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**Research Article**

# Workplace Safety and Security in Indian Healthcare Settings: A Cross-Sectional Survey

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## A B S T R A C T

*Introduction:* Workplace safety and security are critical concerns in healthcare settings, where incidents of violence against healthcare workers are increasingly reported. This study aimed to assess the current status of security and safety measures in Indian healthcare institutions, focusing on the perceptions of healthcare workers across various settings.

*Method:* A cross-sectional survey was conducted among 1,566 healthcare workers from diverse medical institutions across India using a pre-tested, self-administered online questionnaire, which assessed various dimensions of workplace safety. Logistic regression was used to find differences among groups. Open-ended responses were analysed using thematic analysis.

*Results:* The findings revealed that 58.2% of healthcare professionals felt unsafe at the workplace due to various threats. Perception of low safety was more in undergraduates (74.2%) than faculty (51%). A high proportion of health workers (78.4%) reported having been threatened on duty. Nearly half of the healthcare professionals lacked a dedicated duty room. The existing duty rooms were found to be grossly inadequate in providing the basic amenities. State-funded public healthcare settings were found to have poor living conditions, inadequate security measures, and a low perception of safety as compared to private institutions. Male healthcare professionals had higher odds of feeling unsafe at the workplace.

*Conclusion:* The study highlighted the significant gaps in the security infrastructure within Indian healthcare settings. Over half of the health workforce feels that their workplace is unsafe, particularly in state and central government medical colleges. A comprehensive, need-based approach with legislative support is necessary to enhance workplace security, which may improve doctor-patient relationships, workforce well-being, and overall healthcare quality.

**Keywords:** Healthcare Safety, Workplace Security, Violence at Workplace, Occupational Health, Security Measures

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## Introduction

Safety and security are essential processes to ensure the right to live and any form of threat to the same is a violation of fundamental human rights.[1] For the growth and development of human society, which depends on healthcare workers, effective and quality healthcare services are required. The health workforce includes those that provide health services such as doctors, nurses, etc, and those that support health services such as hospital managers, ambulance drivers, etc.[2] The lack of proper security measures renders the healthcare workers to work in unsafe environments with the perception of fear. Such circumstances further make the overall environment in the healthcare setup vulnerable to security threats and violence. Such acts of violence against healthcare workers have been repeatedly reported in literature.[3] Along with healthcare professionals, property, equipment, and records have also been reported to be at risk of damage. Healthcare professionals, under these environments, may feel threatened to work, remain mentally burnt out, and may have high levels of stress, and therefore may not be able to provide patient care to their fullest potential.[4] These safety and security issues are some of the causes of reluctance for most of the young doctors to go to rural health centres.[5]

One of the primary causes of such an incidence of violence may be attributed to a lack of safety and security in healthcare setups. A thorough literature search revealed a dearth of information about the safety and security in these setups, especially in the Indian subcontinent. A security lax, often in association with long duty hours of healthcare workers in substandard quality working environments, inadequately staffed hospitals, and poor health literacy among the general population may further aggravate the problem.[3,6] This becomes particularly important in the case of students and residents who are usually found to be burdened with hectic duty hours, apart from rigorous academic schedules. The dissatisfaction among patients associated with a lack of adequate equipment, drugs, or other materials and sometimes a long waiting list for certain procedures, is often dealt with by these doctors. Furthermore, these doctors are also closely associated with the families during vulnerable times, such as patient mortality, which may lead to emotional outbursts among relatives.[7–9]

Due to the lack of an institutional mechanism to conduct regular surveys or audits of security services, the demand for security measures becomes incongruent with the security services in place. This is especially relevant in the current times when workplace violence against doctors is on the rise[10] and the importance of workplace security is being highlighted. The National Task Force of the Union Health Ministry has also invited recommendations for the same.[11] The current study shall help in the thorough understanding of the status of security and safety measures and the critical points for action. Therefore, this study aims to assess the security and safety measures in place in healthcare settings in India. The findings will also help in framing guidelines to strengthen security as well as serve as a baseline for estimating progress toward achieving a safe and secure workplace.

## Materials and Method

We conducted a cross-sectional survey among healthcare workers all over India. A pre-tested, self-administered questionnaire was used to collect data on the status of security and safety services in their health institutions. To conduct the survey, an online form was circulated among healthcare workers (HCWs) from all cadres and disciplines across the country. Since obtaining a sampling frame was nearly impossible, we used convenient sampling to reach an adequate sample size. The calculated sample size was estimated to be 1688, assuming that the proportion of HCWs who felt unsafe at work was 50%, adjusting for a 10% non-response rate at 95% confidence levels and 5% relative precision. Data was collected in August 2024 through Google Forms shared across messaging platforms, e-mails, and social media.

The questionnaire was designed as a study tool to assess the current state of security and safety measures within healthcare settings. The survey gathered responses across several key areas, starting with demographic information. This section included questions about the respondent's location, age, gender, specialisation, designation, and the type of institution they were affiliated with, such as a government hospital or a private setup.

