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Knowledge, anxiety and the use of hydroxychloroquine prophylaxis among health care students and professionals regarding COVID-19 pandemic

Abstract

Introduction: Data regarding knowledge and attitude about COVID-19, the prevalence of acceptance of hydroxychloroquine prophylaxis and anxiety amidst COVID-19 pandemic among health care students/professionals in India is scarce.

Material and methods: A cross-sectional study was conducted during May 2020, using an online survey via Google forms. A self-administered validated structured questionnaire was applied, which comprised 28 questions among health care students/professionals at a tertiary care centre in North India.

Results: A total of 956 respondents were included (10.2% nurses, 45.2% medical students, 24.3% paramedical students, 11.7% resident doctors and 8.6% consultant doctors). Overall knowledge score was 9.3/15; the highest for preventive practices (4/5), followed by clinical knowledge (2.7/5) and the use of personal protective equipment (PPE) (2.6/5). The overall score was the highest in consultant doctors (10.8) while the lowest in nurses (8.5) and paramedical students (8.4) ($p < 0.001$). Less than half of the respondents had knowledge about the correct sequence of doffing PPE and the use of N95 mask. About 21.8% of the participants experienced moderate to severe anxiety; higher among nurses (38%), followed by paramedical students (29.3%); and anxiety was higher when knowledge score was low (27.6% vs 14.7%); both factors were independent predictors on multivariate analysis ($p < 0.001$). Only 18.1% of the respondents applied HCQ prophylaxis — the highest proportion constituted consultants (42.7%), and the least — paramedical students (5.2%); ($p < 0.001$) and HCQ use was more frequently used if they had a family member of extreme age group at home (23.3% vs 12.2%; $p < 0.001$).

Conclusions: The knowledge about correct PPE usage is low among all groups of HCWs and students, and there is a high prevalence of anxiety due to COVID-19. The lower COVID-19 knowledge scores were significantly associated with a higher likelihood of anxiety and inadequate use of HCQ prophylaxis. The appliance of HCQ prophylaxis had no significant association with anxiety levels of the respondents.

Key words: COVID-19, anxiety, knowledge, HCQ prophylaxis, health care

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Introduction

The virus responsible for the global outbreak of COVID-19 pandemic is a novel strain discovered in 2019 and is believed to have originated from bats. The first case was reported in Wuhan, Hubei Province in China, then spread throughout the world. The disease was declared a pandemic on March 11th, 2020 by the World Health Organi-

zation (WHO) [1]. The virus was initially named 2019-nCoV and subsequently, the name was changed to SARS-CoV-2 (severe acute respiratory syndrome coronavirus-2) by the International Committee on Taxonomy of Viruses [2]. This is a highly contagious virus and community transmission has been witnessed by many countries worldwide. The health care workers being the front liners, besides having the highest risk of

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being infected, are also bearing a great amount of physical and psychological stress. Currently, India is witnessing a rapid rise in cases of COVID-19 and community transmission presence in some areas of the country. To tackle the situation, the government of India and state administrations are building up the infrastructure at a very rapid speed that includes the training and deployment of medical students in COVID care hospitals in the near future, if such need arises [3]. Hence, it is of utmost importance to create awareness, fill knowledge gaps, and address the mental health of medical students and the health care professionals. COVID-19 cases are increasing rapidly in Punjab, particularly after allowing relaxations in lockdown, although the government has been able to manage exceedingly well till now. The Indian Council of Medical Research (ICMR) has recommended prophylactic use of hydroxychloroquine (HCQ) in high-risk contacts as well as health care workers [4, 5]. Currently, there is very scarce data from Indian perspective regarding knowledge, awareness, anxiety and the use of HCQ prophylaxis related to COVID-19 among health care workers.

This study was planned to assess the knowledge and anxiety regarding COVID-19 and HCQ prophylaxis among the health care students or professionals in the state of Punjab, India.

