

Original Research Article

DOI: <http://dx.doi.org/10.18203/2394-6040.ijcmph20203383>

Assessment of knowledge and practices of urban population regarding COVID-19: a cross-sectional study in Bikaner, Rajasthan

Shatrughan Pareek^{1*}, Narendra Kumar Kaushik², Diwakar Verma³, Anupam Pareek²,
Yashawant Ramawat⁴, Nitesh Kumawat⁵, Nitesh Kumar³, Suman Kumawat⁶

¹Indian Railway Health Services, Bikaner, Rajasthan, India

²Government College of Nursing, SPMC and AGH Bikaner, Rajasthan, India

³Emergency Medicine, ⁴Wound Care Centre, ⁵Stoma Care Centre, AIIMS, Jodhpur, Rajasthan, India

⁶MBM Hospital, Jodhpur, Rajasthan, India

Received: 18 May 2020

Revised: 15 June 2020

Accepted: 16 June 2020

***Correspondence:**

Mr. Shatrughan Pareek,

E-mail: Shatrughan.pareek@gmail.com

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Background: Corona virus disease (COVID-19) is declared pandemic by the WHO. It is a very contagious disease. The global mortality rate of Corona virus disease is around 3.1%. The study was conducted with aim to assess the knowledge and practices towards Corona virus disease among urban population. Awareness towards the disease is important for prevention and control.

Methods: The research design was community based descriptive cross-sectional design. The study was conducted in selected urban communities of Bikaner district, Rajasthan. A structured knowledge questionnaire and Practice scale were distributed to subjects from March 2020 to April 2020. In present study, 327 subjects were included in the study by random sampling technique. Data analysis was done using SPSS version 22.0.

Results: In the present study, 56.27% were male and 43.73% were female. Nearly 70% participants were graduate and above in educational status. In present study, mostly subjects (76%) have average to good knowledge and practice towards COVID-19. Finding of the study suggests that there was a weak correlation between knowledge and practices of urban people towards corona virus infection. The correlation was not significant (p value=0.1976) at 0.05 level of significance. The study also revealed that knowledge has association with only educational qualification and gender shown association with practices of urban population.

Conclusions: Knowledge and practices among population towards the disease are crucial to minimize morbidity and mortality due to the disease. The people have knowledge towards corona virus infection but they are not implementing it into practice.

Keywords: Corona virus infection, COVID-19, Knowledge, Practice, Questionnaire, Urban population

INTRODUCTION

Corona virus infection is a potentially severe acute respiratory infected caused by severe acute respiratory syndrome coronavirus-2. It is highly contagious diseases and can be transmitted via animal-to-human and human-to-human interaction. Corona virus disease is infections

are emerging respiratory viruses and are known to cause illness ranging from the common cold to severe acute respiratory syndrome. Corona infection may spread by human-to-human transmission through droplet, oral and direct contact. The incubation period of corona infection is approximately 2-14 days.¹⁻³ The World Health Organization (WHO) used the term novel corona virus

2019 to concern to the virus that impact on the lower respiratory tract of patients with pneumonia in Wuhan, China in December 2019.

The WHO announced that the official name of the 2019 novel corona virus is corona virus disease (COVID-19). The WHO stated that the outbreak of the corona virus epidemic was associated with the Huanan South China Seafood Marketplace, but no specific animal association was ruled out. Corona virus disease has now been declared as a Public Health Emergency of International Concern by the WHO.^{3,4} The most convincing mode of transmission of corona virus disease is inhalation of infectious droplets and aerosols. Corona virus infection may cause disease varying from asymptomatic to fatal disease condition. In elderly patients, COVID-19 infects the lower respiratory tract with the potential of leading to fatal pneumonia. Other non-specific symptoms include fever, cough, myalgia, dyspnea with or without diarrhea.⁵⁻⁷ On 11 March 2020, WHO declared corona virus Disease (COVID-19) outbreak as a pandemic. The WHO alerts all the countries regarding spread and control the disease. The emphasis was given on patient safety and minimizes morbidity.⁸ Corona virus disease outbreaks caused significant mortality and morbidity in China, America, Italy, Iran and Germany compared to the rest of the world.

The WHO reported that corona virus disease has been spread in more than 212 countries, areas or territories in the world. As of 16th May 2020, the WHO reported that 44,25,485 totals confirmed cases, total confirmed new cases 86,827 and total death 3,02,059 related to corona virus disease.⁹ As of 16th May 2020 according to the Ministry of Health and Family Welfare, India, a total of 53,035 active corona virus cases, (including 71 foreign nationals) have been reported in 31 states/union territories. These include 30,152 who have been cured/discharged, 1 who has migrated and 2752 deceased. Hospital isolation of all confirmed cases, tracing and home quarantine of the contacts is ongoing to minimize spread of the disease. In India, Maharashtra, Tamil Nadu, Rajasthan and Delhi are the most affected states due to corona virus disease.¹⁰

Assessment of the severity of corona virus disease is crucial to find out the possible control measures and effective strategies to prevent the community spread. Spectrum of corona virus disease is start with asymptomatic cases. The patients may be detected by contact tracing and influenza like illness. As the diseases progress the severity increase drastically.¹¹ This was cross-sectional, observational study of the existing knowledge and practices of urban population towards Corona virus disease.