The survey then explored the perception of safety among respondents, focusing on how safe they felt within the hospital environment. It covered specific aspects like safety during night shifts and personal experiences with various threats, including physical, verbal, and sexual threats. A section on Security Infrastructure and Measures evaluated the adequacy of security measures such as the presence of security personnel, surveillance cameras, access control systems, emergency alarms, and lighting conditions. It also assessed the status of facilities like duty rooms, cleanliness, ventilation, and availability of basic amenities (e.g., washrooms). The Incident Reporting and Emergency Response section investigated whether respondents had witnessed violence, their awareness of emergency protocols, and the effectiveness of existing incident-handling procedures. A few open-ended questions explored in detail the nature and types of threats faced by healthcare workers and received suggestions to improve the current status of safety and security at the workplace.

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In this article, the qualitative responses are presented as a summary. A detailed report on the qualitative responses will be presented in a follow-up article.

Data was analysed in R software after cleaning it in Microsoft Excel. The socio-demographic data was reported in percentages and frequencies. Missing data was addressed using multiple imputations. Continuous data such as age was checked for normality using the Shapiro-Wilk test. Normally distributed variables were reported using mean and standard deviation and non-normally distributed variables were reported with median and inter-quartile range. Other variables were reported in frequencies and percentages. Bivariate analysis was performed to find the association between the independent variables and dependent variables such as the perception of safety at the workplace based on gender, designation, department, and type of healthcare setting. All the variables having a significance level of ≤0.25 were included in the multivariate logistic regression model. Adjusted odds ratios (aOR) were reported for the predictors of dependent variables. Open-ended questions were analysed to identify the key themes using thematic analysis.

We obtained online informed consent from all the respondents after providing them the purpose of the survey. Since we did not mandatorily collect the identity of the respondents, participation was completely voluntary, and data was presented as aggregates and percentages.

## Results

### Respondents' Characteristics

A total of 1627 responses were received from across India, of which, 1566 (96.2%) responses were found to be complete. Females constituted 55.5% of the total respondents. The age of the respondents ranged from 19 years to 81 years with the mean age being 30.9 ± 8.7 years. Almost one-fourth of responses (24.7%) were received from healthcare workers in Delhi. Almost half of the respondents were resident doctors (49.6%), followed by undergraduate medical students including interns (15.9%). Responses were also received from faculty members, medical officers, nursing staff, and other supporting staff. The majority of the respondents worked in government-run medical colleges (71.5%). Half of the respondents worked in non-surgical departments (49.2%) and one-third worked in surgical departments (33.8%). Other respondents included nursing, administrative, and other departments as detailed in Table 1.

**Table 1.Characteristics of Respondents**

| Demographic Variable | Sub-Category | n (%) |
|---|---|---|
| Gender (N = 1566) | Female | 869 (55.5) |
| | Male | 697 (44.5) |
| Type of institution (N = 1560) | Central government medical college and hospital | 394 (25.3) |
| | State government medical college and hospital | 720 (46.2) |
| | Private medical college and hospital | 157 (10.1) |
| | District hospital | 78 (4.9) |
| | Community health centre | 39 (2.5) |
| | Primary health centre | 87 (5.6) |
| | Private clinic | 35 (2.2) |
| | Others | 50 (3.2) |
| Designation (N = 1562) | Faculty/ consultant | 168 (10.8) |
| | Resident doctors | 775 (49.6) |
| | Undergraduates and interns | 249 (15.9) |
| | Medical officers | 151 (9.7) |
| | Nursing staff | 201 (12.8) |
| | Other supporting staff | 18 (1.2) |
| Department (N = 1223) | Surgical departments | 414 (33.8) |
| | Non-surgical departments | 601 (49.2) |
| | Diagnostic and laboratory | 99 (8.1) |
| | Nursing | 78 (6.4) |
| | Administrative | 5 (0.4) |
| | Others | 26 (2.1) |

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## Perception of Safety among Healthcare Professionals

Out of the total respondents, 624 (39.7%, 95% Confidence Interval (CI): 37.3–42.1) perceived the environment as unsafe and 291 (18.5%, 95% CI: 16.6–20.5) perceived it as very unsafe, indicating that more than half (915, 58.2%, 95% CI: 55.8-60.6) of the healthcare workers felt unsafe at the workplace.

Among the respondents, 1308 (83.4%) had worked a night shift, and of those, 821 (62.8%) reported feeling unsafe or very unsafe on the hospital premises during the night shift and only 166 (12.7%) felt safe. Almost four-fifths of the respondents (1222, 78.4%) reported having been threatened on duty, with the majority of threats being verbal (64%), 12% being physical, and about one-fourth (23.1%) being physical, verbal, and sexual in nature. On comparing the type of threat received among genders, it was observed that males had significantly higher odds (OR: 4.2, 95% CI: 2.92–6.03, p < 0.01) of reporting physical threats compared to females. On the other hand, females were 54% more likely than males to report experiencing multiple types of threats; verbal, physical and sexual. Both genders reported verbal threats at similar rates. Females were 8 times more likely (OR = 8.1, 95% CI: 1.0–63.4, p = 0.046) to report sexual threats than males although the precision was very low as only a few respondents reported sexual threats.

