

An Epidemiological Assessment of COVID-19 in Urban and Rural Areas of North Karnataka

Binu K. M^{1*}, Mahitha Yarremsetty², Neha Lakshmi², H. Doddayya²

¹M. Pharm, Assistant Professor, Department of Pharmacy Practice, N. E. T Pharmacy College, Raichur-Karnataka, India

²Department of Pharmacy Practice, N.E.T Pharmacy College, Raichur, Karnataka – 584103, India

DOI: [10.36348/sjmps.2022.v08i06.001](https://doi.org/10.36348/sjmps.2022.v08i06.001)

| Received: 25.02.2022 | Accepted: 29.03.2022 | Published: 02.06.2022

*Corresponding author: Binu K. M

M. Pharm, Assistant Professor, Department of Pharmacy Practice, N. E. T Pharmacy College, Raichur-Karnataka, India

Abstract

Coronavirus disease caused by SARS – CoV–2, is associated with considerable morbidity and mortality. Knowledge and awareness about risk factors, symptoms, screening methods and therapeutic methods reduces the mortality and morbidity. To determine the knowledge, awareness and attitude about COVID–19 in urban and rural areas of north Karnataka. A prospective questionnaire survey was conducted for a period of six months in urban and rural areas of north Karnataka, with a sample size of 316. All above 18 years and above were included in the study. Data from the questionnaire was analysed using appropriate statistical tools. Out of 316 participants, 40% were 21 – 30 age of participants compared to other age groups, 52.8% of participants were under higher secondary and above educational status, 52.4% participants were found to be allergic and 45.6% are non- allergic, 65.5% are from urban and 34.5% from rural, 69.9% individuals were attending educational programmes, 58.9% were employed. Almost 73.1% were considered to have knowledge about curability of Covid-19. 73.7% had knowledge about pneumonias a risk factor of Covid-19. 71.8% had knowledge about common symptom dry cough as a Covid-19. 74.1% had knowledge about immune boosting as a preventive measure of Covid-19. The knowledge and level of awareness is seen in most of the participants. There is need of developing effective interventional programmes to educate people about Covid-19. These will promote better outcome.

Keywords: Awareness, Covid-19, knowledge, preventive measures, risk factors, SARS-CoV-2.

Copyright © 2022 The Author(s): This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International License (CC BY-NC 4.0) which permits unrestricted use, distribution, and reproduction in any medium for non-commercial use provided the original author and source are credited.

INTRODUCTION

The novel coronavirus (COVID-2019) has spread very rapidly all over China and several other countries, causing an outbreak of acute infectious pneumonia. According to the official website of the National Health Commission of China, there were 49,824 confirmed cases (including 9915 severe cases) and 3434 suspected cases of COVID-19 in China as of 23 February 2020. This large scale, infectious, public health event, imposed enormous pressure on the Chinese government, medical and healthcare providers, and the general public. Thirty-one provinces in China initiated a Level-1 public health response. The epidemic brought not only the risk of death from the viral infection but also unbearable psychological pressure to people china and the rest of the world (Letizia A *et al.*, 2020).

The development of the epidemic follows an exponential growth in cases. COVID-19 causes a variety of symptoms in people who are infected, and

not all people infected with COVID-19 will have the same symptoms. Fever, dry cough, shortness of breath, fatigue or body aches are some of the most common symptoms appearing 2– 14 days after the exposure, however, some people have experienced headache, abdominal pain, diarrhoea and sore throat as well, although some patients may not develop symptoms until later. Asymptomatic cases were also found which can be a major issue concern with respect to being extension into transmission chain of virus (Kaushik M *et al.*, 2020).

More than a year after its emergence as a global pandemic, severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection has been associated with more than 177 million cases resulting in more than 3.8 million deaths worldwide as of June 21, 2021. To control this pandemic, efforts were accelerated to develop safe and effective vaccines against SARS-CoV-2 by targeting the spike glycoprotein of the prototype strain. By early 2021, several vaccine candidates had emerged as safe and

effective in preventing coronavirus disease 2019 (Covid-19), findings that supported the emergency use of these vaccines around the world. The emergence of SARS-CoV-2 variants—B.1.1.7 (or alpha), P.1 (or gamma), and B.1.351 (or beta), respectively that have been associated with increased transmission, more severe disease, and varying degrees of immune avoidance to Covid-19 vaccines (Liao T *et al.*, 2021).

