ORIGINAL ARTICLE

Perspective of medical students on rising violence against doctors in a Medical College of Uttarakhand: A cross-sectional study

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ABSTRACT

Background: Workplace violence against doctors is a rising public health concern in India, with healthcare professionals at higher risk than most other occupations. Understanding medical students' perspectives is crucial for prevention. **Objective:** To assess the perspectives of MBBS undergraduates on violence against doctors and identify perceived contributing factors in a North Indian tertiary care setting. **Methods:** A cross-sectional study was conducted among 200 MBBS students using a pre-validated, self-administered questionnaire. Data on demographics, experiences, causes, and solutions were analysed with SPSS version 20 using descriptive statistics and chi-square tests. **Results:** Of 200 students (45% male, 55% female; 79% aged 21–25 years), 31.5% had experienced violence and 20.5% had witnessed it. Major perceived causes included health illiteracy (86.5%), negative media portrayal (85%), and overburdened doctors causing delays (72.5%). Most (93%) believed doctors face higher risks than other professions, and 95.5% supported stricter protective laws. Violence management training (62%) and martial arts (56%) were suggested as preventive measures, though only 16.5% were aware of existing laws. **Conclusion:** Medical students view workplace violence as multifactorial. Strengthening legal protections, promoting media responsibility, and integrating training on violence management, communication, and legal awareness into the curriculum may help reduce its burden.

KEYWORDS

Workplace Violence; Literacy; Public Health; Tertiary Healthcare; Demography

INTRODUCTION

Workplace violence (WPV) in healthcare settings has emerged as a global public health concern, affecting professionals across both developed and developing nations. The World Health Organization defines violence as the intentional use of force or power that results in or risks injury, death, or psychological harm, a definition that extends directly to the healthcare workplace. (1,2) WPV encompasses verbal abuse, threats, and physical assaults, representing a serious occupational hazard. (3-5) Evidence indicates a troubling prevalence: WHO reports that 8–38% of healthcare workers face physical violence during their careers, while the Indian Medical Association notes that nearly 75% of physicians encounter verbal or physical aggression. (6)

Doctors often become targets of patient and family frustrations, which are fuelled by systemic challenges such as inadequate healthcare infrastructure, rising medical costs, adverse media portrayals, and declining trust in the medical profession. (7,8) Beyond immediate safety risks, WPV leaves lasting mental health consequences, including anxiety, depression, and post-traumatic stress disorder. (9) Given these critical implications,

addressing violence in healthcare demands urgent attention through legal frameworks, institutional safeguards, and training for physicians. Medical students, as future doctors and stakeholders, offer valuable perspectives on this growing issue, forming the basis for evaluating their understanding of WPV and the factors perceived to contribute to it.

Aims & objectives

- To assess the perceptions of undergraduate medical students (MBBS) regarding workplace violence (WPV) against doctors.
- To identify the perceived causes and contributing factors of violence against healthcare professionals as identified by medical students.

MATERIAL & METHODS

A total of 550 medical students were considered, of whom 200 were chosen using a simple random sampling method from a Tertiary Care Medical College in North India.

Study Type & Study Design: Cross-sectional, observational research using a self-administered questionnaire to assess medical students' views on workplace violence.

Study Setting: Tertiary Care Medical College in North India, providing a stable academic and clinical environment for participant selection.

Study Population: Medical undergraduates (MBBS students) enrolled for a minimum of six months, representing four consecutive batches to ensure balanced participation.

Study Duration: 6 months

Sample Size Calculation

Given the absence of previous research in Uttarakhand concerning medical students' views on violence against doctors, we have determined their perspective to be that 50% of doctors are at a higher risk of becoming victims of violence from patients or their attendants, compared to other professions.

Thus, for calculating sample size following formula was used: $n=Z2\alpha/2\ PQ/l2$

where P=50% Q= 50%, α=5% level of significance and l=15% relative error. The sample size calculated was 171. Considering a non-response rate of 10%, the sample size was 188, which was rounded off to 200. Hence, 200 medical students were selected randomly for the study. Fifty students from each of the four batches (2015-2018) were randomly selected to ensure equal representation from each batch.

Inclusion Criteria

- MBBS students enrolled for ≥6 months at the institution,
- willing to participate in the study by providing their consent.

Exclusion Criteria

- First-year MBBS students,
- Students absent on assessment day,
- Students with >20% missing questionnaire data.

