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From classroom to clinic: Addressing gaps in teaching and perceived preparedness for breaking bad news in medical education

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Abstract

Background Communicating bad news (BBN) is a significant challenge in medical practice, particularly in oncology, as it directly impacts patient care and follow-up. Despite existing protocols to aid this process, both patients and healthcare professionals frequently highlight insufficient training in BBN. This study evaluates [1] the curricula and methodologies of teaching BBN at the study institution and [2] medical students' perceptions of the effectiveness and adequacy of their BBN education and training.

Methods This cross-sectional, quantitative, exploratory study used a self-administered questionnaire with 25 questions developed by the researchers. Categorical variables were compared via the chi-square test or Fisher's exact test, with a significance level of 5%.

Results A total of 300 questionnaires were completed by medical students from the 8th to 12th periods, comprising 205 women and 95 men, with an average age of 23.9 ± 3.4 years. Among the participants, 220 (73.3%) reported receiving some formal instruction on breaking bad news, but only 17.3% felt prepared for this task. A vast majority (95.7%) recognized the importance of being prepared to communicate bad news. At the beginning of their practical cycle, 74.6% of the students found "discussing the end of therapeutic options and palliative care" the most challenging. For those already in the practical cycle, 54.8% identified "communicating about the worsening of the disease" as the most difficult.

Conclusion Developing skills for breaking bad news is essential for a strong doctor–patient relationship. Teaching these skills in medical education is necessary to increase patient motivation and confidence in treatment.

Keywords Breaking bad news, Medical education, Quality education, Oncology

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Practice points

1) The study evaluated medical students' perceptions of their training in breaking bad news, revealing a significant gap in preparedness despite its recognized importance.
2) Among the 300 students, 73.3% received some instruction on breaking bad news, but only 17.3% felt prepared.
3) The development of skills for breaking bad news in medical education is essential to improve doctor–patient relationships and patient confidence in treatment.

Introduction

Delivering bad news is defined as conveying information that significantly and negatively alters an individual's perspective on their future. This task is an inevitable and challenging aspect of medical practice, especially in oncology. The complexity of these conversations is heightened in oncology due to the profound impact of cancer diagnoses and often serious prognoses. How this news is communicated can profoundly affect a patient's psychological well-being, their relationship with healthcare providers, and their overall experience of care [1].

Effective communication of bad news is critical to the physician–patient relationship, and various consensus guidelines, such as the SPIKES protocol, have been developed for this purpose [2]. Despite these guidelines, there is limited knowledge about physicians' attitudes toward breaking bad news (BBN) and their training to deliver it effectively [3].

Studies indicate that patients who receive bad news in a compassionate and supportive manner experience less distress and have a better understanding of their condition and treatment options [4]. Conversely, poor communication can lead to confusion, heightened anxiety, and mistrust in the healthcare system [5].

Delivering unfavorable diagnoses or treatment updates to cancer patients requires a delicate balance of empathy, honesty, and clarity. As future healthcare professionals, medical students must develop the skills to manage these conversations effectively, ensuring that patients and their families are well informed and emotionally supported [6].

Numerous reports highlight the educational deficiencies of medical students in delivering bad news. Evaluating the performance of training programs in this area should be a key component of the educational process [7]. Training in BBN is essential in medical education. It equips future physicians with the skills to handle these difficult conversations with sensitivity and professionalism, ultimately improving patient care outcomes. As medical students, gaining proficiency in this area will not only enhance their communication skills but also deepen their understanding of the patient experience in oncology [8].

This study aims to identify how BBN is presented in medical school curricula in a Brazilian college and to evaluate medical students' perceptions of the knowledge and skills they acquire in this area. Understanding the effectiveness of current training methods and the confidence levels of students in delivering bad news can inform improvements in medical education, ensuring that future healthcare professionals are better prepared for these critical interactions.

Materials and methods

A cross-sectional, quantitative, and exploratory study was conducted via a self-administered questionnaire developed by the researchers. The questionnaire contains 24 questions of multiple-choice, scaled, and binary types, categorized as follows: participant profile (3 questions), participants' perception of the knowledge acquired in medical school regarding breaking bad news (12 questions), and communication of bad news in practice (9 questions) (Supplement 1). The questionnaire was pretested with ten medical students to validate their understanding of the questions and the feasibility of completing it.