There is a need to assess the Knowledge, Practice, Perceptions and beliefs etc of general public. So many studies have conducted in National and International level, no such studies carried in Rural and Urban areas where the study hospital is situated.

In this context, we designed the study entitled “An Epidemiological Assessment of COVID-19 in Urban and Rural areas of North Karnataka” with an objectives to determine the awareness, Knowledge and attitude about COVID 19 and associated disorder, to explore the knowledge of population of North Karnataka about COVID 19 preventive measures and their belief about conceptional herbal products for prevention of COVID 19 infection, and to report the sources of degree of COVID 19 related distress that general population are experiencing.

MATERIALS AND METHODS

2.1 Study Design and Sample size

A prospective questionnaire study was carried out for a period of 6 months in Urban and Rural areas of North Karnataka. Sample size was calculated on the basis of a previous study which recorded the prevalence of 54.87% i.e 05487. Taking 95% Confidence Interval, the required sample size for the study was minimum of 316. Participants aged 18 years and above currently living in urban and rural areas of study site were included.

2.2. Ethical approval

The study was approved by Institutional Ethical Committee of study hospital by assuring Ethical Clearance Certificate.

2.3 Designing of Survey questionnaire

The instrument used in the study is a three-part questionnaire. Section-1 deals with socio-demographic characteristics of respondent like age, education level, socioeconomic status and marital status. Section-2 deals with answers to the questions based on knowledge about COVID -19 disease. Section 3 deals with Knowledge about Covid-19 risk factors. Section 4 deals

with the Knowledge with symptoms .Section 5 deals with preventive measures of Covid-19.

2.4. Questionnaire distribution, collection and analysis of the data

Data were collected from urban and rural areas of North Karnataka from participants aged 18 years and above i.e, from general population, students, health professionals. A total of 316 data were collected and recorded. It was an interviewer administered questionnaire survey, in which responder's demographics data and closed ended questions were included Verbal informed consent was taken from patients who were willing to respond to questionnaire. No attempt was made to correct wrong answers or response until the completion of interview. A total of 316 collected questionnaires were analysed for accurate data. The filled questionnaires were analysed and monitored for the following variables like Age, Educational Status, Allergic status, Residence, Attending screening and public health programs, Occupation, General Knowledge about COVID-19, Knowledge about COVID-19t risk factors, Knowledge about COVID-19 symptoms, Knowledge about COVID-19 preventive measures. Data from the questionnaire was analyzed using descriptive statistics namely total numbers, percentages, mean and standard deviation. Microsoft word and excel have been used to generate graphs, tables etc.

RESULTS AND DISCUSSION

A prospective observational study was carried out by collecting the data from 316 participants aged above 18 using a predesigned questionnaire to assess their knowledge, attitude and practice towards covid 19.

Out of 316 participants, all of the respondents have given the responses. Most of the respondents (40%) were aged 21-30 years, followed by those aged 31-40 years (30%). Least number of respondents were from the age group of 51-60 years (8%). The collected data showed that 165 (52.8%) of participants studied up to higher secondary and above 1 followed by 72 (23.4%) of participants had attended secondary school and 28 (8.5%) of participants were completely did not want to disclose.

Data in Table 1 mainly explains about knowledge about covid -19. More than half of them had knowledge about curability of the disease (73.1%) followed by awareness about symptoms (70.1%) and least knowledge about causes of covid – 19.

