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Knowledge, Attitude, Practice during COVID-19 pandemic- A community based study in Karnataka ¹Shivasharan B Banapurmath, 3rd MBBS, Sri Siddhartha Medical College, SSMC, Tumakuru, Karnataka ²Dr.Sudha T.R, professor, Dept of OBG, Sri Siddhartha Medical College, SSMC, Tumakuru, Karnataka Corresponding Author: Shivasharan B Banapurmath[,] 3rd MBBS, Sri Siddhartha Medical College, SSMC, Tumakuru, Karnataka

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Abstract

COVID-19 infection is a contagious respiratory disease cause by enveloped RNA virus human corona virus, which spread through droplets, aerosols and touch of fomites. It was declared as pandemic by WHO since11 March 2020⁻ The COVID-19 infection ranges from respiratory infection and severe acute respiratory infection, with case fatality rate of 3.4%. Several measures have been undertaken by the Government of India to contain the disease by screening, contact tracing, community based measures such as social distancing, health education, implementation of social lockdown and implementation of regulatory orders for prevention of crowding of general public. This is a questionnaire based survey to assess the knowledge, Attitude; Practice during COVID pandemic outbreak, feb2020.

Method: A cross sectional study among 467 respondents from community in including medical, paramedical, nursing, security and hospital security, by using a self administered structured questionnaire and knowledge, attitude and practice data were analyzed.

Observation: most of respondents in age 21-30yrs, most respondents were females(59%), 63% of respondents had graduate level of education ,26% post graduation, 95% of responders were aware of infection prevention measures, 85% of subjects had apprehension and anxiety about disease that was not serious that needed support by

professionals, 75% wished to approach publicgovernment hospitals for COVID-19 related testing and care,45% observed distancing from family and neighbors, 97% of subjects felt necessity of lock down and social distancing, 38% observed non adherence by public on implemented guidelines, 57% felt it was partially effective,93% reported altered quality of life,57% had declining income, delay in pay, adverse effect on occupation, concern due to lack of income, lack of maids at home,34% Of students reported unhappiness on interruption in education, 52% of subjects reported that mass media created panic among public, while 48 reported satisfaction% for public awareness, social media was source of information in 92%.

Conclusion: This survey implicates that the educational status and repeated training were associated with optimal infection prevention practices. Health care personnel and Social media played important role in creating awareness and television news added anxiety. Hence there is need to improve the awareness among the community with interventions and more public health awareness programs through regular safety drills and training programs through structured teaching.

Keywords: Knowledge, Attitude, Practice, COVID-19, social lockdown, respondents, infection prevention measures, Health care workers (HCW)

Introduction

COVID-19 infection outbreak was first noticed in the city of Wuhan, China, which had 11million occupants. The outbreak was declared a Public Health Emergency of International Concern on 30 January 2020.**WHO declared COVID-19 as a pandemic on** 11 March 2020¹. COVID-19 infection is a contagious disease cause by human corona virus which is a medium sized, enveloped, positive stranded RNA virus. The COVID-19 infection affects the human respiratory tract, gastrointestinal system, presenting with varied clinical symptoms such as fever(88%),cough(68%),fatigue(38%),sputum(33%),

in breathing(18-19%), difficulty Myalgia (15%),sorethroat (14-15%), headache(13%), and other symptoms such as nausea, diarrhea, hemoptysis, Nasal discharge and clinical manifestations such as mild (80%), severe pneumonia (14%), and critical illness- ARDS, SARI, sepsis, Septic shock^{1 a} categorized into Suspect, Close contact and symptomatic. Mode of transmission of COVID-19 virus is by Coughing, Droplets, aerosols and by Contact through fomites, surfaces and hands (ICMR)^{10.} A total of 3,35,123 samples from 3,18,449 individuals have been tested as on 17 April 2020 for SARS-CoV-2,14,098 confirmed positive among suspected cases and contacts of known positive cases in India. (ICMR INDIA¹⁰). The Case fatality rate was 2.7% as by a factor of 2.2 (April 10, 2020, Health ministry of India) to 437 deaths on April 17. The Global and Indian burden of disease is shown in figure1-4.







Figure 2: Confirmed Covid cases in word



Figure 3: daily new confirmed covid19 cases in india, April17, 2020



Figure 4: case fatality rate of ongoing covid-19 pandemic in India.

In India, there is high risk of transmission due to factors such as dense population, with close slums, lack of awareness and access to healthcare, migrating population of daily wage workers, shared sanitation facilities, high level of social mixing, and transient residents, lack of awareness on safety measures, poor cleanliness, and poor compliance to administrative directions. Hence there is a need to conduct a Health survey to assist Health administration to allocate medical resources and staff more efficiently. Various measures have been undertaken by the Government of India to control and contain the disease by COVID-19 virus by screening, and general community based measures such as social distancing, health education, implementation of social lockdown and ministry of Health and family welfare India, is conducting regular awareness programs, screening programs, health survey, contact tracing, and a categorization of geographic areas as low risk, medium risk, and high risk areas based on the COVID-19 case detection.

