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Knowledge, attitudes, and practices (KAP) towards COVID-19 among Health care workers during the Pandemic second wave: A cross sectional study

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Abstract

Introduction: India is witnessing the second wave of the pandemic caused by SARS CoV-2 (Severe Acute Respiratory Syndrome Coronary Virus -2).This pandemic has caused lose of lives and livelihood of millions of people worldwide.

Materials and Methods : A cross sectional study was conducted among 360 Health care workers via online based survey through google forms with standard Questionnaire to assess the knowledge, Attitude & Practice towards COVID-19 among Health Care Workers (HCWs).

Results : Out of the 360 HCWs included in the study majority were doctors(69.8%) followed by medical/Dental students (23.8%) and paramedical staffs (6.4%). Males outnumbered the females. Maximum COVID related information was reported from social media (77.2%).Adequate knowledge was seen in 61.9%, Positive attitude was seen in 58.3 % and appropriate practice was seen in 70 % HCWs. Positive weak correlation was seen in Knowledge, Attitude & Practice.

Conclusion: Improving the Knowledge by repeated Health education campaigns and inculcating an optimistic attitude is important among the HCWs to follow COVID related practices and to overcome the second wave of the pandemic in an effective way and prevent the third wave

Keywords: HCW, Pandemic, SARS CoV-2, Second wave

Introduction

Corona viruses are a large family of RNA viruses that cause common cold to diarrhoea in children.Severe Acute Respiratory Syndrome Corona Virus 2 (SARS CoV-2) also called Novel Corona virus has led to the emergence of this Global Pandemic (1) .The virus was first identified in December 2019 in Wuhan, China. It was declared a pandemic on 11 March 2020 (2). As of 29 April 2021 the disease has caused around 145 million confirmed cases and 3.08 million deaths making it a devastating pandemic (3).

Symptoms of COVID 19 differ from person to person.It might be asymptomatic in some, while some manifest with mild to modere symptoms and few others have severe symptoms causing fatalities (4).The virus is transmitted by aerosols produced through coughing ,sneezing etc and in touching the contaminated surface harbouring the virus (5). Airborne transmission occurs as smaller particles donot settle down and remain circulating in the air in closed spaces (6). A Person infected with SARS CoV 2 remain contagious from 10-14 days. Both symptomatic and asymptomatic persons transmit the disease (7).

There had been a good control in the number of COVID cases in India and curve of the pandemic flattened by March 2021,but suddenly from the early

April 2021 the cases in India had been taken an ascending trend in an unexpected level leading to the second wave (8).Viruses attain various mutations in different positions of their genome for their survival and this has led to the difference in the symptoms manifested in the first and the second wave (9).

The current pandemic has caused lose of lives and livelihood of millions of people worldwide (10).Any effort taken from the governmental and non governmental organisations should ultimately result in incorporating adequate knowledge on the virus transmission, consequences of the disease and to produce positive attitude to overcome the pandemic also educate on practice measures of wearing mask, avoiding overcrowding, to follow social distancing, vaccination (11) .Studies from China had gained victory over the disease by producing positive attitude (12).

As our country is currently facing the second wave of the pandemic, we thought of conducting a KAP study to assess and bridge the gaps in knowledge, Attitude and practice among health care workers as this could help in curtaining the pandemic in a faster and more effective way

Materials and Methods :

This study was designed as a cross-sectional study that was circulated through Google forms.The study was started in April 15 and ended on April 30 after adequate sample size was achieved.The google form link was passed through indivijual and group whatsapp, emails of students /doctors and via social media platforms.Information on the usage of the study data for research purpose and participants confidentiality was given at the beginning of the form.Filling the form was taken as informed consent.

In a Study by Gopalakrishnan et al on KAP on COVID-19 in India Revealed that 82.9% of the health Care workers had adequate knowledge (13). Taking this as expected proportion, relative precision of 5% and 95% confidence interval, the sample size was calculated using nMaster software and was found to be 330. However, we have included 360 study participants in our study.

Results :

The First part of the google forms had variables like Age, Sex, Source of information regarding COVID.Majority of the study group were in the age group of 20-25 years (48.8%) followed by 26-35 years (23.7%).Least response were from age group >66 years (3%). Males in our study were majority accounting for 61.4% of the study population.The maximum information on COVID were obtained from social media (77.2%) followed by Internet (74.2%) and Newspaper /Television (51.1%).Maximum response were from doctors (69.8%) followed by Medical/ Dental students (23.8%).The socio-demographic profile of the study participants is shown in Table 1.

