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Original Research Article

Perception, practices and preparedness of the adult population in response to SARS CoV-2 pandemic in India

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ABSTRACT

Background: COVID-19 infection is a highly contagious disease and has affected a large population. As COVID-19 is a new disease and is having the most devastating effects globally, its emergence and spread, causes confusion, anxiety and fear among the general public. Objectives of the study were to know the preparedness measures adopted by the community by large in the beginning of epidemic of COVID-19 and to find out the perceptions and behavioral change of the community regarding COVID-19.
Method: A cross sectional survey was conducted amongst the residents of India from 11th April 20 to 30th May 20. It was an online study. An online semi-structured questionnaire having both open and close ended questions was developed by using Google forms, with a consent form appended to it. Data was collected in Google form and was reentered in MS excel and analyzed using EPIINFO.
Results: Out of 301 study participants majority i.e., 162 (53.8%) of them were male. Majority of the participants were in the age group of 21-30. Occupation status of the respondents revealed that doctor accounted for 125 (41.5%). Only, 24 (8%) had chronic illness. Awareness regarding COVID-19 was 297 (98.7%).
Conclusions: Perceptions have a great role in behavioral change.

Keywords: COVID-19, Novel corona virus, Pandemic, Hand wash, Mask, Social distancing

INTRODUCTION

The microbial world is mysterious, threatening and scary to many people. Addressing these participants is a necessary part of planning for infectious biological disasters. The only counter measures available early in an outbreak of a new infectious disease are behavior interventions such as quarantine, hygiene and isolation.[1] Clinical condition caused by novel corona virus is called as COVID-19.[2,3] On 30th January 2020, the world health organization declared COVID-19 to be a public health emergency of international concern.[4]

COVID-19 is a highly contagious disease and has affected a large population, the total number of deaths caused due to COVID-19 has exceeded that caused by any of its predecessors.[5]As COVID-19 is a new disease and is having the most devastating effects globally, its emergence and spread cause's confusion, anxiety and fear among the general public. Social stigma has arisen as certain population is being targeted as being the reason for the outbreak. It is vital to avoid stigma as it can make people hide their illness and do not seek health care immediately.[5] Therefore, present study was an effort to assess the knowledge, attitude, practice and preparedness of COVID-19 by exploring coping strategies and health behaviors enacted in response to COVID-19 pandemic.

Objectives

Objectives of the study were to know the preparedness measures adopted by the community by large in the beginning of epidemic of COVID-19 and to find out the

perceptions and behavioral change of the community regarding COVID-19.

METHODS

Study design

The study design use was cross sectional study.

Study area

All across the country and study participants were citizens of India

Study duration

The study deration was from 11th of April 2020-to 30th of May 2020 for one month.

Sampling technique

The sampling technique used is Snowball technique.

Inclusion criteria

The study included the participants with access to WhatsApp, participants with age more than 18 years, able to understand English and willing to give consent.

Study plan

An online semi-structured questionnaire having both open and close ended questions was developed by using Google forms, with a consent form appended to it. The link was sent through WhatsApp. The study started with the first participant and using Snowball sampling technique, the participants were encouraged to roll out the survey to as many known people as possible in their contacts in their respective phones. Thus, the link was forwarded to people apart from the first point of contact and so on. On receiving and clicking the link the participants got auto directed to the information about the study and informed consent. After they accepted to take the survey, they had to fill the first section which constituted details regarding socio-demographic details. Then a set of several questions appeared sequentially, which the participants were to answer which mainly consisted of awareness, knowledge, practices, preparedness for the pandemic, and preventive measures against COVID-19. We received a total of 327 acceptance but only 301 participants responded to the entire question. Hence analyses of only 301 participants were done. Study was approved by the institutional ethical committee. Data was collected in Google form and was reentered in MS excel and analyzed using EPINFO.

RESULTS

Out of 301 study participants majority i.e., 162 (53.8%) of them were male. Majority of the participants were in the age group of 21-30 years with the mean and standard deviation of 30±11.3. Occupation status of the respondents revealed that Doctor accounted for 125 (41.5%), students 69 (22.9%), engineer 17 (5.6%) and business 12 (4%). Only, 24 (8%) had chronic illness.