Ethical Issues & Informed Consent: Before beginning the study, authorization was sought from the Institutional Ethical Committee. Participants were informed about confidentiality, the voluntary nature of participation, withdrawal rights, and study objectives. Written informed consent was obtained from all participants.

Pre-testing and Validation: A pilot study was carried out involving 10% of the medical students who were not anticipated to take part in the research, employing a retrospective approach with verbal probes for evaluation and validation purposes.

Statistical Analysis: Data were entered into Microsoft Excel and analysed using SPSS version 20. Descriptive statistics (frequencies, percentages) summarized demographics, violence experiences, and perceptions. Likert-scale responses were dichotomized into 'agree/strongly agree' versus others to simplify interpretation and enhance clarity. Chi-square tests assessed associations (e.g., witnessing violence by batch year). Missing data (<20%) were handled by listwise deletion. A p-value <0.05 was considered significant.

RESULTS

The distribution of medical students categorized by age and sex is presented in Table 1. In total, males represent 45%, while females make up 65% of the medical student population. A significant portion of the students falls within the age range of 21-25 years, accounting for 79% of the total. Table 2 indicates that 20.50% of students have experienced being a spectator of violence, and the association was found to be significant. 15% of students reported that a family member or close relative had experienced violence, while 31.50% of students indicated that they had been victims of violence themselves.

Graph 1 illustrates the factors related to patients that contribute to medical violence, as perceived by the students. A significant majority of students either strongly agree or agree that the patient's family struggles to comprehend the severity of the disease due to health illiteracy (86.5%), experiences a lack of communication with the patient, is influenced by the negative portrayal of doctors in the media (85%), relies on information from online sources (84%), and faces stress as relatives (84%). Graph 2 illustrates the reasons related to doctors

that students perceive as contributing to workplace violence. A significant majority of students concur that doctors face excessive workloads, leading to delays in emergency care (72.5%). Additionally, they cite high treatment costs (62%), insufficient time allocated to patients, and inadequate counselling and communication from doctors (60.52%) as other perceived contributing factors. Graph 3 illustrates the distribution of medical students based on their perceptions concerning violence against medical professionals. A significant majority (93%) of students strongly agree or agree that doctors face a higher risk of experiencing violence compared to other professions. Approximately 95.5% advocate for the implementation of stricter regulations to safeguard medical professionals from such acts of violence. A significant 62% of medical professionals concurred that the medical curriculum ought to encompass training on violence management. A majority of 56% of students hold the view that medical professionals ought to receive specialized training in martial arts to effectively address such situations. Graph 4 indicates that nearly half (49%) of the students believe that training on violence management should be provided during internships. The majority of students hold the view that violence is more prevalent in government settings, with only 16.5% possessing knowledge about the existing laws addressing violence among doctors.

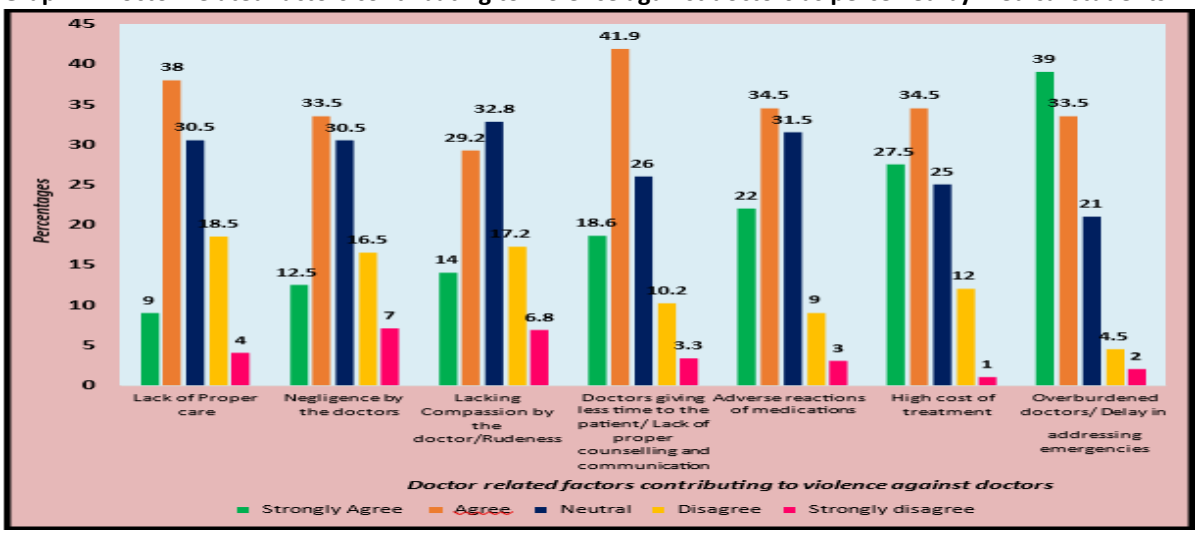
Table 1: Distribution of study subjects (medical students) by age group and Gender