## Determinants of Perceived Overall Safety and Night-Time Insecurity in Healthcare Settings

It was found that males had higher odds of perceiving themselves as unsafe in the workplace (aOR: 1.28, 95% CI: 1.02–1.61, p = 0.031) as compared to females. As compared to faculty members or consultants (168, 10.8%), resident doctors (775, 49.5%) showed an aOR of 1.22 (95% CI: 0.83–1.8, p = 0.315), and undergraduates/ interns (249, 15.9%) had an aOR of 1.48 (95% CI: 0.92–2.37, p = 0.102), with neither group reaching statistical significance. The perception of safety did not significantly vary across medical officers, nursing staff, and other supporting staff as well. These findings suggest a variation in perceived safety by gender but not significantly by professional designation. Compared to private medical colleges and hospitals, healthcare workers of state government medical colleges and hospitals had a significantly higher perception of unsafety (aOR: 6.44, 95% CI: 4.36-–9.5, p < 0.001), similar to those of district hospitals (aOR: 4.15, 95% CI: 2.28–7.55, p < 0.001), community health centres (aOR: 6.09, 95% CI: 2.66–13.91, p < 0.001), and primary health centres (aOR: 5.14, 95% CI: 2.62–10.06, p < 0.001). Central government medical colleges and hospitals also showed increased unsafety (aOR: 1.55, 95% CI: 1.04–2.33, p = 0.033), while private clinics (aOR: 1.67, 95% CI: 0.75–3.7, p = 0.209) and 'Other' settings (aOR: 1.73, 95% CI: 0.87–3.44, p = 0.115) did not differ significantly. These findings indicate higher perceived unsafety in public healthcare settings compared to private ones as indicated in Table 2.

On analysing the perception of night security, females reported a slightly higher perception of night-time insecurity compared to males, but the difference was not statistically significant (aOR: 1.24, 95% CI: 0.98–1.57, p = 0.069). Regarding designation, no statistically significant differences were observed among various professional designations when compared to faculty members or consultants. Compared to private medical colleges and hospitals, all public healthcare settings showed a significantly higher perception of night-time insecurity, with the highest levels of insecurity observed in state government medical colleges (aOR: 5.78, p < 0.001). Private clinics also had increased insecurity (aOR: 2.49, p = 0.026), while "Other" settings

**Table 2.Perception regarding Safety According to Characteristics of Healthcare Professionals**

| Category | Sub-Category | Perception of Overall Safety | | Total N (%) | Adjusted Odds Ratio (95% CI) | p Value |
|---|---|---|---|---|---|---|
| | | Safe n (%) | Unsafe n (%) | | | |
| Gender | Female | 394 (45.4) | 475 (54.6) | 869 (55.5) | Reference | - |
| | Male | 259 (37.1) | 438 (62.4) | 697 (44.5) | 1.28 (1.02–1.61) | 0.031 |
| Designation | Faculty/ consultant | 89 (52.9) | 79 (47.0) | 168 (10.8) | Reference | - |
| | Resident doctors | 339 (43.7) | 436 (56.2) | 775 (49.5) | 1.22 (0.83–1.8) | 0.315 |
| | Undergraduates and interns | 69 (27.7) | 180 (72.2) | 249 (15.9) | 1.48 (0.92–2.37) | 0.102 |
| | Medical officers | 59 (39.0) | 92 (60.9) | 151 (9.7) | 1.00 (0.56–1.77) | 0.994 |
| | Nursing staff | 88 (43.7) | 113 (56.2) | 201 (12.9) | 1.02 (0.63–1.63) | 0.943 |
| | Other supporting staff | 9 (52.9) | 8 (47.1) | 18 (1.2) | 0.96 (0.33–2.79) | 0.933 |

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| | | | | | | |
|---|---|---|---|---|---|---|
| Type of healthcare setting | Private medical college | 110 (70.1) | 47 (29.9) | 157 (10.1) | Reference | - |
| | Central government medical college | 236 (59.9) | 158 (40.1) | 394 (25.2) | 1.55 (1.04–2.33) | 0.033 |
| | State government medical college | 182 (25.3) | 538 (74.7) | 720 (46.2) | 6.44 (4.36–9.5) | < 0.001 |
| | District hospital | 29 (37.7) | 48 (62.3) | 78 (5.0) | 4.15 (2.28–7.55) | < 0.001 |
| | Community health centre | 12 (30.8) | 27 (69.2) | 39 (2.5) | 6.09 (2.66–13.91) | < 0.001 |
| | Primary health centre | 30 (34.5) | 57 (65.5) | 87 (5.6) | 5.14 (2.62–10.06) | < 0.001 |
| | Private clinic | 22 (62.9) | 13 (37.1) | 35 (2.2) | 1.67 (0.75–3.7) | 0.209 |
| | Others | 30 (60.0) | 20 (40.0) | 50 (3.2) | 1.73 (0.87–3.44) | 0.115 |

showed no significant difference.