Table 1: Socio demographic profile of the study participants (n=301).

Variables	Numbers	Percentage (%)
Gender		
Male	162	53.8
Female	139	46.2
Age (year)		
≤20	27	9.0
21-30	179	59.5
31-40	46	15.3
41-50	25	8.3
51-60	14	4.7
>60	10	3.3
Occupation		
Doctor	125	41.5
Student	69	22.9
Engineer	17	5.6
Business	12	4
Nurse	09	3
Government employee	07	2.3
Housewife	07	2.3
Teacher	12	4
Lawyer	03	1
Banker	02	0.7
Computer operator	02	0.7
Army	01	0.3
Actor	01	0.3
Others	37	12.3
Do you have a chronic illness?		
Ye	24	8
No	262	87
Don't know	15	5

Awareness regarding COVID-19, regarding the modes of transmission was very well amongst study participants. Regarding people who are at risk of getting COVID-19 infection, participants were well informed about who are more vulnerable and are at a greater risk of getting infection. From the responses elicited from the participants regarding symptoms of COVID-19, fever was the most prominent symptom followed by shortness of breath, cough, sore throat, tiredness, muscle stiffness, headache, anosmia and diarrhea respectively. The availability of drug for COVID-19 was affirmed by very few of the participants of which only i.e., 23 (88.5%) of participants said that HCQ was the drug of choice. Regarding incubation period of COVID-19 most of them knew about the duration 14 days.

Table 2: Awareness and knowledge of study participants regarding COVID-19 (n=301).

Variables	Numbers	Percentage (%)
Awareness regarding COVID-19		
Yes	297	98.7
No	04	1.3
Mode of transmission		
Respiratory droplets	293	97.4
Touching contaminated surface/object	219	72.8
Contaminated food and water	70	23.2
At risk individual		
≥60 years	299	99.3
Lung disease	293	97.3
Diabetes	283	94
Asthma	287	95.3
Heart disease	269	89.4
Pregnant women	260	86.4
Infant	257	85.4
Children 1-5 years	239	79.4
Symptoms		
Fever	288	95.7
Shortness of breath	286	95
Cough	275	91.4
Sore throat	243	80.7
Tiredness	178	59.1
Stiffness of muscle	163	54.2
Headache	165	54.8
Runny nose	157	52.2
Anosmia	133	44.2
Diarrhea	110	36.5
Drug available for COVID-19		
Yes	26	8.6
No	260	86.4
Both drug and vaccine	06	2
Which drug is available? (n=26)		
Hydroxychloroquine	23	88.5
Antibiotic	01	3.8
Don't know	02	7.7
Incubation period (days)		
Up to 3	04	1.3
Up to 7	19	6.3
Up to 14	272	90.2
Don't know	06	2

Most of the study participants were practicing preventive measures effectively. Majority of the friends and family members were washing their hands, often. Majority of the respondents i.e., 297 (98.7%) practiced social distancing followed by 282 (93.7%) participants avoided crowded areas as they believed that the disease spread could be stopped if they practiced these measures.

Out of 301 participants included in the online survey majority i.e., 284 (94.4%) informed that the source of information regarding COVID-19 is by consulting with the health workers, followed by newspaper, television, conversation with colleagues and with family and friends, radio stations and social media respectively.

Table 3: Practices carried out by respondents against COVID-19 and source of information regarding COVID-19 (n=301).

Variables	Numbers	Percentage (%)
Family and friends washing their hands		
Not often	07	2.3
Often	186	61.8
Very often	108	35.9
Social distancing/avoid crowded areas		
My family and friends avoid crowded areas	297	98.7
My family and friends follow social distancing	282	93.7
Source of information regarding COVID-19		
Consultation with health workers	284	94.4
Daily/weekly newspaper	231	76.7
Public TV channels	210	69.8
Conversation with colleagues	184	61.1
Conversation with family and friends	172	57.1
Radio stations	163	54.2
Social media	81	26.9

On asking about the reason for why they are worried about COVID-19 majority i.e., 223 (74%) responded that the disease is highly contagious, 219 (72.7%) told that no vaccine is available, 183 (60.8%) said that the disease is dangerous and life threatening. This shows that community are really worried and uncertain about the threat of this new disease.