METHODS

Present study was conducted with aim to find out the knowledge and practices regarding corona virus infection

among urban population residing in Bikaner city, Rajasthan. Research approach selected for the study was quantitative research approach. For the study, non-experimental descriptive cross-sectional research design was found suitable. The study was conducted among people of any gender, able to understand Hindi or English and residing in selected urban communities of Bikaner city, Rajasthan.

The subjects were selected for the study by random sampling method. Data collection was done by door to door visits using socio-demographic data tool, Self-structured knowledge questionnaire and practice scale. The knowledge score range was 0-15 and practice scale range was 0-10. In the knowledge section, the total score was calculated by adding up 15 questions assessing the subject's knowledge and each correct answer was awarded with 1 point and unanswered questions and wrong answers were awarded 0 points. The maximum achievable knowledge score was 15. In the practice section, total 10 statements were there and responses were reported on either "Yes" or "No" options. The level of knowledge was divided in three categories, poor knowledge (0-40%), average knowledge (41-70%) and good knowledge (>70%). Level of practice was interpreted as poor practice (0-40%), average practice (41-70%) and good practice (> 70%). Total knowledge and practice score was 25.

Prior permission was obtained from the cornering authorities. Informed written consent was taken from respondents and confidentiality was maintained throughout the study. Duration of data collection was done in 3 weeks.

RESULTS

A total of 327 urban people participated in the study, including 184 (56.27%) male and 143 (43.73%) female. Most of the participants were between 41-50 years 113 (34.56%) and one third of participants were in 31-40 years age group. The majority of subjects 227(69.42%) were graduate and above educated. Moreover, nearly 61% subjects were married. It was identified that mostly participants 147 (45.95%) have average knowledge towards corona virus infection. A majority of participants 157 (48.01%) have average practice but only 39 (11.93%) have poor practices towards corona virus infection. Table 2 showed that mean knowledge and practice score were 8.116 and 5.771 respectively.

The calculated correlation value (r) was 0.071 which was not significant ($p < 0.05$). There was a weak correlation between knowledge and practices of urban population towards corona virus infection. The study also revealed that knowledge has association with only educational qualification ($p < 0.05$) and gender ($p < 0.05$) shown association with practices of urban population.

Table 1: Frequency and percentage distribution of socio-demographic characteristics of urban population.

Demographic variables	Frequency (N)	Percentage (%)
Age in years	18-30	25.99
	31-40	33.33
	41-50	34.56
	More than 50	6.12
Gender	Male	56.27
	Female	43.73
Educational qualification	Illiterate	0.92
	Up to Secondary	11.92
	Higher secondary	17.74
	Graduate and above	69.42
Marital status	Married	60.55
	Unmarried	39.45
Economic status	Below Poverty Line	0.00
	Low Income Group	20.49
	Middle income group	62.39
	High income group	17.12

Table 2: Distribution according to level of knowledge and practices among urban population (N=327).

Variable	Level of variable	Frequency (N)	Percentage (%)
Knowledge	Poor (0-40%)	65	19.88
	Average (41-70%)	147	45.95
	Good (above 70%)	115	35.17
	Poor (0-40%)	78	23.85
Practice	Average (41-70%)	157	48.01
	Good (above 70%)	92	28.14

Table 3: Correlation between knowledge and practice of urban population towards corona virus infection.

Variable	Mean Score	SD	Correlation (r value)	P value
Knowledge	8.116	2.159	0.071	0.197
Practice	5.771	1.631		6 ^{NS}

NS - Not Significant at 0.05 level (p<0.05).

Table 4: Association between demographic variables and knowledge of urban population (n=327).

Demographic variables	χ^2 value	P value
Age in years	18-30	
	31-40	4.542
	41-50	
	More than 50	0.6037 ^{NS}
Gender	Male	
	Female	5.135 0.767 ^{NS}
Educational qualification	Illiterate	
	Up to Secondary	14.274
	Higher secondary	
	Graduate and above	0.0267*
Marital status	Unmarried	
	Married	3.781 0.151 ^{NS}

*Significant at 0.05 level (p<0.05), NS- not significant at 0.05 level (p<0.05)

Table 5: Association between demographic variables and practices of urban population (n=327).

