Research Article

A Cross-sectional Study on Omicron - Knowledge and Practice among COVID Recovered Adults in Chengalpattu District

TK Raja[1], M Buvnesh Kumar[1], J Divyaparvathy[2], S Sasithra[2]

[1]Associate Professor, [2]Postgraduate, Department of Community Medicine, Chettinad Hospital and Research Institute, Chettinad Academy of Research and Education (CARE), Kelambakkam, Chengalpattu, Tamil Nadu, India.
DOI: https://doi.org/10.24321/0019.5138.202250

I N F O

Corresponding Author:
J Divyaparvathy, Department of Community Medicine, Chettinad Hospital and Research Institute, Chettinad Academy of Research and Education, Kelambakkam, Chengalpattu, Tamil Nadu, India.
E-mail Id:
divyaraj.nov93@gmail.com
Orcid Id:
https://orcid.org/0000-0001-5980-1732

A B S T R A C T

Introduction: India is one of the top three countries in the world with more than 10 million confirmed cases. Ever since the emergence of this COVID-19 pandemic, many SARS-CoV-2 mutations have been identified all over the globe and the latest to this addition is the Omicron variant of COVID-19. Only when there is adequate knowledge about the pandemic, we can handle the situation with ease. The main aim of the study is to assess the prevalence of knowledge and awareness about COVID-19 among COVID-19 recovered adults in the rural population of Chengalpattu district and to assess the prevalence of standard practising methods followed by them.

Methodology: It is a cross-sectional study. It used a semi-structured questionnaire that had three segments like sociodemographic profile, awareness related to COVID-19 and practice related to COVID-19. Scores were given to knowledge and practice related questions and the cumulative score for the same was taken into consideration.

Results: 94 participants were middle-aged people with a mean age of 37.48 ± 13.096 years. Overall, 68% of participants had good knowledge about COVID and its preventive measures and only 14.1% of participants followed proper practices with regard to COVID-19 and its preventive measures.

Conclusion: The gap between knowledge and practice is critical and needs special attention. Practice among the rural population can be improved with effective health education.

Keywords: COVID-19, Knowledge, Practice, Preventive Measures

Introduction

At the end of the year 2019, a respiratory syndrome was identified to be caused by a virus (Beta Corona virus-SARS-COV-2). It was reported first in Wuhan, China. Due to its rapid spread globally, COVID-19 was declared to be a pandemic.[1] Globally, there have been 29 million confirmed cases of COVID-19, including 154 lakh deaths. India is one of the top three countries in the world with more than 10 million confirmed cases.[2] The clinical features initially included fever, dry cough, fatigue, body ache, and

55

Raja TK et al.
J. Commun. Dis. 2022; 54(1)

breathlessness. Soon new symptoms were added to the list like loss of smell and taste, headache, skin rashes, and so on. It is primarily transmitted through droplets, fomites and close contacts.[3] COVID-19 has a high probability of transmission in the community and is a potential public health hazard. For the purpose of containing the spread of disease, various community-based preventive measures are put in action. Ever since the emergence of this COVID-19 pandemic, many SARS-CoV-2 mutations have been identified all over the globe and the latest to this addition is the Omicron variant of COVID-19.[4] Various measures were adopted by the World Health Organization to contain the spread of infection, especially in underdeveloped and developing countries by suggesting the implementation of lockdown, restriction of international airways, strict notification of confirmed cases, and surveillance of COVID-19 spread vaccination strategies.[5] To deal with this pandemic situation, awareness about the preventive measures is very essential in order to break the chain of spread which eventually will preserve public health from further deterioration. Some important community-based measures include social/ safe distancing (1m/ 3 ft), handwashing with soap, usage of hand sanitisers, using masks, etc.[6] Social stigmatisation of COVID-19 patients by the general population also is a great threat that creates social havoc. Due to social stigmatisation of the infected persons, people are unwilling to reveal their illness and many cases go unnotified.[7] When the notification rate is low, measures to mitigate may not provide the desired reduction in its spread. Some studies state that the third wave is likely to arrive early next year in India and subside in a month. It could be milder than the second wave due to the large-scale immunity present in the country now.[4] When there is adequate knowledge about the pandemic, we can handle the situation with ease. The effectiveness of the preventive measures, however, not only depends on the awareness, but also on the adherence of the population to the protective measures. The main aim of the study is to assess the prevalence of knowledge and awareness about COVID-19 among COVID-19 recovered adults in the rural population of Chengalpattu district and to assess the prevalence of standard practising methods followed by them.