Table 4: Perceived threat of respondents regarding COVID-19 (n=301).

Variables	Number	Percentage (%)
Worried about novel corona		
Highly contagious	223	74
No vaccine available	219	72.7
Dangerous and life threatening	183	60.8
I doubt if I get infected, I won't recover fully	150	49.8
Family members might get infected	139	46.2
I may contract infection from anybody	02	0.6

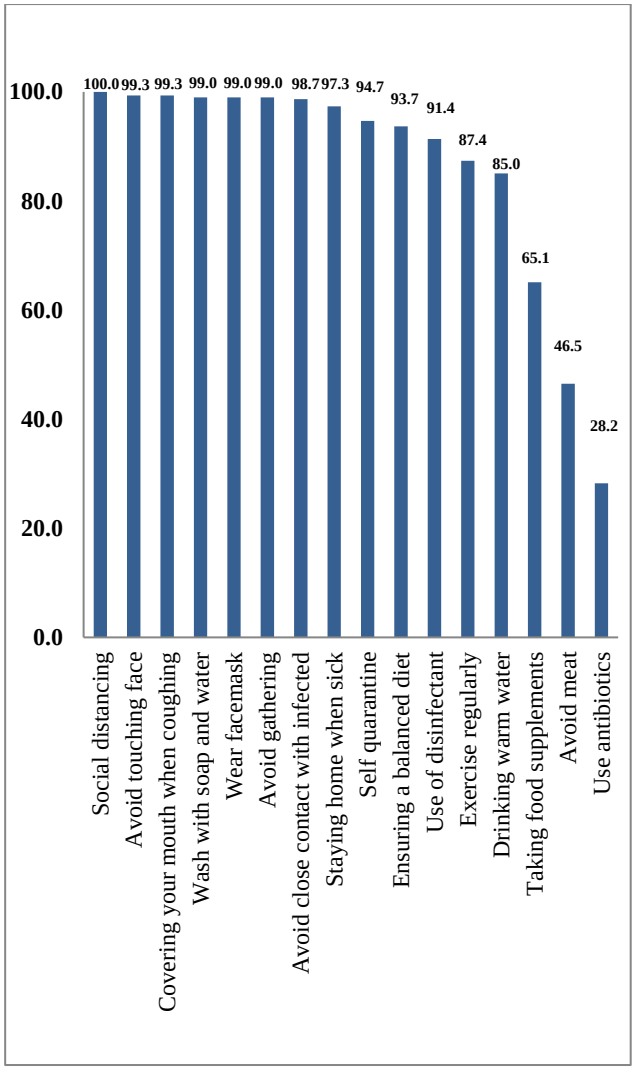

Figure 1: Cues to action in relation to COVID-19.

Majority of the respondents have brought changes in their lifestyle which is evident from the above answers. Participants were practicing social distancing fully. Measures like avoiding touching eyes, nose and mouth, covering mouth when coughing, and washing with soap and water, wear facemask and avoid gathering respectively, avoiding close contact with someone who is infected, was practiced very effectively. Other measures were Staying home when sick, self-quarantine, ensuring a balanced diet, using disinfectant doing regular exercise, drinking warm water taking food supplements, avoided meat, and use of antibiotics (Figure 1).

The Table 5 describes the perceived benefits towards complying to the restrictions regarding the pandemic of COVID-19. Majority of respondents agreed to get the vaccine if available and if people who have visited outbreak should be quarantined, community facilities such as schools or kindergartens should be closed and major events should be cancelled and international trips should be avoided. One should leave the house only for urgent reasons and not unnecessarily.

Table 5: Perceived benefits of COVID-19.

