

Effect of COVID-19 Pandemic on Career Choice among Medical Postgraduate Aspirants in Chennai: A Cross-sectional Study

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ABSTRACT

Introduction: Many frontline workers including doctors and nurses have succumbed to the Coronavirus Disease-19 (COVID-19) pandemic. In the COVID-19 pandemic, medical postgraduate (PG) aspirants had to deal with a variety of problems, including an increased workload, delay in National Eligibility cum Entrance Test (NEET) PG test and counselling.

Aim: To assess the effect of COVID-19 pandemic and various factors influencing career choice among medical PG aspirants in Chennai.

Materials and Methods: The present cross-sectional questionnaire-based study was conducted in the Department of Community Medicine, Sree Balaji Medical College and Hospital, Chennai, Tamil Nadu, India from August 2021 to September 2021 among 272 medical Postgraduate (PG) aspirants. A Google form questionnaire was sent to students who were in an internship in the past six months or had completed their internship in the past one year. There were 28 multiple choice questions comprising of socio-demographic details (with

exception of age) and various factors related to career choice. Five questions were scored yes/no, and 15 questions were scored using 5-point Likert scale.

Results: The mean age of the participants was 24.41±1.81 years and there were 129 males and 143 females in total among the study participants. Change in career choice was observed in 39.33% of the participants. The top two choices prior to and during the COVID-19 pandemic was General Surgery and General Medicine. Among the participants who had a change in career choice, the mean score of four questions in COVID-19 pandemic domain was higher when compared with participants who had no change.

Conclusion: Most of the participants believed that the COVID-19 pandemic limited the learning opportunities for postgraduates and the violence against doctors had an impact on their decision to pursue a particular career. Due to the present pandemic, participants interest in community medicine and infectious diseases has increased.

Keywords: Decision making, Education, General surgery

INTRODUCTION

Coronavirus Disease-2019 [COVID-19] is contagious disease caused by Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) and was declared a Public Health Emergency of International Concern (PHEIC) [1]. This disease has claimed lives of many since its emergence, including the frontline workers like doctors and nurses. According to Indian Medical Association [IMA], 1,492 doctors have succumbed due to COVID-19 during the pandemic [2]. Also, the fear of contracting COVID-19 disease has caused anxiety and panic among them [3].

As the case load increased, there was a deficit of health professionals during the first and second wave and they had overworked and exhausted [4]. In the COVID-19 pandemic overall patient outcomes may be improved by allowing medical students to work in clinical settings. Such involvement has occurred in the past. Medical students at the University of Pennsylvania treated patients as doctors during the Spanish flu epidemic of 1918. Medical schools in the United States, Italy and the United Kingdom have allowed students to graduate early, under the condition to work as frontline clinicians during the current pandemic. The medical system should not wait until it is in crisis before asking medical students to volunteer. Allowing them to work may enhance patient care and may even assist prevent such crises from happening [5].

The Government of India declared that final year Bachelor of Medicine and Bachelor of Surgery (MBBS) students might be used to provide services like teleconsultation and monitoring moderate COVID-19 cases after receiving proper training from faculty [6]. In Tamil Nadu, some of them were retained for duties as the next batch had not arrived for internship [7]. Neither their mental preparedness nor their willingness to work was taken into consideration. So, in this

situation many budding young doctors might have regretted their choice of taking MBBS. And this issue might also influence their decision of choosing their specialty for postgraduation.

In a study done in Bangladesh, it was found that the COVID-19 pandemic has made the healthcare professionals experience higher workload, psychological distress and stigmatization [8]. In study done by Bandyopadhyay S et al., the majority of health care worker deaths due to COVID 19 was in the 50 to 59 age group, with the lowest number occurring in the 18 to 29 age group [9]. Majority of the doctors have dealt with some form of verbal/ physical violence from the patients or their attenders. During the pandemic despite increased work load, there was violence against doctors and even few doctors faced physical assaults by patient attenders which is a highly condemnable act. Due to all these difficulties during the pandemic, some of the medical professionals did not show willingness to work in the situation [10].

Medical students who have completed their internship during the COVID 19 pandemic had a long wait to write the entrance exam for postgraduation. After working so hard for exams, they were facing many challenges. The National Entrance cum Eligibility Test (NEET) PG 2021 which was supposed to be conducted on 18 April 2021 was postponed to 11 September 2021 [11]. There was a national wide protest and residents were asked to withdraw from outpatient service from November 27 by the Federation of Resident Doctors Association (FORDA) [12]. The Postgraduate (PG) counselling was postponed for five months after results. After the 1st and 2nd round counselling, to complete the mop-up round there was another delay of nearly two months to join college. Finally, after writing the exam on September 2021, students joined their respective course by April 2022.

