum sample size came to 55, 12, 13, 34, 42 and 66 respectively in the different age groups mentioned earlier. We included 70 subjects in each age group with a total of 280 respondents. The difference in the mean among the different age groups was compared using One-way ANOVA (quantitative variable). The qualitative data was analysed with frequencies and descriptive statistics. The confidence interval was 95% and statistical significance 5%. Data was analysed using SPSS software version 20.

RESULTS

Out of the 346 questionnaires sent, 293 responses were obtained and 13 responses were excluded due to incomplete response. Response rate was 84.6%. (The questionnaires were sent individually to the participants and the respondents were specifically asked not to share the questionnaire further). The responses of the total 280 participants were analysed. The demographic factors and other related information obtained from the study participants among different age groups were analysed.

Figure I – Gender Distribution

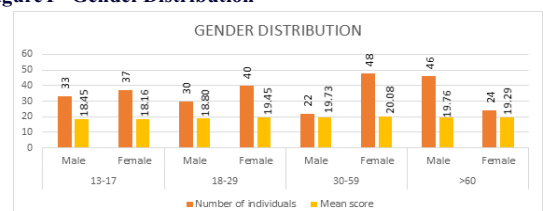


Figure II – Socio-Economic Status

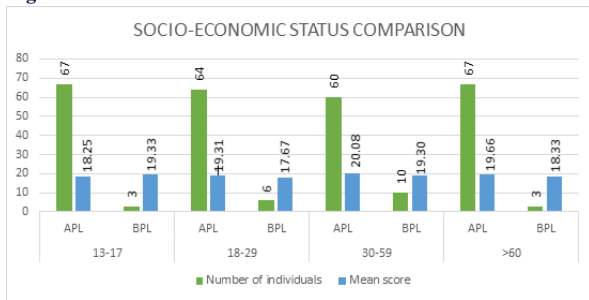


Figure III – Educational Qualification Comparison

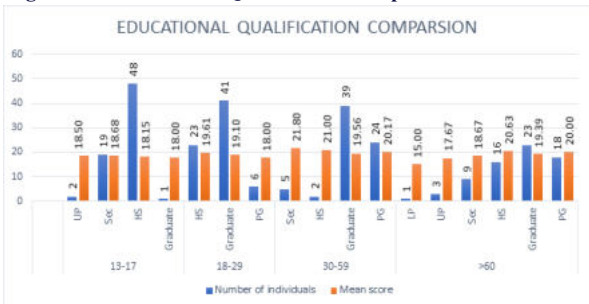


Figure IV– Source Of Information Comparison

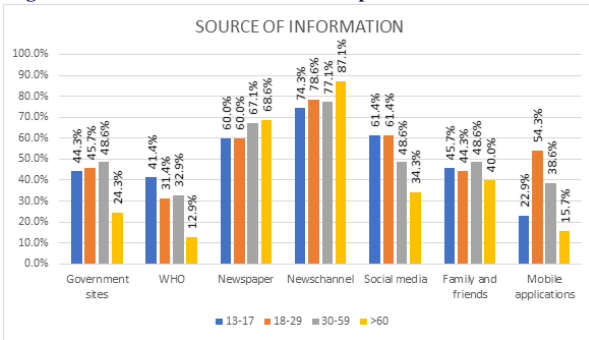


Table I: Mean Score Among Different Age Groups

Age group (in years)	Mean	Std. Deviation
13-17	18.30	2.742
18-29	19.17	2.828
30-59	19.97	2.963
>60	19.60	3.113
Total	19.26	2.966

The mean score derived for different age groups for evaluating COVID-19 awareness was maximum for the 30-59 year age group i.e. 19.97 out of 25 while the minimum mean score of 18.30 was seen in the 13 to 17 year age group.

Of the total study subjects, percentage of males in the age group 13-17 years were 47.1, and the percentage of females were 52.9. The 18-29 year age group comprised 42.9% males and 57.1% of females. Males and females in the 30 -59 year age group was 31.4% and 68.6% respectively. In the 60 and above age group, 65.7% were males while the rest were females. The mean score out of the total score of 25 obtained in the awareness study in the age group 13-17 years was 18.45 for males and 18.16 for females. In the 18-29 year age group it was 18.80 and 19.45 for males and females respectively. In the 30-59 year age group it was 19.73 for males and 20.08 for females and in the 60 years and above age group it was 19.76 for males and 19.29 for females. (fig. I)

Considering the economic status of the study population the 13-17 year age group had 95.7% above poverty line (APL) while 4.3% were below poverty line (BPL). In the 18-29 year age group, 91.4% belonged to APL category (mean score 19.31) and 8.6% to BPL category (mean score 17.67). In the 30-59 year age group 85.7% were in the APL category with a mean score of 20.08 and 14.3% in the BPL category with a mean score of 19.30. Among the study subjects who were above 60 years, 95.7% of them were above poverty line while 4.3% were below poverty line (mean score 18.33). (fig. II)

While considering the educational status of the study subjects our study revealed that among the adult population (18 -29 and 30 – 59 year age groups) 96.4% were well educated (higher secondary, graduate, post graduate). In the 18-29 age group none of the participants were found to have education below secondary school level. In the 30-59 year age group the percentage of poorly educated population was 7.14%. In the study subjects above 60 years of age, 81.4% were well educated and 18.5% were poorly educated. All the individuals in the 18-29 year age group were well-educated and the total mean score was 19.17. In the 30-59 year age group the mean score of the poorly educated study participants was 21.80 and the same was 20.24 for the well-educated. In the geriatric population (above 60 years) the mean score of the poorly educated was 17.11, and well-educated was 20. (fig. III)