Methodology

A community-based, cross-sectional study was conducted among COVID-19 recovered individuals residing in rural areas of Chengalpattu district to assess the knowledge and practice related to COVID-19 and its protective measures. The study was done using a pre-tested, semi-structured questionnaire in the month of December 2021 after obtaining institutional human and ethical committee approval (IHEC-I/0407/21). The interviewer collected data through one-on-one interviews with the study participants. Necessary protocols like temperature check using an infrared thermometer, safe distancing of 3 feet between the study participants and the investigator, apart from wearing of face masks by both interviewer and the study participants were ensured before collection of data.

The sample size for the study was obtained using the prevalence estimated according to the study conducted by Vijai C and Joyce D,[7] which was found to be 89.95%; assuming 95% confidence interval and allowable error of 5% and 10% non-response rate, the actual sample size was estimated to be 170. Simple random sampling technique was used to select study participants based on certain inclusion criteria like age above 19 years, rural residence, and exclusion criteria such as mentally ill patients and COVID-19 negative people. Data were collected from 170 study participants selected from 12 areas covered under rural field practising area of a tertiary care hospital.

A semi-structured, pilot-tested questionnaire was used to assess the knowledge and practice followed during the spread of the Omicron variant of COVID-19 pandemic in rural areas of Chengalpattu district, Tamil Nadu. The questionnaire had 3 sections namely socio-demographic profile, COVID-19 knowledge, and preventive methods followed during the COVID-19 pandemic. Segment A consisted of general information and demographic data, whereas segment B comprised 10 questions related to baseline knowledge pertaining to the Omicron variant. Every correct response was given one point. With a total of 10, a score of more than 5 was considered good knowledge and ≤ 5 was considered poor knowledge regarding the COVID-19 pandemic. Segment C had 10 questions to assess the COVID-19 preventive practice methods followed during the pandemic. Each correct response was again awarded one point and out of a total score of 10, ≥ 6 was considered good preventive practice and ≤5 was considered poor preventive practice pertaining to the Omicron variant of COVID-19 infection.

Before the collection of data, all the participants were briefly explained the objectives of the study, anonymity maintenance, and confidentiality of the study. Informed written consent was obtained from all participants at the time of enrolment into the study. During the study, the responders were given full freedom to withdraw their participation at any stage before the completion of the interview.

The collected data were entered in an excel sheet and processed for analysis. Descriptive statistics of baseline characteristics and participants' responses were presented as frequency and percentage. The association between various categorical variables were tested using Chi-square

Raja TK et al.
J. Commun. Dis. 2022; 54(1)

56

and a p value of < 0.05 was considered statistically significant. All statistical analysis was done using IBM-SPSS v21.0.

Results

Out of the 170 COVID-19 recovered people, 50% were male and 50% were female. 94% of participants were middle-aged people. The mean age of the study population was 37.48 ± 13.096 years. According to modified BG Prasad classification, 30% belonged to class 5 socioeconomic scale (n = 51), 19.4% were illiterate (n = 33), and 41.8% were graduates (n = 71). With regard to the presence of co-morbidity, 9.4% had hypertension, 17.1% had diabetes, and 2.3% had both hypertension and diabetes (Table 1).

Table 1.Sociodemographic Profile of Study Participants

Variables	Frequency (n = 170)	Percentage (%)
Age (in years)		
≥ 19-25	36	21.1
26-45	94	55.3
45-60	29	17.1
> 60	11	6.5
Gender		
Male	85	50
Female	85	50
Education		
Illiterate	33	19.4
Literate	137	80.6
Occupation		
Unemployed	52	30.6
Unskilled	42	24.7
Semi-skilled	45	26.5
Skilled	31	18.2
Marital status		
Married	47	27.6
Unmarried	120	70.6
Others	3	1.8
Socioeconomic status		
Class 1	1	0.6
Class 2	37	21.8
Class 3	31	18.2
Class 4	50	29.4
Class 5	51	30
Presence of co-morbidity		
Hypertension	16	9.4
Diabetes	29	17.1
Hypertension and diabetes	4	2.3
Others	0	0
Nil	121	71.2