The questionnaire was administered in person to students in the 8th to 12th graduation periods at a private medical school in Belo Horizonte, Brazil. For reference, medical school in Brazil consists of 12 periods. The students were stratified into two groups: (i) Beginners, students who had completed the theoretical cycle (8th period), and (ii) Seniors, students who had already started their internships (9th to 12th periods). Internships include clinical rotations or clerkships. Data collection was conducted between August 2023 and April 2024.

The sample size was determined via G-Power 3.1.9.6, with the power set at 80%, a significant level (alpha) of 0.05, and a margin of error of 5%. Considering the total number of eligible students, the minimum sample size calculated was 280 students.

Data are presented in frequency tables with absolute frequencies and their respective percentages. Categorical variables were compared via the chi-square test or Fisher's exact test. In all tests, the significance level adopted was 5%. The software used for the analysis was SPSS version 25.0.

Patients or the public were not involved in the design, conduct, reporting, or dissemination plans of this research.

Results

The study was conducted with 300 medical students, comprising 205 (68.3%) women and 95 (31.7%) men. The mean age was 23.9 ± 3.4 years, ranging from 21 to 53

years. Among the participants, 115 (38.3%) were beginners, and 185 (61.7%) were seniors.

The majority of the students, 220 (73.3%), reported having received some formal instruction on the topic of communicating bad news via a fragmented approach, with the most frequently cited discipline being "Patient-Centered Care and Comprehensive Health" (54.7%). Additionally, 12 (4.0%) students reported participating in extracurricular activities related to the theme, resulting in a total of 232 students. Regarding the discussion of this topic during medical consultations, 73.3% of the participants indicated that they had patient case discussions, and 14% reported that participating in extracurricular activities focused on communicating bad news (Table 1).

A significant majority of the study participants (95.7%) acknowledged the importance of being prepared for situations where they needed to deliver bad news to patients, and 92% expressed a desire for a dedicated course on this topic (Table 1).

Among the 232 participants who were present during medical consultations where bad news was delivered, the most frequently addressed topics were cancer diagnosis (36.3%) and disease progression (34.7%). The approach of the physician delivering bad news was deemed satisfactory by 85.5% of the students. However, only approximately 30% of the participants reported feeling confident in their ability to communicate bad news themselves (Table 2).

Nearly all the participants (99.3%) confirmed familiarity with at least one protocol for communicating bad news, with the following protocols being cited: SPIKES (99.3%), NURSE (7%), ADAPT (4%), and REMAP (3.7%).

In Table 3, a comparison was made between the two groups, beginners and seniors, regarding their perceptions of communicating bad news in practice. Many participants, especially those in the senior group, felt inadequately prepared after delivering bad news, particularly in supporting families ($p = 0.028$). Overall, confidence in delivering bad news was low, with only 17.3% expressing confidence in communicating bad news. With respect to necessary communication abilities, 40.0% of beginners, compared with 15.7% of seniors, agree or completely agree that they possess them ($p < 0.0001$). The participants highlighted the importance of involving psychologists (95.0%) in bad news communication, followed by social workers (40.3%), psychiatrists (25.0%), and religious Fig. (24.7%).

Table 1 Knowledge acquired during medical school regarding communicating bad news ($N = 300$)

Variable	*N* (%)
There was some didactic approach to communicating bad news:	
Yes	220 (73.3)
No	80 (26.7)
In which discipline?	
Patient-Centered Care and Comprehensive Health (40 h)	164 (54.7)
Psychological Approaches in Healthcare (80 h)	58 (19.3)
Interdisciplinary Curriculum Integration (320 h)	19 (6.3)
Geriatrics Internship (400 h)	17 (5.7)
Soft Skills Development (320 h)	17 (5.7)
Basic Clinical Examination Skills (120 h)	16 (5.3)
Family Medicine and Community Health (80 h)	10 (3.3)
Medical Ethics and Bioethics (60 h)	8 (2.7)
Public Health and Preventive Medicine (80 h)	7 (2.3)
Miscellaneous Topics	8 (2.7)
Did you have any approach to communicating bad news when following up medical consultations?	
Yes	220 (73.3)
Participated in an extracurricular activity about breaking bad news?	
Yes (specific course, congress/symposium, medical academic league*)	12 (4.0)
Do you consider it important to be prepared to communicate more news?	
Very important	287 (95.7)
Important	12 (4.0)
Neutral	1 (0.3)
Little important	0 (0.0)
Not important	0(0.0)
Would you like your college to include a bad news subject in its curriculum?	
Yes	276 (92.0)