Demographic variables	χ^2 value	P value
Age in years	18-30	
	31-40	6.273
	41-50	
	More than 50	0.3933 ^{NS}
Gender	Male	
	Female	7.281 0.0262*
Educational qualification	Illiterate	
	Up to Secondary	8.061 0.2337 ^{NS}
	Higher secondary	
	Graduate and above	
Marital status	Unmarried	
	Married	4.746 0.0932 ^{NS}

*Significant at 0.05 level (p<0.05), NS- not significant at 0.05 level (p<0.05)

DISCUSSION

Corona virus infection is increasing with a great pace around the world. The transmission of disease is raising burden on the government, healthcare professionals and population. Morbidity and mortality are enhancing every day in most of countries in the world. Sound knowledge and good practices are necessary for prevention and spread of the infection. The government and health officials are emphasizing on IEC regarding corona virus infection. Various research studies have been conducted in India among the healthcare professionals and general population to evaluate their knowledge and practices towards corona virus infection. To the best of our knowledge this correlation study is the first of its type in India. The current study was conducted with aims to assessed knowledge and practices of urban population towards corona virus infection. Distribution of the demographic variables of the participants showed that majority of participants were male (56.27%) and held a bachelor degree and above (69%). These findings were supported by studies conducted by AS Bhagavathula et al in Iran and Zhong et al in China.^{1,12} The present study communicated that most of the people have average knowledge (45.95%) and practice (48.01%) towards corona virus infection. Good knowledge and good practices towards corona virus infection were 35.17% and 28.14% respectively. Zhong et al conducted a KAP study in China among urban residents regarding COVID-19 infection. The study revealed that people have high COVID-19 knowledge and practice scores. These findings are similar to our findings on knowledge and practices.¹² Alzoubi et al conducted a cross-sectional KAP study was conducted among 592 medical and non-medical colleges' students in Jordan suggested a good knowledge and practice towards COVID-19.¹³ This is supported by our findings which communicated that nearly 76% participants have average to good knowledge and practice towards Corona virus infection. Some studies were conducted to evaluate the knowledge and practices about COVID-19 infection. In this respect, investigators assessed the knowledge and practices of people towards Corona virus infection. These studies reported that people have moderate to good knowledge and practices regarding COVID-19 infection.^{1,13-19}

We find out that mean knowledge score was 8.116 and mean practice score was 5.771. The calculated correlation value was 0.071 which was not significant ($p<0.05$). Unfortunately there was no correlation study was available to compare findings of present study. We also assessed the variables like knowledge and practice towards corona virus infection and identified some demographic factors associated with knowledge and practice; these findings are useful for the Government, healthcare professionals and health policy-makers to trace the target populations for corona virus prevention, control and health education. In regards to association between knowledge and selected demographic variables, present study communicated that knowledge is significantly

associated with educational qualification ($p=0.0267^*$). These results are consistent with a study conducted by Zhong et al in China that there was a significant association between level of educational and knowledge towards COVID-19.¹² The present study also supported by other study which done by Nooh et al among population in Saudi Arabia.²⁰ Nooh et al also communicated that knowledge has association with variables like age and gender but the present study's findings not indicated the same results.²⁰ In our study there was no association of knowledge with age, gender and marital status. In addition to the above observations on practice has significant association with gender ($p=0.0262^*$) but the current results are inconsistent with previous researches.^{13,15,17,19,21} Sound knowledge and good practices are needed towards corona virus infection to reduce its spread and morbidity. Awareness programs conducted by the government and social media were also helpful in enhancing the knowledge of people about the disease.

CONCLUSION

Corona virus infection has affected vast majority of counties in the world. The present study evaluates knowledge and practices of urban population towards corona virus infection. To summarize, the present study communicated that participants have good knowledge and practices towards corona virus infection. There was no significant correlation between knowledge and practice towards the disease. The association between demographic variables and research variables was limited. The findings reflect the effect of the Government, healthcare professionals and local authorities to educate, aware and sensitize a large proportion of the population about corona virus infection. The findings of this study could be utilized by healthcare professionals, health authorities to establish priorities in awareness and information campaigns regarding corona virus infection.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

1. Bhagavathula AS, Aldhaleei WA, Rahmani J, Mahabadi MA, Bandari DK. Novel coronavirus (COVID-19) knowledge and perceptions: a survey of healthcare workers. *Med Rxiv.* 2020. Available at: <https://doi.org/10.1101/2020.03.09.20033381>. Accessed on 11th April 2020.
2. WHO. *Coronavirus.* 2020. Available at <https://www.who.int/health-topics/coronavirus>. Accessed on 11th April 2020.
3. Zarocostas J. What next for the corona virus response? *The Lancet.* 2020;395(10222):401.
4. Adhikari SP, Meng S, Wu YJ, Mao YP, Ye RX, Zhi QW, et al. Epidemiology, causes, clinical

manifestation and diagnosis, prevention and control of coronavirus disease (COVID-19) during the early outbreak period: a scoping review. *Infect Dis Poverty.* 2020;9:29.