To be specific regarding knowledge related to COVID-19, 74.7% of participants believed that COVID-19 was caused by a virus and 75.3% and 69.4% had the idea that the mode of spread of COVID was airborne and through contact respectively. Around 82.9% of people knew at least 3 symptoms of COVID-19 and 76.5% of people knew that washing hands and maintaining proper social distancing combined with using masks can be an effective preventive measure. Around 77.6% believed that isolation is a must when people develop symptoms, 42.9% knew that handwashing must be done for at least 20 seconds and effective social distancing means maintaining at least 3 feet gap between persons. Overall, 68% of participants had good knowledge about COVID and its preventive measures (Figure 1).
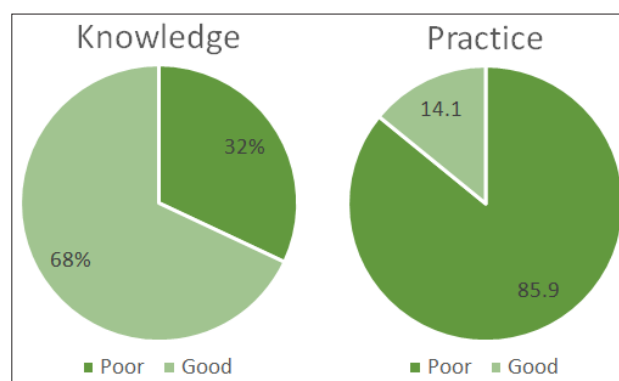

Figure 1.Knowledge and Practice about COVID-19 and Omicron Variant among Rural Population

With regard to the practice related to COVID-19, around 87.1% of respondents restricted their social gatherings as much as possible, but only 11.8% of people covered their faces while sneezing. 55.9% alone followed effective social distancing, 37.6% touched their face, nose or mouth often in a day. In addition to it, 42.3% of people did not wear masks while moving out, and 69.4% of participants did not have the practice of using alcohol-based sanitisers. 52.9% were reluctant about using disinfectants or disinfecting surfaces, homes, or floors. Moreover, 94.7% of people were not using the Arogya Setu app. These percentages depict that the practice of protective or preventive measures among rural participants was really poor. Overall, only 14.1% of participants followed proper practices with regard to COVID-19 and its preventive measure. The distribution of knowledge and practice in relation with the education is depicted in Figure 2.
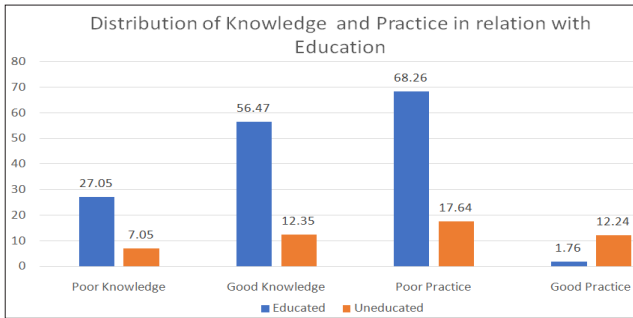
57

Raja TK et al.
J. Commun. Dis. 2022; 54(1)

Figure 2. Distribution of Knowledge and Practice related to COVID-19 and Omicron Variant in relation with Education

Discussion

A study done by Vijai C and Joyce D[6] with almost 316 respondents states that the majority of respondents (89.9%) had awareness about COVID-19 and handwashing (87.7%), wearing masks (82.6%), and using sanitisers (76.3%) which can effectively reduce the spread of COVID-19. This study states that the majority of respondents (89.9%) were having awareness of COVID-19,[6] but in our study, only 68% of study participants had good knowledge about COVID-19 and its preventive measures. This might be due to the educational differences between the two populations. In the study by Vijai C and Joyce D, more than 71% of the respondents were postgraduates and 24% were graduates which in comparison with our study is overtly higher educational qualification.

