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Logistics and administration-related stressors among young physicians working in the emergency medicine (EM) department and their perceived job satisfaction in EM department across hospitals of India: a nationwide multicentric digital survey

Murtuza Ghiya,[1] Alok A Gangurde,[2] Jilshy Varghese,[3] Mohamed M A Hishaam,[4] Balamurali Krishna,[5] Jeffrey Pradeep Raj ,[6] Manu Mathew Lal[4]

[1]K J Somaiya Medical College and Research Centre, Mumbai, Maharashtra, India
[2]Dr D Y Patil Medical College Hospital and Research Centre, Pune, Maharashtra, India
[3]St. Thomas Hospital, Chethipuzha, Kerala, India
[4]Dr DY Patil Hospital and Research Centre, Navi Mumbai, Maharashtra, India
[5]Manipal Hospitals, Bangalore, Karnataka, India
[6]Pharmacology (Division of Clinical Pharmacology), Kasturba Medical College Manipal, Manipal Academy of Higher Education, Manipal, Karnataka, India

Correspondence to
Dr Jeffrey Pradeep Raj, Pharmacology (Division of Clinical Pharmacology), Kasturba Medical College Manipal, Manipal Academy of Higher Education, Manipal, Manipal, Karnataka, 576104, India; jeffrey.raj@manipal.edu

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ABSTRACT

Objective Emergency medicine (EM) is a growing specialty in India with the board approving training programme commencing only since 2009. This study aimed to identify the challenges faced by EM department personnel in the country and to obtain valuable insight into the concerns and problems experienced by them.

Methods This study was a cross-sectional digital survey conducted among EM department personnel in teaching institutions across India. The study involved 170 respondents, who completed an online questionnaire that covered various aspects of their work and identified the challenges they faced. It also captured potential solutions as perceived by the respondents.

Results A total of n=170 participants completed the survey of which N=164 fulfilled the eligibility criteria. The study revealed significant challenges faced by EM personnel in India. Administrative and clerical work consumed a considerable amount of respondents' time. Understaffing (n=144/164; 87.8%), followed by complains about delay due to hospital administrative processes and policies (n=141/164; 85.9%), and delay in interhospital transfers (n=139/164; 84.8%) were the primary concerns spelt out by the respondents. Additionally, respondents experienced interpersonal conflicts, and verbal/physical abuse and inappropriate behaviour from patients and their family members. Potential key solutions suggested were to improve resources including manpower and take steps to prevent violence against EM staff.

Conclusion The study's results call for policy-makers and hospital administrators to address the issues faced by EM department staff. Improving EM department operations can improve patient care and staff well-being. Future research should examine challenges in non-teaching institutions and potential solutions.

WHAT IS ALREADY KNOWN ON THIS TOPIC

⇒ Emergency medicine (EM) personnel encounter challenges such as administrative tasks, understaffing, patient transfer delays and interpersonal conflicts, including abuse from patients and families.

WHAT THIS STUDY ADDS

⇒ Hiring more EM professionals and enhancing patient transfers and bed availability could alleviate issues.
⇒ Resident doctors would benefit from specialised administrative training.

HOW THIS STUDY MIGHT AFFECT RESEARCH, PRACTICE OR POLICY

⇒ Enhancing EM department operations with policy-makers and hospital administrators can improve patient care and staff well-being.

INTRODUCTION

Emergency medicine (EM) departments play a critical role in providing acute care services to patients with urgent and emergent medical needs. It constantly evolves by implementing innovative evidence into practice. To promote evidence-based medicine directly into clinical practice, emergency departments benefit from standardising treatment and care pathways. In addition to diagnostic algorithms and risk stratification for various pathologies, EM physicians also evaluate new evidence critically and incorporate the findings of new research into clinical practice.[1] However, EM departments in most medical colleges are still managed by staff from other departments on a rational basis who are most often focused towards the activities of their parent specialty thereby mainly impacting the academic and administrative activities of EM departments.[2]

In high-income nations, the field of EM is recognised as a specialty with insufficient personnel. As, of 2001, just 60% of doctors employed in EMs in the USA possessed complete training and certification.[3] The scenario was even worse in India until the then Medical Council of India recognised EM as a separate specialty in 2009 and in the subsequent 4 years or so, an academic department of EM had been established in only 20 medical colleges with a training capacity of merely 40 postgraduates per year.[2] As of March 2022, this had increased to 187 training positions.[4]