*Medical Academic League is a student organization mainly consisting of undergraduate medical students who collaborate with supervising physicians to study specific subjects and develop essential skills through learning, assistance, and research

Table 2 Perception of knowledge acquired during medical school regarding Bad News (*N* = 232)

Variable	*N* (%)
If you have participated in medical medical consultations, what was the context? *	
Cancer Diagnosis	109 (36.3)
Worsening of cancer	104 (34.7)
Death	51 (17.0)
Diagnosis of another disease	16 (5.3)
Accident	8 (2.7)
Others	12 (4.0)
If you participated in medical consultations, did you find the doctor's communication satisfactory?	
Yes	201 (85.5)
If you have received any teaching approach, do you feel confident in communicating bad news?	
Yes	77(33.2)

*allows multiple answers

Table 3 Students' perceptions of their abilities, skills, and tasks when communicating bad news according to the period of medical school (*N* = 300)

Variable	Total (*N* = 300)	Beginners (*N* = 115)	Seniors (*N* = 185)	*p* value
I am aware of the areas I need to prepare before delivering bad news				
I totally agree and I agree	132 (44.0)	54 (47.0)	78 (42.2)	0.412q
Neutral	124 (41.3)	48 (41.7)	76 (41.1)	
I totally disagree and I disagree	44 (14.7)	13 (11.3)	31 (16.8)	
I know what actions to take after breaking bad news to help families feel supported				
I totally agree and I agree	61 (20.3)	30 (26.1)	31 (16.8)	**0.028q**
Neutral	156 (52.0)	62 (53.9)	94 (50.8)	
I totally disagree and I disagree	83 (27.7)	23 (20.0)	60 (32.4)	
I feel prepared to deliver bad news to patients and their families				
I totally agree and I agree	53 (17.7)	23 (20)	30 (16.2)	0.449q
Neutral	128 (42.7)	48 (41.7)	71 (38.4)	
I totally disagree and I disagree	119 (39.7)	44 (38.3)	84 (45.4)	
I possess the communication skills necessary to deliver bad news				
I totally agree and I agree	75 (25.0)	46 (40.0)	29 (15.7)	**< 0.001q**
Neutral	149 (49.7)	45 (39.1)	104 (56.2)	
I totally disagree and I disagree	76 (25.3)	24 (20.9)	52 (28.1)	
I have the essential skills to develop a strong relationship with patients and their families				
I totally agree and I agree	214 (71.3)	88 (76.5)	126 (68.1)	0.230q
Neutral	62 (20.7)	21 (18.3)	41 (22.2)	
I totally disagree and I disagree	24 (8.0)	6 (5.2)	18 (9.7)	
I am confident in my ability to deliver bad news				
I totally agree and I agree	52 (17.3)	27 (23.5)	25 (13.5)	0.089q
Neutral	143 (47.7)	51 (44.3)	92 (49.7)	
I totally disagree and I disagree	105 (35.0)	37 (32.2)	68 (36.7)	
What other professionals should be involved in communicating bad news, besides the doctor? *				
Psychologist	285 (95.0)	109 (94.8)	176 (95.1)	0.258q
Social worker	121 (40.3)	52 (45.2)	69 (37.3)	0.301q
Psychiatrist	75 (25.0)	28 (24.3)	47 (25.4)	0.624q
Someone related to the patient's religious/spiritual beliefs	74 (24.7)	32 (27.8)	42 (22.7)	0.409q
Nobody	9 (3.0)	2 (1.7)	7 (3.8)	0.409f
Others	4 (1.3)	2 (1.8)	2 (1.1)	0.412f

q: Chi-square test; f: Fisher test

*allow multiple answers

Table 4 Students' perceptions of the most difficult tasks and skills based on theoretical vs. practical training in medical school