Mean age (in years) of study participants	**Gender**		
	Male	Female	**Significance level**
Mean ± SD	20.83±1.83	20.74 ±1.42	P=0.702

Table 2: Distribution of medical students according to their own/family member experience regarding violence against doctors

Variable	**Sex**		**Total**
	Male 90(45)	Female 110(55)	200
Spectator of Violence			
Yes	26(28.88)	15(13.63)	41(20.50)
No	64(71.20)	95(86.35)	159(79.50)
χ2 = 7.07, df=1, p=0.008			
Faced Violence			
Yes	37(41.12)	25(22.73)	62(31.50)
No	52(57.78)	85(77.27)	137(68.50)
χ2 = 8.14, df=1, p=0.004			
Family member/close relative who has ever faced violence against doctors			
Yes	16(17.78)	15(13.64)	31(15.5)
No	74(82.22)	95(86.36)	169(84.5)
χ2 = 4.23, df=1, p=0.03			

Graph 1: Doctor-related factors contributing to violence against doctors as perceived by medical students



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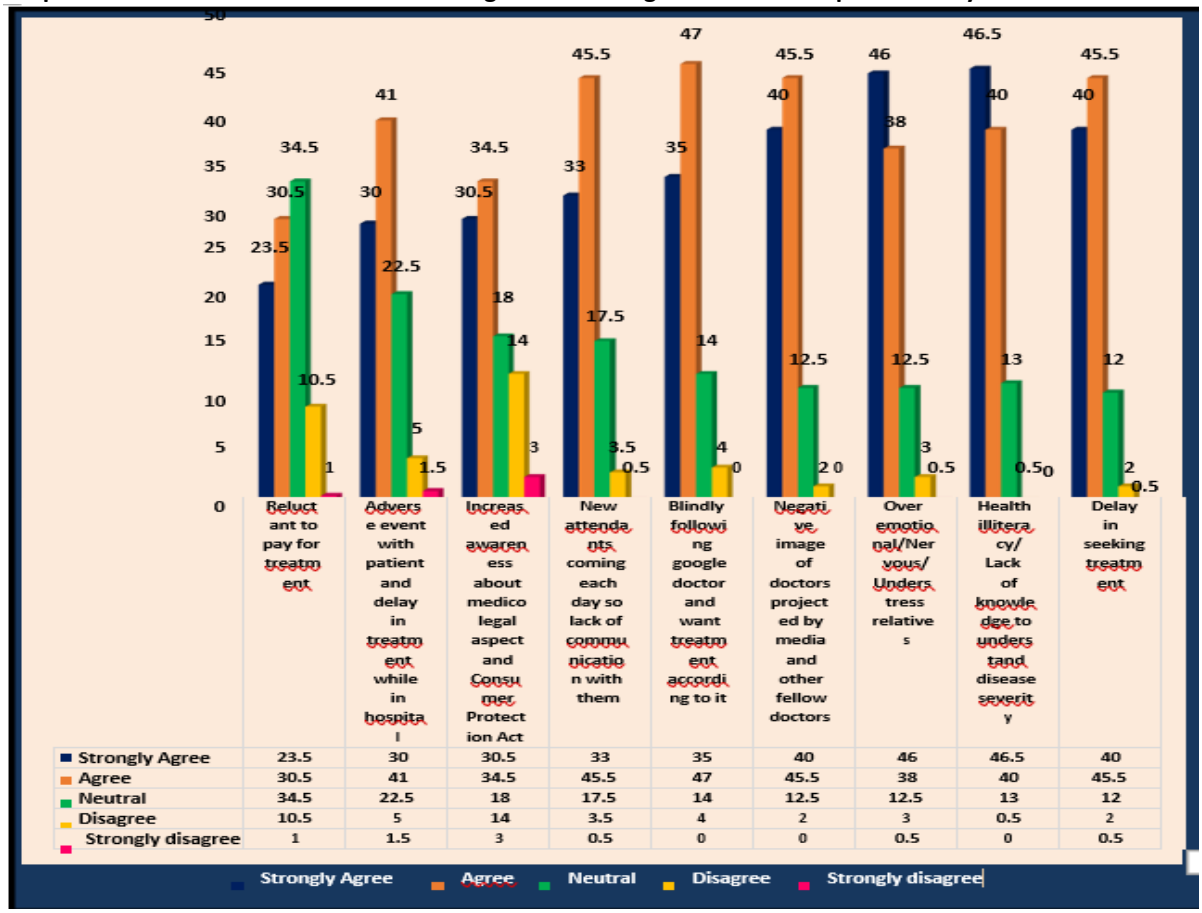
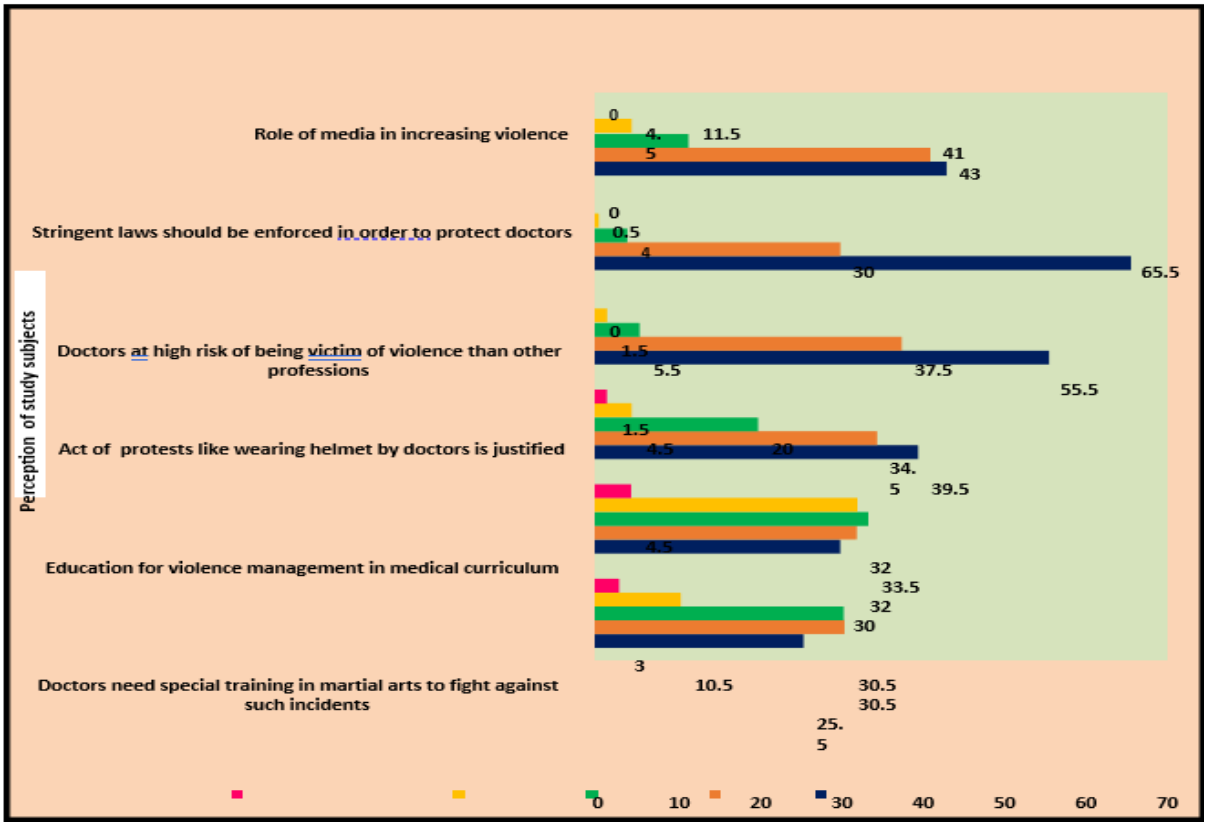
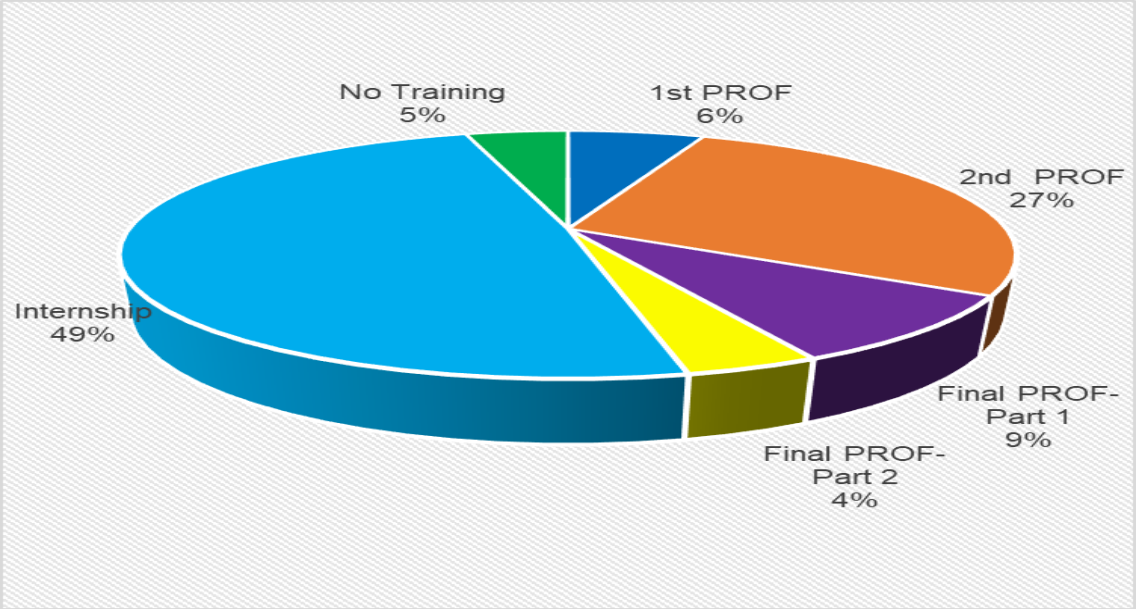
Graph 2: Patient-related factors contributing to violence against doctors as perceived by medical students



