



ORIGINAL RESEARCH PAPER

Healthcare

UNDERSTANDING THE IMPACT OF COVID-19 PANDEMIC ON POST-GRADUATES IN MEDICAL EDUCATION IN THE STATES OF TELANGANA & ANDHRA PRADESH, INDIA

KEY WORDS: COVID-19, impact, stress, post-graduate trainees

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ABSTRACT

Post-graduate trainees in medical education in India have acted as key frontline healthcare staff during the COVID-19 pandemic, which has had a profound effect on them. This study used an online survey including 144 responses from post-graduate students in the states of Telangana and Andhra Pradesh, India, to understand the impact of the pandemic on them. The survey contained question on personal protective equipment, psychological challenges being faced, clinical & administrative support received, effect on teaching & training, and perception of their services by patients & community. Personal protective equipment was deemed to be adequate by 21%. High levels of stress were described by 75%. Inadequate level of clinical and administrative support was reported by 39% and 46%, respectively. 72% felt that their training has been severely restricted. The majority of the respondents have had either verbal or physical abuse from patients or their attendants. This study highlighted the major problems and the difficult environment being faced by the trainees during the pandemic, and the necessity to address their concerns.

Introduction

COVID-19, a contagious disease caused by a novel coronavirus (SARS-CoV-2), has become an immense burden on healthcare systems. The outbreak began in Wuhan, Hubei province of China in December 2019 [1]. On 11th March 2020, the rapid rise in cases outside China led the World Health Organisation to announce the outbreak as a pandemic [1]. Subsequently non-urgent work was cancelled in teaching hospitals in India and they were transformed into COVID-19 treatment centres with post-graduate (PG) students in the frontline to treat and manage patients [2]. Several studies have dealt with the impact of pandemics like SARS and COVID-19 on the well-being of healthcare workers and associated challenges related to the availability of personal protective equipment (PPE) and the impact on their training [3-7]. The aim of this study was to assess the impact of the current COVID-19 pandemic on PG trainees in medical education in the states of Telangana and Andhra Pradesh, India, using a questionnaire-based survey.

Materials and Methods

The survey, in the form of an online questionnaire containing 26 questions, was circulated among PG trainees in medical education in the states of Telangana and Andhra Pradesh in India in the final week of March 2021. Google forms was used to evaluate the following: (i) availability of PPE, (ii) psychological challenges & support during the pandemic, (iii) how well PG trainees felt that they were led in the pandemic, (iv) effects on training & teaching and (v) their perception of gratitude from patients & community. A total of 166 responses were received, with 20 responses excluded after cross checking for duplications, such that 146 responses were taken into consideration for final analyses.

Results

Among the 146 participants (53% female, 47% male) 96 were members of a medical sub-specialty and 50 a surgical sub-specialty, with an almost equal distribution of participants across all years of training. Up to 40% of the respondents worked more than 60 hours per week, with nearly 21% working more than 80 hours per week.

Adequacy of PPE:

As seen in Figure 1, only 30 respondents (21%) felt that the

provided PPE was adequate, while 94 (64%) thought that PPE provision was reasonable but not optimal, and 22 (15%) believed it was inadequate (Figure 1 & Table 1). About 39 (27%) people had to either reuse PPE or use non-medical grade substitutes (Table 1).

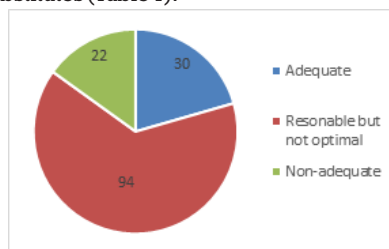


Fig 1. Adequacy of PPE

Psychological challenges and support:

35% of responders (n=51) quantified their stress as either extremely high, 40% as high (n=58), and 22% as moderate (n=32) while working in their respective hospitals during the pandemic (Figure 2 & Table 1).

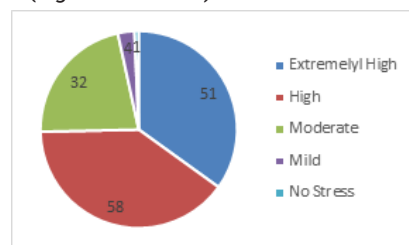


Fig 2. Stress due to occupational environment

The main cause of worry in majority of the PG trainees (figure 3) was transmitting the disease to their family members & close contacts (63%; n=92), followed by working in a difficult environment (16%, n= 23), acquiring the disease (10%, n=15) and patient mortality & morbidity (8%, n=12).

The type of stress was described as physical by 4% (n=6), mental in 32% (n=46) and both in 64% (n=94) of the participants (Table 1).