Postgraduates and young consultants are, thus, the future of EMs, and their insights and perspectives on the current issues in the EM department can be invaluable in developing innovative solutions. In

recent years, EM departments have faced numerous challenges, lack of a structured curriculum and lack of well-defined qualifications of the EM teachers, until recently, compounded the woes of young EM doctors.[5] On the other hand, there is also an ever-increasing patient load with many of them requiring multidisciplinary approach, overcrowding, understaffing of support staff and physician burn-out all of which have negatively impacted patient outcomes and physician satisfaction.[6] There is generally a lack of ownership of these patients requiring a team effort as the general administrative issues in EM and lack of full-time staff hinders the effective functioning of an EM. Thus, successful interpersonal communications between resident doctors, young consultants and non-physician staff are essential for safe and efficient collaborative patient care in busy, high-acuity academic EM departments.[6–8]

Thus, the current study aimed to gain a better understanding of the issues affecting the EM department by estimating the proportion of EM physicians facing any issues/challenges and their potential solutions from the perspective of EM postgraduates and young consultants. The authors anticipate that the study findings would guide policy-makers in improving their EM set up by optimising resources and maximising physician and patient satisfaction.

METHODS

Study design and setting

This study employed a cross-sectional multi centric survey design to examine the problems and challenges faced by EM department personnel in teaching hospitals across India using a web-based questionnaire on the Google survey platform. The survey link was live from 23 January 2023 to 9 February 2023 (approximately 2.5 weeks duration) by which time the target sample size was achieved.

Eligibility criteria

Participants of any biological sex who have completed their undergraduate degree in MBBS, and currently working in an EM department in a teaching hospital were eligible. They had to be either postgraduates in EM or young consultants from the cadre of senior residents or assistant professors. Postgraduates of other specialties who were posted in EM as a part of the curriculum were excluded. Also, forms which were not completely filled were also excluded from the analysis.

Variables

The survey questionnaire consisted of 36 items that measured seven multi-item variables, including screening (2 items), demographics (9 items), problem statement (5 items), problems related to residency (7 items), concerns related to administrative tasks and ancillary facilities (4 items), verbal abuse (3 items) and solutions (6 items). The key variables examined in this study are as below:

- Respondent characteristics (age, gender, years of experience, work setting).
- Problems faced in the EM department (administrative or clerical work, understaffing, patient bed availability and transfer delays, interhospital transfer, lack of weekly academics).
- Challenges in the EM department (interpersonal conflicts leading to poor teamwork, excessive working hours, complaints about delays in hospital procedures, non-medical inquiries about logistics by patients' relatives, difficulty with decision-making family members and financial counselling, difficulties with particular tasks).
- Experience with aggressive and inappropriate behaviour (angry patients or family members shouting, physical abuse, inappropriate behaviour towards female colleagues).

Study procedure

A cluster random sampling was done to identify the potential EM teaching institutions from the list of such institutions offering a teaching programme in EM available in the public domain. The Google form survey link was circulated on various digital platforms (WhatsApp, Twitter, LinkedIn, emails including the email IDs of various EM departments across India). On clicking the link, prospective participants were able to view the participant information sheet and the document detailing informed consent. Individuals who offered written informed consent were granted entry to the survey eligibility form, through which only those who met the eligibility requirements were permitted to participate in the main survey.

Data sources/measurement

The survey was a web-based Google forms questionnaires which was self-administered in English Language. It had multiple internal checks to capture accurate data. The responses were then exported in the .XLS format for further analysis. There was no public involvement in the design or conduct of this study.

Mitigation of bias

Although the survey employed convenient sampling within the chosen clusters, every attempt was made to mitigiate selection bias by ensuring that the survey questionnaire was distributed to a diverse group of all EM trainees and young consultants within the chosen teaching institutions that have a dedicated EM department in India, these institutions being chosen at random. The questionnaire was also piloted by a small group of EM physicians who did not take part in the actual study subsequently. The questionnaire was also validated for face and content validity by six professionals of high experiences in EM, research, statistics, medical administration and psychology. Further, to prevent response bias, senior consultants were excluded, since a fraction of them do not work full time in the department nor are in direct contact with the patient care.