According to the study done by Veeramani Kartheek AS and Gara H, most of the participants agreed on lockdown being an effective containment method, 97.6% of respondents agreed about frequent handwashing and 77.87% confirmed washing hands for 20 secs or more. However, in our study, only 42.9% of respondents knew about handwashing for about 20 seconds. The discrepancy may be due to the population difference in both studies. Our study was done in a rural setup whereas the study by Veeramani Kartheek AS and Gara H was among the general population. Furthermore, the adherence to social distancing and lockdown restrictions was around 97.3% in their study and the same was reported less (14.1%) among the rural population of our study. Higher knowledge score was positively associated with healthcare workers, upper socioeconomic class, and adherence to appropriate preventive practices.[9]

According to the study by Pratinidhi SA et al., 89% of participants knew that soap is the best material for cleaning in the presence of dirt and about 51% of participants knew the need of isolating persons with known COVID-19 infection, whereas, in our study, only 69% had good knowledge about preventive measures like handwashing, usage of masks, and using hand sanitiser as an effective measure. Also, 77.6% of people believed isolation is a must

when symptoms develop.[10] Another study done by Pandey S and Gupta A shows that 16.9% of people believed in only social distancing and 40.2% believed that all the steps like wearing masks, social distancing, and hand sanitising should be followed for the prevention of the spread of COVID-19. 48.8% of people were aware that the virus spreads via respiratory droplets and personal contact, 43.2% believed that the virus is air-borne and 8% had no idea.[3] This study also emphasises that awareness of disease epidemiology, severity, fatality rate, and treatment was very low. The knowledge of health care workers/ students regarding the recommended precautions that should be applied when dealing with patients was also poor (55.5%). This study positively supports our results which show 69% knowledge and 14.1% practice about COVID-19 related preventive measures among the rural population.

Further in a study by Maheshwari S and Gupta PK, the participants (medical students) who were aged 21-23 years had higher knowledge, and majority of the participants had correct knowledge about symptoms of COVID-19, and nearly 96.6% knew about COVID-19 epidemiology and preventive measures. This is contrary to our study which states a prevalence of 69% regarding the knowledge of COVID-19.[12] The difference in prevalence is attributed to the variation in educational qualification between the study participants in both studies.[10]

In reference to the study done by Roya D and Tripathya S, 97% of responders acknowledged that washing hands frequently helped to stop the spread of infection,[13] whereas our study states that only 49.2% had the knowledge of handwashing technique to prevent COVID-19 spread. This difference is again attributed indirectly to the population and geographical location of the study. Our study consists of rural population while the study done by Roya D and Tripathya S was among the general population in which by default, many health care professionals were involved. This explains the difference in prevalence between the two studies.

In a study done by Tandon T and Dubey AK among 320 participants, the awareness of epidemiological features, including the signs and symptoms of the disease, was very good (more than 99% in some aspects).[14] This study reflects the aggressive awareness drives that had played a critical role in the dissemination of knowledge regarding COVID-19 among the general population. In their study, the attitude toward the measures for prevention of disease at home and outside was also very good (more than 97%) in some aspects,[15] whereas the practice reported in our study is just 14.1% among the rural population. Thus, there is a greater need of health education among the rural population about COVID-19 preventive measures.

The study by Suvvari T et al.[15] reported that 81% of the

Raja TK et al.
J. Commun. Dis. 2022; 54(1)

58

participants had good knowledge, 77% had a positive attitude, and 83.5% were following good practices. Nearly 94% of the participants were confident that India can overcome COVID-19, and 97.7% wore masks when they went out. The results of this study are in contrast to our study where only 68.8% of participants had good knowledge about COVID-19 and only 14.1% of participants had good practice towards COVID-19 preventive measures.

Conclusion

Omicron variants which are a part of the "COVID-19 variants of concerns" have the potential to spread in the community in a rapid manner which can eventually lead to harm to human life.[16] This study has revealed the level of awareness about COVID-19 and its Omicron variant and its preventive measures both in terms of knowledge and practice among the rural population. From the above study results, it is evident that even though knowledge related to COVID-19 and Omicron variants is comparatively high, the practice of preventive measures like wearing masks, maintaining social distance, proper disposal of used masks, covering nose and mouth while sneezing, and disinfecting surfaces on a regular basis are comparatively low. As a community, we are facing many difficulties in preventing COVID-19 and its mutations like Omicron variants. Many preventive methods which are followed, still remain unclear in explaining the effectiveness in protecting us against COVID-19 mutations. Adding to this, it is also doubtful whether the COVID-19 vaccines are still effective in preventing us from this new Omicron variant and whether they can render us life-saving protection or any protection related to re-infection with the same or other strains of COVID-19. However, according to various studies, it is most likely that these protective measures will potentially help us in mitigating the transmission of Omicron. The gap between knowledge and practice in preventing COVID-19 and Omicron variant is critical and needs special attention. Practice among the rural population can be increased with effective health education. Only when the practice of preventive measures is increased, the pandemic of COVID-19 and the anticipated endemic of various mutations like the Omicron variant can be effectively controlled.

