International Journal of Research in Medical Sciences
Eabenson S et al. Int J Res Med Sci. 2026 Jun;14(6):2368-2374
www.msjonline.org
pISSN 2320-6071 | eISSN 2320-6012
DOI: https://dx.doi.org/10.18203/2320-6012.ijrms20261476

Original Research Article

Medical negligence-perception among undergraduate medical students: a cross-sectional study from Vijayapura, North Karnataka, India

Shamin Eabenson, M. R. Gudadinni*, M. C. Yadavannavar, A. M. Rangoli

Department of Community Medicine, BLDE (DU) Shri B. M. Patil Medical College Hospital and Research Centre, Vijaypura, Karnataka, India

Received: 07 May 2026
Revised: 10 May 2026
Accepted: 11 May 2026

***Correspondence:**
Dr. M. R. Gudadinni,
E-mail: muttappa.gudadinni@bldedu.ac.in

ABSTRACT

Background: Medical negligence is a grave concern both to patients and the medical fraternity. Lapses in concentration, stress, burnout, gross misconduct, lack of knowledge or application, sleeplessness, overwork, lack of continuing medical education can all lead to medical negligence. The trauma experienced by both the victim and the person causing the mistake is traumatic. Medical negligence should be minimised by the application of standard operating procedures, training, work scheduling and provision of support in time of need. Medical students, the future doctors of tomorrow have to cope with the stress they encounter during medical studies and practice. The dearth of knowledge about this issue needs to be studied to find out remedies and alleviate this problem altogether,
Methods: Cross-sectional study involving 151 medical students of BLDE DU Shri B M Patil Medical College and Research Centre, Vijayapura, North Karnataka, India. Convenience sampling method was used in this study.
Results: 151 medical students were part of this study; socio demographic profile indicates that the majority of the participants belonged to male gender 78 (51.7%) and 73 (48.3%) females. The majority of the participants were from urban areas 126 (83.4%) followed by rural 25 (16.6%). Most of the participants belonged to the age group 18-22 years, Knowledge Grading showed that 95 (62.9%) had good knowledge
Conclusions: Medical negligence and its causative factors need to be studied in detail to sensitize future doctors to bring a sea change to this situation.

Keywords: Community medicine, Medical education, Medical negligence

INTRODUCTION

Medicine as a profession is distinct, demanding, plagued with raised levels of stress, burnout and various incidents. A number of circumstances can lead to unexpected or unfavourable patients' outcomes, such as the advancements of the disease, a delay in seeking medical attention, complications that are out of the healthcare providers control, disregard for medical advice, unscientific therapies or medical blunders. Numerous instances of errors in the medical field have been documented in literature, such as performing surgery on the incorrect side or administering medication to a patient who has a specific allergy to it, making mistakes during major surgeries, suicide or bodily harm brought on by a mentally ill patients' behaviour, failing to monitor medication side effects that result in organ system damage and crossing boundaries during psychotherapy.[1] In order to give the real legal basis of duty, "Lord Mackay outlined the following criteria. That there is a duty of care, that duty was violated, that violation resulted in the victims death and, that a jury determines that the violation should be classified as gross negligence and thus a crime".[2] Although medical malpractice claims involving medical students are uncommon, they typically involve medical decision making, procedural complications, inadequate

communication and a lack of supervision. These studies can help supervising physicians and students to steer clear of situations that could make them more susceptible to medical malpractice claims.[3] Due to lack of medicolegal education, medical students feel unprepared to deal with the legal part of healthcare. Additionally, students in a medical college still have unfavourable opinions about the legal profession for a variety of reasons, including an antiquated secret curriculum. Including medicolegal courses in medical school curricula can promote favourable attitudes towards the legal profession and result in greater patient outcomes, more patient advocacy and improved professional ethics.[4]