Sample size estimation

The Indian Medical Association (the largest represented organisation of doctors of modern system of medicine, including EM physicians in India with a member of 3.5 lakh doctors as of 2023) had reported that at least 75% of doctors in India have faced some kind of violence from patient/patient relative.[8] Considering this as one of the many issues, it was assumed that at least an additional 15% (total 90%) may have faced some or the other issues/challenges. Thus, the sample size estimated using the Cochran's formula $[Z_{\alpha}^{2} \times p(100-p)/d^{2}]$,[9] assuming an absolute precision (d)=5%, alpha error=5%, power of the study to be 80%, was n=140. Assuming a 20% incomplete forms, the final target sample size was set at n=170.

Statistical methods

The exported data file in .XLS format was uploaded in SPSS for Windows, V.25.0 (IBM) for further analysis. The normality of continuous variables was assessed using Shapiro-Wilk test. The continuous variables were reported as median with IQR (if non-normal distribution) and as mean and SD, (if normally distributed). Categorical variables were reported as frequency (n) and percentages (%). Tables and graphical representations

Table 1 Participants' characteristics

Characteristic	Category	Frequency (n)	%
Biological sex	Male	114	69.5
	Female	50	30.5
Age (year)	<30	70	42.7
	30–39	89	54.3
	40–49	4	2.4
	50–59	1	0.6
Work experience (years)	<5	103	62.8
	6–10	56	34.2
	≥10	5	3.0
Current designation	1st year residents	29	17.7
	2nd year residents	18	10.9
	3rd year residents	21	12.8
	Senior residents	36	22.0
	Assistant professors	60	36.6

were included where necessary to better illustrate the results of the study.

RESULTS

Respondent characteristics

A total of 187 individuals had consented to take part in the study. However, 17 forms were incomplete, and 6 respondents were excluded as they did not fulfil the eligibility criteria (n=2 did not have MBBS degree and n=4 were not working in EM department. Thus, the final number of responses included in the analysis was N=164 (98.8%) who had completed their undergraduation in MBBS. The median (IQR) age was 30 (27–34) years and the median (IQR) years of experience was 3.00 (1.00–6.00) years. The other descriptive characteristics are summarised in table 1.

Work setting

In terms of the workplace, 30 (18.3%) participants were working in a government medical college hospital, 87 (53.0%) were working in a private medical college hospital and 47 (28.7%) were working in a corporate private hospital. The majority of participants in the study were from Karnataka (33; 20.1%), followed by Maharashtra (27; 16.5%) and Kerala (10; 12.8%) (figure 1). The survey also found that the majority (41.2%) of respondents worked in a hospital setting where functional bed capacity was between 20 and 30, followed by 10–20 (28.0%) and 40–50 (16.8%). Among the surveyed EM physicians, 123 (74.7%) were working in an institution that had residency programmes while the rest 41 (25.3%) worked in an institution that did not.

Problems faced in the EM department

The majority of respondents (56/164; 34.1%) stated that administrative or clerical work took up 25%–49% (up to nearly half) of their time, followed by 52/164 (31.7%) who spent 11%–25% (up to a quarter) of their time doing such work. The majority (144/164; 87.8%) identified understaffing as a problem in the EM department and nearly an equal number (139/164; 84.8%) also identified patient bed availability and transfer delays between hospitals and departments as problems. Intensive care unit bed availability was cited as a problem by 105/164 (64.0%) respondents while other hospital bed information was cited as a problem by 93/164 (56.7%) respondents. Less than half of the participants (n=68/164; 41.5%) said they had concerns about the lack of weekly academics. The ranking of common problems faced in the EM department namely understaffing/hospital transfers and administrative/logistical issues are summarised in table 2.

Challenges in the EM department

The study also investigated the challenges faced by EM department personnel. The main difficulties expressed were understaffing (n=144/164; 87.8%), followed by complains about delay due to hospital administrative processes and policies (n=141/164; 85.9%) and delay in interhospital transfers (n=139/164; 84.8%) besides many other issues identified. These challenges are summarised in figure 2.

