Knowledge, Attitude and Practices (KAP) regarding Covid-19 among medical students of a teaching tertiary care institute of North India - An observational study

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Abstract

Objectives: COVID-19 pandemic has provided insight into how novelty and unpredictability of health emergencies due to lack of awareness can over burden and cripple any country's existing health care infrastructure. Importance of KAP especially among future budding doctors cannot be deprioritized and overlooked. Hence, present study was undertaken to assess KAP towards COVID-19 among medical students.

Materials and Methods: Cross-sectional online survey using Google form platform was conducted among 512 medical students from April -May 2021 through pre-designed, pretested, self- administered questionnaire by taking informed consent. Students were clearly informed about their voluntary participation as well as aims and objectives of the present study. The questions consisted of 2 parts. First part had demographic details, second part covered questions related to knowledge (13), attitude (5) and practice (8). Each question had 3 options - true, false and no comment. For every correct answer one point was awarded while incorrect answer fetched zero point. The pilot cases data underwent reliability coefficient analysis with SPSS software version 25. As inferred from pilot data, Cronbach alpha coefficient of KAP was 0.71 pointing towards an acceptable interval consistency.

Comparison of scores among variable demographic profile was done using independent sample t-test and one-way analysis of variance.

Data analysis: SPSS software version 25 was used. Descriptive analysis was done as percentages, frequency and mean. The dependent variables (knowledge and

attitude) and independent variables (demographic variables) were assessed using t -test and ANOVA.

The relationship between mean knowledge and attitude scores was assessed using Spearman's rank correlation coefficient. The difference was considered statistically significant if p <0.05.

Results: Total participants included 284 females and 228 males. Participants with more experience had higher knowledge score though the difference was not significant (p value 0.63). Female practice scores were significantly higher (p <.01). 98% agreed that suspected cases are ones with travel history to high-risk zones or are contacts of infected person. About 49% of the participants were of view that non-vegetarians are more at risk of catching infection. Only 53.9% students agreed that both asymptomatic and symptomatic patients can spread infection. The students were very positive as far as success in battle against COVID was concerned (98.6%). Almost all participants practiced sanitization and washing hands after contact with suspect (98.4%). Around 88% agreed to wearing masks in crowded places. 40% of the participants had no/ wrong knowledge of incubation period of virus.

Conclusion: Since there's always possibility of improvement, above findings will help authorities frame policies including evaluation of physical auditing needs at workplace to fill any gaps and provide up-to-date information timely for controlling COVID-19 or similar pandemics in future.

Keywords: COVID-19, KAP, medical, questionnaire, pandemic, cross –sectional, online survey.

Introduction

COVID-19 took the world in December 2019 and by January 2020, it was declared a pandemic by WHO from public health emergency.[1-3] Since then this pandemic has claimed many lives and left many with chronic respiratory problems along with long term psychological symptoms.[4-6] Current pandemic has provided various governments an insight into how novelty and unpredictability of health emergencies due to lack of awareness can over burden and cripple any country's existing health care infrastructure.[5-7]Even till date, the ultimate scope is unclear when it is almost 4th wave evolving.

After an incubation period of 2-7 days the disease causes a flu-like respiratory illness with main presenting symptoms being dry itchy cough, sore throat, fever and difficulty in breathing in severe cases, yet most still being asymptomatic. Pneumonia with dyspnoea being the most common cause of death.[8-10]

Nonetheless, the fatality rate of the current pandemic has shown a little mercy with officially rapidly declining numbers and current positive cases the world over being approx. 6.87 lakhs as on 23 Dec 2022, relatively lower than the previous SARS-CoV (2002/2003) and MERS-CoV (2012) outbreaks.[2,3] In INDIA, after an implementation of 14-hour voluntary public curfew, government immediately announced complete shutdown for 21 days (i.e. up to 14th April 2020), all over the country with restrictions on public gatherings but only essential services to continue.[11,12] The fight against COVID-19 still continues the world over including INDIA.

It is necessary that urgent relevant control measures be implemented by strictly following COVID appropriate behaviour (CAB). Prevention measures need to be implemented accordingly as per knowledge, attitude and practice (KAP) behaviour of concerned population group.[5,13] Importance of KAP especially among future budding doctors cannot be deprioritized and

overlooked.[7] Hence, present study was undertaken to assess KAP towards COVID-19 among medical students of PGIMS Rohtak, so that gap analysis can be done and further necessary measures may be taken to improve the same.