Medical errors and medical liability have a lengthy history that dates back to antiquity. The majority of litigations pertaining to mistakes made when addressing surgical issues were resolved during the 19th century. However, in the early part of the 20th century, lawsuits alleged that the doctors' actions were faulty (errors of commission). Inappropriate behaviour, carelessness and recklessness, that endangers the patient is referred to as medical error in Brazilian study. Defensive medicine is a practice that involves performing unnecessary tests and procedures or refusing to treat patients who are deemed to be at high risk because doctors are afraid of being criticised.[5] According to a recent survey, surgery and operating room activities account for 80% of malpractice claims in Ethiopia.[6] The ethical duties that medical professionals have to their patients, co-workers and society as a whole are known as medical ethics. Inadequate and inconsistent coverage of this subject has been linked to an increase in medical malpractice and professional misconduct worldwide.[7]

Malpractice insurance premiums might also be very expensive. According to a Medical Liability Monitor (MLM) study on manual premiums, general surgeons in the United States paid malpractice premiums in 2021 that varied from $41,775 to $215,649, depending on where they practiced.[8] Studies show that worries about malpractice risk and possible responsibility have a big impact on choosing a speciality, especially in high-risk specialities like emergency medicine, surgery and obstetrics and gynaecology. For instance, the fear of litigation, which is frequently more noticeable in disciplines with higher procedural volumes or direct volumes or direct patient risk, may discourage medical students and residents from pursuing these specialities.[9]

The third most common cause of death in the United States, medical errors have recently come to be acknowledged as a major public health issue. Approximately 400,000 hospitalized patients suffer unavoidable injury every year, according to one study and over 200,000 patient fatalities are attributed to avoidable medical errors every year according to another study. The cost of medical errors is substantial, some experts estimate that adverse events cost the healthcare system $20 billion yearly, while others estimate that hospital acquired infections alone cost $35.7 billion to $45 billion.[10]

METHODS

Study design and participants

Cross-sectional research was done among the participants and 151 Medical students were chosen as the study participants. All the students belonged to 2023 batch admission year and had completed about 3 years of MBBS course. Convenience sampling method was employed in this study. A standardized questionnaire was adopted in this study and was distributed as a google form to the students who were present on the day of data collection.

Sample size was ascertained based on a similar study and we arrived at 150 sample size.

Study place

This study was undertaken in a tertiary care centre in Vijayapura, North Karnataka, India. The institution chosen was BLDE (DU) Shri B M Patil Medical College Hospital and Research Centre, Vijayapura.

Study duration

This study was done for a period of 2 months, during the months, February and March 2026.

Inclusion criteria

All MBBS students who were ready to participate in this study were chosen. Those present on the day were selected and informed consent was obtained.

Exclusion criteria

Those students who were unwilling to undergo the study were excluded from the study. Students who were absent on the date of data collection were excluded.

Data collection

Data collection was performed as per study protocol. A structed, standardized questionnaire distributed as a google form was filled by the participants. This was done during working hours in a single sitting.

Data analysis

Data was obtained and was analysed using SPSS software. The data was put up in charts and figures. The data was represented in terms of numbers, percentages, mean, standard deviation, chi-square values, p value and KAP scores.

Ethical clearance

Ethical clearance was sought and received from the institutional ethics committee of BLDE (DU), Shri B M Patil Medical College Hospital and Research Centre, Vijayapura, Karnataka, India.