Variable	Theoretical training (*N* = 232)	Practical training (*N* = 84)	*p*-value
Which task do you find most difficult? *	N(%)	N (%)	
Discussing the end of therapeutic options and palliative care	220 (74.6)	35 (41.7)	**< 0.001q**
Addressing end-of-life issues (e.g., do not resuscitate)	195 (66.1)	37 (44.0)	**0.002q**
Communicating the worsening of the disease	116 (39.3)	46 (54.8)	**0.009q**
Involving family and friends	95 (32.2)	21 (25.0)	0.206q
Discussing the cancer diagnosis	25 (8.5)	14 (16.7)	**0.029q**
Which skill do you find most difficult? *			
Dealing with the patient's emotions	190 (64.4)	41 (48.8)	**0.009q**
Being honest while maintaining hope	129 (43.7)	28 (33.3)	0.087q
Involving the patient in decision-making	33 (11.2)	8(9.5)	0.665q
Dedicating adequate time to communication	15 (5.1)	6 (7.1)	0.623f

q: Chi-square test; f: Fisher test

*allow multiple answers

Theoretical training: Includes lectures, seminars, and textbook-based learning

Practical training: Involves practical workshops, clinical skills stations and internships

Among the total population, 232 students reported receiving only theoretical training on breaking bad news, while 84 students indicated that they had participated in practical activities related to this topic. Table 4 compares the theoretical and practical aspects of the tasks and skills involved in communicating bad news. The results reveal significant differences between these two approaches for specific tasks.

In terms of the most challenging tasks, discussing the end of therapeutic options and palliative care, as well as addressing end-of-life issues, were perceived as more difficult by students who received theoretical training ($p < 0.05$). Conversely, participants who received practical training found the tasks of discussing the cancer diagnosis and communicating disease progression to be the most challenging ($p < 0.05$).

When examining the skills perceived as most difficult, a significant difference emerged in handling patients' emotions, with students who received theoretical training finding this more challenging compared to those with practical training (64.4% vs. 48.8%, respectively, $p = 0.009$). Other evaluations did not show statistically significant differences.

Discussion

Communicating significant medical information that impacts patients' lives, especially when delivering bad news (BBN), is a critical skill in healthcare. Effective BBN requires a combination of professional communication skills, developed progressively throughout medical education [9]. The Brazilian medical curriculum emphasizes the development of communication skills but lacks formal recommendations on BBN, despite its essential role in patient care [10, 11].

In this study, most respondents reported that BBN was addressed sporadically across different subjects during their medical education, without a dedicated formal course. This aligns with findings by Alshami et al., who noted that only 26.6% of medical students received formal training in BBN, with most courses being elective or situational [12]. Medical schools are increasingly focusing on BBN as a vital component of doctor-patient relationships, directly influencing patient adherence and overall care. However, many students still lack structured training in these skills [7]. A formal BBN curriculum, incorporating lectures, small-group discussions, role-playing, and interactive methods, is crucial for developing proficiency [13–15].

Nearly all participants in this study agreed on the importance of BBN training, recognizing the task's emotional and psychological challenges. Proper communication in BBN is associated with better patient adherence, reduced stress, and improved self-efficacy [11]. Among students with clinical exposure to BBN, the most common scenarios involved cancer diagnoses and disease progression, which is consistent with the high prevalence of cancer and improved survival rates due to advances in treatment [16].This finding is critical, especially in low- and middle-income countries, where cancer morbidity and mortality rates are elevated [17].

Bad news, particularly related to cancer, significantly alters patients' perspectives on their future, and its delivery is often stressful for both physicians and patients [18]. The SPIKES protocol is widely recognized and was known by 99.3% of respondents in this study, underscoring its importance in standardizing the communication process [19]. Systematic communication enhances physician confidence and ensures clearer, more compassionate conversations with patients [19].