Table1: Distribution of study participants based on Socio-demographic details [N=360]

Variables	**n(%)**
Age in Years	
20-25	176(48.8)
26-35	85(23.7)
36-45	54(15)
46-55	22(6.2)
56-65	12(3.3)
>66	11(3)
Gender	
Male	221(61.4)
Female	139(38.6)

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Source of Information*	
Internet	267(74.2)
Newspaper/Television	184(51.1)
Social Media	278(77.2)
Peers	159(44.2)
CME/Conference/Training programme	40(11.1)
Category of Health Care workers (HCWs)	
Doctors	251(69.8)
Nursing and Para medical Staffs	23(6.4)
Medical /Dental students	86(23.8)
*Multiple response allowed	

The second part of the google form had questionnaire on Knowledge, Attitude and Practice. The knowledge part of the questionnaire had questions on the origin of the disease, mode of transmission & preventive measues. The attitude of the participants were assessed by questions on the approach towards using PPE ,use of alternate medicines, interest in upgrading their current knowledge. Questions on use of face mask, sanitizers, practicing social distancing ,disposal techniques of PPE were used to assess the Practice among study participants .The response obtained from the study participants on Knowledge, Attitude and Practice is given in Table 2

Table2: Distribution of study participants based on Knowledge, Attitude & Practice items in questionnaire

Knowledge items	**Correct Response n(%)**
Does surface touches by affected person spread COVID-19?	255(70.8)
Is COVID-19 of animal origin?	179(49.7)
Do people with comorbidity have severe disease?	256(71.1)
Is RT-PCR a confirmatory test to detect COVID-19?	267(74.2)
Can patient with COVID-19 be asymptomatic?	318(88.3)
Does contact with pet animals spread COVID-19?	184(51.1)
Does use of face mask offer you complete protection against COVID-19?	91(25.3)
Can corona virus be transmitted from asymptomatic patients?	304(84.4)
Is vaccination available for COVID-19?	346(96.1)
Have you downloaded any application (mobile app) related to COVID-19?	206(57.2)
Attitude items	
All patients coming to hospital be considered as potentially COVID-19 positive	161(44.7)

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Would buy PPE if available at working place	266(73.9)
A COVID-19 positive patient after 14 days quarantine becomes non infectious.	167(46.4)
All COVID-19 positive patients should be hospitalised and treated.	238(66.1)
Combined approach of Allopathy and AYUSH(Ayurveda, Yoga and Naturopathy, Unani, Siddha & Homeopathy) is effective than a single mode of treatment	265(73.6)
All Health care workers should update themselves with WHO guidelines.	346(96.1)
Prevalence of COVID-19 can be reduced by active participation of health care workers in Hospital Infection Control programme.	327(90.8)
COVID-19 pandemic has raised unnecessary fear amongst health care workers.	85(23.6)
To protect myself from COVID-19 exposure, i should stay home.	242(67.2)
Practice items	
Do you educate others about COVID-19?	302(83.9)
Do you follow treatments other than allopathy?	151(41.9)
Do you wash hands with soap or sanitiser frequently?	342(95)
Do you make sure your mask covers your nose and mouth?	351(97.5)
Is Antibiotic prescribed for all COVID patients?	128(35.6)
Do you dispose used masks and gloves in biomedical bins/appropriate disposal?	302(83.9)
Do you touch the outer surface of mask for adjusting?	321(89.2)
Are u vaccinated against COVID 19?	297(82.5)
Do you always follow social distancing ?	292(81.1)

Majority of the study participants had good knowledge (61.9%), positive attitude (58.3%) and appropriate practice (70%).The distribution of study participants based on adequate knowledge, positive attitude and appropriate practice is shown in Table 3.

Table 3: Distribution of study participants based on adequate knowledge, positive attitude and appropriate practice

Items	**n(%)**
Adequate knowledge	223(61.9)
Positive attitude	210(58.3)
Appropriate practice	252(70)

Total Score of ≥6 in each items separately was considered adequate knowledge, positive attitude and appropriate practice Positive weak correlation which was statistically significant was observed between knowledge, attitude and practice .The correlation of Knowledge, Attitude and Practice among the study participants is shown in table 4

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Table 4: Correlation of knowledge, attitude and practice among study subjects			
Items	**Knowledge**	**Attitude**	**Practice**
Knowledge	1	0.202*	0.280*
Attitude	0.202*	1	0.221*
Practice	0.280*	0.221*	1
*P<0.05			

Discussion :

Our study is first of its kind conducted during the current pandemic second wave in India .The majority of the study participants had gained COVID related knowledge through social media and Internet. In our study the maximum study participants were Doctors (69.8%) followed by medical/Dental students (23.8%).

In our study we found 69.1% of the Health care workers had adequate knowledge towards Covid 19 pandemic. This is lower when compared to studies in china which showed 90% knowledge score(14). Analysing the data collected from our study we found the health care workers had >85% knowledge score when asked about the manifestations or preventive measures which is accordance with studies from by Saqlain et al from Pakistan which showed a better knowledge score of 75-85 % (15)

We found the attitude in our study subjects was 58.3% which is very much lower when compared to studies done in other parts of the country implicating the need of inculcating optimistic attitude towards the health care workers (16).

Appropriate practice was found in 70 % of the study participants which is similar to other similar studies which were done during the first wave of the disease.On comparing the data obtained in our study to the results obtained in china (17,18) it undoubtedly indicates a much lower practice score.

We also found a positive weak correlation between knowledge, Attitude & Practice among the study participants that was statistically significant which is in similar to studies in other countries (15,19).

Conclusion :This study highlights the need to create optimistic attitude in conjunction with appropriate practice among Healthcare workers to tackle the current second wave of the pandemic and to prevent the emergence of second wave.

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