Analysing the source of information regarding the pandemic the percentage of population using official government websites as a source of information in the 13-17 year age group was 44.3% while it was 45.7% in the 18-29 year age group. In the 30-59 year age group 48.6% and in the 60 years and above population, 24.3% accessed official webpages of government for information related to pandemic. The population referring to WHO/CDC sites for COVID-19 information in the 13-17 age group was 41.4% and was 31.4% in the 18-29 year age group. In the 30-59 year age group the same was 32.9% and the 60 years and above age group, it was 12.9%. In the 13 to 17 year age group 60% relied on newspapers for pandemic related information while 67.1% sourced information regarding the pandemic from the same in the 18 – 29 year age group. 67.1% in the 30-59 year age group and 68.6% in the 60 years and above age group relied on newspapers. Television news channels were a source of pandemic related information for 74.3% of participants in the 13-17 year age group. Of the respondents in the 18-29 year age group 78.6% garnered pandemic related information from television news channels while 77.1% participants of the 30-59 year age group gathered information from the same. Social media was the prime information provider for the respondents in the age groups of 13 to 17 years and 18 to 29 years with 61.4 % getting pandemic related information from the above-mentioned source. Notably only 34.3% of the respondents in the 60 and above age group accessed social media to get pandemic related news. Family members and friends were information providers to 48.6% respondents in the 30-59 year age group while 40% participants in the 60 years and above age group received information from the same. Mobile applications dedicated to pandemic related news was also accessed by the participants of our study. These applications were a source of information for a majority of participants (54.3%) in the 18 - 29 years age bracket while only 15.7% of the respondents used mobile application in the above 60 years age group. (fig. IV)

DISCUSSION

Our study revealed that females have higher awareness in 18-29 years and 30-59 years age groups. In the 13-17 years and 60 years and above age groups, male participants had higher awareness (fig: I). Amongst the entire study population female participants had higher degree of awareness regarding COVID-19 pandemic.

Our study could find out that there was a correlation between the level of motivation to gather pandemic related information and the socioeconomic status of the participants. The same was directly proportional in higher secondary students.⁶ But, in our study no significant difference was seen in the scores obtained by the BPL category in the 13-17 year age group. In the other age groups included in the study, the APL category has more awareness (fig: II).

We also considered the educational qualification of the study population. In the 30-59 year age group, less educated individuals have more awareness. In the 60 and above age group, well educated individuals have more awareness. There were no less educated individuals in the 18-29 year age group (fig: III).

COVID-19 awareness was assessed using a self-constructed structured questionnaire (25 questions) sent via Google forms to the general population, and the results were analysed by comparing the mean score of the different age groups. The source of information of each age group was also analysed. From the above results, it can be concluded that news channels are the main source of information for all the age groups (total percentage 79.3%) (fig: IV).

A large proportion of the Indian population had a good knowledge and performed the right practices towards COVID-19, but some myths still persist.⁷

In our study, the maximum awareness was among the 30-59 year age group and the least awareness was among the 13-17 year age group (table I).

Correlating the mean score with the source of information, among the most aware age group (30-59 years) 77.1% use news channels, and 67.1% use newspaper. 74.3% of the least aware age group (13-17 years) use news channel and 61.4% use social media. Television news channels were the most common source of information among all age groups. Dependence on sites such as WHO, CDC, ICMR and other government sites were limited in the general population compared to news channels.⁹

Comparing the social media usage of the different age groups, the highest usage was among 13-17 year age group and 18-29 year age groups (61.4%), whereas among the 30-59 year age group and 60 years and above age groups it was 48.6% and 34.3% respectively. In the capital city of Kerala, more than half of the teenagers owned a mobile phone and were found to be less interested in reading newspapers.¹⁰ The youth (16-25 years) were found to be over utilizing social media. According to a study conducted by Parikh PA et al. 78.3% of the population used social media as the source of information, which was the second highest mode of information used.⁸ Social media platforms showed a positive influence on public health protection.⁹ But social media also has a disadvantage of spreading incorrect information among the population, so an effort should be made to increase the availability of accurate information on these medias.⁸

The least used source among the 13-17 year age group was mobile applications providing news, whereas among the other age groups WHO/CDC sites were the least used.

LIMITATIONS

Since the study was conducted on an online platform (using Google forms) only participants with stable internet connection could take part in the study. Illiterate participants (who cannot read English or Malayalam) could not take part in the study. The majority of participants in our study are from the urban areas as they were obtained through the snowball technique (contacts and networks of the investigators).

CONCLUSION

In conclusion, the population in the 30-59 year age group (mean score 19.97) had the maximum awareness regarding COVID-19 pandemic, and the least awareness was seen in the 13-17 year age group (mean score 18.30). News channel was the most used source of information in both the 30-59 (77.1% respondents) and the 13-17 year age group (74.3%). Newspapers were used more by the 30-59 year age group (67.1%) compared to the 13-17 year age group. The population in the 13-17 year age group used social media (61.4%) after news channel as their source of information. From our study, we found that the 13-17 year age group had least awareness regarding COVID-19. The source that they rely on to get information is mainly social media. Hence comprehensive and accurate information could be disseminated through these platforms.

Media, physician, government & non-governmental organisations and religious groups play an important role in combating the pandemic. Innovative ways such as interesting programmes, poems, songs, cartoons, talks should be adopted to create awareness among the population. Rapid detection and response to public rumours, perceptions, attitudes and behaviours around COVID-19 and control measures is crucial to control the spread of the disease. A rapid response team can be built, which helps provide alerts of rumours and concerns, and enables the public to interact with the health officials.

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