According to a study done by Yang G et al., a minority of healthcare professionals regretted their career choices during the COVID-19 outbreak [14]. In study done by Byrnes YM et al., it was reported that 20.2% of medical students had a change in career perception due to COVID 19 pandemic [15]. These instances would affect the medical doctor to change their career choice. There were few studies which were conducted to assess the effect of COVID 19 pandemic on career choice among medical students in China but in India no such study has been done so far [15,16]. With this background, current study was planned with an aim to assess the effect of COVID 19 pandemic and various factors on career choice of medical PG aspirants in Chennai.

MATERIALS AND METHODS

This was a cross-sectional study carried out in the Department of Community Medicine, Sree Balaji Medical College and Hospital, Chennai, Tamil Nadu, India from August 2021 to September 2021 among 272 medical interns and post interns. The study was performed after obtaining approval from the Institutional Ethical Committee (Ref. No.002/ SBMC/IHEC/2021/1636).

Byrnes YM et al., reported that the percentage of medical students who had change in career perception due to COVID-19 pandemic was 20.2% [15]. The following formula was used for sample size estimation $n = Z^2 pq / e^2$, where Z is 1.96, at 95% confidence level, p is 20.2%, q is 100-p=79.8, and e is allowable error (5% the sample size). The required sample size was 248. Attrition rate of 10% was considered, and the sample size was rounded off to 272.

Inclusion criteria: Medical PG aspirants who were currently undergoing internship or completed internship and preparing for NEET PG exam gave consent to participate in the study were included in the study.

Exclusion criteria: Non consenting students were excluded from the study.

Data collection: The present study adopted a quantitative approach using a cross-sectional design. A Google form questionnaire was sent to the selected students through their mobile number via Whatsapp. The contact numbers were obtained through the college office. About 300 students completed internship in the past one year and about 250 students were doing internship in the past six months. All students were sent an email, out of which 400 responded. At the beginning of the form participants were asked if they were PG aspirants, if they answered 'yes' they were further entered in to the study. Finally, 272 participants completed the Google form.

Questionnaire: The pretested semi-structured questionnaire consisted of three parts:

- Part one consisting of socio-demographic details
- Part two had questions related to the choice of career before and during COVID-19 pandemic
- Part three consisted of questions to assess factors influencing career choice

The third part of the questionnaire had a total of 20 questions, which were categorised into 4 domains.

- Domain 1 contained questions related to impact of COVID-19 pandemic in career choice.
- Domain 2 contained questions related to needs of the individual related to the personal growth in career choice.
- Domain 3 contained questions related to the professional growth in career choice.
- Domain 4 contained questions related to the personal satisfaction he/she expects from chosen career choice.

The internal consistency of the questionnaire was checked and Cronbach's alpha was 0.784, 0.802, 0.754, 0.746 for the domains 1 through 4.

- For the domain 1, the options were yes/ no, option 'no' was given a score of 1 and option 'yes' was given a score of 2.
- For the other three domains, scoring was done using 5-point Likert scale,
 - Score 1: Option 'not important'
 - Score 2: Option 'slightly important'
 - Score 3: Option 'moderately important'
 - Score 4: Option 'important'
 - Score 5: Option 'very important'

STATISTICAL ANALYSIS

Data was entered in Microsoft (MS) Excel and analysed using Statistical Package for the Social Sciences (SPSS) software version 21.0. Frequencies and independent samples t-test was used to analyse the data. Results Results were presented as tables. The p-value <0.05 was considered statistically significant at 95% confidence interval.

RESULTS

A total of 272 participants were included in the study. The mean±Standard Deviation (SD) age of the participants was 24.41±1.81 years with a range of 21 to 27 years [Table/Fig-1].

Socio-demographic details	Category	n (%)
Gender	Male	129 (47.4)
	Female	143 (52.6)
Marital status	Married	35 (12.9)
	Unmarried	237 (87.1)
Educational status	Post internship	142 (52.2)
	Internship	130 (47.8)
Preference of locality to do postgraduation	India	242 (89)
	Abroad	30 (11)
Preference of locality to practice medicine	Urban area	211 (77.6)
	Rural area	61 (22.4)

[Table/Fig-1]: Socio-demographic details of the study participants (n=272).