Material and methods

An online survey-based cross-sectional study was conducted during the month of May 2020 (13th–24th May) in the period of extended lockdown but increasing relaxations across India, including the state of Punjab. The survey was conducted using a self-administered questionnaire comprising 28 questions structured into various sections (demographics, knowledge, and anxiety) among health care students/professionals at Adesh University, Bathinda in North India.

The questionnaire was designed after detailed literature search on the disease, including updated information provided by the World Health Organization (WHO), the US Center for Disease Control and Prevention (CDC), ICMR, and other societies' guidelines [1, 6, 7]. The questionnaire was further validated in three steps. Firstly, it was sent to ten expert medical professionals and researchers for an opinion regarding the importance, relevance and acceptability of the questionnaire, and their comments were incorporated. Subsequently, the questionnaire was sent to ten health care workers (HCWs) for pre-testing,

checking the language, clarity, simplicity, feasibility and time required to complete the questionnaire, and their comments were incorporated too. Lastly, a pilot study was conducted among 100 respondents of the target population to check for statistical validity (Cronbach's alpha score — 0.73). After validation, the questionnaire link was sent to each respondent via personal emails or using WhatsApp platform via a Google form. The target population included medical students, paramedical students, nurses, resident doctors and consultant doctors of the university. The respondents were asked to give their informed consent before filling in the questionnaire. The participants were briefed about the type of the research work and assured that the anonymity of the data was maintained. The persons who did not consent to the study or provided incomplete forms were excluded.

The demographic section included 5 questions (1 question was related to age, gender, qualification, use of HCQ prophylaxis and family member of extreme age group at home). Knowledge section was further divided into 3 subdomains, i.e. clinical knowledge of COVID-19 (5 questions), the use of personal protective equipment (5 questions) and understanding of preventive measures (5 questions). Each question was an option-based (either "yes/no" or "multiple option" type with the single correct answer), and "1" mark was given for every correct response and "0" mark for wrong answer. The Generalized Anxiety Disorder (GAD-7) questionnaire was used to assess anxiety among the respondents. The GAD-7 questionnaire is a seven-item, self-report anxiety questionnaire designed to assess the patient's health status during the previous two weeks. The score ranges from 0 to 21 and the scores of 5, 10 and 15 represent cut-off points for mild, moderate and severe anxiety, respectively [8]. A score of 10 or more points is considered referral for further evaluation [9, 10].

The study was undertaken after receiving permission from the Institutional Research and Ethical Committee (IRB no: AIMSIR/MC/Estt/843).

Statistical analysis

Data was imported to Excel spreadsheet, and statistical software Stata 14.0 was used for data analysis. Numerical variables were expressed as mean and standard deviations, while categorical variables were expressed as frequencies (percentages). One-way ANOVA analysis was used to analyse any difference in mean knowledge

scores. Bonferroni correction in p-value was done for multiple comparisons. Chi-square tests were used to compare the association between two categorical variables. The logistic regression analysis was applied to find independent predictors of the presence of anxiety and the use of HCQ prophylaxis among the respondents, and was expressed as odds ratio (OR) and 95% confidence interval (CI). The variables found statistically significant in univariate analysis and clinically relevant were included in stepwise multiple logistic regression model with the probability of entry 0.05 and probability of removal 0.10. A p-value of less than 0.05 was considered significant.

Results

A total of 956 participants were evaluated. Most participants (67.4%) were in the age group of 20–30 years, with females (52.4%) being slightly more common. Majority of the participants were medical students (45.2%), followed by paramedical students (24.3%) (Table 1).

Overall mean (SD) knowledge score was 9.3 (2.6), being the highest for preventive practices 4 (1.0). The overall score was higher in consultants (10.8), and the least in nurses (8.5) and paramedical students (8.4) ($p < 0.001$). The knowledge scores were higher in the older age group but were not different between males and females. A similar trend of the association was seen when analysed for differences in scores related to knowledge of clinical aspects of the disease

and related preventive practices. However, not only the knowledge regarding the use of PPE remained poor across all participants, but also there were no significant differences in knowledge among any of the subgroups analysed (Table 2).