Experience with aggressive and inappropriate behaviour

A total of 65/164 (39.6%) reported having to deal with angry patients or family members shouting at them occasionally, or once or twice a month, in the emergency room. In addition, 47/164 respondents (28.7%) mentioned that they encountered this behaviour frequently, or once or twice per week, while only 8/164 respondents (4.9%) mentioned that they never experienced it. On a similar note, 19/164 (11.6%) respondents reported to have seen this type of act almost daily. Furthermore, 32/164 (19.5%) respondents reported being physically abused by patients/relatives at least once while 60/164 (36.6%) respondents felt that patients or relatives have looked/approached them or their female colleagues inappropriately.

Problem-solving

With regard to finding solutions to issues in the EM department, 76/164 (46.3%) respondents reported that young consultants usually take the lead, followed by 52/164 (31.7%) respondents who reported that senior consultants take the role. Potential solutions for issues pertaining to patient care and those to curb violence against healthcare professionals are ranked in table 3.

Scope of EM department in the future

In terms of the progress of EM as a well-defined specialty in India, 93/164 (56.7%) respondents believed that it will progress rapidly while 55/164 (33.5%) reported that it will progress slowly. On the other hand, 13/164 (7.9%) and 3/164 (1.8%) expressed that the field will decline slowly or rapidly, respectively.

DISCUSSION

We conducted a pan-India digital cross-sectional survey among N=164 EM postgraduate resident trainees and physicians of junior cadre to understand the challenges faced by them in their professional career and their possible solutions from their perspective. The results of this study provide valuable insight into the challenges faced by EM department personnel in India as the training programme is in its infancy stage since its commencement in 2009. Our study found that understaffing, interhospital transfers and delay due to hospital administrative procedures such as getting blood products from the blood bank and scheduling portable X-ray/ultrasonography, identified as the top concerns.

The findings of the current study are in line with other reports published in literature. For instance, Misra *et al* have stated that the three main challenges in EM are overcrowding, understaffing and uncertainty in patient load.[6] Further, the respondents reported the administrative and clerical work to have been taking up a significant portion of their time. They also reported