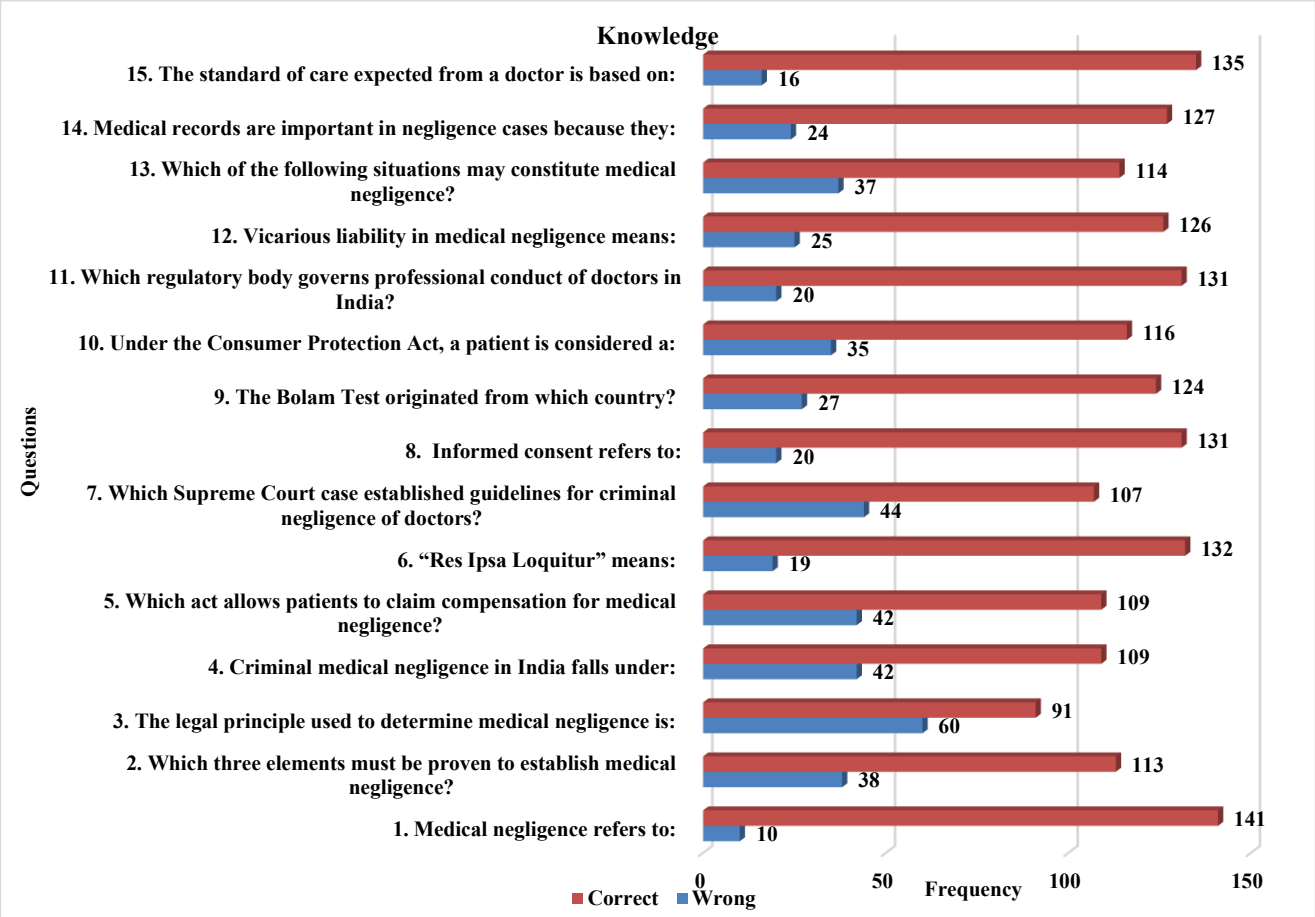

Figure 1: Knowledge questions.