It was seen that healthcare workers involved with state government healthcare institutions felt more unsafe (74.7%, 538/720) compared to the ones in central government healthcare institutions (40%) and a greater number of healthcare professionals working in government institutions felt more unsafe compared to individuals working in private healthcare institutions (30%) (Figure 1). Among the participants, 185 undergraduates (74.2%), 58 interns (68%), 91 medical officers (62%), and 346 junior residents (60%) felt the most unsafe with regard to the safety perception across various healthcare institutions (Figure 2).

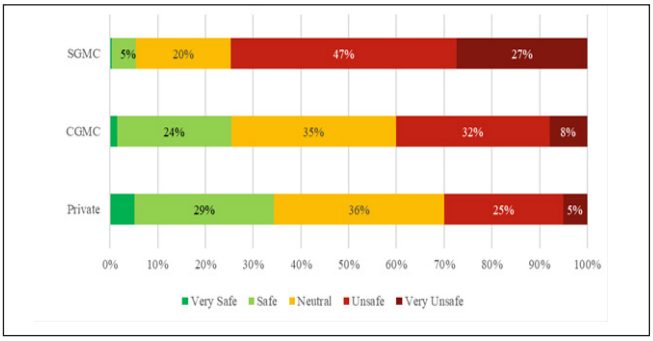


**Figure 1.Perception regarding Safety Based on the Type of Health Institution**

State government medical college (SGMC): Very safe - 1%, Central government medical college (CGMC): Very safe - 2%, Private medical college: Very safe - 5%

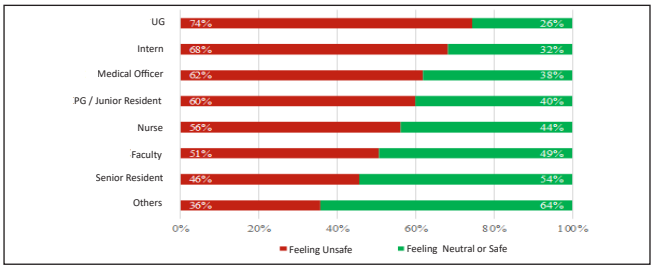


**Figure 2. Perception regarding Safety Based on the Designation of Healthcare Professionals**

## Living Conditions of Healthcare Professionals During Duty Hours

As per the respondents, 781 (49.9%) healthcare professionals did not have a dedicated duty room to rest within the working area. If the duty room was present, it was not equipped with a washroom in 62.8% of the cases. Of the total respondents, 78.1% reported the lack of a separate duty room for female healthcare professionals, which included female doctors, nurses, and other female medical staff, and 69.5% reported the lack of a separate washroom for female health professionals. A staggering 1288 (82.3%) respondents reported about the inadequate number of beds in the duty rooms.

## Duty Room Condition

The condition of the duty rooms was reported to be bad with inadequate cleanliness (68.8%), inadequate

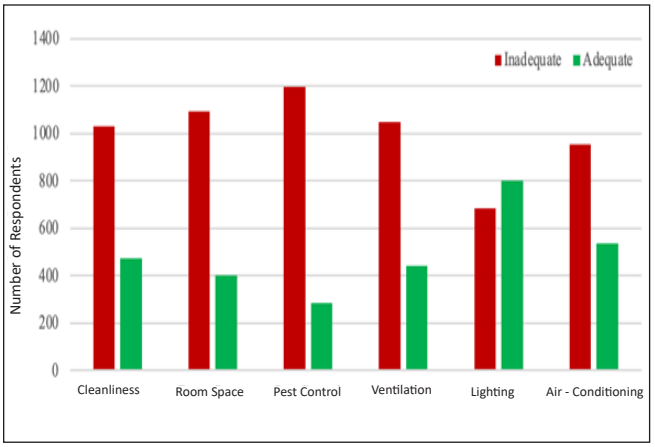


**Figure 3.Perception regarding Adequacy of Duty Room Essentials**

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room space (73.3%), pest infestation (81.1%), inadequate ventilation (70.6%), and lack of adequate air conditioning (64.2%) being the major problems reported (Figure 3).

## Variations in the Condition of Duty Rooms among Medical Colleges in India

The adequacy of duty room amenities varied significantly across different types of medical colleges. State government medical colleges consistently showed higher odds of inadequacy compared to private medical colleges, particularly for air conditioning (77% inadequate; OR: 2.12, $p < 0.01$), room space (80.5% inadequate; OR: 2.43, $p < 0.01$), ventilation (77.3% inadequate; OR: 1.88, $p = 0.01$), cleanliness (79.5% inadequate; OR: 2.98, $p < 0.01$), pest control (90.6% inadequate; OR: 4.55, $p < 0.01$, and lighting (54.8% inadequate; OR: 1.68, $p = 0.005$). Central government medical colleges also showed higher odds of inadequacy in several areas, including room space (73.8% inadequate; OR: 1.66, $p = 0.013$), though less pronounced than in state government medical colleges. Overall, state government medical colleges reported the poorest adequacy across all amenities, indicating a significant disparity in facility standards compared to private institutions (Table 3).