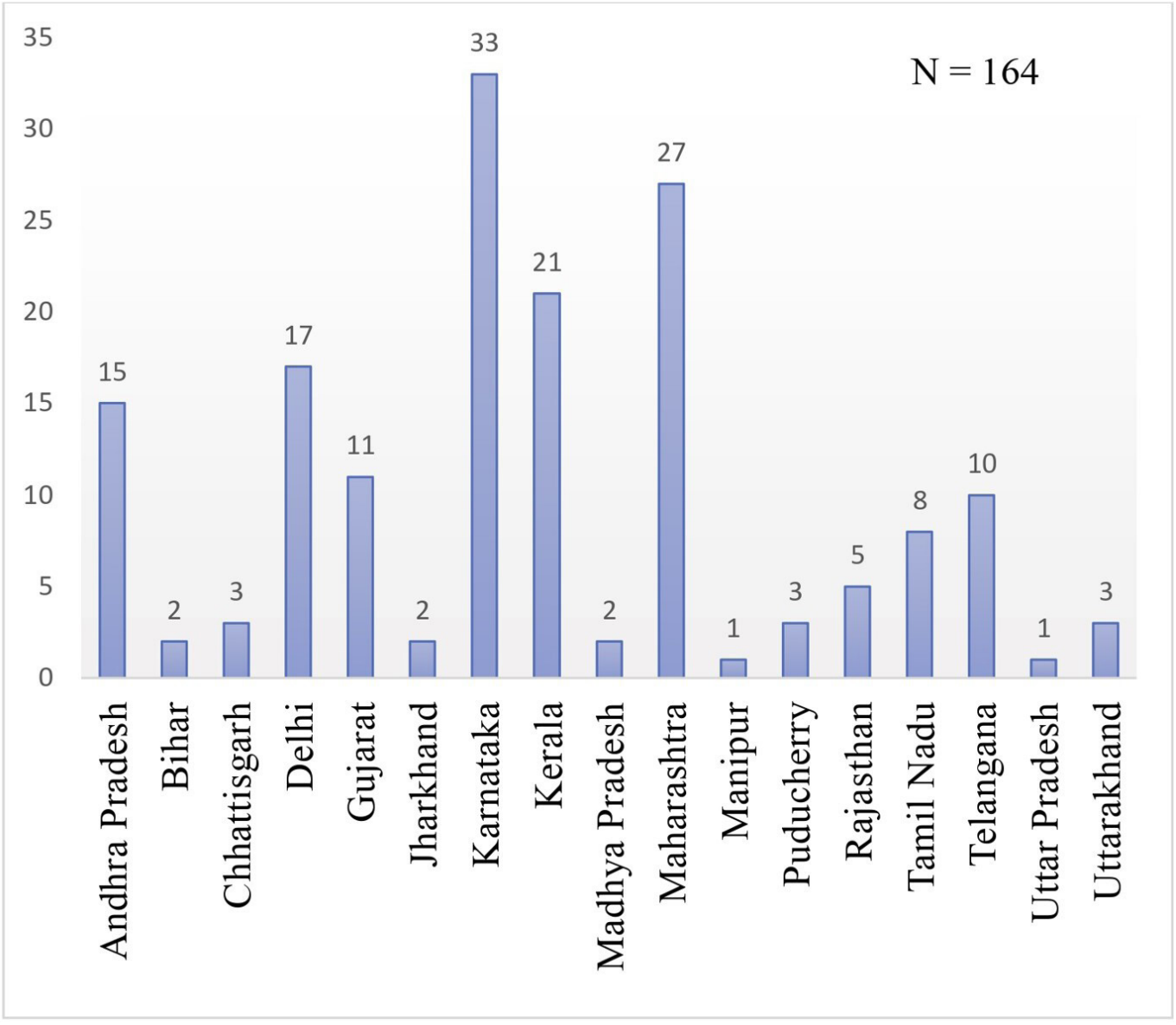

Figure 1 Geographical representation of respondents.

interpersonal conflicts leading to poor teamwork and excessive working hours affecting their well-being. Such non-patient-related problems as well as human relationship issues are known triggers for burn-out and tackling these issues would also mean prevention of burn-out.[10]

The respondents have also cited issues like lack of immediate relative to make decisions or non-medical queries from patients/relatives as other notable challenges in the EM. The importance of meaningful and informative communication between patients and healthcare providers cannot be overstated. Patients/caregiver need to feel empowered to participate in decisions regarding their healthcare through communication and information.[11] The greatest medical errors, according to reports, involved a breakdown in communication.[12] As has been demonstrated in previous research, poor interpersonal exchanges can be associated with frustration and dissatisfaction, leading to ostensible inferences about the trajectory of the patient's care.[13]

Overcrowding in emergency rooms can have a negative impact on patient health as well as the hospital or government health budgets. It can directly impact patient quality of care, morbidity and mortality. Adding more EM beds to the hospital would seem to be the obvious solution but is limited by costs and want of more manpower. An alternative strategy would be to figure out how to make better use of the available resources[14] in order to decrease overcrowding in EM departments and other hospital departments, thereby improving patient experience and reducing costs.[15] Other improvement strategies may include audits, incident monitoring, development of guidelines, morbidity and mortality review, integration

Table 2 Ranking of burden of common problems faced in EM

Problems faced in EM department	1 (most bothersome)	2	3	4 (least bothersome)
Understaffing and interhospital transfer	83 (50.6.%)	46 (28.0%)	18 (11.0%)	17 (10.4%)
Administrative tasks and logistics of ancillary facilities	39 (22.9%)	46 (27.1%)	38 (22.4%)	41 (24.1%)

EM, emergency medicine.

