Involvement of Final year Medical Students in Hospital work during COVID-19 pandemic: A students' perspective

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Abstract

Background: The Coronavirus disease (COVID-19) has upended medical education. This pandemic has risen uncertainty over the start of the normal routine of studies in medical universities. Amidst the worldwide shortage of doctors, there is widespread dilemma and disagreement regarding the role of the medical students during this pandemic. Medical education is suspended and the students are barred from being direct medical providers unless there is a critical need for the additional healthcare workforce. Considering these facts we have done a survey amongst medical students of pre-final and final year to know and evaluate their opinion and outlook regarding their involvement in the hospital work at the time of the ongoing COVID 19 pandemic.

Materials and Method: This is a cross-sectional study among the clinic going medical students of Government Doon Medical College Dehradun, India. It is used to know their opinion regarding their voluntary initiative to actively participate and usefulness in the hospital works while going through their classes and hospital postings. We have circulated a questionnaire among 385 medical students to know their mindset and formulate a plan to include them in the future clinical hospital works in case the pandemic situation worsens.

Statistical analysis is performed using SPSS version 25. Chi-square test was used to evaluate the association between the two variables. A two-tailed $p < 0.05$ was considered statistically significant.

Results: Out of 294 respondents 62.2% had a high motivation to work in the hospital. This was synergized by the worldwide appreciation of doctors according to 88.8% of students. A sense of duty towards the patients was clear by the responses which surpassed the fear of the disease and the belief of being a better doctor (94.2%).

Conclusion: The majority of medical students were highly motivated to be a part of the hospital workforce and help to fight this apocalyptic pandemic.

Background

The COVID-19 pandemic the world is facing today started in November 2019 [1]. Since its discovery, it is spreading rapidly and has engulfed the various cities and states worldwide. To protect the human race worldwide lockdown was enforced to achieve social distancing for preventing virus spread. All the evidence regarding COVID-19 proposes that SARS-CoV-2 has a zoonotic source.

The AAMC suspended medical education [2] and framed its guidance by highlighting that “medical students are students, not employees... They are not yet MDs” [3]. Although this can be the case it fails to acknowledge their roles as clinicians-in training. The role of medical students is not only to learn medicine but also care for patients [4]. Medical students can take care of tasks like taking histories, laboratory works, patient education, documenting visits, and framing questions about COVID-19 [6, 7]. Even in a pandemic, patients with chronic conditions need ongoing care. Pregnant women need routine

checkups and follow-ups. Many of these tasks can be performed via telemedicine, so there would be no risk for infection transmission. Students can dispense inpatient services to Non-COVID patients. The other aspect of this is that a medical student acting solely as a learner could introduce unnecessary risks for patients and as well as other clinicians. Moreover, students can consume the personal protective equipment (PPE) kits which are already in short supply and can additionally act as vectors for the transmission of the virus [4, 5]. These risks cannot be justified by medical education. This study aims to get medical students perspective about including them to work in hospitals in the shortage of workforce.

Methods

Study Aim: A cross-sectional study was undertaken amidst the clinical medical students of Medical college of Dehradun to assess and analyse the prospects of the students working in the hospitals in time of the COVID-19 Pandemic. It also evaluates the relationship between motivation to work and fears of the inadequacy of knowledge.

Study Design: The survey was conducted via Google forms. The link of the form was sent to students on social networking groups and to personal email addresses of students. Statistical analysis is performed using SPSS version 25. Chi-square test was used to evaluate the association between the two variables. $P < 0.05$ was considered statistically significant.

Study Setting: Current circumstances of Government Doon Medical College, Dehradun, India with an additional handful of inputs from colleges across India was observed for the study. Starting the nationwide lockdown all the clinical postings has been suspended. The study is based on an online survey conducted from May 10 to May 22, 2020 among 294 medical students of Batch 2016 (Final Year) and 2017(Pre-final Year) of above mentioned college. All the students are currently not attending hospital teaching.

This pre-designed and structured questionnaire was based on the possibility of involvement of the final year medical students in hospital work at the time of COVID-19. Moreover, topics related to the sense of their duty towards patients and fears of working in hospitals at the time of the pandemic were also included in the questionnaire. The knowledge of basic hospital procedures and pathophysiology of COVID-19 disease was also enquired upon. The research protocol was approved by the Institutional Ethics Committee, Government Doon Medical College, Dehradun, India.

Results

55 days into the lockdown while being a witness to the horrors of Coronavirus the students were asked to fill a questionnaire consisting of 22 questions. The questionnaire was sent to 385 students out of which 294 responded making a response rate of 76.36%. With a confidence interval of 95%, the confidence interval (CI) for this survey is ± 2.78 .