Participants were asked their career choice while studying MBBS and during the COVID-19 pandemic. The top two preferred specialties were General Surgery and General Medicine during both the times, but the number of participants choosing these subjects were higher than the time after pandemic. There was an increase in preference to course like Biochemistry, Microbiology, Pathology during COVID-19 pandemic [Table/Fig-2].

Subject	While studying MBBS n (%)	During the COVID-19 pandemic n (%)
Anesthesiology	8 (2.9)	4 (1.5)
Biochemistry	0	2 (0.7)
Community Medicine	4 (1.5)	16 (5.9)
Dermatology	25 (9.2)	33 (12.1)
Emergency Medicine	9 (3.3)	17 (6.3)
Forensic Medicine	2 (0.7)	6 (2.2)
General Medicine	56 (20.6)	36 (13.2)
General Surgery	59 (21.7)	45 (16.5)
Microbiology	0	4 (1.5)
Neurosurgery	0	2 (0.7)
Obstetrics and Gynaecology	28 (10.3)	17 (6.3)
Ophthalmology	11 (4)	10 (3.7)
Orthopaedics	14 (5.1)	12 (4.4)
Otorhinolaryngology	6 (2.2)	8 (2.9)
Pathology	0	3 (1.1)
Paediatrics	30 (11)	29 (10.7)

Pharmacology	2 (0.7)	2 (0.7)
Psychiatry	4 (1.5)	4 (1.5)
Pulmonology	8 (2.9)	6 (2.2)
Radiology	6 (2.2)	14 (5.1)
Sports Medicine	0	2 (0.7)

[Table/Fig-2]: Part 2 of the form- Career choice while studying MBBS and during the COVID-19 pandemic.

Change in career choice among PG aspirants was observed in 39.33% of the study participants. Four questions in COVID-19 domain had a higher mean score in those who had a change in career choice when compared to those who did not have change in career choice, out of which three were statistically significant. All the five questions in personal growth, personal satisfaction domain had a higher mean score in those who had a change in career choice when compared to those who did not have change in career choice. Among the five questions, three showed statistically significant difference. Three questions in the professional growth had a higher mean score in those who did not have a change in choice in compared to those who had career choice in which only one was statistically significant. Those who considered their professional growth as prime importance, had a lesser change in career choice when compared to other factors [Table/Fig-3].

Question	Mean score for those who had change in career choice (Mean±SD)	Mean score for those who did not have change in career choice (Mean±SD)	Total mean score (Mean±SD)	p-value
Domain 1: COVID-19 pandemic				
Has the news related to death of young doctors due to COVID-19 affected your career choice ?	1.41±0.49	1.27±0.44	1.32±0.47	0.013*
Has violence against doctors during the pandemic, affected your career choice ?	1.60±0.49	1.43±0.49	1.50±0.50	0.007*
Do you think non clinical departments is a better career choice than clinical department in the current pandemic ?	1.35±0.48	1.25±0.44	1.29±0.46	0.108
Has your interest towards subjects like Community Medicine or Infectious Disease increased during the current pandemic ?	1.60±0.49	1.38±0.49	1.47±0.50	<0.0001*
Will the pandemic decrease the learning opportunity for the postgraduates in their respective specialty subjects?	1.81±0.39	1.85±0.36	1.83±0.37	0.445
Domain 2: Personal growth				
Do you like flexible working hours in your practice?	4.41±0.82	4.13±0.97	4.24±0.92	0.015*
Do you prefer less stressful working condition?	4.39±0.75	3.95±1.12	4.13±1.01	<0.0001*
Do you prefer less duration of work hours?	3.76±1.07	3.72±1.02	3.74±1.04	0.781
Do you think of comfortable lifestyle while choosing your career?	4.31±0.83	4.05±1.04	4.15±0.97	0.025*
Do you think of family responsibilities while choosing your career?	4.62±0.64	4.47±0.77	4.53±0.72	0.095

Domain 3: Professional growth				
Opportunities for higher studies or further specialization	4.38±1.03	4.42±0.91	4.40±0.96	0.769
Opportunity to do research	3.53±1.23	3.62±1.22	3.59±1.22	0.548
Perceived status of the field in the society	3.83±1.25	3.90±1.01	3.87±1.11	0.636
Professionally challenging	4.11±0.91	3.83±1.06	4.00±0.98	0.022*
Financial prospects	4.42±0.85	4.22±0.92	4.30±0.90	0.070

Domain 4: Personal satisfaction				
Opportunity to be involved in patient care	4.56±0.68	4.25±1.02	4.44±0.84	0.003*
Opportunity to teach	3.99±1.11	3.62±1.21	3.85±1.17	0.009*
Influenced by past experience	3.94±1.05	3.72±1.11	3.85±1.08	0.100
Influenced by subject specialist	4.07±1.09	3.64±1.22	3.90±1.16	0.003*
Sense of calling	3.97±1.05	3.73±0.98	3.88±1.03	0.059

[Table/Fig-3]: Part 3 of the form- Various domains affecting career choice and mean score.