About 65% (n=95) of the participants were extremely or highly concerned about acquiring the disease

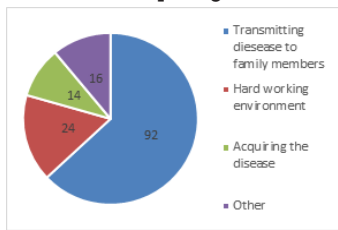


Fig 3. Major cause of concern

themselves. Nearly 64% (n=93) thought that the psychological support and counselling offered was nil, while 28% (n=41) felt that it was inadequate or suboptimal. Only 8% (n=12) believed that they had necessary support (Table 1).

How well PGs felt they were led in the pandemic:

About 61% (n=89) felt that the support provided by senior clinical staff was either adequate or reasonable, whereas 54% (n=79) felt that support from administration was either adequate or reasonable. In contrast, 39% (n=57) and 46% (n=67) believed that the support they received from the senior clinical staff and administration inadequate or negligible, respectively (Figure 4 & Table 1).

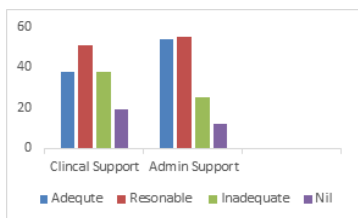


Fig 4. Clinical and administrative support

Effect on teaching and training:

Most of the PGs (72%, n=105) believed that the pandemic has severely compromised their medical teaching and training, while 19% (n=28) thought it was moderately affected and only 9% (n=13) felt that there was no significant affect (figure 5). Overall, 42% (n=61) of the trainees reported that they had no teaching during the pandemic. Online teaching was the main mode of teaching (49%, n=71), with less than 10% (n=14) of responders reporting face-to-face teaching. Importantly, 86% (126) would have preferred traditional face-to-face teaching over online teaching (Table 1).

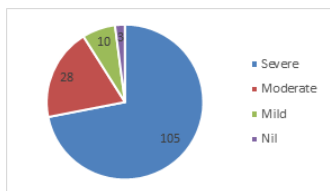


Fig 5. Affect on teaching and training

The most frequently cited reasons for restricted teaching were “academic activity could not be fit in due to the heavy workload” (35%, n=51), “teaching groups unable to meet up because of covid restrictions” (25%, n=37), “not enough non-covid work available” (24%, n=35) and “senior staff unavailable for teaching & training” (14%, n=20) (Figure 6 & Table 1).

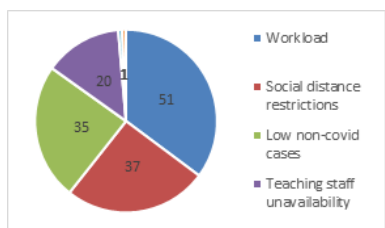


Fig 6. Single most reason for restricted teaching

Perception of gratitude from patents & community:

More than half (53%, n=78) of the trainees stated that most patients & relatives showed gratitude for the treatment they received. However, a significant number reported personal encounters of verbal (42%, n=61) and physical (15%, n=22) abuse from patients or relatives (Figure 7 & Table 1).

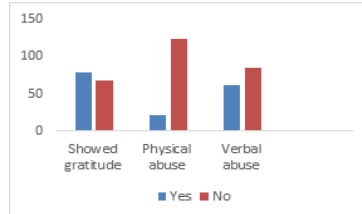


Fig. 7 Patients' relatives' attitude towards doctors

Half of the trainees (50%, n=73) responded that their neighbors were helpful and acknowledged their services, while the remainder (47%, n=68) stated that they did not perceive gratitude from their community. A small section of candidates (4%, n=6) reported experiencing aggressive behavior from neighbors (Figure 8 & Table 1).

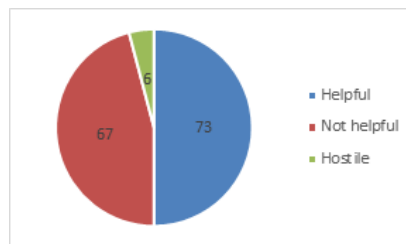


Fig. 8 Neighbors' attitude towards doctors

Discussion:

Adequacy of PPE:

The current outbreak and rapid spread of COVID-19 has led to panic buying resulting in temporary shortage of PPE kits all over the world, including India^[3]. The lack of availability of the kits has massively affected healthcare workers on the frontline, many of whom have contracted the virus with a subset sadly succumbing to it. The estimated PPE requirements for India were at least 38 million masks and 6.2 million PPE kits to deal with the pandemic with over 0.1 million PPE kits per day^[8]. The results of this survey reflect the lack of PPE for frontline workers: Nearly 80% felt that PPE was not adequate or suboptimal, and 27% had to either reuse or use non-medical grade PPE.