The online questionnaire was filled by students of MBBS Batch-2016 and Batch-2017. Among the respondents, 183 (62.2%) were highly motivated to work in hospitals in time of COVID-19 pandemic. 101(34.4%) were neutral of the situation and 10(3.4%) had strong hesitation to work in these times (refer table-1). Work expectations of the students were mainly to assist clinicians (N = 171).

Table 1
Response Analysis of the opinion of students to work in the hospital during the time of COVID-19 Pandemic.

Survey question and response	Frequency (%)
Motivation to work in hospital	
Highly motivated	62.2%
Neutral	34.4%
Not interested	3.4%
Type of work expected in hospital	
Assisting clinicians	58.2%
Spreading awareness	33.7%
Making notes	8.2%
Acquired necessary skills to work in hospitals	
Yes	32.3%
No	67.7%
Association between various aspects.	

An analysis of the relationship between the motivation to work in hospitals at the time of pandemic and being a better doctor in future was done (refer fig.-1). It was established that being a better doctor was a great motivation to work (p-value = 0.000109).

The students were hesitant to work in hospitals as a full-time worker, as 199(67.7%) of them do not think they have acquired the necessary skills to work in the hospitals. 187(63.6%) respondents do not have basic procedural skills required in the medical profession like intramuscular/ intravenous injections, Foley's catheterization, Ryle's tube placement, venesection etc. This can be thought of as a reason for the manifestation of performance anxiety while doing clinical procedures in hospitals. About 98(33.3%) said they experienced anxiety while performing procedures and 120(40.8%) said maybe they could be suffering from this problem. Only 76(25.9%) were confident while doing the procedures (refer fig.-2).

When assessed about the knowledge of emergency medicine, triage and cardiopulmonary resuscitation (CPR) 118(40.1%) were confident of their skills and the majority of them i.e. 176(59.9%) students didn't know the basic skills. Basics of advanced triage including intubation and ventilation were known to only

48(16.3%) respondents while 246(83.7%) didn't. Majority of students i.e. 238 (80.95%) had sufficient knowledge of the pathophysiology of COVID-19 and methods of prevention of transmissions.

Table 2
Fears of medical students to work in hospitals during COVID-19 Pandemic

Survey question and response	Frequency (%)
Fear of contracting the disease in the hospital	
Yes	68.7%
No	31.3%
Fearful of infecting loved ones while working in the hospital	
Yes	91.2%
No	8.8%
Fearful in absence of PPE kits	
Yes	65.6%
No	12.9%
Maybe	21.4%
Parents will allow working in the hospital during this pandemic	
Yes	51.7%
No	48.3%
If not what will you do about work	
Follow your conscience	74.8%
Follow your parents instructions	25.2%

Fear of the disease it high (Refer Table-2). About 202(68.7%) students have fear of contracting the disease while working in the hospitals and 268(91.2%) are fearful of infecting their loved ones due to their work in the hospital during COVID-19 pandemic. The fear may get accentuated by the non-availability of personal protection equipment (PPE) kits among 193(65.6%), 63(21.4%) doubtful of working in hospitals and only 38(12.9%) said they will still work in the hospitals. When asked will their parents allow them to work in hospitals during this pandemic 152(51.7%) were sure their parents will let them go and help fight the disease while 142(48.3%) said their parents won't allow them to work. As many as 220(74.8%) motivated to attend the call of duty even if their parents' were against them to work in the hospital and 74(25.2%) said they will listen to their parents instructions.

As Corona is a highly contagious disease so we asked the students will they choose to take history, examinations, provisional diagnosis and vital monitoring of Non- respiratory/ Non-Covid patients,

242(82.3%) said yes and 52(17.7%) said no for same. According to 149(50.7%) students, stress on frontline doctors will be eased if they join the workforce while 110(37.4%) were not sure about this. There will be no effect on the stress according to 35(11.9%) of the respondents.

Corona is a great learning opportunity which cannot be simulated in the classes. Students 259(88.1%) feel that they can learn more from this pandemic by being out there than staying back at home. Around 277(94.2%) student feels working in hospitals today will make them a better doctor in future (Refer fig.-3).

The widespread appreciation of health workers worldwide was motivating according to 261(88.8%) students and this was not agreed upon by 33(11.2%) participants (Refer fig.-4). Among the respondents, 228(77.6%) students felt discouraged by attacks on doctors in hospitals and during field testing while 66(22.4%) said this was not the case for them.