The doffing sequence of PPE and the need for fit testing of N95 masks was known to less than 50% of the respondents. The fact that most of the

Table 1. Baseline and demographic characteristics

Group	Subgroup	Number [%]
Age [years]	< 20	226 (23.6)
	20–30	644 (67.4)
	31–45	71 (7.4)
	> 45	15 (1.6)
Gender	Male	455 (47.6)
	Female	501 (52.4)
Profession/ /qualification	Nurses	98 (10.2)
	MBBS students	432 (45.2)
	Paramedical students	232 (24.3)
	Resident doctors	112 (11.7)
	Consultant doctors	82 (8.6)
Having family mem- bers < 5 years or > 65 years at home	Yes	506 (52.9)
	No	450 (47.1)
Use of HCQ as prophylaxis	Yes	173 (18.1)
	No	783 (81.9)

HCQ — hydroxychloroquine; MBBS — bachelor of medicine and bachelor of surgery

Table 2. Comparison of knowledge/awareness scores about COVID-19 among various subgroups

Group	Subgroup	Total score (out of 15)	P value	CS score (out of 5)	P value	PPE score (out of 5)	P value	PM score (out of 5)	P value
Age [years]	< 20	8.8 (2.7)	< 0.001	2.5 (1.2)	< 0.001	2.6 (1.2)	> 0.05	3.8 (1.1)	< 0.001
	20–30	9.3 (2.5)		2.7 (1.2)		2.5 (1.2)		4.0 (0.9)	
	> 30	10.9 (2.0)		3.5 (1.2)		2.8 (1.0)		4.5 (0.7)	
Gender	Male	9.2 (2.6)	> 0.05	2.7 (1.3)	> 0.05	2.5 (1.1)	> 0.05	3.9 (1.0)	> 0.05
	Female	9.5 (2.5)		2.8 (1.2)		2.6 (1.2)		4.0 (0.9)	
Profession/ /qualification	Nurses	8.5 (2.7)	< 0.001	2.3 (1.3)	< 0.001	2.4 (1.2)	> 0.05	3.8 (1.0)	< 0.001
	MBBS students	9.7 (2.2)		3.0 (1.0)		2.6 (1.2)		4.0 (0.9)	
	Paramedical students	8.4 (2.9)		2.2 (1.3)		2.5 (1.2)		3.7 (1.1)	
	Resident doctors	9.6 (2.4)		2.8 (1.3)		2.6 (1.1)		4.1 (0.9)	
	Consultant doctors	10.8 (2.1)		3.6 (1.2)		2.8 (1.0)		4.4 (0.8)	
Knowledge scores		9.3 (2.6)		2.7 (1.2)		2.6 (1.2)		4.0 (1.0)	

MBBS — bachelor of medicine and bachelor of surgery

COVID-19 patients do not require hospitalisation and single negative RT-PCR done on nasal swab does not exclude the diagnosis of COVID-19 was poorly known among respondents. The knowledge of ICMR advisory regarding the use of HCQ prophylaxis was good among respondents, but was significantly higher in consultants (92.7%), followed by medical students (91.9%), interns/residents (88.4%) compared to nurses (78.6%) and paramedical students (82.8%) (p -value < 0.001).

Using the GAD-7 scale, the overall prevalence of anxiety in our study was 46.9% (25.1% had mild anxiety, 14.7% had moderate and 7% had severe anxiety). Using 10 as cut-off value for the presence of anxiety, 21.8% experienced moderate or severe anxiety, the highest was among nurses (38%), followed by paramedical students (29.3%). Anxiety was higher when knowledge score was low (27.6% vs 14.7%); both factor were significant on univariate and multivariate analysis (p < 0.001). There was no significant association of anxiety in relation to age, gender or the use of HCQ prophylaxis by the respondents or those having family members of extreme age group at home (Table 3).