**Table 3.Comparison of the Adequacy of Duty Room Amenities across Different Types of Medical Colleges in India**

| Duty Room Amenities | Type of Medical College (N, %) | Adequate n (%) | Inadequate n (%) | Odds Ratio | p Value |
|---|---|---|---|---|---|
| Air conditioning | Central government (377, 30.8) | 230 (61.0) | 147 (39.0) | 0.4 (0.27–0.59) | < 0.01 |
| | State government (697, 56.9) | 160 (23.0) | 537 (77.0) | 2.12 (1.46–3.07) | < 0.01 |
| | Private (150, 12.3) | 58 (38.7) | 92 (61.3) | Reference | - |
| Room space | Central government (378, 30.8) | 99 (26.2) | 279 (73.8) | 1.66 (1.11–2.48) | 0.013 |
| | State government (697, 56.9) | 136 (19.5) | 561 (80.5) | 2.43 (1.66–3.55) | < 0.01 |
| | Private (151, 12.3) | 56 (37.1) | 95 (62.9) | Reference | - |
| Ventilation | Central government (377, 30.9) | 112 (29.7) | 265 (70.3) | 1.3 (0.87–1.94) | 0.192 |
| | State government (692, 56.7) | 157 (22.7) | 535 (77.3) | 1.88 (1.29–2.74) | < 0.01 |
| | Private (152, 12.4) | 54 (35.5) | 98 (64.5) | Reference | - |
| Cleanliness | Central government (380, 30.9) | 152 (40.0) | 228 (60.0) | 1.15 (0.79–1.68) | 0.469 |
| | State government (698, 56.7) | 143 (20.5) | 555 (79.5) | 2.98 (2.06–4.31) | < 0.01 |
| | Private (152, 12.4) | 66 (43.4) | 86 (56.6) | Reference | - |
| Pest control | Central government (375, 30.8) | 92 (24.5) | 283 (75.5) | 1.45 (0.95–2.19) | 0.081 |
| | State government (693, 56.9) | 65 (9.4) | 628 (90.6) | 4.55 (2.96–6.97) | < 0.01 |
| | Private (150, 12.3) | 48 (32.0) | 102 (68.0) | Reference | |
| Lighting | Central government (376, 30.9) | 241 (64.1) | 135 (35.9) | 0.77 (0.53–1.14) | 0.193 |
| | State government (691, 56.8) | 312 (45.2) | 379 (54.8) | 1.68 (1.17–2.4) | < 0.01 |
| | Private (150, 12.3) | 87 (58.0) | 63 (42.0) | Reference | - |

## Satisfaction with Security Measures in Healthcare Settings

The majority of the respondents expressed dissatisfaction with the existing security measures across various health institutions with regard to the availability of security personnel (28.4% dissatisfied, 24.2% very dissatisfied), surveillance and monitoring through CCTV cameras (24.2% dissatisfied, 29.6% very dissatisfied), presence of access control systems (restricted areas, use of badges and ID cards) (23.6% dissatisfied, 42.6% very dissatisfied), emergency alarms and protocols (24.2% dissatisfied, 41.5% very dissatisfied), security in areas with high-risk patients (emergencies, psychiatric wards, intensive care units) (25.4% dissatisfied, 37.2% very dissatisfied) and illumination around the working area (21.6% dissatisfied, 22.4% very dissatisfied) (Figure 4).

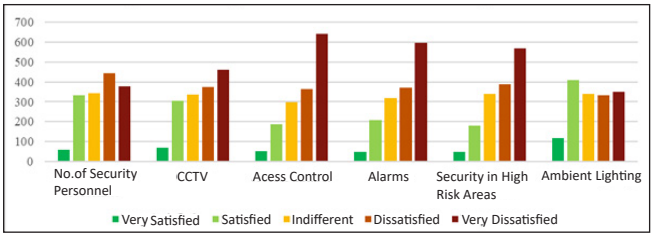


**Figure 4.Perception regarding Adequacy of Security Measures in Healthcare Settings in India**

The alarm system for emergencies was reported to be

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inadequate by 62.7% of the respondents. Around three-fourths (72.4%) of the respondents unequivocally felt that the security personnel currently stationed in these areas are not effective in handling potential threats. In comparison, 8.7% of the respondents felt that the security measures and personnel were effective, while 18.9% were not sure about the effectiveness of security.

More than 90% of health institutions (91.1%) did not have any screening mechanism or a provision for frisking to check for possession of weapons or other dangerous objects during entry to the hospital. Almost three-fourths (72.8%) of the respondents reported about the lack of a secure boundary of the hospital or health institution campus.