Another concern area for the students in this time of pandemics is their studies. Their future may be jeopardized and they may graduate late according to 139(47.3%), 88(29.9%) said it could be a possibility and 67(22.8%) felt that this won't be the case. The academics will be affected by their services in hospitals was agreed upon by 99(33.7%) and refuted by 195(66.3%). While 77(26.2%) students said they would work without any monetary benefits, 125(42.5%) wanted stipend and 92(31.3%) want a letter of appreciation in return for services provided by them in the hospital.

Discussion

The COVID-19 epidemic has proved to be the most formidable public health problem the world is facing today. The unpredictability of the infecting organism and mode of transmission of the disease caused immense fear and led to the implementation of rigorous infection control protocols.

This study reveals that 62.2% (N = 183) medical students are highly motivated to work and help their country fight the COVID-19 pandemic. Imai H et al reported motivation by healthcare workers to be 28.4% (N = 481) during the influenza pandemic 2009 [8] while another research of same time said half of the healthcare population may call in sick absenteeism [9].

In our study 58.2% (N = 171) students expected to assist clinicians in hospitals at the time of the pandemic similar to studies on Spanish flu outbreak of 1918 [10] and 1952 polio epidemic in Denmark [11]. The basic skills to work in the hospital were acquired by only 32.3% (N = 95) while 36.4% (N = 107) said they lack skills despite the advanced course of studies. The results were similar for triage knowledge and Cardiopulmonary resuscitation skills with 40.1% (N = 118) being positive about their skills. Only 16.3% (N = 48) students have knowledge of advanced triage like intubation. As 33.3% (N = 98) students said they may have performance anxiety and 40.8% (N = 120) said they could be suffering too. Similar results of the medical student's skills were seen by other researchers [12–14].

In our study, 81.2% of students have knowledge regarding the pathophysiology of the COVID-19 and its prevention similar to the study by Taghrir MH et al [15].

The Novel Coronavirus is an unknown enemy and students are fearful of it especially in the current shortage of personal protection equipment (PPE) kits. This fear was mirrored by their parents. The call of duty will be above all fears as said by 74.8% (N = 220) students similar to study by Thomas H et al [16]. Working in the hospital would ease the stress felt by the frontline doctors and according to 50.7% (N = 149) while 37.4% (N = 110) were not sure similar to articles by David et al [3] and Howard et al [17]. Many felt that working in a hospital will prepare them for any such future condition and will help them become a better doctor in future.

Academics of the medical students can possibly be adversely affected by the stressors during the pandemic. In our study, 47.3% (N = 139) respondents said they strongly believe their future is in danger while 29.9% (N = 88) said maybe this pandemic will jeopardize their future and they will graduate late. This can be eased by making them a part of the fighting force as suggested by Sten Rasmussen et al [18].

Conclusion

In this study, many medical students were motivated to work during COVID-19 pandemic. The hesitations were rooted due to the fear of contracting disease which is understandable. Medical students are doctors in making who have responsibilities towards patients and should be allowed to fulfil them. This will be beneficial to the healthcare system as well as the patients. It reinforces important values, such as selflessness, compassion, service at times of crisis, and harmony with the medical profession.

The findings in this paper may not be representative of every medical institution of the world but the implications drawn should be considered for future research work.

Abbreviations

COVID-19

Coronavirus disease 2019

SARS-CoV-2

Severe acute respiratory syndrome coronavirus2

AAMC

The American Association of Medical Colleges

Declarations

Ethical approval and consent to participate: This study is approved by the Ethics Committee of Government Doon Medical College, Dehradun. This study was conducted in accordance with the institute's latest ethical guidelines for health research involving human participants. Informed consent was taken from all participants. Confidentiality and privacy of participants will be maintained.

Consent for publications: Not applicable.

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Figures

Relationship between motivation to work and be a better doctor in future

Figure 1

Relationship between motivation to work and be a better doctor in future. Positive association seen (p value = 0.000109)

Relationship between presence of basic procedure skills and performance anxiety while performing basic procedures

Figure 2

Relationship between basic skills and performance anxiety. Positive association seen (p value = 0.025018)

Relationship between motivation to learn being out there and be a better future doctor

Figure 3

Relationship between motivation to learn and be a better doctor in future. Positive association seen (p value = 0.00001)

Figure 4

Relationship between motivation to work and appreciation of doctors worldwide. Positive association seen (p value = 0.037728)

Supplementary Files

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- [QuestionnaireResponses.xlsx](#)
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