Graph 3: Perception of study subjects (medical students) regarding prevention of violence against doctors



Graph 4: Perception of study subjects (medical students) regarding the time of Training to be given to medical students against violence management



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DISCUSSION

In India, the governance of medical education falls under the purview of the National Medical Commission (NMC). In accordance with NMC standards, undergraduate medical education consists of 4.5 years of academic training followed by a mandatory year-long rotational internship. The initial year focuses on premedical subjects, which is succeeded by clinical rotations in the wards and theoretical lectures in the second year. The NMC introduced the AETCOM (Attitude, Ethics, and Communication Module) and Foundation course in 2019 to improve the prospects of human dignity and welfare within the realm of medical education. (10) Although modifying the medical curriculum could yield some results, instilling qualities such as empathy, effective communication, ethical practices, and the ability to limit unnecessary investigations may prove challenging without the appropriate disposition in a medical student. (11) Furthermore, medical institutions provide instruction in preventive and social medicine for approximately two and a half years, and it is widely acknowledged how effectively our medical graduates apply preventive and social medicine in practical scenarios. Consequently, altering medical curricula appears to be an unrealistic notion that is unlikely to significantly influence the reduction of medical violence. (11) Global studies indicate that the violence directed at doctors arises from a complex interplay of multiple factors rather than a singular cause. This study seeks to explore the viewpoints of medical students regarding the increasing violence directed at doctors.