In our study, most common factor reported for causing emotional distress in health care

workers was found to be the non-availability of the definite cure/vaccine for COVID-19 (32.5%), followed by the fear of the infection to the dear ones (20.5%). A lot of information/misinformation on various media platforms was the most common responsible factor for anxiety for a significant proportion of the respondents (12.2%), whereas shortage of PPE and violence against doctors was responsible for anxiety among 4.7% and 6.0% of the respondents, respectively (Table 4).

HCQ prophylaxis was used by 18.1% of the respondents, which was significantly higher among consultants (p < 0.001), and those having family member less than 5 years or more than 65 years of age at home on multivariate analysis (p < 0.001). Older age group and higher overall knowledge scores were associated with a significantly higher frequency of taking HCQ prophylaxis on univariate analysis but were not found significant on multivariate analysis (Table 5).

Discussion

In this study, we aimed to assess the knowledge gaps, anxiety perceptions and the use of HCQ prophylaxis among medical/ paramedical students, nurses, residents and doctors, and we

Table 3. Factors affecting anxiety levels among healthcare students and professionals (univariate and multivariate analysis)

Group	Subgroup	Anxiety present number [%]	Odds ratio (95%CI)	P-value	Odds ratio (95%CI)
			Univariate analysis		Multivariate
Age [years]	< 20	55/226 (24.3)	1	> 0.05	
	20–30	141/644 (21.9)	0.87 (0.61–1.24)		
	> 30	12/86 (13.9)	0.50 (0.25–1.1)		
Gender	Male	92/455 (20.2)	1	> 0.05	
	Female	116/501 (23.1)	1.19 (0.87–1.62)		
Profession/ /qualification	Nurses	37/98 (37.8)	1		1
	MBBS students	64/432 (14.8)	0.28 (0.18–0.47)		0.32 (0.19–0.52)
	Paramedical students	68/232 (29.3)	0.68 (0.41–1.12)	< 0.001	0.66 (0.40–1.1)
	Resident doctors	24/112 (21.4)	0.45 (0.24–0.82)		0.49 (0.26–0.91)
	Consultants	15/82 (18.3)	0.37 (0.18–0.73)		0.48 (0.24–0.98)
Having family member < 5 years or > 65 years of age at home	No	93/450 (20.7)	1	> 0.05	
	Yes	115/506 (22.7)	1.12 (0.82–1.5)		
Use of HCQ as prophylaxis	No	167/783 (21.3)	1	> 0.05	
	Yes	41/173 (23.7)	1.14 (.77–1.69)		
Overall knowledge score	Low	144/522 (27.6)	1	< 0.001	1
	High	64/434 (14.7)	.45 (.32–.62)		0.52 (0.37–0.73)

HCQ — hydroxychloroquine; MBBS — bachelor of medicine and bachelor of surgery

found a large gap in their knowledge. We also noted high prevalence of anxiety among the evaluated individuals.

We found a higher level of knowledge among consultant doctors. A study by Bhagavathula *et al.* showed greater and more sound knowledge regarding COVID-19 in doctors as compared to other health care workers. They also discovered that awareness regarding the symptoms of the

disease and the use of preventive measures in interrupting the transmission of COVID-19 was higher in doctors [11]. Another study demonstrated similar trends depicting wider knowledge in doctors compared to nurses and paramedical staff [12]. Health workers, especially consultant doctors, seemed well versed in the situation in our study but the workers from other spheres as well as students, needed awareness sessions conducted in a righteous and wholesome manner. This may be due to the fact that consultant doctors have more knowledge about infectious diseases because of their better professional development and experience to manage infectious diseases (particularly H1N1 infections in the Indian context) with growing age and time. Ironically, a study by Olum *et al.* did not find any difference in knowledge among health care workers of different cadres and professional qualifications. A widespread use of international and government media by the respondents as an information source was cited as one of the possible reasons for that. To the contrary, the same study found greater knowledge in the younger age group (< 40 years) [13]. The better use of a wide and diverse source of information platforms by young people was attributed to the same. Further we assessed knowledge scores for various subdomains and similar trends of knowledge