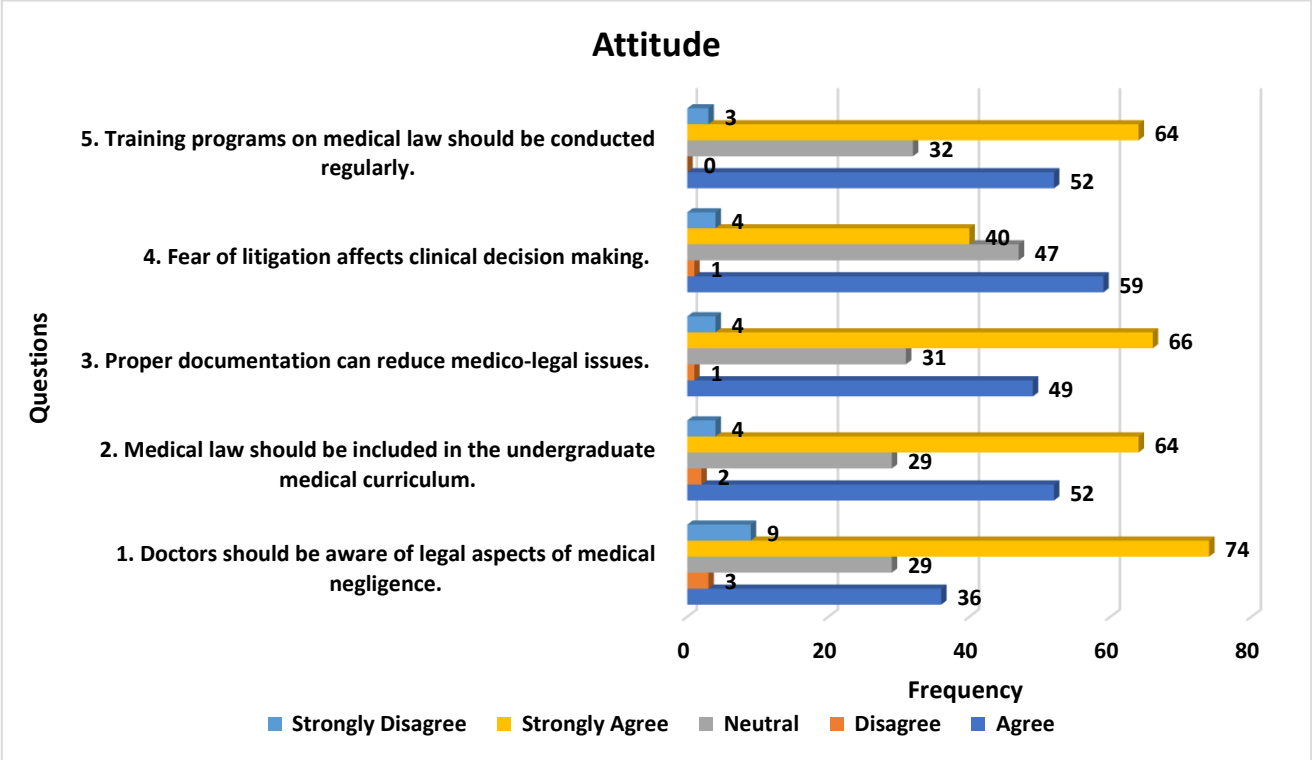

Figure 2: Attitude questions.

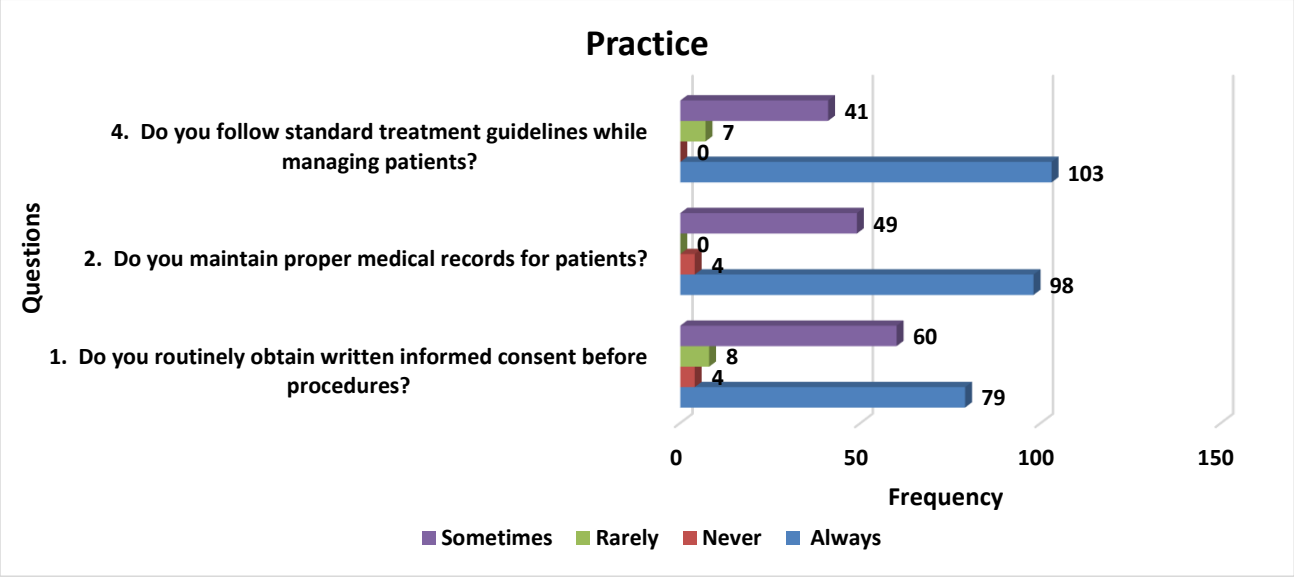

Figure 3: Practice questions.