In our study, 20.50% of students reported having witnessed physical violence, while 31.5% indicated they had been victims of such violence. Additionally, 15.5% of students were aware that their family members had experienced violence. In comparable research conducted in Iran, 46.1% of the participants indicated that medical students observed instances of physical violence and noted that other students were subjected to physical violence in the hospital over the past year. (12) In a study conducted in Andhra Pradesh by Pannala DR, medical students were asked about recent incidents they had seen, heard about, or experienced concerning violence against health workers. (13) A significant 92.1% reported that the violent assault on a medical resident at Gandhi Hospital in Telangana was the most recent incident they were aware of.5.4% of the participants reported incidents of doctors being attacked in various locations, including Indore, Kolkata, and Vijayawada, among others. In a previous study conducted in Uttarakhand, it was found that females experienced a higher proportion of workplace violence, reported by 49 participants (65.3%). (14) In alignment with our findings, they exclusively documented instances of physical assaults against doctors, omitting any reference to verbal abuse, property damage, or other forms of violence. (13)

In examining the perceptions of medical students concerning patient-related factors that contribute to violence against doctors, nearly half (45.5%) of the students either strongly agree or agree that the triggers of aggression include a lack of health-

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related knowledge (86.5%), a negative image portrayed by the media (85%), and the emotional state of patients' attendants—who may be nervous or under stress due to the death or worsening condition of the patient (84%)—despite the efforts made by doctors to prevent such violence. During an emotional breakdown, it can be exceedingly challenging to grasp a rational perspective. In a study conducted in Amritsar by Sood R, students identified media misinformation and the death of the patient as triggering factors for violence. (15) This reflects the current situation where the media prioritizes TRP and sensational news over factual reporting. This aligns with our findings, indicating that 85% of the students attribute the negative portrayal of the image by the media to the issue of violence. A study conducted by Sharma S in Meerut revealed that 68% of students felt the media failed to portray a positive image of doctors. A potential factor contributing to violence against doctors could be the erosion of trust fostered by media reports, which affects the relationship between patients and physicians. (10) A study conducted by Gupta et al. identifies a significant contributor to assaults on physicians in India: the media's misleading representation of the medical profession, which has reinforced the misconception that doctors profit from their patients' suffering. Incidents of violence directed at medical practitioners have been recorded globally. Contributing elements include unfavourable media portrayals of healthcare facilities and physicians, out-of-pocket expenses for patients, and a diminished trust in healthcare professionals and organizations. (11) Concerning the perspectives of medical students on the factors related to doctors that contribute to violence.

A significant majority of students express strong agreement that delays in addressing emergencies can be attributed to doctors being overburdened (72.5%). Additionally, concerns regarding exorbitant hospital bills (62%) and insufficient communication and counselling from doctors to patients' attendants (60.5%) are also prevalent. India currently has one doctor for every 1,445 individuals, a figure that falls short of the WHO's recommended ratio of one doctor per 1,000 people. This discrepancy has led to significant workloads and a shortage of resources in the healthcare system. (16) A deficiency in communication emerged as a contributing factor, as indicated by 31.6% of medical students in a study conducted in Amritsar by Sood R. (15), aligning with the findings of our own research. According to a study conducted by Sharma S. et al. (10), the predominant reasons identified were community outrage, insufficient communication, and a deficit of trust. A study conducted at UP by Kakkar et al indicates that patients often misinterpret the nature of their condition due to inadequate explanations from their healthcare providers, leading them to anticipate a higher chance of complete recovery. (16) The scarcity of doctors and medical facilities in India often leads to insufficient attention to these issues, contributing significantly to the rise in violence against medical professionals in the country. In clinical practice, effective communication between patient and doctor, which encompasses providing explanations for signs or symptoms, outlining the expected duration of therapy, managing expectations, and demonstrating empathy, correlates with overall patient satisfaction with treatments. A study conducted by Kumar M revealed that numerous doctors believe that patients' relatives sometimes intentionally create situations to avoid hospital bills. (17) As noted by Nagpal N, catastrophic medical expenses lead numerous families to fall beneath the poverty line. Consequently, the sorrow and frustration stemming from the loss of a loved one, even when financial limits are exceeded, culminate in aggression, aligning closely with the results of our investigation. (18) Our findings indicate that 84.5% of students were unaware of the existing laws addressing violence among medical professionals. A significant portion (59%) of students lacked awareness of any laws that protect doctors, according to a study by Pannala et al. (13). According to a study by Kakkar et al. at UP (16), the percentage is 71%, while another study conducted in Andhra Pradesh shows a percentage of 27.9%. More restrictive regulations are essential to prevent violence against medical professionals, and violators should face swift punishment. This aligns with our study findings, where a significant 95.5% of students strongly agree that stringent laws should be enforced to protect doctors. Nagpal N. (18) highlights that the clinical behaviour expected from doctors is not adequately taught, indicating a significant need for emphasis on this aspect during medical training. A significant 62% of students express the necessity for modifications to the medical curriculum in light of these incidents, while over half (56%) believe that training in martial arts is essential to prevent similar occurrences in the future. A comparable investigation carried out in Amritsar by Sood R. (15) also indicated that there is a need for enhancement in the training, orientation, and mock drills for doctors, with a reported figure of 77.9%. In a survey conducted at UP (15), over 80% of students acknowledged that limited literacy and communication skills were a contributing factor to violence. Among the 151 doctors surveyed in India regarding workplace