Table 4. Factor reported as the strongest reason for anxiety or emotional distress

S.No.	Factor responsible for anxiety or emotional distress	N [%]
1.	No definite cure or vaccine	311 (32.5)
2.	Fear of getting infected or transmitting the infection to your dear ones	196 (20.5)
3.	A lot of information/misinformation on various media platforms	117 (12.2)
4.	Improper health care facilities for patients	75 (7.9)
5.	Extended lockdown period by government	74 (7.7)
6.	Violence against doctors	57 (6.0)
7.	Financial crisis	53 (5.6)
8.	Shortage of PPE	45 (4.7)
9.	Feeling of being isolated if get infected	28 (2.9)

PPE — personal protective equipment

Table 5. Factors affecting the use of HCQ as prophylaxis among healthcare students and professionals (univariate and multivariate analysis)

Group	Subgroup	Use of HCQ as prophylaxis [%]	Odds ratio (95%CI)	P-value	Odds ratio (95%CI)
			Univariate analysis		Multivariate
Age [years]	< 20	35/226 (15.5)	1	< 0.001	1
	20–30	101/644 (15.7)	1.01 (0.67–1.54)		0.79 (0.51–1.24)
	> 30	37/86 (43.0)	4.12 (2.36–7.2)		2.42 (0.97–6.07)
Gender	Male	92/455 (20.2)	1	> 0.05	
	Female	81/501 (16.2)	0.76 (0.55–1.05)		
Profession/ /qualification	Nurses	12/98 (12.2)	1	< 0.001	1
	MBBS students	84/432 (19.4)	1.73 (0.90–3.31)		2.08 (1.03–4.2)
	Paramedical students	12/232 (5.2)	0.39 (0.17–0.90)		0.46 (0.19–1.11)
	Resident doctors	30/112 (26.8)	2.62 (1.26–5.47)		3.36 (1.53–7.32)
	Consultants	35/82 (42.7)	5.33 (2.53–11.25)		2.38 (0.95–5.98)
Having family member < 5 years or > 65 years of age at home	No	55/450 (12.2)	1	< 0.001	1
	Yes	118/506 (23.3)	2.18 (1.54–3.09)		1.78 (1.23–2.57)
Overall knowledge score	Low	75/522 (14.4)	1	0.001	
	High	98/434 (22.6)	1.74 (1.25–2.42)		

HCQ — hydroxychloroquine; MBBS — bachelor of medicine and bachelor of surgery

gap were observed for the clinical spectrum of the disease and associated preventive measures in regard to age and professional qualification of the respondents. The most impactful finding of the study is that the knowledge regarding the use of masks and personal protective equipment (PPE) remained poor across all respondents. This highlights many areas which need special sensitisation; most common being the use of masks and PPE, as it is essential to know the correct use of PPEs for the safety of HCWs. Studies have shown that knowledge of disease can influence preventive practices and attitude of health care worker to the disease [14]. Poor or inadequate understanding is not only related with the higher risk of acquiring infection among health care workers but can also lead to delayed or improper treatment of patients and further spread of infection. Although various guidelines are available, the information dissemination among health care students and workers should be made accessible at local levels, particularly by arranging training lectures, seminars, journal clubs and educational campaigns. We organised a vertically integrated seminar on COVID-19 bridging the knowledge gaps in our institute after the results of our study were obtained.