- 5. Kannan S, Shaik P, Ali S, Sheeza A, Hemalatha K. COVID-19 (novel coronavirus 2019) recent trends. *Eur Rev Med Pharmacol Sci.* 2020;24(4):2006-11.
- 6. Xu C, Luo X, Yu C, Cao SJ. The 2019-nCoV epidemic control strategies and future challenges of building healthy smart cities. *Indoor and Built Environment.* 2020;29(5):639-44.
- 7. Centers for disease control and prevention (CDC). How 2019-nCoV spreads. Available at: www.cdc.gov/coronavirus/2019-ncov/about/transmission.html. Accessed on 10 April 2020.
- 8. World Health Organization. Coronavirus (COVID-2019) 2020. Available at: <https://www.who.int/emergencies/diseases/novel-coronavirus-2019>. Accessed on 8 April 2020.
- 9. World Health Organization. Coronavirus (COVID-2019) situation report 117. 2020. Available at: <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/situation-reports>. Accessed on 16 May 2020.
- 10. Ministry of Health and Family Welfare. Available at: https://www.mohfw.gov.in/COVID-19_INDIA. Accessed on 16 May 2020.
- 11. Verity R, Okell LC, Dorigatti I, Winskill P, Whittaker C, Imai N, et al. Estimates of the severity of coronavirus disease 2019: a model-based analysis. *Lancet Infect Dis.* 2020;20(6):669-77.
- 12. Zhong BL, Luo W, Li HM, Zhang Q, Liu XG, Li WL, et al. Knowledge, attitudes, and practices towards COVID-19 among Chinese residents during the rapid rise period of the COVID-19 outbreak: a quick online cross-sectional survey. *Int J Biol Sci.* 2020;16(10):1745-52.
- 13. Alzoubi H, Alnawaiseh N, Mnayyis A, Lubada MA, Aqel A, Shagahin HA. COVID-19 knowledge, attitude and practice among medical and non-medical university students in Jordan. *J Pure Appl Microbiol.* 2020;14(1):17-24.
- 14. Elbur A, Alharthi A, Aljuaid A, Almalki NH. Knowledge of middle-east respiratory syndrome coronavirus (MERS-CoV) and its management: a survey among saudi people in Taif, Kingdom of Saudi Arabia. *IOSR J Pharma.* 2016;8(2):33-9.
- 15. Alsahafi A, Cheng A. Knowledge, attitudes and behaviours of healthcare workers in the kingdom of Saudi Arabia to MERS coronavirus and other emerging infectious diseases. *Int J Environ Res Public Health.* 2016;13:12.
- 16. Hanan MM, Mersal FA. Middle east respiratory syndrome-corona virus: knowledge and attitude of Qassim University students, KSA. *Glo Adv Res J Medi Med Sci.* 2018;7(4):90-7.
- 17. Alanzi ME, Albalawi MAH, Kabrah S, Aljehani YT, Okashah AM, Aljohani ZD. Knowledge, attitudes, and practices (KAPs) of healthcare workers towards MERS-CoV infection at PHCs in Madinah, KSA during Hajj. *American J Micro Res.* 2019;7(4):122-9.
- 18. Modi PD, Nair G, Uppe A. COVID-19 awareness among healthcare students and professionals in mumbai metropolitan region: a questionnaire-based survey. *Cureus.* 2020;12(4):e7514.
- 19. Gaffar BO, Tantawi M, Ansari AA, Agl AS, Farooqi FA, Almas KM. Knowledge and practices of dentists regarding MERS-CoV a cross-sectional survey in Saudi Arabia. *Saudi Med J.* 2019;40(7):714-20.
- 20. Nooh HZ, Alshammary RH, Alenezy JM, Alrowaili NH, Alsharari AJ, Alenzi NM, Sabaa HE. Public awareness of coronavirus in Al-Jouf region, Saudi Arabia. *J Public Health.* 2020.
- 21. Abdallah YN, Eman ZD, Alwafi H, Zahra KA, Ahmed M, Rajeh, et al. Knowledge and practices towards COVID-19 during its outbreak: a multinational cross-sectional study. *MedRxiv.* 2020.

Cite this article as: Pareek S, Kaushik NK, Verma D, Pareek A, Ramawat Y, Kumawat N, et al. Assessment of knowledge and practices of urban population regarding COVID-19: a cross-sectional study in Bikaner, Rajasthan. *Int J Community Med Public Health* 2020;7:3095-9.