Despite the familiarity with BBN protocols, only 17.3% of students felt adequately prepared to handle these conversations, corroborating findings from other

studies where only a small percentage of medical students reported confidence in delivering bad news [20–22]. Notably, significant differences were found between beginner and senior students, with beginners feeling more prepared to support patients post-BBN and with a better understanding of necessary communication skills. This suggests that students' self-perception of their communication abilities changes as they advance through their clinical training, highlighting a gap in perceived readiness [23, 24].

Practical experience with BBN revealed that the most challenging aspects, particularly discussing end-of-life care and addressing patients' emotions, were less difficult in practice than in theory. While discussing a cancer diagnosis or treatment failure remains challenging in practices. These results suggest that perceptions change when interacting face-to-face with a patient. Effective communication about palliative care and end-of-life issues is essential, as they can either create significant stress or facilitate interaction between the healthcare team and the patient [25, 26]. However, these topics often receive insufficient attention in medical education, which can hinder effective BBN. Practical exercises, such as role-playing and patient interactions, are vital for enhancing students' skills in these areas [27].

In a study conducted in Germany, many patients reported dissatisfaction with how bad news was delivered, citing issues such as inadequate time, use of technical jargon, and lack of emotional support [28]. Effective communication requires a balance of empathy, clarity, and respect to maintain patient dignity and foster trust, which is essential for positive treatment outcomes [9]. In a randomized case-control trial, the study group received a 1-hour training session on delivering bad news with compassion and empathy, followed by assessments. The results demonstrated a highly significant improvement in knowledge and communication skills in the study group compared to the control group [29].

The study highlights a significant disconnect between the teaching of breaking bad news (BBN) and students' self-perceived readiness to perform this task in real-life clinical scenarios. Although 77% of students reported receiving some form of instruction, the sporadic nature of teaching, primarily theoretical with limited practical and observational components, may have contributed to only 17% feeling adequately prepared. This gap underscores the need to evaluate potential deficiencies in the curriculum, such as inconsistent teaching methods, lack of standardized protocols, and minimal emphasis on experiential learning. To address these shortcomings, we propose the integration of longitudinal BBN training that combines interactive methods such as role-playing, standardized patient simulations, and reflective discussions to enhance skill development. Introducing this training early in the curriculum, starting in preclinical years, and reinforcing it during clinical rotations can ensure progressive competence. These changes aim to improve students' confidence and preparedness in managing sensitive patient communications, ultimately strengthening the doctor–patient relationship and improving care outcomes.

This study supports the growing recognition of the need for formal BBN training in medical curricula, as experiential learning and simulation have proven effective in improving communication skills [30]. However, the study's limitation lies in its focus on a single institution, which may not fully represent the broader landscape of medical education in Brazil.

In conclusion, while technical skills are critical in medical training, communication skills, especially BBN, are equally vital for developing strong doctor-patient relationships. Properly delivering bad news is a challenging yet essential aspect of patient care, requiring empathy, clarity, and professionalism. Medical education must prioritize these skills to improve patient outcomes and adhere to ethical standards of care.

Supplementary Information

The online version contains supplementary material available at https://doi.org/10.1186/s12909-024-06498-5.

Supplementary Material 1

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Author contributions
MSS: Substantial contributions to the design of the work; analysis, and interpretation of data for the work; AND Drafting the work; AND Final approval of the version to be published; AND Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved. LMC: Substantial contributions to the acquisition of data for the work; AND Drafting the work; AND Final approval of the version to be published; AND Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.AJF: Substantial contributions to the acquisition of data for the work; AND Drafting the work; AND Final approval of the version to be published; AND Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolvedAPD-L: Substantial contributions to the conception of the work; analysis and or interpretation of data for the work; AND Reviewing the work critically for important intellectual content; AND Final approval of the version to be published; AND Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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Data availability
Data is provided within the manuscript.

Declarations

Ethics approval and consent to participate
The study was approved by the Institutional Research Ethics Committee (n° 67121422.2.0000.5134), and all participants previously signed a written informed consent form.

Consent for publication
Not applicable.

Competing interests
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