Psychological challenges and support:

Frontline healthcare workers have been reported to be one of the most vulnerable groups to experience severe emotional stress during the pandemic due to the high risk of infection, high workload and fear of transmitting the infection to their families^[9]. Fear of the unknown, of getting infected and associated mortality are reported to be prominent causes of stress^[4]. A large study from Singapore during the SARS outbreak reported significantly higher levels of stress among doctors and nurses compared to other healthcare workers, with 76% perceiving a great personal risk of falling ill^[5]. In our study, 75% participants quantified their level of stress to be high or extremely high, and 65% were extremely or highly concerned about getting infected. The single largest cause of stress was transmitting the infection to family members (63%). However, only 8% felt that they received the necessary psychological support and counselling, which is a significant concern.

How well were you led in the pandemic:

Healthcare workers with limited training and experience to deal with infectious diseases were redeployed to provide care to COVID-19 patients^[6]. Relatively inexperienced PG students with limited training and knowledge were made to work in an unfamiliar often highly complex work environment

necessitating proper communication and guidance from senior clinical staff. 39% felt that support from senior clinical staff was either inadequate (26%) or negligible (13%). Similarly, the level of administrative support with regards to provision of PPE, availability of medicines, equipment, accommodation and food was deemed to be either inadequate (38%) or negligible (8%).

Effect on teaching and training

Suspension of training opportunities, cancelled clinical rotations and teaching schedules during the pandemic resulted in severe disruption of the teaching and training of PG students according to 94% responders in a study on Orthopaedic PGs in Delhi-NCR [7]. Reduced patient volume with consequent decline in the range of pathologies has further contributed to a reduction in training opportunities [7]. In this study, 91% felt that their training has been considerably affected. Although the pandemic has led to the introduction of online teaching, 86% of our study group preferred face to face teaching when possible.

Gratitude from patients and community:

Various incidents of violence against doctors were reported during the pandemic in India along with instances of ostracism by the community including expulsion of the tenanted doctors by the housing property owners [10]. An alarmingly high number of responders in our study reported verbal (42%) and physical abuse (15%).

A study from Singapore during SARS outbreak in 2005, showed that 49% experienced social stigmatization and 31% ostracism by family members [7]. Half of the study group felt that their neighbours were unhelpful, with 4% of them even being aggressive.

Conclusion:

This study analyzed various aspects of the pandemic affecting frontline PG trainees. PPE was deemed to be inadequate. The survey reflected the strong need for psychological support to the trainees and the necessity for improved leadership from senior staff & administration. Opportunities for learning and training were severely restricted due to the pandemic. Furthermore, and worryingly, a reasonably large section of community and patients were perceived by PG trainees to be inconsiderate to the services rendered by doctors and oblivious of their limitations.

Table 1

| PPE | | | | |
|------------------------------------|---------------------|-----------------------|-------------------|-------------------|
| Adequacy | 30 (Adequate) | 94 (Reasonable) | 22 (Not adequate) | |
| Reuse PPE | 39 (Yes) | 107 (No) | | |
| Psychological challenges & support | | | | |
| Stress | 51 (extremely high) | 58 (High) | 32 (moderate) | 5 (mild/nil) |
| Concern of getting COVID | 30 (extremely) | 65 (Highly) | 48 (slightly) | 3 (not concerned) |
| Support | 12 (adequate) | 24 (reasonable) | 17 (not adequate) | 93 (no support) |
| Type of stress | 6 (physical) | 46 (mental/emotional) | 94 (both) | |
| Leadership in pandemic | | | | |
| Clinical support | 38 (adequate) | 51 (reasonable) | 38 (not adequate) | 19 (no support) |

| Administrative support | 25 (adequate) | 54 (reasonable) | 55 (not adequate) | 12 (no support) |
|---|--------------------|------------------|-------------------|-----------------|
| Teaching & Training | | | | |
| Effect on training | 105 (severe) | 28 (moderate) | 10 (mild) | 3 (no affect) |
| Mode of teaching | 71 (face to face) | 61 (online) | 14 (no teaching) | |
| Preferred teaching | 126 (face to face) | 20 (online) | | |
| Gratitude from patients/ attendants/ neighbours | | | | |
| Showed gratitude | 78 (yes) | 68 (no) | | |
| Verbal abuse | 61 (yes) | 85 (no) | | |
| Physical abuse | 22 (yes) | 124 (no) | | |
| Neighbours | 70 (helpful) | 67 (not helpful) | 6 (aggressive) | |

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