Conflicts of Interest: None

Sources of Funding: None

References

1. Harapan H, Itoh N, Yufika A, Winardi W, Keam S, Te H, Megawati D, Hayati Z, Wagner AL, Mudatsir M. Coronavirus disease 2019 (COVID-19): a literature review. J Infect Public Health. 2020 May;13(5):667-73. [Google Scholar]

2. World Health Organization (WHO)[Internet]. Corona Virus Disease Dashboard; [cited 2021 Dec 18]. Available from: https://covid19.who.int/

3. Pandey S, Gupta A, Bhansali R, Balhara S, Katira P, Fernandes G. Corona virus (COVID19) awareness assessment - a survey study amongst the Indian population. J Clin Med Res. 2020;2(4):1-10. [Google Scholar]

4. Indiatvnews.com [Internet]. Omicron: third wave in India may peak in February, predicts study; 2021 [cited 2021 Dec 24]. Available from: https://www.indiatvnews.com/news/india/omicron-third-wave-in-india-may-peak-in-february-subside-in-a-month-scientists-vidyasagar-iit-hyderabad-750718

5. Government of India [Internet]. India Fights Corona COVID-19 in India, Vaccination, Dashboard, Corona Virus Tracker; [cited 2021 Dec 18]. Available from: https://www.mygov.in/covid-19

6. Health Protection Surveillance Centre [Internet]. Knowledge and beliefs towards universal safety precautions during the coronavirus disease (COVID-19) pandemic among the Indian public. COVID-19 posters; [cited 2021 Dec 18]. Available from: https://www.hpsc.ie/a-z/respiratory/coronavirus/novel coronavirus/posters/

7. Vijai C, Joyce D. Novel Coronavirus (COVID-19) knowledge and awareness: a survey of Thiruvallur District, Tamilnadu. Shanlax Int J Manage. 2020 Jul;8(1):69-76. [Google Scholar]

8. Teferi SC. Knowledge, attitude, and practice during the COVID-19 pandemic in Ethiopia: a review. Int J Clin Exp Med Sci. 2020;6(5):104. [Google Scholar]

9. Kartheek AV, Gara KH, Vanamali DR. Knowledge, attitude and practices towards COVID-19 among Indian residents during the pandemic: a cross-sectional online survey. J NTR Univ Health Sci. 2020 Apr;9(2):107. [Google Scholar]

10. Pratinidhi SA, Sayyed AA, Tilokchandani MA, Malode SV, Bhalgat SS, Bhujbal CR. Awareness of COVID-19 outbreak in local population of Maval taluka in Maharashtra, India. Int J Res Med Sci. 2020 Jul;8(7):2378-84. [Google Scholar]

11. Puspitasari IM, Yusuf L, Sinuraya RK, Abdulah R, Koyama H. Knowledge, attitude, and practice during the COVID-19 pandemic: a review. J Multidiscip Healthc. 2020;13:727-33. [PubMed] [Google Scholar]

12. Maheswari S, Gupta PK, Sinha R, Rawat P. Knowledge, attitude and practice towards Corona virus disease (COVID19) among medical students: a cross sectional study. J Acute Dis. 2020 May;9(3):100-12. [Google Scholar]

13. Roy D, Tripathy S, Kar SK, Sharma N, Verma SK, Kaushal V. Study of knowledge, attitude, anxiety & perceived mental healthcare need in Indian population during COVID19 pandemic. Asian J Psychiatr. 2020

59

Raja TK et al.
J. Commun. Dis. 2022; 54(1)

Jun;51:102083. [PubMed] [Google Scholar]

14. Tandon T, Dubey AK, Dubey S, Manocha S, Arora E, Hasan MN. Knowledge, attitude, and perception of Indian population toward coronavirus disease (COVID-19). J Family Med Prim Care. 2020 Aug;9(8):4265-9. [PubMed] [Google Scholar]

15. Suvvari T, Kutikuppala L, Kiran A. Knowledge, attitude, and practices toward the COVID-19 pandemic among the Indian general population: a cross-sectional survey. Int J Resp Care. 2021;10(1):88. [Google Scholar]

16. Wang X, Powell C. How to translate the knowledge of COVID-19 into prevention of Omicron variants. Clin Transl Med. 2021 Dec;11(12):e680. [PubMed] [Google Scholar]