RESULTS

This study was conducted among MBBS students who are currently in their 3rd academic year. 151 medical students were part of this study. All the participants who had consented were given the google forms which was promptly filled up by the participants. The questionnaires Cronbach's Alpha value was 0.876. Socio demographic profile of the candidates reveals that the majority of the participants were males 78 (51.7%) and 73 (48.3%) females. The majority of the participants were from urban areas 126 (83.4%) followed by rural 25 (16.6%). Most of the participants belonged to the age group 18-22 years, 141 (93.4%), rest 10 (6.6%) belonged to the 23–26 years age group. More than half of the medical students 81 (53.6%) had less than 1 year of clinical experience, while 70 (46.4%) had 1 to 5 years of clinical experience. When enquired if they had received any formal training regarding medical law or ethics, 91 (60.3%) responded in the affirmative, whereas 60 (39.7%) did not receive any training (Table 1).

Knowledge grading showed that 95 (62.9%) had good knowledge, 36 (23.8%) had moderate knowledge and 20 (13.2%) had poor knowledge. Attitude was graded into negative 9 (6%), neutral 66 (43.7%) and positive 76 (50.3%). Out of 73 females, 45 (61.6%) had a very good knowledge, 19 (26%) had a moderate knowledge and 9 (12.3%) had relatively poor knowledge. While 50 (64.1%) males had good knowledge, 17 (21.8%) had apparently moderate knowledge and 11 (14.1%) had poor knowledge among a total of 78 males who took part in this study. The chi square was 0.409 and p value was 0.815 (Table 2).

Association between if they had received any medical law training, 63 (69.2%) of them had good knowledge score, 17 (18.7%) had moderate amount of knowledge and 11 (12.1%) had poor knowledge score. Total of 91 respondents had said yes to this question and 60 had said no. A chi-square value of 4.241 and p value of 0.120 was obtained. Urban or rural background association to knowledge grading revealed that 77 (61.1%) from urban background had a good knowledge, while 18 (72%) from rural had a good knowledge score. 32 (25.4%) from urban and 4 (16%) from rural had moderate knowledge, while 17 (13.5%) from urban and 3 (12%) had poor knowledge. Chi-square was 1.201 and p value was 0.549 (Table 3).

Practice

When enquired if they routinely took written informed consent before procedures, 38 (63.3%) replied sometimes, 5 (62.5%) rarely, 2 (50%) never and 50 (63.3%) said always and all of them had good practice scores. Chi-square was 10.136 and p value was 0.119 (Table 4). When enquired if they maintain proper medical records for patients, out of the people who had good practice, 66 (67.3%) said always, among good practice score. Chi-square was 17.304 and p value was 0.002 which suggests that it is statistically significant. When enquired if they had attended a workshop or training related to medico legal issues, 53 (67.9%) said yes and they had good practice score. Chi-square was 1.754 and p value was 0.416. When asked if they followed standard treatment guidelines, 68 (66%) who had good practice score responded that they always followed as advised. Chi-square was 12,992 and p value 0.011. Attitude score and association to gender, formal training and whether belonging to urban or rural area was assessed. Regarding gender 5.1% of males had a negative attitude, while 6.8 % of females had negative attitude. Whereas 41% males and 46,6% females had a neutral attitude. 53.8% of males and 46.6% of females had a positive attitude. Chi-square was 0.849 and p value was 0.654 (Table 5).

Table 1: Sociodemographic profile of medical negligence study participants (n=151).