SD: Standard deviation; *p-value<0.05 was considered statistically significant

DISCUSSION

Working in the field of healthcare can be emotionally taxing, and the COVID-19 pandemic has only helped to highlight this. The numerous difficulties that come with working in the medical field are primarily caused by dealing with those who are most vulnerable. These circumstances could have an emotional impact on the medical students. Violence against doctors may significantly lower productivity and job satisfaction, lead to early burnout and lost work days and negatively affect the overall healthcare system as a whole. The attitude of doctors toward their jobs may be significantly impacted by these violent incidents.

This study was done to assess the effect of COVID-19 pandemic and various factors influencing career choice among medical PG aspirants. A change in career choice was observed in 39.33% of the study participants. This was higher than the study findings of Byrnes YM et al., which can be because their study was done at very early stage of the COVID-19 pandemic, whereas the present study was done after more than a year of onset of COVID-19 pandemic [15].

The mean score for the domains: COVID-19 pandemic, personal growth and personal satisfaction was higher among people who had changed their career choice compared to participants who had not. There was a statistical significance in mean difference in three or more questions in the domains: COVID-19 pandemic, personal growth, professional satisfaction, which shows these domains had an influence in career choice in PG aspirants. From this study the top two preferred specialties were General Surgery and General Medicine. Medicine, which was similar to studies done by Sharma D and Pattnaik S and, Kar SS et al., [18,19]. Though the top preferred specialty has not changed in the past few years, the percentage of students has dropped slightly. There was a 4-fold increase among participants who chose Community Medicine as career during the COVID pandemic. This can be attributed to the reasons like flexible working hours, less exposure to stress and lower rate of transmission of infections.

In this study, the proportion of participants willing to do post-graduation abroad was slightly lower when compared to study by Anand R and Sankaran PS. There was a contrast noticed in the preference to work in urban and rural localities between this study and that by Anand R et al., In the present study the preference to work in rural areas was twice when compared to study by Anand R and Sankaran PS, and there was also slightly lower preference to work in urban locality [20]. The drop in PG aspirants to study in abroad and rise in preference to practice medicine in rural

area could be attributed to COVID-19 pandemic which had strict immigration and travel restrictions during the lockdown. About 91.5% of the participants agreed that COVID-19 pandemic had effected learning opportunity for PG in their respective specialty. Family responsibilities, opportunities for higher studies or further specialization, opportunity to be involved in patient care were the most important decisive factors influencing career choice among PG aspirants in the present study and likewise less duration of working hours, opportunity to perform research, opportunity to teach were the less important factors effecting career choice.

In this study, it was found that career choice was slightly more influenced by factors like financial prospects, perceived status of the field in the society, and less duration of work hours than the findings by a study done by Subba SH et al., [21]. The reason for this result may be due to change in lifestyle in the past decade. Opportunity for research as a factor influencing career choice was similar to what was found in the study findings of Hayes BM et al., [22]. Over a period of years, the zeal and opportunity of research interests has not much changed among PG aspirants.

Limitation(s)

The study was done in a single medical college. The confidence of the results can be increased by including students from multiple medical college from different regions. A follow-up component added to this study can be more precise in assessing the changes in perceptions of career choice over time.

CONCLUSION(S)

The subject a doctor chooses after graduation is important because it will shape the next 50 years of their life. But this decision was drastically affected due to COVID-19 pandemic. The significant factors influencing the career choice are stress, anxiety and increased violence on doctors. These factors can only be addressed by increasing safety measures for doctors in the hospital and creating a stress-free environment. The top preferred specialty remains the same in the past few years. Participants' preference of non clinical subjects was less when compared to clinical subjects. In this current competitive world, these subjects could be in demand in the near future. This problem can be dealt by increasing career opportunities for doctors in the non clinical departments. Authors also suggest that there is an urgent need for sensitisation about career guidance among medical students and thereby preventing future saturation of job opportunities in few specialities.

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