violence, merely six had received formal training in effective communication, with five of those being in psychiatric departments, where such skills are essential. This highlights the critical necessity for current physicians to undergo training aimed at enhancing communication with patients. Our study reveals that 93% of students believe that doctors face a higher risk of violence compared to other professions. This finding aligns with the research conducted by Sood R (82.5%) and Sharma S in Meerut (63%), indicating that students perceive such incidents as occurring to every doctor at least once throughout their career. (10,15) Upon concluding the study, participants were requested to provide their insights and suggestions regarding the matter, which were subsequently organized into categories. The majority of students believe that there should be an increased awareness among doctors regarding their rights. A prevalent recommendation from the students was the implementation of stringent regulations and the imposition of severe penalties on offenders. Additional suggestions, ranked by preference, included the prohibition and strict penalization of fraudulent medical practices. Prohibiting the use of highly biased media coverage is essential. It is essential to increase the number of medical seats at the college to alleviate the workloads of doctors. It is essential to incorporate compassion education into medical school curricula. Medical education should include training in soft skills and self-defence for doctors. Healthcare professionals must unite to address these challenges. Only one relative per patient should be allowed in the hospital. It is essential to secure a comprehensive informed consent document from the patient's relatives. All potential risks related to the patient's condition must be communicated to family members, and the government needs to ensure adequate protection for healthcare facilities. Comparable recommendations were provided by medical students in a study conducted in Andhra Pradesh. (13)

Implications

Integrating violence management, communication skills, and legal awareness into the MBBS curriculum, particularly in forensic medicine or internship, could prepare students to handle WPV. Media campaigns promoting positive doctor portrayals may rebuild public trust. Stricter laws and hospital security measures are critical, as endorsed by 95.5% of students, aligning with prior recommendations. (4,9)

Conclusion

Medical undergraduates perceive workplace violence against doctors as a multifactorial issue driven by health illiteracy, negative media portrayals, and systemic healthcare challenges. The study highlights the need for a comprehensive approach, including stricter laws, curriculum reforms, and enhanced legal education for medical students. These may include improved security measures in healthcare settings, enhanced communication training for medical professionals, and public awareness campaigns to foster respect for healthcare workers.

Recommendation

Collaborative efforts among medical institutions, policymakers, and media can protect healthcare professionals and foster public trust. Integrating specialized training into the MBBS curriculum and promoting positive media portrayals of healthcare professionals may help address the issue. Curriculum reforms incorporating violence management, communication skills, and legal awareness, alongside stricter laws and media advocacy, are essential to mitigate WPV.

Limitation of the Study

The cross-sectional, single-centre design limits generalizability to other Indian settings. Recall bias may have overestimated violence prevalence, as students with recent exposure may over-report incidents. Varying clinical exposure across batches may influence perceptions, though balanced sampling mitigated this. Future multicentre, longitudinal studies could enhance validity and explore causal relationships. Findings may apply to similar tertiary care settings in North India but are less generalizable nationally due to regional healthcare variations. The focus on MBBS students limits applicability to practicing doctors, though their perspectives as future professionals remain relevant.

Relevance of the Study

The study's relevance lies in its potential to inform policy decisions, educational strategies, and preventive measures to mitigate violence against doctors. Furthermore, by conducting this research in a specific geographical context (Uttarakhand), it contributes to the understanding of regional variations in healthcare challenges. This study may serve as a foundation for developing targeted interventions and fostering a safer working environment for healthcare professionals, ultimately improving the quality of healthcare delivery.

Authors Contribution

All authors have contributed equally.

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Conflict of Interest

There are no conflicts of interest.

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Declaration of Generative AI and AI Assisted Technologies in the Writing Process

The authors haven't used any generative AI/AI-assisted technologies in the writing process.

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