Sociodemographic profile		Number	%
Gender	Male	78	51.7
	Female	73	48.3
Urban or rural background	Rural	25	16.6
	Urban	126	83.4
Age	18–22 years	141	93.4
	23–26 years	10	6.6
Years of clinical experience	<1 year	81	53.6
	1–5 years	70	46.4
Have you received any formal training regarding medical law or ethics?	Yes	91	60.3
	No	60	39.7

Table 2: Perception on medical negligence.

	Frequency	%
Knowledge grading		
Good	95	62.9
Moderate	36	23.8
Poor	20	13.2
Total	151	100
Attitude grading		
Negative attitude	9	6
Neutral attitude	66	43.7
Positive attitude	76	50.3
Total	151	100

Table 3: Association between gender and knowledge grading.

		Good N (%)	Moderate N (%)	Poor N (%)	Total N (%)	Chi-square	P value
Gender	Female	45 (61.6)	19 (26)	9 (12.3)	73 (100)	0.409	0.815
	Male	50 (64.1)	17 (21.8)	11 (14.1)	78 (100)		
Have you received any formal training regarding medical law or ethics	No	32 (53.3)	19 (31.7)	9 (15)	60 (100)	4.241	0.120
	Yes	63 (69.2)	17 (18.7)	11 (12.1)	91 (100)		
Urban or rural background association to grading							
Are you from urban or rural background?	Rural	18 (72)	4 (16)	3 (12)	25 (100)	1.201	0.549
	Urban	77 (61.1)	32 (25.4)	17 (13.5)	126 (100)		

Table 4: Practice questions association.

		Good N (%)	Moderate N (%)	Poor N (%)	Total N (%)	Chi square	P value
1. Do you routinely obtain written informed consent before procedures?	Always	50 (63.3)	23 (29.1)	6 (7,6)	79 (100)	10.136	0.119
	Never	2 (50)	0 (0)	2 (0)	4 (100)		
	Rarely	5 (62.5)	1 (12.5)	2 (25)	8 (100)		
	Sometimes	38 (63.3)	12 (20)	10 (16.7)	60 (100)		
2. Do you maintain proper medical records for patients	Always	66 (67.3)	27 (27.6)	5 (5.1)	98 (100)	17.304	0.002*
	Rarely	3 (75)	0 (0)	1 (25)	4 (100)		
	Sometimes	26 (53.1)	9 (18.4)	14 (28.6)	49 (100)		
3. Have you ever attended a workshop or training related to medico-legal issues?	No	42 (57.5)	20 (27.4)	11 (15.1)	73 (100)	1.754	0.416
	Yes	53 (67.9)	16 (20.5)	9 (11.5)	78 (100)		
4. Do you follow standard treatment guidelines while managing patients?	Always	68 (66)	25 (24.3)	10 (9.7)	103 (100)	12.992	0.011*
	Rarely	2 (28.6)	1 (14.3)	4 (57.1)	7 (100)		
	Sometimes	25 (61)	10 (24.4)	6 (14.6)	41 (100)		

*P<0.05 is statistically significant.

Table 5: Attitude and gender association / Formal training/ urban or rural.

		Negative attitude N (%)	Neutral attitude N (%)	Positive attitude N (%)	Total N (%)	Chi-square	P value
Gender	Female	5 (6.8)	34 (46.6)	34 (46.6)	73 (100)	0.849	0.654
	Male	4 (5.1)	32 (41)	42 (53.8)	78 (100)		
Have you received any formal training regarding medical law or ethics?	No	5 (8.3)	27 (45)	28 (46.7)	60 (100)	1.244	0.537
	Yes	4 (4.4)	39 (42.9)	48 (52.7)	91 (100)		
Are you from urban or rural background?	Rural	2 (8)	11 (44)	12 (48)	25 (100)	0.242	0.886
	Urban	7 (5.6)	55 (43.7)	64 (50.8)	126 (100)		

DISCUSSION

In a study done in the country of Saudi Arabia, by Alandajani et al among nurses, only 41.2% of the 72.1% of medication errors among nurses were reported, with incorrect dosages accounting for 46.9% of all drug errors. About 50% and 55% of the respondents showed positive attitude and good knowledge on medication errors.[11] In a study envisioned and implemented in United States of America by Pollock et al examined the features of malpractice cases involving medical students in the USA using a national litigation database. In September 2023, the Westlaw database was examined for medical student malpractice cases from January 1st 1900 to September 1st 2023. The inclusion criteria were met by 65 cases. Death accounted for (19, 29%), people in pain (25, 38%) and disabled (36, 55%) were reported patient outcomes. Emergency medicine (16, 25%), general surgery (14, 22%) and obstetrics and gynaecology (13, 20%) were the most often engaged specialities.