## Variations in Satisfaction with Security Measures among Medical Colleges

The satisfaction with security services varied significantly across different types of medical colleges. Private medical colleges reported the highest satisfaction levels for all security parameters and served as the reference group. In contrast, state government medical colleges showed significantly higher dissatisfaction with the number of security personnel (63.2% dissatisfied; OR: 4.09, $p < 0.01$), monitoring/ CCTV surveillance (62.7% dissatisfied; OR: 3.78, $p < 0.01$), access control (72.5% dissatisfied; OR: 3.54, $p < 0.01$), alarms for emergencies (69.5% dissatisfied; OR: 3.52, $p < 0.01$), security in high-risk patient areas (69.4% dissatisfied; OR: 3.46, $p < 0.01$), and ambient lighting (51.5% dissatisfied; OR: 2.25, $p < 0.01$). Central government medical colleges also reported increased dissatisfaction across these parameters, but to a lesser extent than state government medical colleges, with odds ratios ranging from 1.49 to 2.37. Overall, state government medical colleges exhibited the highest dissatisfaction levels, particularly for security personnel and surveillance measures as detailed in Table 4.

**Table 4.Comparison of Satisfaction with Security Services across Different Types of Medical Colleges in India**

| Satisfaction with Security Services | Type of College (N, %) | Satisfied n (%) | Dissatisfied n (%) | Odds Ratio | p Value |
|---|---|---|---|---|---|
| Number of security personnel | Central government (396, 31.1) | 231 (58.3) | 165 (41.7) | 1.7 (1.1–2.5) | < 0.01 |
| | State government (720, 56.5) | 265 (36.8) | 455 (63.2) | 4.0 (2.8–5.9) | < 0.01 |
| | Private (159, 12.5) | 112 (70.4) | 47 (29.6) | Reference | - |
| Monitoring/ CCTV surveillance | Central government (394, 31.1) | 194 (49.2) | 200 (50.8) | 2.3 (1.5–3.4) | < 0.01 |
| | State government (714, 56.4) | 266 (37.3) | 448 (62.7) | 3.7 (2.6–5.4) | < 0.01 |
| | Private (159, 12.5) | 110 (69.2) | 49 (30.8) | Reference | - |
| Access control | Central government (393, 31) | 148 (37.7) | 245 (62.3) | 2.2 (1.5–3.2) | < 0.01 |
| | State government (716, 56.6) | 197 (27.5) | 519 (72.5) | 3.5 (2.4–5.0) | < 0.01 |
| | Private (157, 12.4) | 90 (57.3) | 67 (42.7) | Reference | - |
| Alarms for emergencies | Central government (392, 31) | 155 (39.5) | 237 (60.5) | 2.3 (1.6–3.4) | < 0.01 |
| | State government (714, 56.5) | 218 (30.5) | 496 (69.5) | 3.5 (2.4–5.0) | < 0.01 |
| | Private (158, 12.5) | 96 (60.8) | 62 (39.2) | Reference | - |
| Security in areas with high-risk patients | Central government (390, 31.2) | 160 (41.0) | 230 (59.0) | 2.1 (1.5–3.2) | < 0.01 |
| | State government (706, 56.5) | 216 (30.6) | 490 (69.4) | 3.4 (2.4–4.9) | < 0.01 |
| | Private (154, 12.3) | 93 (60.4) | 61 (39.6) | Reference | - |
| Ambient lighting | Central government (395, 31.1) | 232 (58.7) | 163 (41.3) | 1.5 (1.01–2.1) | 0.04 |
| | State government (717, 56.4) | 348 (48.5) | 369 (51.5) | 2.2 (1.5–3.2) | < 0.01 |
| | Private (159, 12.5) | 108 (67.9) | 51 (32.1) | Reference | - |

## Incident Reporting and Emergency Response

Four-fifths (81.3%) of the respondents had been witness to violence against healthcare workers. Almost half (44.1%) of these respondents felt that the incident was not handled effectively at all and 38.3% felt that the situation was only handled partially.

With regards to action during an emergency violent situation, 80% of the respondents did not have the contact number of the concerned security personnel on duty or did not know whom to contact when such a situation arises. In

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case of any security concern, 70.2% of respondents reported the lack of a clear and confidential process for reporting such concerns and 20% of respondents reported that they were not aware whether such a process or protocol existed or not. Out of 1566 respondents, only 9.8% of respondents

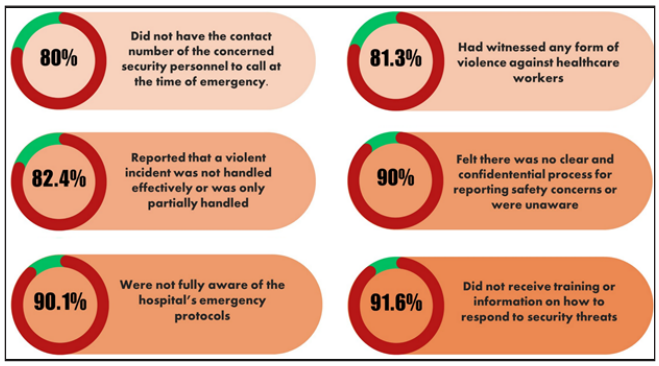


**Figure 5.Incident Reporting and Emergency Response (N = 1566)**

were aware of the hospital or health institution's emergency protocols in case of fires, disasters, active shootings, or other violent incidents with 45.1% being "partially aware" or unsure about them. The majority of the respondents (91.6%) had not received any training regarding response to security threats and active hostile situations (Figure 5).