Material and method

Cross-sectional online survey using Google form platform was conducted among 512 medical students from April-May 2021 through pre-designed, pretested, self- administered questionnaire in English language by taking informed consent.

Students were clearly informed about their voluntary participation as well as aims and objectives of the present study. They were informed that all data and their opinion were confidential and will be used solely for the purpose of present study. They were free to withdraw from this study anytime. The questions consisted of 2 parts. First part had demographic details, second part covered questions related to knowledge (13), attitude (5) and practice (8). Each question had 3 options - true, false and no comment. For every correct answer one point was awarded while incorrect answer fetched zero point. Total of 530 forms were send but 18 did not reply, so statistical analysis of only 512 forms was done. After completion of initial semi-structured questionnaire, it was shared with four experts in the field. Their opinion was incorporated and required changes were made. The final form was shared with 20 people for pilot testing. Time taken was approximately 12 minutes for completing the form. The pilot cases data underwent reliability coefficient analysis with SPSS software version 25. As inferred from pilot data, Cronbach alpha coefficient of KAP was 0.71 pointing towards an acceptable interval consistency.

Data analysis

SPSS software version 25 was used. Descriptive analysis was done as percentages, frequency and mean. The dependent variables (knowledge and attitude) and independent variables (demographic variables) were assessed using t -test and ANOVA.

The relationship between mean knowledge and attitude scores was assessed using Spearman's rank correlation coefficient. The difference was considered statistically significant if $p < 0.05$.

Results

Total participants were 512 out of which 284 were females and rests i.e., 228 were male. Majority of our participants were students from 3rd and 4th year of MBBS, having more than 2 years of experience in medical field. The participants with more experience had higher knowledge score, though the difference was not significant (p value 0.63). Female practice scores were significantly higher (p <.01). Almost all participants (98%) agreed that suspected cases are the ones with history of travel to high-risk zones or contacts infected person and that healthcare workers must wear proper PPE kits. About 49% of the participants were of view that non-vegetarians are more at risk of catching infection. Only 53.9% students agreed that both asymptomatic and symptomatic patients can spread infection. The students were very positive as far as success in battle against COVID was concerned (98.6%). Almost all participants practiced sanitization and washing hands after contact with suspect (98.4%). Around 88% agreed to wearing masks in crowded places.

Table 1:

Age (years)	<18	18-20	>20
No. of participants	148	282	82

Graph 1:
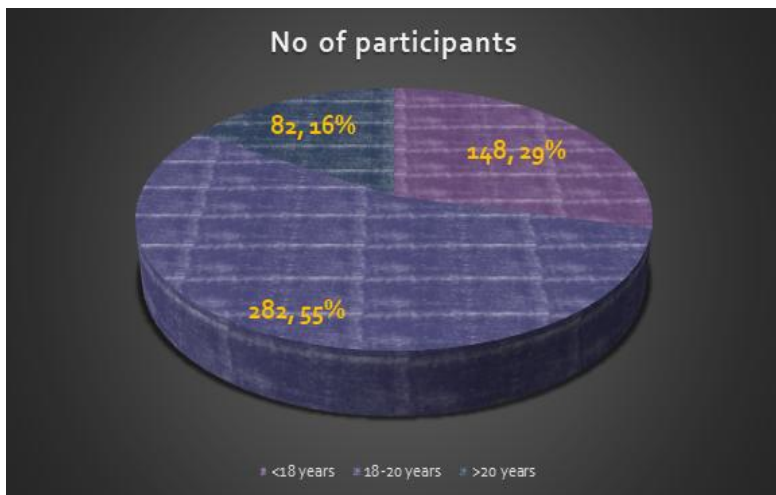
Table 2:

Experience in medical field	</= 2 Year	>2 years
No. of participants	186	326

Graph 2
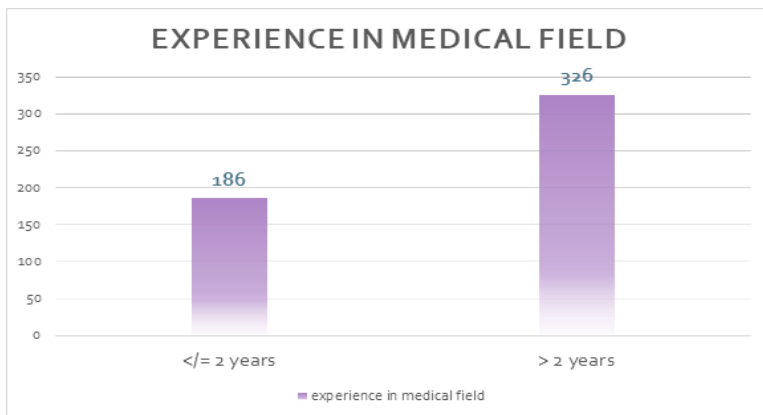
Table 3:

Gender	Male	Female
No. of participants	284	228

Graph 3:
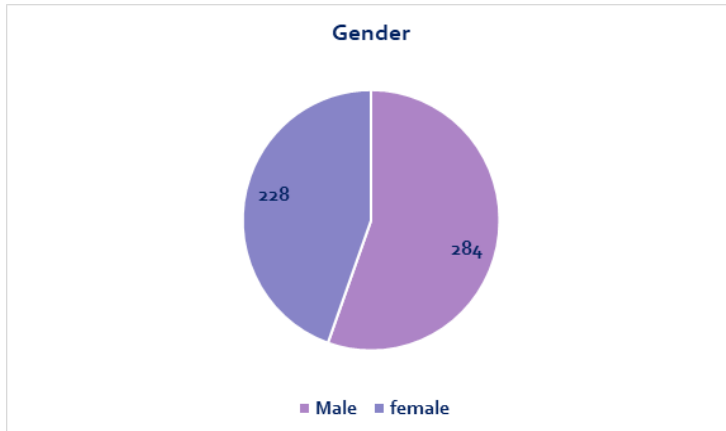
Table 4: Knowledge

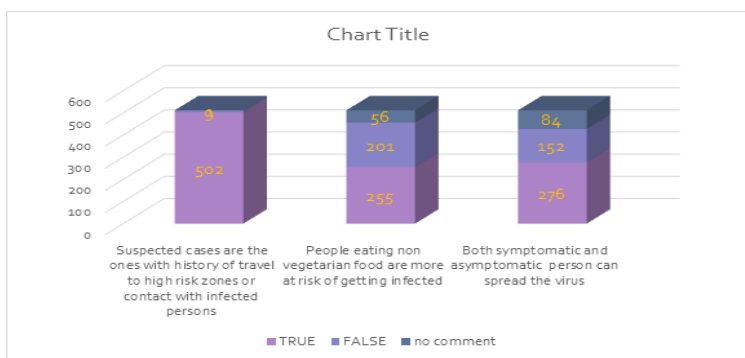| Qn.		True	False	No comment
1	Most important clinical symptoms of COVID-19 are dry cough, sore throat, fever, myalgia and fatigue.	320	84	108
2	Early recognition of suspected cases and symptomatic treatment along with isolation are effective against COVID-19	305	115	92
3	Suspected cases are the ones with history of travel to high-risk zones or contact with infected persons.	502	9	1
4	Patients with comorbidities and elderly are more at risk of developing severe infection.	402	100	10
5	Incubation period of the virus is 2-7 days.	307	89	116
6	People eating non-vegetarian food are more at risk of getting infected.	255	201	56
7	Both symptomatic and asymptomatic person can spread the virus.	276	152	84
8	The most common mode of transmission of virus is large droplets while coughing and sneezing	478	26	8
9	All healthcare workers must wear surgical masks when in hospital or in public.	498	14	0
10	Healthcare workers caring for COVID-19 positive patients must wear proper PPE kits with N95 masks to avoid getting infected.	505	5	2
11	We must avoid public gatherings, crowded shopping malls and observe a COVID appropriate behaviour to avoid spread of infection.	506	2	4
12	People must observe an isolation period of 14 days in case of close contact with an infected person.	356	54	102
13	Vaccination is an effective tool against the virus and may prevent serious morbidity and mortality.	304	96	112