Table 1: Knowledge about Covid-19(N=316)

Si. no	Knowledge about COVID 19	No. of participant (Yes)	No. of participants (No)
1.	Is Covid curable or incurable	216(68.8%)	100(33.2%)
2.	Is Covid -19 is communicable or contagious	224(67.75%)	92(32.3%)
3.	Awareness about symptoms	231(70.1%)	85(29.9%)
4.	Is Covid -19 preventable	219(67.4%)	97(32.6%)

Si. no	Knowledge about COVID 19	No. of participant (Yes)	No. of participants (No)
5.	Causes of Covid -19	193(58.2%)	123(41.8%)
6.	Is Covid -19 transmissible	206(61.4%)	110(38.6%)
7.	Is Covid -19 deadly virus	222(66.1%)	94(33.9%)
8.	Is Covid -19 curable	244(73.1%)	72(26.9%)

As shown in Figure 1, depicts knowledge about risk factors of Covid -19 most of them were aware about the pneumonia risk factor (73.7%),

followed by smoking(69%) and least had knowledge about (56.3%).

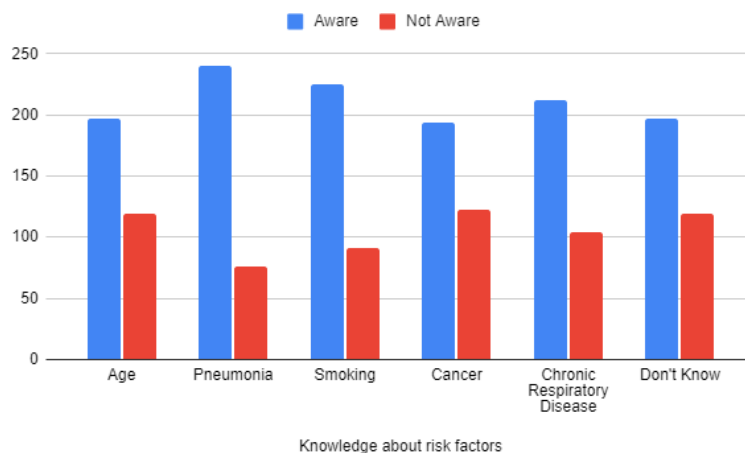


Figure 1: Knowledge about risk factors (N=316)

The collected data showed that out of 316 had knowledge about most common symptom dry cough (71.8%) followed by tiredness (66.8%) and least

knowledge about serious symptoms chest pain (59.8%) same as shown in Table 2.

Table 2: Knowledge about symptoms (N=316)

Si. no	Knowledge about symptoms	No. of participants (Aware)	No. of participants (Not aware)
Common symptoms			
1.	Fever	218(69.3%)	98(30.7%)
2.	Dry cough	231(71.8%)	85(28.2%)
3.	Tiredness	229(66.8%)	87(33.2%)
Serious symptoms			
4.	Shortness of breath	212(63%)	104(37%)
5.	Chest pain	203(59.8%)	113(40.2%)
6.	Loss of speech	228(66.4%)	88(33.6%)

Results in Figure 2 mainly depicts about knowledge about preventive measures of Covid – 19 most of the respondents had knowledge about immune

boosting (74.1%) followed by sanitizing measures and using masks (68.4%) and least was found to have the knowledge about maintaining social distance (61.1%).

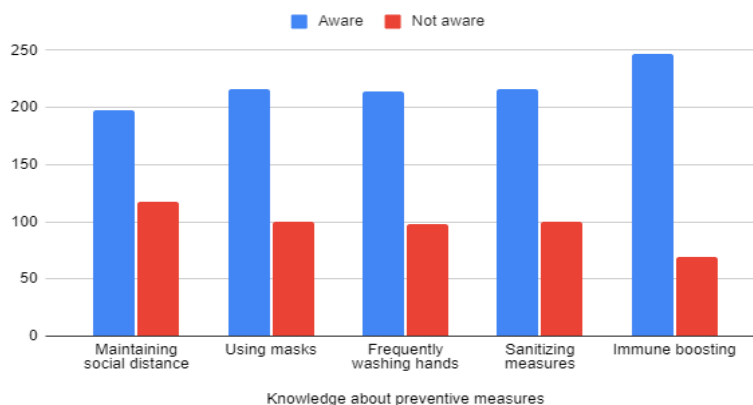


Figure 2: Knowledge about preventive measures (N=316)

In this study, there was a significant association found between age, education status, occupation and knowledge of contraception among participants. Most of the participants belonged to age group of 21-30 years. This result was similar to the studies conducted by who also observed that most of the women fall in the age group of 21-30 years.