Variables	Numbers, (n=301)	Percentage (%)
If vaccine is available, I would get it		
Yes	273	90.7
No	28	9.3
People who have visited outbreak should quarantined		
Yes	298	99
No	01	0.3
Don't know	02	0.7
Avoid certain people on basis of international travel history		
Yes	202	67.1
No	80	26.6
Don't know	19	6.3
Community facilities such as schools or kindergartens should be closed		
Yes	298	99
No	00	00
Don't know	03	1
In risk areas, major events should be cancelled by the organizers		
Yes	298	99
No	02	0.7
Don't know	01	0.3
Should only be allowed to leave his house for health professionals or urgent reasons		
Yes	292	97
No	05	1.7
Don't know	04	1.3

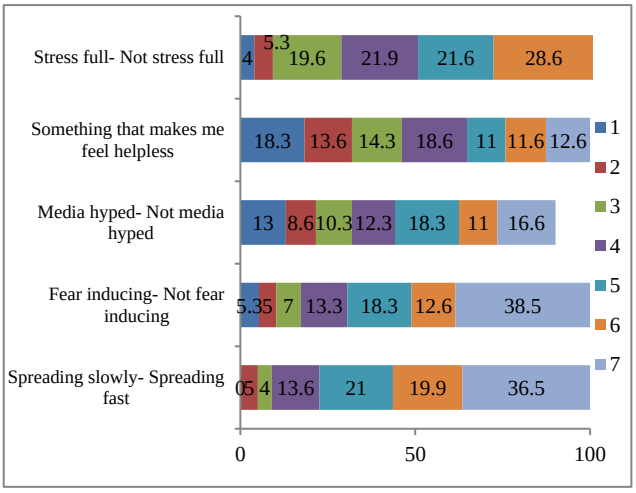

Figure 2: Perception of affect- COVID-19 to me feels (1-7 Likert scale).

Above Figure 2 shows the perceptions of affect assessed as affect towards COVID-19. The affects illustrated were mainly stress, feeling helpless, fear about novel corona virus, rate of spread, media hyped the situation about the news of COVID-19. It was observed that 36.5% participants felt that that disease was spreading fast and

majority participants i.e., 38.5% did not have any fear regarding the disease. 13% participants felt that there was quite media hype while 16.6% also felt that there was no media hype and the disease is indeed dangerous. 18.3% felt helpless while 28.6% did not feel stressed.

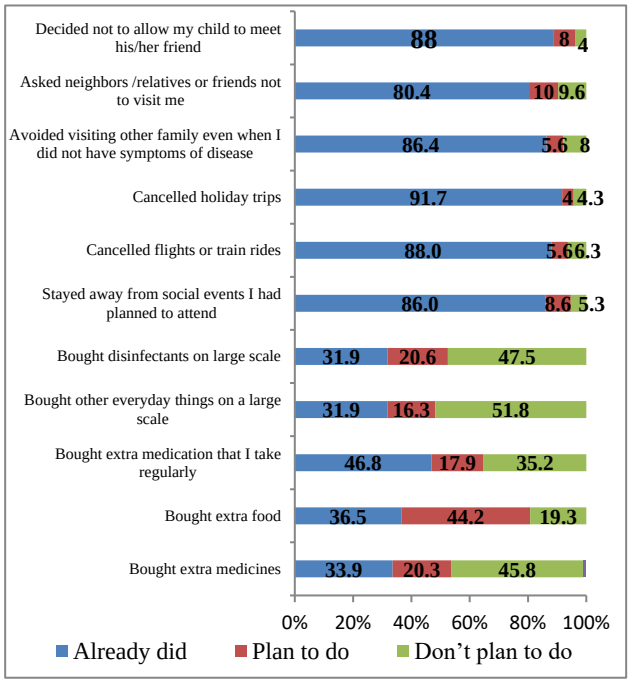

Figure 3: Community preparedness measures.

Above Figure 3 illustrates the preparedness measures adopted by the study participants towards impending pandemic. About 33.9% of the participants bought extra medicines, 36.5% bought extra food, 46.8% bought extra medicines that they usually take, 31.9% bought disinfection on a large scale, 86% participants stayed away from social events, 88% of them cancelled flights or train rides, 91.7% of them cancelled holiday trips, 88% of the study participants-imposed restrictions on children going out of the house.