Medical decision formulation (30, 46%), procedural complications (24, 37%) and bad communication (11,17%) were the most often reported primary errors made by students.[3] A study in Ethiopia by Ademe et al the general level of knowledge of medical misconduct in the sample size was low. The most frequently reported type of malpractice was surgery on the wrong patient (71,1%), while the frequently disputed type was inadvertent harm to nearby organs (10.8%). Most (59.6%) said that they would be willing to tell the patient if they made a medical mistake. Threats of verbal or physical abuse were the most often cited excuse for not disclosing an error (68%). 120 respondents or 59.1% of the total, stated that they had at some point in their practice had been verbally abused by a patient or their attender.[6]

In a study conducted in Nepal by Hirachan et al among doctors and nurses, a questionnaire about medical ethics was given to 124 physicians and 103 nurses. According to the survey only 1% of the nurses had sufficient information of the Hippocratic oath, Nurenberg Code and Helsinki Declaration, but in case of doctors the percentages were as follows respectively for the same, 56.5%, 8.1% and 13.7%.[7] In a study done by Nikkhahmanesh et al among 420 MBBS students across all the five years at medical school regarding medical malpractice KAP, the completion rate of the survey was 110/420 (26.2%), The results highlighted that no group of students scored greater than 50% correct on the survey, with an overall median score of 40% correct for all students combined.[8]

In a study done by Rani et al in India it was noted that there was a considerable statistical difference in the knowledge and attitudes of students and interns, with about 77.9% of interns and 39% of students knowing about the fundamentals of ethics and 82.9% of students and 60.6% of interns stating that doctors should protect patients' confidentiality.[12] In a study done in the Gaza strip by Alser et al with 388 medical students who expressed somewhat favourable opinions on patient safety (4.7±0.5 of 7) with the most favourable opinions in the areas of situational awareness, the significance of patient safety in the curriculum, error inevitability and teamwork. Neutral attitudes were detected in the domains of professional ineptitude as a cause of error and error reporting confidence, but no negative attitudes were reported.[13]

In a study conducted in Jordan by Sawalha et al there were 1226 medical student participants. The mean score obtained was 4.9 (SD+-0.65), they expressed favourable sentiments toward patient safety. "Working hours as error cause" and "Team functioning" received the highest scores from participants. The score for "professional incomplete as error cause" was considerably lower for 1st generation medical students.

Pre-clinical students expressed higher favourable opinions in the "disclosure responsibility" and "patient safety training received" sectors.[14] Because it compromises patient safety, medical negligence definitely is a growing public health problem among healthcare professionals worldwide. It puts patients at serious risk for illness, damage, disability or even death. The WHO has identified patient safety shortcomings as a worldwide health concern that needs to be addressed.[15-17]

Limitations

The limitations of the study were that it was conducted among 151 study participants which is relatively a smaller sample size. Also, all the participants belonged to a single

class and were from one single tertiary care institution. Overall generalizability of this study could have been increased by including larger sample size and including multiple centres. Nursing, paramedical students as well as doctors and other medical professionals could be part of future studies to explore the perception on medical negligence among a variety of study subjects. Future studies could also explore the view of victims of medical negligence, their care takers and patients in general.