The psychological effects related to the current pandemic are driven by many factors, including uncertainty about the duration of the crisis, lack of proven therapies or a vaccine, and potential shortages of health care resources, including personal protective equipment [15]. Health care workers are also distressed by the effects of social distancing pitted against the desire to be present for their families, and the possibility of personal and family illness. They also experience considerable psychological distress as a result of the COVID-19 pandemic due to their involvement in patient care, vicarious trauma, quarantine or self-isolation.

The overall prevalence of anxiety in our study was about 47%, and about 22% suffered from moderate or severe anxiety. Out of the total participants in the present study, the nursing staff had significantly higher levels of moderate or severe anxiety and was also higher in those who had poor knowledge scores, both significant on multivariate analysis. Our findings were similar to a study by Lai J *et al.*, which reported a 44.6% prevalence of anxiety among health care workers using the GAD-7 scale and was found to be significantly higher in nurses and front line health care workers [16]. That study also reported higher anxiety in the female population, but we

did not find any gender differences. In a study by Sogut *et al.*, 5% of the female midwifery students had moderate or high levels of anxiety, and concern was higher if parents or relatives had some chronic disease, but no relation was found between knowledge and anxiety levels. In contrast, having a family member at extremes of age had no significant association with anxiety levels [17]. In a systemic review and meta-analysis by Pappa *et al.*, the overall reported anxiety prevalence was 37%, which was lower than that in our study group [18]. However, the nurses reported higher anxiety in comparison to the doctors in parallel with the findings of our study. The widely different demographic profile of the respondents in the studies may be responsible for these differences, as in our study, the females were coping with stress similar to their counterparts. Another interesting observation was that the majority had mild anxiety, emphasising the need for early diagnosis to prevent the evolution into a potentially difficult clinical situation. The similar findings were documented in the systematic review and meta-analysis [18]. An important factor responsible for emotional distress was a plethora of information as well as the misinformation of the same available in ample doses on the internet and social media. Hence, it is advisable to pertain to reliable sources of information like WHO, CDC, ICMR and national or state health ministry websites for authentic information in this era of widespread use of social media and internet. Although various media platforms can be a good source of information for a novel disease like COVID-19 with daily emerging literature and data, we need to be cautious about authenticity of the information, particularly to avoid rumour mongering, fear, chaos, panic and potentially harmful practices [19]. Staying connected online with loved ones, even as we cut back on in-person socialising, can help reduce the feelings of isolation and anxiety originating from it. Maintaining some kind of routine coupled with a healthy lifestyle along with a good diet can help maintain a sense of normalcy. Also indulging in relaxing and soothing activities like exercise and meditation for the more peaceful mind is definitely the need of the hour for the stressed-out health care workers. The sense of anxiety and uncertainty about the possibility of contracting COVID-19 is a dynamic process, and response from health care workers is likely to vary, as they get accustomed to the pandemic, although the importance of such knowledge and relieving the anxiety continue to be there.

We found that only about 18% of the respondents in our study were taking HCQ prophylaxis. Although a recent RCT did not show benefit of HCQ prophylaxis, the ICMR guidelines (Indian Council of Medical Research) continue to recommend the same in India, supported by a case control study [20, 21]. HCQ intake was significantly higher in consultant doctors, interns, residents, medical students compared to nursing staff and paramedical students; and higher among the respondents having extreme age family members at home, both factors were statistically significant on multivariate analysis. The higher use of HCQ in the respondents having extreme age family members may be associated with fear of transmitting the infection to the age group vulnerable to the disease. The higher knowledge about the disease was associated with higher HCQ use on univariate analysis, but that factor was not significant on multivariate analysis. A low use of HCQ in nursing staff despite their direct involvement in suspected patients' care is a concern. On the other hand, among MBBS students who were not involved directly in the care of suspected patients, a significant proportion (19.4%) took HCQ prophylaxis. Better awareness of ICMR advisory among consultant doctors/medical students compared to nurses/paramedical students can be one of the reasons for that finding.