This is a community based KAP study in Karnataka, a questionnaire based survey to assess the knowledge of COVID-19 infection, attitude & practices in the community, to assess the effect of pandemic on community in march-April 2020 in India, timed midway of the national lockdown period.

Objective: To assess the knowledge, attitude, practices (KAP) among the community about spread of COVID19 infection

Methodology - Material and method

This is a cross sectional study conducted after ethical clearance by institutional Review committee and consent, among 467 people in Karnataka during COVID-19 pandemic outbreak in February 2020 by using self administered semi-structured questionnaire of 40 questions on KAP aspects as survey instrument distributed to HCWs and students, Descriptive Statistical analysis of the data of responses was presented as frequencies and percentages using MS excel, in percentages & data analysis was done using SSPS version 17.

Observations

The following observations were made after analysis of the survey data of Total participants (N=467)

Q.1. Demographic data of subjects based on age, gender, socioeconomic state, occupation, educational status, profession access to healthcare, response rate etc.

Q.1a. Age distribution of subjects, with maximum responders in age 21-30yrs (Table1)

S. N.	Age distribution	Frequency	percentage
1	11-20	0	0
2	21-30	315	67.45
3	31-40	71	15.20
4	41-50	58	12.42
5	51-60	20	4.28
6	>60	3	0.64

Table 1: Age distribution of subjects

Q.1b.Gender- most response was given by female subjects (59%).

Q.1c.Educational status-63% of participants had graduate level of education (Table 2)

S.N.	Educational status	Number	percentage
1	School education	175	37.47
2	graduate	168	35.97
3	Post graduate	124	26.56
	Total	467	100

Table 2: Educational status distribution of participants

Q.1d.Profession-52%	of participants	was	from	health	care
system. (Table 3)					

S.N.	profession	Number	Percentage
1	Medical and allied	166	35.55
	sciences		
2	Nurse	82	17.56
3	Security	77	16.49
4	Cleaning staff	65	13.91
5	Others	77	16.49
6	Total	467	100

Table 3: Profession distribution of participants

Q.2.Knowledge: Q2-Q12 Awareness of steps taken to reduce spread of infection?

95% of participants were well aware in steps and measures to be taken to prevent spread of infection

Q.3. The impact of corona virus on mental health- 85% of subjects had apprehension and anxiety about disease and it was not serious that needed support by professionals (Table 4)

S.N.	Effect on mental health	Number of	percentage
		people(N=467)	
1	No effect	93	19.92
2	Mild manageable	306	65.52
3	serious /unmanageable	68	14.57
4	need support of psychologist/counselor	0	0
Table 4	4: distribution	of participant'	s attitud

andpsychological effect of Covid19 infection

Q4. Awareness of place to go for testing-75% of subjects knew to approach public, government hospitals for COVID-19 related testing and care (Table 5)

	Awareness of place to	Number of	Percentage
S.N.	go for testing	people	
1	Govt higher hospital	318	68.09
2	public health facility	31	6.63
3	private clinic	54	11.56
4	family doctor	29	6.21
5	Hi-tech Multi-	35	7.51
	specialty hospital		
	Total	467	100

Table 5: distribution ofknowledge/awareness of place to approach for healthcare

Q.5. Attitude- are you confident enough that measures and research is being done to control pandemic in their initial stages-38% of subjects opined that more measures needed to be implemented by government, and 54% were positive and 6% had no idea.

Q.6. Awareness and practice of prescribed WHO safety measures- 88% of participants were aware of personal hygiene, PPE use, correct method of hand wash, social distancing, cough hygiene, modes of spread of disease and misconceptions on diet.

Q.7. Knowledge of COVID-19 virus and mode of transmission -88% of subjects showed adequate knowledge, 9.4% average and 3.2% poor knowledge. (Table 6)

S.N.	Questions answered	Number of	Percentage
	correctly in	people	
	questionnaire		
1	8-12(excellent)	408	87.36
			adequate
2	5-8 (average)	44	9.42 average
3	<5(poor)	15	3.22 poor

 Table 6:
 distribution of participant's knowledge grade

Q.8. Fears in community during the lockdown-87% had adverse effect on family, 45% had distancing from family, and 32% from neighbors (Table 7)

S.N.	Categories	Number of	Percentages
		responses	
1	Ill effects on	408	87.36
	family		
2	Distancing by	208	44.53
	family		
3	Distancing by	151	32.33
	neighbors		
4	Harassed by	116	24.83
	house owner		
5	Nil	35	7.49

Table 7: Effects of Lockdown categories

Q. 9. Necessity of lockdown-97% (455) of participants felt that lock down and social distancing was necessary to prevent spread of the infections, and said there was a need to continue lock down for additional 14 days.

Q.10. Effectiveness of implemented national lockdown being followed by people: 63% responded positively on effectiveness of social lock down, while 37% felt public practice of lockdown was partially effective.

Q.11. Effect of lock down consequences on community-93% reported altered quality of life, 57% had declining finances in family due to declining trade, delay in pay, lesser income due to adverse effect on occupation, no income among daily wage workers and lack of assistants in profession,34% of students had break in education.(chart1)



Graph 1: Effect of lock down on participantsQ.12. Source of knowledge on current affairs of pandemic and prevention of spread (chart2) - majority of subjects got information from TV, newspapers and social media.