CONCLUSION

The awareness and perspectives of medical neglect among undergraduate medical students in Vijayapura, North Karnataka, are highlighted in this study. There are still gaps in the student's awareness of medico legal responsibilities, patient safety standards and the legal ramifications of negligent practice. In July 2024, the Bhartiya Nyaya Sanhita (BNS) replaced the Indian Penal Code (IPC), a holdover from British colonial authority. Although the IPC reform was generally well received, the medical community has expressed serious concerns about it, mainly because of section 106 of the BNS. Many in the medical field worry that this clause, which requires incarceration for physicians implicated in deaths brought on by rash or careless behaviour during medical operations, could create a culture of fear and reluctance to execute crucial medical interventions.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

1. Madan R, Das N, Patley R, Nagpal N, Malik Y, Math SB. Consequences of medical negligence and litigations on health care providers: a narrative review. Indian J Psychiatry. 2024;66(4):317–25.
2. Alghrani A, Bramhall S, Griffith R, Lim J, Ost DE, Wright AJ, et al. Balancing the scales of safety: the criminal law's impact on patient safety and error reduction. Br J Oral Maxillofac Surg. 2024;62:229–34.
3. Pollock JR, Shappell E, Sandefur BJ, Moore ML, Lindor RA. Medical malpractice cases involving medical students. Acad Med. 2024;99:1108–13.
4. Arbel E, Reese A, Oh K, Mishra A. Medical law and medical school curricula: a systematic review. Cureus. 2024;16:59589.
5. Miziara ID, Miziara CSMG. Medical errors, medical negligence and defensive medicine: a narrative review. Clinics (Sao Paulo). 2022;77:100053.
6. Ademe Y, Deneke A, Bekele A. Malpractice awareness among surgeons and surgical trainees in Ethiopia. Ethiop J Health Sci. 2022;32(5):1037–46.
7. Hirachan N, Shrestha N. Knowledge, attitude and practice of medical ethics among doctors and nurses in Pokhara Valley, Nepal. Kathmandu Univ Med J. 2022;20(80):351–5.
8. Nikkhahmanesh N, Kang P, VanSonnenberg E. Evaluating medical students' knowledge of medical malpractice: a pilot study. Int J Med Stud. 2023;11(3):276–80.
9. Thai A, Huynh K, Pickering T, Maron A, Wang L, Stohl H. Does malpractice risk deter medical students from pursuing obstetrics and gynecology. Cureus. 2025;17:67921.
10. Rodziewicz TL, Houseman B, Vaqar S, Hipskind JE. Medical error reduction and prevention. In: StatPearls. Treasure Island (FL): StatPearls Publishing. 2025. Available at: https://www.ncbi.nlm.nih.gov/books/NBK499956/. Accessed on 12 May 2026.
11. Alandajani A, Khalid B, Ng YG, Banakhar M. Knowledge and attitudes regarding medication errors among nurses: a cross-sectional study in major Jeddah hospitals. Nurs Rep. 2022;12(4):1023–30.
12. Rani V. Knowledge and attitude about medical ethics among undergraduate medical students: a cross-sectional comparative study. Indian J Health Sci Biomed Res. 2022;15(2):131–5.
13. Alser M, Böttcher B, Alfaqawi M, Jlambo A, Abuzubaida W, Abu-El-Noor N. Undergraduate medical students' attitudes towards medical errors and patient safety. BMC Med Educ. 2020;20:206.
14. Al-Sawalha I, Al-Haik S, Al-Sawalha B, Al-Haik A, Al-Sawalha M, Al-Haik M, et al. Attitudes of undergraduate medical students toward patient safety in Jordan: a multicenter cross-sectional study. BMC Med Educ. 2023;3:145.
15. Dahlawi S, Menezes RG, Khan MA, Waris A, Saifullah, Naseer MM, et al. Medical negligence in healthcare organizations and its impact on patient safety and public health: a bibliometric study. F1000Res. 2021;10:174.
16. West CP, Dyrbye LN, Shanafelt TD. Physician burnout: contributors, consequences and solutions. J Intern Med. 2018;283(6):516–29.
17. Pai SN, Jeyaraman M, Jeyaraman N, Yadav S. The new Bharatiya Nyaya Sanhita laws: progress or pitfall for doctors? Cureus. 2024;16:55678.

Cite this article as: Eabenson S, Gudadinni MR, Yadavannavar MC, Rangoli AM. Medical negligence-perception among undergraduate medical students: a cross-sectional study from Vijayapura, North Karnataka, India. Int J Res Med Sci 2026;14:2368-74.