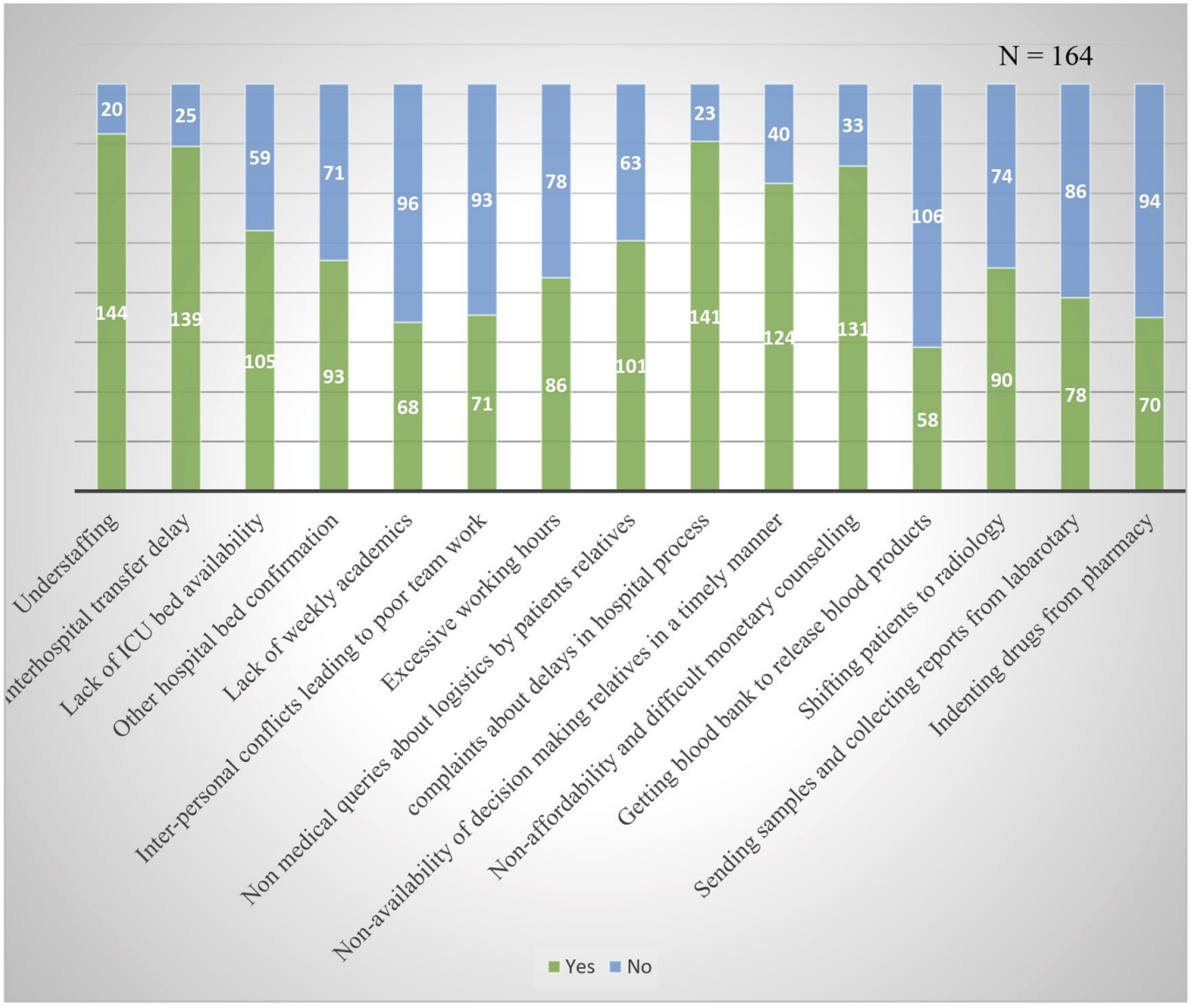

Figure 2 Problems faced in the emergency medicine department. ICU, intensive care unit.

and communication with ambulance, hospital specialties and primary care.[16]

Additionally, respondents reported experiencing verbal abuse, physical abuse and inappropriate behaviour from patients and their family members. As evidenced by the substantial volume of literature published on this topic, violence and aggression have been increasing in the EM.[17] The act of bullying in the health-care industry may be encouraged by a demanding, competitive

Table 3 Solutions for issues pertaining to patient care and to prevent violence EM department: ranking scale from 1 (most preferred) to 4 (least preferred)

	1 (most preferred)	2	3	4 (least preferred)
Solutions for issues pertaining to patient care				
Special training for residents in administrative processes	46 (28.0%)	40 (24.5%)	46 (28.0%)	32 (19.5%)
Full time EM faculty on all three shifts	55 (33.5%)	59 (36.0%)	33 (20.1%)	17 (10.4%)
Full time trained administrator on all three shifts	38 (23.1%)	50 (30.5%)	59 (36.0%)	17 (10.4%)
Solutions for issues to curb violence against healthcare professions				
Professional bodyguards/bouncers stationed on campus round the clock	48 (29.3%)	27 (16.4%)	31 (18.9%)	58 (35.4%)
Police representative stationed on campus round the clock	32 (19.5%)	53 (32.3%)	50 (30.5%)	29 (17.7%)
Better communication/conflict resolution skill training for doctors	47 (28.7%)	47 (28.7%)	42 (25.6%)	28 (17.0%)
Having trained professional counsellors/administrators to negotiate emergency room round the clock	37 (22.6%)	37 (22.6%)	41 (25.0%)	49 (29.8%)