Source of Knowlege and information



Graph 2 : Participant's source of knowledge

Q.13. Attitude- In case of infection, which of the following medical science's branch will you approach? Could disease spread be effectively done? 96% of subjects preferred to seek allopathic medicine for treatment said disease can be controlled if infection control measures are adhered.

Q.14. Impact of the mass media on COVID-19 pandemic on people?

38% of subjects reported that mass media created panic among public, while 62% said media contributed to awareness among public.

Discussion

Since the declaration of COVID-19 as a global pandemic disease with high aerosol spread of infections, the COVID-19 disease has had social, financial, health related adverse impact¹. The identification and isolation of suspected and infected cases is most important in

containing the COVID-19 Pandemic. Since health care personnel are in high risk of exposure, they need to have of adequate knowledge of epidemiology of disease, triaging, screening and isolation of risk groups, and to prevent and protect oneself from disease, its transmission among themselves and their contacts. Hence there is a necessity to have updated knowledge and practice of the current guidelines, and share their knowledge to the needy, there by contribute for positive health benefit of community. This necessitates a survey on basic knowledge, and practices on COVID-19 diseases, which may be helpful in designing the training strategy and health promotional programs by administration.

Several studies were conducted earlier to evaluate the knowledge of disease and its preventional measures.

Akshaya Srikanth Bhagavathula^{(8),} reported among 453 HCWs a response rate of 85.6%; 51.6% were males, 32.1% were aged 25-34 years, doctors (30.2%) and medical students (29.6%).Most of the participants used social media to obtain information (61%), and a significant proportion of HCWs had poor knowledge of its transmission (61%) and symptom onset (63.6%) and showed positive perceptions of COVID-19 prevention and control.

Pranav Modi et al⁽⁹⁾ observed that the overall awareness for all subgroups of HCWs was adequate with 71.2% reporting correct answers. The highest percentage of correct responses was from undergraduate medical the lowest students and was from nonclinical/administrative staff. 50% could correctly define "close contact.", 75% were aware of the infection control measures like rapid triage, respiratory hygiene, and cough etiquette and having a separate, well ventilated waiting area for suspected COVID-19 patients ,79% of the responders were aware of personal protective equipment (PPE). 87% percent of the responders were aware of the

infection prevention and control measures, only 45.4% of the responders were aware of the correct sequence for the application of a mask/respirator, and 52.5% were aware of the preferred hand hygiene method .

Bao liang zhong et al ⁽⁶⁾ reported women had good knowledge, optimistic attitudes, and appropriate practices towards COVID-19 during the rapid rise period of the COVID-19 outbreak. The overall correct rate of the knowledge questionnaire was 90%. The majority of the respondents (97.1%) had confidence that China can win the battle against COVID-19, showed that male gender (vs. female, OR: 1.37, P=0.019), occupation of "students" and COVID-19 knowledge score (OR: 0.90, P<0.001).

A cross-sectional KAP study about Middle East (MERS-CoV2015) respiratory syndrome-coronavirus was conducted on healthcare workers in primary healthcare centres and hospitals in Saudi Arabia showed a majority of the healthcare workers were aware of MERS-CoV. Physicians and nurses had significantly better knowledge compared with other healthcare workers^{[11].} . In South Korea, a survey of healthcare workers suggested a poor level of knowledge of the modes of transmission of MERS corona virus^[12]. A similar survey in the Kingdom of Saudi Arabia suggested poor knowledge about emerging infectious diseases among study participants, and selfreported infection control practices were found to be suboptimal. In South Korea, and suggested a poor level of knowledge of the modes of transmission of MERS coronavirus^[12]

In the present study 67% of participants obtained information from social media, 70% were aware of ICMR criteria for screening for virus due to sensitization of workers in institution, 72% did not want to take prophylactic hydroxylchloroquin without prescription by doctors, 89% in group expressed their satisfaction of services given by public sector hospitals in disease

treatment and prevention measures, 90% of group were aware of measures to be taken to prevent spread of infection through social media, 88% of were aware of safety precaution to prevent spread of disease and optimal use of PPE kits, due to regular training programs to nurses, doctors, students, security and cleaning staff on infection prevention and disaster management drills for implementation of National quality assessment scheme, Lagshya, national accreditation program implementation in this hospital. This is probably the first study that evaluates the impact of pandemic and related social lockdown on society, effect of disease and lock down on mental health among health care personnel. 85% of subjects had apprehension and anxiety about disease and it was not serious that needed support by professionals. 97% of subjects felt that lock down and social distancing was necessary to prevent spread of COVID-19 infections. 63 responded positively about effectiveness of social lock down, while 37% felt it was partially effective, which shows that the study group conferred with the measures taken by the government for the containment of disease This study has not included General public and their perception of diseases, control measures and its impact on their social life, which needs further studies.

Conclusion

This survey implicates that the educational status did not have association with knowledge and optimal infection prevention practices and hence there is need to improve the awareness among the community with interventions more public health awareness programs

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