Graph 4:
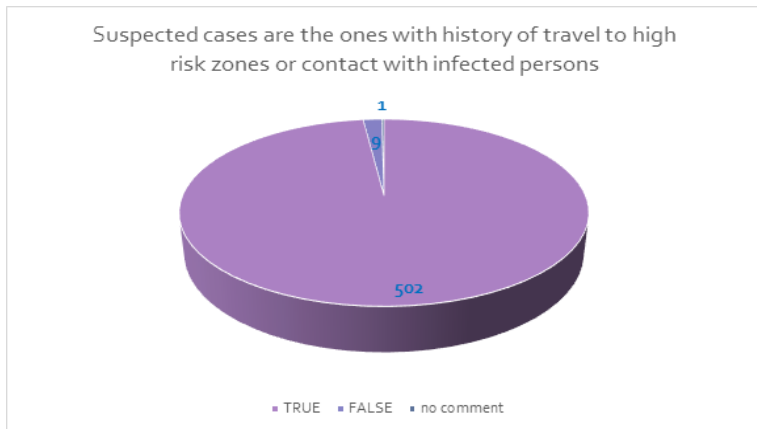
Graph 5:
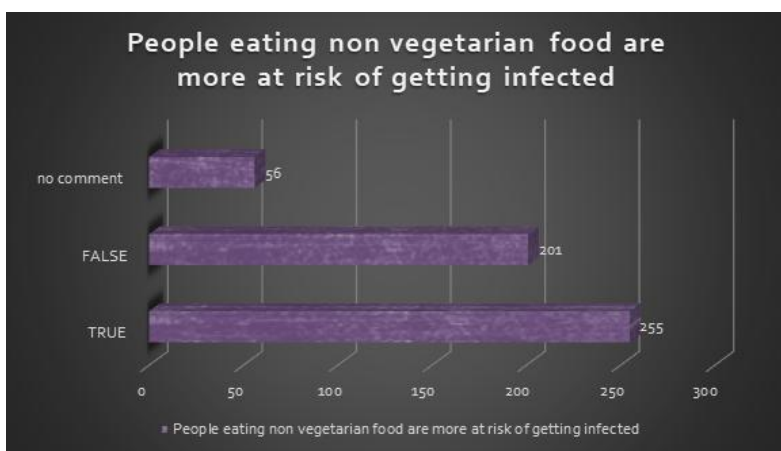
Graph 6:

Table 5: Attitude

Sn.		True	False	No comments
1	We must be updated with current knowledge to curb spread of virus.	512	0	0
2	Social and media coverage (Android application, TV, newspaper, internet) gives appropriate and updated information about COVID- 19.	254	196	62
3	Lockdown is an effective way to prevent spread of disease and we must properly follow it.	404	99	9

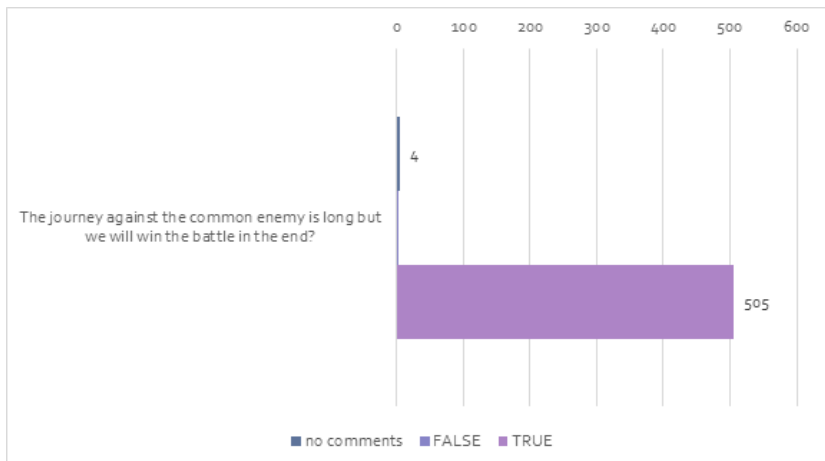| 4 | The journey against this common enemy is long but we will surely win the battle in the end. | 505 | 3 | 4 |
| 5 | We must all be vaccinated and must motivate all others to do so. | 463 | 44 | 5 |

Graph 7:

Table 6: Practice

Sn.		True	False	No comments
1	Do you avoid crowded places and social gatherings?	452	48	12
2	Do you always sanitize/ wash hands after any possible/ suspected infected contact?	504	6	2
3	Have you spread adequate correct information about pandemic in your relatives and friends?	315	135	62
4	Do you wear mask outside home and in crowded places?	455	10	47
5	In case of emergency, have you saved any contact number in your mobile?	163	271	78
6	Are you following COVID appropriate behaviour (adequate social distancing, hand washing)?	416	33	63
7	While coughing, sneezing do you cover your mouth/ nose and advice others to do the same?	472	18	22
8	Are you vaccinated or willing to be in near future?	84	218	210

Table 7:

Sn.	Knowledge			Attitude			Practice		
	Mean± SD	t/f	p value	Mean± SD	t/f	p value	Mean± SD	t/f	p value
Gender									
Male	11.24± 1.43	0.63	0.68	4.15 ±0.84	0.71	0.74	7.26 ±1.08	2.69	0.001
Female	11.52± 1.21			3.98 ±1.04			7.41 ±1.09		
Experience									
</= 2 years	11.54± 1.68	0.74	0.541	4.68 ±0.65	0.68	0.48	7.68± 1.21	0.24	0.734
>2 years	12.02± 1.54			4.33 ±0.75			7.03 ±1.32		

Discussion

The present study was conducted among the Indian medical graduates of PGIMS Rohtak to assess the knowledge, attitude and practice course towards COVID-19. It was found that the knowledge scores were pretty good (> 96 %) but practice and attitude scores still required improvement. The demographic variables of age had no significant difference in KAP. As far as gender was concerned, female practices were more at power and had better practical scores though the knowledge and attitude scores had no difference. The final year students had better KAP scores but there were gaps in the understanding and behaviour of rest of the students in the level of knowledge.

There were certain lacunae like about 40% of the participants had no/ wrong knowledge of incubation period of virus. This implies that they may not be aware that asymptomatic patients can spread virus and so adherence to public health measures may not be followed. This in turn makes one vulnerable to catch infection.[3,13,14] Consequently wearing of mask may not be followed, thereby putting others at risk of contracting infection. Good knowledge is essential for safer practices and positive attitude.[14,15] Majority (98%) agreed that healthcare workers for COVID patients in wards and intensive care unit need to wear proper PPE kits with N-95 masks. The results regarding knowledge are similar to previous studies by Ferdous et al and Maheshwari et al. [4,7]

Knowledge has importance in that unnecessary fear and anxiety leading to wrong practices may be avoided and students may spread this knowledge among the population at large to prevent social and mental health issues. The authors in their study also concluded that participants have good knowledge along with positive attitude and must strive to strengthen their knowledge.[2,5,6] social media which is a major source of knowledge and information should focus on communicating right knowledge and proper measures to prevent spread of infection rather than just reporting number of daily COVID cases and spreading unwanted panic at large. Similarly many authors agreed that spread of true knowledge is required rather than unnecessary fear of infection. Here only a few participants saved helpline numbers. Similarly other authors reported that public health measures need to be diverted to increase awareness of adequate helpline numbers in case if anybody faces dire emergency.[11,12,14]

Public health policies need to emphasise more on social distancing and avoiding large public gatherings.[7,11,12] Medical students shared more advantageous position in being means for spreading right and documented information to their family members and society at large. Our findings were in accordance with the study by Maheshwari et al.[7]

Certain points were not covered in our study

● Discrimination against healthcare workers should be avoided, after all they are actual COVID warriors and infected from public at large.

● Spread awareness not fear.

● Government and stakeholders including affluent celebrities should come forward to help the country in this testing time.

● People should be aware of signs and symptoms and undergo testing with self -isolation well in time to stop chain of spread of deadly virus.

Conclusion

The majority of our participants had sufficient knowledge, positive attitude and awareness of good safety practices against COVID-19. Since there's always

possibility of improvement, above findings will certainly help authorities frame policies including evaluation of physical auditing needs at workplace to fill any gaps and provide up-to-date information timely for controlling COVID-19 or similar pandemics in future. In spite of the fact that sufficient KAP is prevalent, awareness still needs to spread especially among high-risk categories in order to prevent further complications. The battle against COVID or any future pandemic will than surely be won.

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