Our study uniquely assessed independent predictors of the use of HCQ prophylaxis among health care workers and students. The study draws attention towards the need for better awareness and knowledge regarding ICMR advisory on the use of HCQ prophylaxis along with potential benefits and side-effects associated with the drug. The use of HCQ prophylaxis had no relation to the anxiety levels of the participants.

There are several limitations to the study. A large proportion of staff did not respond, suggesting a response bias. Subjective variations of the individuals and recall bias may have some impact on the results of the study. The study was conducted in only one medical college and hospital of Northern India. Hence, the results may not be generalised for health care workers from other hospitals or medical colleges.

Conclusions

The lower COVID-19 knowledge scores were found to be significantly associated with a higher likelihood of anxiety and potentially harmful preventive practices towards COVID-19 epidemic in this study. The knowledge about masks and

PPE remained poor among all respondents. Our findings clearly emphasise the importance of providing health education to health care students and professionals to increase COVID-19 knowledge, which may also result in improvements in their anxiety levels and practices towards COVID-19. The study uniquely assessed independent predictors of the use of HCQ prophylaxis among health care workers and students.

Conflict of interest

None declared.

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Appendix 1. Proforma questionnaire

1. Your age (in years)*

- ☐ < 20
- ☐ 20–30
- ☐ 31–45
- ☐ > 45

2. Your gender*

- ☐ Male
- ☐ Female

3. Your professional qualification*

- ☐ 1st year MBBS student
- ☐ 2nd year MBBS student
- ☐ Final part 1 MBBS student
- ☐ Final part 2 MBBS student
- ☐ Intern/resident
- ☐ Faculty/professional doctor
- ☐ Nursing staff
- ☐ Paramedical staff

CLINICAL SPECTRUM OF COVID-19

4. What are the most common symptoms of COVID-19?*

(1 point)

- ☐ Nasal congestion, sneezing and sore throat
- ☐ Fever, diarrhoea and abdominal pain
- ☐ Breathing difficulty, haemoptysis and chest pain
- ☐ Fever, dry cough and fatigue

5. “Most of the COVID-19+ patients are sick and need hospitalisation”. This statement is...*

(1 point)

- ☐ True
- ☐ False

6. “A negative RT-PCR test performed on properly collected nasopharyngeal swab excludes the diagnosis of COVID-19 in suspected patient”. This statement is...*

(1 point)

- ☐ True
- ☐ False

7. ICMR has recommended for prophylaxis of COVID-19 infection in high risk group?*

(1 point)

- ☐ Ivermectin
- ☐ Lopinavir/Ritonavir
- ☐ Hydroxychloroquine
- ☐ Oseltamivir
- ☐ Azithromycin

8. The following drugs have showed some promising effects in clinical trials for treatment of COVID-19, except?*

(1 point)

- ☐ Remdesivir
- ☐ Tocilizumab
- ☐ Convalescent plasma
- ☐ Ocrelizumab
- ☐ Hydroxychloroquine

PROTECTIVE PERSONAL EQUIPMENT (PPE) AND MASKS

9. PPE includes:*

(1 point)

- ☐ N95 masks and surgical masks
- ☐ Gown and gloves
- ☐ Cap, shoe cover and face shield
- ☐ All of the above

10. Tick the correct sequence for donning (putting on) PPE*

1 point

- ☐ Gown, face-mask, goggles, gloves
- ☐ Face-mask, gloves, gown, goggles
- ☐ Goggles, face-mask, gloves, gown
- ☐ Gloves, face-mask, goggles, gown

11. Tick the correct sequence for doffing (removing) PPE*

(1 point)

- ☐ Face-mask, gloves, goggles, gown
- ☐ Goggles, face-mask, gown, gloves
- ☐ Gown, gloves, face-mask, goggles
- ☐ Gloves, goggles, gown, face-mask

12. Which layer acts as anti-viral layer in three-layered surgical mask?

(1 point)