Level of education was found moderate in our study where only 52.8% of participants have studied upto higher secondary and above among 316 participants most of the respondents were residing in urban 213 out of 316 that is 65.5% and most of them had knowledge about curability of the disease covid -19 that is 73.1% of the respondents moderate level of education acts as a barrier for awareness and practice of Covid-19.

The respondents had better knowledge about risk factors, symptoms and preventive measures, maximum respondents are attending educational programmes 69.9% yet there is need of creating awareness for the respondents about attending the educational programmes to promote better knowledge, attitudes and practices regarding the disease Covid-19.

CONCLUSION

In this study, there was a significant association found between age, education status, occupation and knowledge of contraception among participants. The respondents had better knowledge about risk factors, symptoms and preventive measures, maximum respondents are attending educational programmes There are lots of myths and stigma related to covid-19 in society and awareness needs to be drastically increased as a first step in fight against covid - 19. Active steps should be taken to generate more evidence regarding covid-19 awareness and the necessary interventions to increase awareness such as covid-19 awareness campaigns via community outreach especially in low socioeconomic sections of the society.

ACKNOWLEDGEMENT

Authors take it as a privilege to acknowledge Medical Superintendent; physicians, nursing staffs and other healthcare professionals for their support during the study.

REFERENCES

- Letizia, A. G., Ramos, I., Obla, A., Goforth, C.,

Weir, D. L., Ge, Y., ... & Sealfon, S. C. (2020). SARS-CoV-2 transmission among marine recruits during quarantine. *New England Journal of Medicine*, 383(25), 2407-2416.

- Kaushik, M., Agarwal, D., & Gupta, A. K. (2021). Cross-sectional study on the role of public awareness in preventing the spread of COVID-19 outbreak in India. *Postgraduate Medical Journal*, 97(1154), 777-781.
- Liao, T. F., & De Maio, F. (2021). Association of social and economic inequality with coronavirus disease 2019 incidence and mortality across US counties. *JAMA network open*, 4(1), e2034578-e2034578.
- Vinetz, M. D. J., & Felman A. (2021). Coronaviruses. *Mednews*. (<https://www.medicalnewstoday.com/articles/256521>)
- Cao, W., Fang, Z., Hou, G., Han, M., Xu, X., Dong, J., & Zheng, J. (2020). The psychological impact of the COVID-19 epidemic on college students in China. *Psychiatry research*, 287, 112934.
- Cohen, A. K., Hoyt, L. T., & Dull, B. (2020). A descriptive study of COVID-19-related experiences and perspectives of a national sample of college students in spring 2020. *Journal of Adolescent Health*, 67(3), 369-375.
- Hassan, M. M., Kalam, M., Shano, S., Nayem, M., Khan, R., Rahman, M., ... & Islam, A. (2020). Assessment of epidemiological determinants of COVID-19 pandemic related to social and economic factors globally. *Journal of Risk and Financial Management*, 13(9), 194.
- Benvenuto, D., Giovanetti, M., Ciccozzi, A., Spoto, S., Angeletti, S., & Ciccozzi, M. (2020). The 2019-new coronavirus epidemic: evidence for virus evolution. *Journal of medical virology*, 92(4), 455-459.
- Zhang, J., Yang, S., Xu, Y., Qin, X., Liu, J., Guo, J., ... & Chen, Y. (2021). Epidemiological and clinical characteristics of imported cases of COVID-19: a multicenter study. *BMC Infectious Diseases*, 21(1), 1-8.
- Shechter, A., Diaz, F., Moise, N., Anstey, D. E., Ye, S., Agarwal, S., ... & Abdalla, M. (2020). Psychological distress, coping behaviors, and preferences for support among New York healthcare workers during the COVID-19 pandemic. *General hospital psychiatry*, 66, 1-8.