## Qualitative Analysis

A thematic analysis of the open-ended questions identified the reasons why healthcare workers faced security threats at their place of work. It was found that agitated patients or their attendants were the most common perpetrators of threats, whereas the lack of an adequate number of security personnel and CCTV cameras further aggravated the issue. Further, unrestricted access and unauthorised entry into medical facilities compromised safety, while inadequate infrastructure such as lack of dedicated duty rooms, washrooms and ambient lighting exposed the healthcare workers to potential harm. Poor management

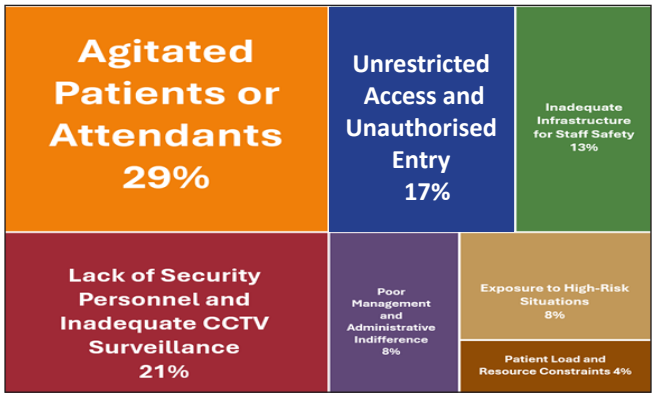


**Figure 6.A Tree Map of Factors Contributing to Security Concerns in Healthcare Settings in India**

and administrative indifference towards the lack of adequate security were also identified as reasons for feeling unsafe at work. Lastly, increasing patient load and resource constraints led to agitation among patients thus leaving the healthcare workers vulnerable to potential violence. A frequency analysis of the major themes is depicted in the tree map shown in Figure 6.

## Discussion

The current study reported the perceived workplace security and concerns of healthcare professionals and analysed the security concerns in the context of gender-based violence. Perceived safety refers to the sense of security and an absence of anxiety about becoming victimised while moving through spaces[12] in contrast to actual social safety which is related to the actual crime rate[13]. Workplace security is a form of healthcare professionals' psychological capital and a secure environment known to provide patients with more complete, comprehensive, and personalised services.[14,15] Perception of the workplace has been found to affect job satisfaction and turnover.[16]

The majority of respondents did not feel safe within the hospital or healthcare institution premises during their duty hours. This perception of lack of security extended into the night shifts.

Studies from India and the Indian subcontinent have shown the prevalence of workplace violence against doctors to lie between 75% and 80%.[17,18] The forms of threats of violence experienced by both genders are also different. Studies have reported that male doctors have a greater propensity for facing physical violence.[19,20] The current study showed that on the whole, more females face verbal, sexual and other types of threats of violence than males but male doctors faced higher threats or instances of physical violence. Studies have attributed this difference to cultural beliefs among people against carrying out objective physical violence against women.[21] Further exploration of the proportion of males present in workplace violence-prone areas needs to be done to explain the phenomenon better. The patriarchal dominance theory can be used to understand the rising instances of sexual violence. Also, the rise in violence in society has led to an increase in violence against doctors, particularly women, as supported by the cultural spillover concept.[20] It was also noted that female healthcare professionals had a lower perception of safety compared to their male counterparts. A rise in female awareness and a larger platform to speak and voice out concerns may have contributed to better identification and enlisting of security gaps. Studies have shown females to be at a higher risk of workplace violence.[22] Gender dynamics, fear of retaliation and economic insecurity have been reported as causes for women feeling unsafe at work and taking up low-paying, low-security jobs in

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critical areas like the emergency wards.[23] About two-thirds of the global healthcare workforce consists of women. Provisions regarding the same need to be made and the security needs of all healthcare professionals need to be accommodated.[24,25]

The reported perceived lack of safety was found to be higher in healthcare professionals employed in state government health institutions compared to central and private health institutions. Caseload, availability of treatment modalities, and quality of security measures may be the probable causes. There have been quality differences reported between public and private hospitals with regard to resources and the quality of services.[26] Studies have also focused on the dearth of administrative personnel compared to healthcare professionals, thus leading to an added burden and lag in the provision of proper care and smooth workflow.[26] For a country like India, where the majority face the risk of catastrophic health expenditure in private hospitals,[27] it becomes imperative to enable public hospitals to handle the huge caseloads, especially at high-risk and critical care points like emergencies and intensive care units.[28,29]

The study found that professionals working in government colleges and institutions were more likely to feel dissatisfied with the basic amenities like room space, ventilation, dedicated toilets, and objective security measures compared to private institutions. Among the government institutions, state government institutions and hospitals were more at risk than central government institutions highlighting the need to ramp up the same. Good duty amenities and security measures are associated with better workplace safety.[30] The three-tier health system in India needs to be strengthened at primary and secondary levels with adequate treatment modalities and logistics along with manpower.[31,32] The study found doctors in primary and secondary healthcare settings to be more at risk of feeling unsafe at their workplace, wherein they are the designated first point of contact for the health system.