- ☐ Inner layer
- ☐ Middle layer
- ☐ Outer layer
- ☐ All layers act equally

13. The following statement about N95 masks is true?*

(1 point)

- ☐ N95 masks are less effective than surgical masks
- ☐ The particles size that is used for testing Respirator Filter Efficiency are 0.5 microns
- ☐ N95 masks are not needed during aerosol-generating procedures
- ☐ It is required to fit test N95 mask before wearing

PREVENTIVE MEASURES**14. What is the preferred method for good hand hygiene to prevent COVID-19 transmission?***

(1 point)

- ☐ Alcohol-based sanitiser or hand rub for 10 seconds
- ☐ Non-alcohol-based sanitiser or hand rub for 10 seconds
- ☐ Alcohol-based sanitiser or hand rub for 20 seconds
- ☐ Non-alcohol-based sanitiser or hand rub for 20 seconds

15. Precautions that need to be followed to reduce chances of being infected or spread of COVID-19 include?*

(1 point)

- ☐ Good hand hygiene
- ☐ Cover mouth and nose with bent elbow or tissue paper while coughing or sneezing
- ☐ Encouraging people to stay at home
- ☐ All of the above

16. To practise social distancing, the minimum distance to be maintained away from others?

(1 point)

- ☐ 2 metres
- ☐ 3 metres
- ☐ 4 metres
- ☐ 6 metres

17. To best reduce the transmission of COVID-19 in OPD's...?*

(1 point)

- ☐ Both doctor and patient should wear the mask
- ☐ Doctor should wear the mask
- ☐ Patient should wear the mask
- ☐ Either doctor or patient should wear the mask

18. The minimum percentage of alcohol needed in the handsanitisers for prevention of COVID-19?*

(1 point)

- ☐ 30%
- ☐ 50%
- ☐ 70%
- ☐ 90%

ANXIETY RELATED TO COVID-19 PANDEMIC**19. Feeling nervous, anxious or on edge over last 2 weeks?***

- ☐ Not at all
- ☐ Several days
- ☐ More than half the days
- ☐ Nearly every day

20. Not being able to stop or control worrying over last 2 weeks?*

- ☐ Not at all
- ☐ Several days
- ☐ More than half the days
- ☐ Nearly every day

21. Worrying too much about different things over last 2 weeks?*

- ☐ Not at all
- ☐ Several days
- ☐ More than half the days
- ☐ Nearly every day

22. Feel trouble while relaxing over last 2 weeks?*

- ☐ Not at all
- ☐ Several days
- ☐ More than half the days
- ☐ Nearly every day

23. Being so restless that it is hard to sit still over last 2 weeks?*

- ☐ Not at all
- ☐ Several days
- ☐ More than half the days
- ☐ Nearly every day

24. Becoming easily annoyed or irritable over last 2 weeks?*

- ☐ Not at all
- ☐ Several days
- ☐ More than half the days
- ☐ Nearly every day

25. Feeling afraid as if something awful might happen over last 2 weeks?*

- ☐ Not at all
- ☐ Several days
- ☐ More than half the days
- ☐ Nearly every day

26. Do you have family members < 5 years or > 65 years of age at home?*

- ☐ Yes
- ☐ No

27. Have you or any of your family members have started HCQ/chloroquine therapy as prophylaxis for COVID-19? Mark yes, if taken even a single dose*

- ☐ Yes
- ☐ No

28. Which among the following factors you consider the strongest reason for your anxiety or emotional distress?*

- ☐ Shortage of PPE
- ☐ No definite cure or vaccine
- ☐ A lot of information/misinformation on various media platforms
- ☐ Extended lockdown period by government
- ☐ Violence against doctors
- ☐ Fear of getting infected
- ☐ Fear of transmitting the infection to your dear ones
- ☐ Feeling of being isolated if get infected
- ☐ Improper health care facilities for patients
- ☐ Financial crisis