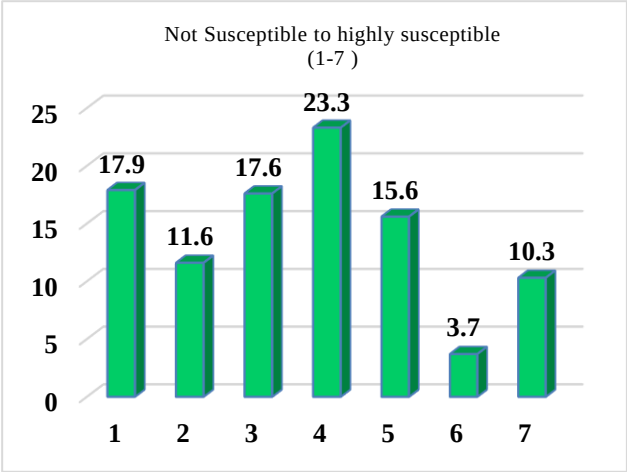

Figure 4: Perceptions of susceptibility to an infection with COVID-19.

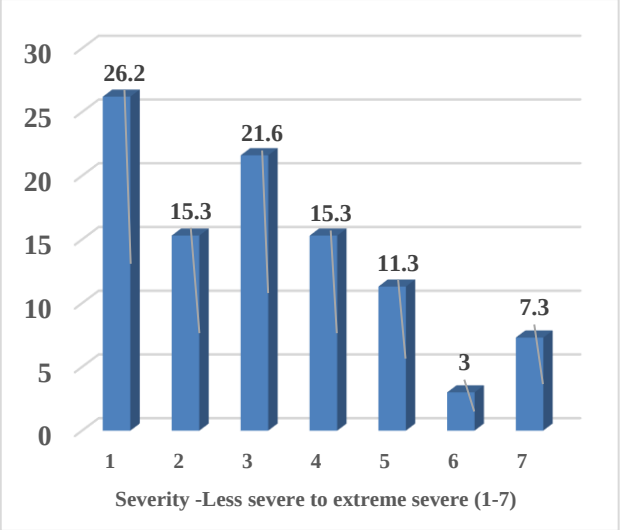

Figure 5: Perceptions of severity of contracting COVID-19.

Perceived susceptibility was found to be moderate and accounts for 33.9% and 26.2% of the study participants perceived that the severity of contracting novel corona virus is very less accounting for 26.2% (Figure 5).

DISCUSSION

In the present study 301 majority of the participants i.e., 162 (53.8%) of them were male. Majority were in the age group of 21-30 years with the mean and standard deviation of 30±11.3. According to Nazli et al, the mean age of the respondents 38.38±12.34.[6] Majority i.e., 125 (41.5%) were Doctor by occupation. Only 24 (8%) had chronic illness. 98.7% of the study participants were aware about COVID-19 which is similar to the finding of a research conducted by Jose et al, in which 99.3% of the participants were aware.[7] In the present study majority i.e., 293 (97.4%) knew that COVID-19 is transmitted via respiratory droplets, followed by 219 (72.8%) touching contaminated surface/object. According to Roy et al, it was observed that only 29.5% of the participants responded that the virus spreads through multiple modes like touching, kissing, sneezing, and food study.[8] In the present study, 299 (99.3%) informed that people aged more than 60 years are at risk of getting COVID-19 infection followed by individual who have chronic lung diseases. In the present study majority i.e., 288 (95.7%) of the study participants responded fever as a symptom of COVID-19 followed by shortness of breath, cough which is similar to the findings of the study conducted by Cvetkovic et al in which majority of the respondents (98.2%) noted that common symptoms include fever, dry cough.[9] Roy et al, conducted a study and observed that only 18.2% regarded fever as a symptom of COVID-19, which is a major symptom.[8] 98.7% practiced social distancing followed as they believed that the disease spread could be stopped if they practice this measure. 88.7% of the study participants-imposed restrictions on children going out of the house. Among 301 participants

included in the study majority i.e., 284 (94.4%) informed that the source of information regarding COVID-19 is by consulting with the health workers, followed by newspaper, television. In the present study majority i.e., 223 (74%) responded that the disease is highly contagious, 219 (72.7%) told that no vaccine is available.

Limitations

The study is limited to the people who had smartphone's, and who were well versed with English. Study has been done amongst educated population hence it cannot be generalized to the whole population.

CONCLUSION

The study participants had adequate awareness and knowledge regarding the novel corona virus. Perceptions have a great role in behavioral change therefore

All efforts should be focused on improving the perceived susceptibility, severity, benefits, the cues for action, especially in a new pandemic scenario which requires a quick behavioral change.

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Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

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