EM, emergency medicine.

workplace with a non-supportive administration.[18] In this type of workplace, the bully is likely to be given preference over the victim. The results of patient care are ultimately impacted by it because it lowers professional self-confidence and increases psychological distress.[19] In terms of potential solutions to these issues, respondents suggested special training for residents in administrative processes, having full-time EM faculty on all three shifts and having a full-time trained administrator on all three shifts. Due to the growth of this specialty field, there is an opportunity to consider focused and diverse solutions to the challenges associated.[20] The literature has described a variety of models for delivering critical care in the emergency department. There are two major categories of these models: those that are based on geography and those that are based on individuals.[21] It is essential to address the problems identified by respondents, as they can negatively impact the quality of care provided to patients and the well-being of EM department personnel.

The results of the study have significant ramifications for policy-makers and hospital administrators, who must take preventative steps to address the issues and difficulties faced by EM department staff. Given these findings from the current study, the authors wish to reiterate certain strategies outlined by Ross *et al*[16] to enhance wellness in EM residency training programmes in an Indian context as follows:

a. Reduce administrative requirements.
b. Refocus residents on educational opportunities.
c. Minimise influence of electronic medical record systems (eg, dictation services, software, scribes, smart texts).
d. Provide residents with strategies to manage administrative demands.
e. Give residents perspective on the motivation of certain administrative tasks and how it applies to future employment.
f. Lessen the workload on EM department staff by addressing understaffing by hiring and training more healthcare professionals.
g. Improve patient bed availability and transfer systems.

The current study has some limitations. For reasons explained earlier, senior consultants (level of associate professors and professors) were excluded and also were the nursing staff. They are likely to have different perspectives and different challenges. Additionally, the study was conducted mainly in teaching institutions, which may have different challenges than non-teaching institutions and in those primary care institutions that still run an EM unit. Future research with a larger sample size and a qualitative component included could explore the challenges faced by varied cadres of EM personnel even non-teaching institutions and identify potential solutions to those challenges.

The main strength of our study is the sufficiently large sample size and their varied representation from all regions of India based on a probability-based sampling technique thereby allowing us to generalise the results to the whole of India in this context. Although a larger proportion of respondents are from the states of Maharashtra and Karnataka, it is consistent with the National Medical Council statistics which shows that these states have the greatest number of EM residency training programmes. Yet another strength is that the opinions in this study are from the residents and junior consultant themselves who are valuable for evaluating a successful residency, a key period in the professional career of a specialist doctor. Thus, an adequate attention paid towards potential target factors that could be implemented easily would help building a successful training programme despite multiple universities having their own residency programme which are heterogeneous in terms of training (clinical rotations, lectures and the likewise).

CONCLUSIONS

In conclusion, the key issues faced by EM physicians are understaffing, delay in various hospital procedures for treatment and delays in interhospital transfers besides a handful of violent and inappropriate behaviour from the patients/relatives directed towards the healthcare workers in EM. This study, thus, highlights the need for potential solutions to address these challenges. Healthcare policy-makers, administrators and EM department personnel should work collaboratively to identify and implement solutions that improve the working conditions of personnel and enhance the quality of care provided to patient; more so since this specialty's vitality is gaining widespread acceptance across all parts of India as well as the other low-income and middle-income countries. The decisions that are made today will definitely make a huge impact on the future of the budding, busy and bold specialty.

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Competing interests None declared.

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Ethics approval The K.J. Somaiya Medical College & Hospital, Mumbai Institutional Ethics Committee (Academic) approved the study vide letter dated 7 November 2022 (no specific study reference number issued). All participants were informed about the nature and purpose of the study and provided written informed consent before participating. The survey was anonymous and confidential, and data were used solely for research purposes. The study adhered to the principles of the Declaration of Helsinki (Fortaleza, 2013) and the Indian Council of Medical Research's National Ethical Guidelines for Biomedical and Health Research Involving Human Participants (2017, New Delhi, India).

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ORCID iD
Jeffrey Pradeep Raj http://orcid.org/0000-0002-8621-6106

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