Interns and junior residents constituted the respondents who felt the most unsafe, while on duty. A higher duration of patient interaction and longer duty hours are the probable cause for the same. Similar studies reported resident doctors and interns being the most exposed to the risk of workplace violence, especially during night shifts.[3,33] Long working hours put residents at a risk of burnout, which has been shown to affect productivity and efficiency. Critical areas like emergency wards demand attention and quick thinking and thus over-worked residents and interns stand at the risk and mercy of a volatile and emotional mob.[34,35] The results from the thematic analysis in the current study put up a similar picture with the respondents feeling the most threatened by an agitated and uncontrolled mob.

Perception of safety is important as it has been shown to affect patient management and the psycho-social well-being of the doctors. Poor patient management can perpetuate a vicious cycle of distrust and poor doctor-patient relationships, thus leading to poorer health outcomes.[19,36] The lack of a proper and specific law protecting healthcare workers against violence often emboldens aggrieved patients or their attendants to take matters into their own hands.[37] Countries like Nepal,[38] China,[39] and England[40] have set a precedent.

Security and safety at the workplace are seldom treated as an area of concern for various reasons.[41,42] Lack of funds or resources and relaxed norms could be a possible reason for the poor status of security and safety services in healthcare settings. Hence, it can be recommended that establishing reward systems, similar to the Kayakalp Award,[43] can not only lift morale but also provide financial incentives dedicated to improving security. Moreover, certification through mechanisms like the National Quality Assurance Standards (NQAS)[44] should be pursued to ensure high security and quality standards.

The strengths of the study include a large number of responses received from healthcare professionals working in diverse capacities and at various positions from all over India. The recent incidence of workplace violence which garnered national and international attention could have affected the responses but the objective to study this sensitive issue of safety and security required the focussed attention of the affected party. Open-ended questions have captured qualitative aspects of information. Therefore, the high sensitivity of the assessing questionnaire should be accepted as beneficial for the study.

## Limitations

The use of a non-probability sampling technique may have compromised the representativeness of the study, but we have tried to get a bigger sample size to avoid recruitment bias. The usage of Google Forms as a form of data collection may have led to selection bias with more technology-friendly respondents opting to fill out the form. There may have been some form of recall bias due to the unspecified duration of experiencing workplace violence.

## Recommendations

To enhance security measures in medical and educational institutions, several key recommendations are proposed. Firstly, improving the conditions of duty rooms with all necessary amenities, particularly in state and central government institutions, will ensure adequate safety and rest for the healthcare professional. Locally, institute administration should ensure that an appropriate number of security guards are maintained working in tandem with local police to handle threats and increase their effectiveness.

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Implementing an effective local system of systems (SOS) will provide immediate response options in emergencies while securing the perimeter of the healthcare setting will minimise risk and improve access control. The security in areas with high-risk patients such as the emergency wards, psychiatry wards, and intensive care units needs to level up from the current status. Security at night can be upgraded by identifying blind spots and installing lights and CCTV cameras. A transport vehicle can be used to travel within the campus at night. Healthcare institutions should establish clear protocols for handling violence, provide accessible emergency contacts, and implement a confidential reporting system for security concerns. Regular training and drills on emergency response and hostile situations should be made essential, while regular awareness campaigns and security audits are essential to evaluate and enhance these measures effectively. The administration at state government medical colleges should work for a comprehensive upheaval of security measures as they were found lagging in several parameters. Strengthening of security measures is also required at the peripheral levels such as community health centres, primary health centres, and district hospitals. Special communication workshops can be held for undergraduate students to improve communication and foster a good doctor-patient relationship.[45,46] Inter-sectoral coordination among national agencies such as the National Health Systems Resource Centre (NHSRC),[47] a premier think tank for the Ministry of Health and Family Welfare (MoHFW), National Medical Commission (NMC),[48] National Institute of Occupational Health (NIOH),[49] and central and state law agencies including the local police will help build and sustain effective mechanisms to ensure workplace safety for healthcare workers. Security considerations should be integrated into the development plans of new medical colleges and healthcare units, ensuring that safety is prioritised from the outset. Policy-level changes are also needed to make security a priority, supported by special legislation at central and state levels, to provide a standardised legal framework for protection across all institutions.

## Conclusion

The findings of this study reveal that more than half of the health workforce perceive their workplace as unsafe. The conditions of the duty rooms, especially in the state and central government medical colleges, are grossly inadequate. Healthcare professionals working in public hospitals reported feeling more unsafe compared to those in the private sector. Improving workplace security in healthcare settings requires a comprehensive, need-based approach with strict laws to safeguard healthcare personnel. Assurance of workplace safety and security shall help in improving doctor-patient relationships, building a healthier workforce, and providing a better quality of healthcare services to the community.

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