

Original Article



Investigation of the ability of final-year medical students to deliver bad news

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Abstract

Introduction: Delivering bad news (DBN) is an essential communication for all doctors. There are many benefits of DBN, for both the patient and the healthcare team looking after the patient. Having a general perspective of the ability of medical students in DBN can help us to improve educational programs in the future; therefore, the purpose of this study was to investigate the ability of final-year medical students to DBN.

Methods: 150 final-year medical students, who were undergoing their internship in different clinical courses, participated in this study. The translated questionnaire of SPIKES guidelines was used to measure the skill of senior medical students in DBN to patients, which includes 16 questions. Student t-test was used to compare quantitative variables and a chi-square test was used to compare qualitative variables.

Results: The mean age of participants was $26.19 \pm .94$ years with a minimum age of 26 years with a median of 29 years. (36%) males and 96(64%) females formed the study population. The total score and the environmental score of DBN are significantly higher in female students. Also, according to the Pearson test, no significant correlation was observed between the age of the final year and the fields of ability in DBN ($P=0.512$, $r=0.021$).

Conclusion: Due to the lack of sufficient training on how to communicate with patients and deliver bad news, adding a training program to increase the skills of medical students in DBN to the general medical training curriculum can be useful in improving the academic aspects of general practitioners.

Introduction

Delivering bad news (DBN) is one of the most difficult tasks that a doctor has to manage^{1,2} and the responsibility to deliver bad news often arises early in a doctor's training.^{3,4}

The bad news is information that seriously alters a person's present and future.⁵ Most doctors describe the delivery of bad news as a stressful experience. Studies confirm that DBN is associated with increased cardiovascular activity including heart rate, increased serum cortisol levels, fear, and anxiety in doctors.⁶⁻⁸ Oken⁹ suggests that a physician's early experience with DBN may influence how they approach delivering news regarding patients' health and interacting with them in the future. The way doctors act in DBN also affects how patients cope with this news and may lead to non-acceptance, acceptance, or unexpected reactions from them.¹⁰ Therefore DBN is a very important and crucial communication skill for doctors; if it's done properly, it empowers and informs patients and allows them to make better decisions about their conditions, treatment options, and planning for their future.¹¹

If we look at the perks of skillful medical communication from the doctor's perspective, it is effective in the results of treatment, increases the patient's cooperation with the healthcare team in the treatment process,^{12,13} and gains trust and satisfaction towards his/her doctor,¹⁴ and of course, prevents work burnout.¹⁵

Despite the high importance of proper interactions between patients and doctors, unfortunately, most medical schools provide little or no formal education on how to deliver bad news, and most medical students and residents have to learn this skill during their practice or postgraduate training from observing more experienced physicians in management.^{16,17} Since communication is a teachable skill, with appropriate training, continuous evaluation and feedback, this skill can be optimally developed among all physicians.¹⁸

Having a general perspective of the ability of medical students to deliver bad news can help us to improve better educational programs in the future; therefore, the purpose of this study was to investigate the ability of final year medical students to deliver bad news.

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Materials and Methods

This cross-sectional study was done in the emergency department of imam Reza hospital for 6 months. 150 final-year medical students of Tabriz University of Medical Sciences, who were undergoing their internship in different clinical courses, participated in this study. We chose medical students from different clinical departments to consider the differences between various patients in the moment of DBN. The inclusion criteria were final-year medical students who agreed to engage in this study, and anyone who did not agree or filled out the questionnaire incompletely was excluded. The translated questionnaire of SPIKES guidelines¹⁹ was used to measure the skill of senior medical students in DBN to patients, which includes 16 questions. This questionnaire included two different fields and seven dimensions. The psychological field contained empathy, knowledge, and information, invitation to deliver information, and the field of environmental factors involved basic coordination, determining strategy, planning, and professionalism. The scoring of the questionnaire was in the form of a four-point Likert scale, where the score relating to the answers including: never, rarely, sometimes, often, and always were 1, 2, 3, 4, and 5 respectively. In each of the fields, the minimum score was 8 and the maximum score was 40. Overall, the minimum score was 16 and the maximum score was 80. The final score was based on the sum of points.

Statistical analysis

The collected data were statistically analyzed using SPSS version 21 statistical analysis software (Microsoft LTD, Chicago, USA). Data were reported as descriptive statistics (frequency and percentage) and mean ± standard deviation. Student t-test was used to compare quantitative variables and a chi-square test was used to compare qualitative variables. The *P* value for statistical significance was considered lesser than 0.05.

Results

In this study, 150 senior medical students were evaluated in their skills for DBN based on SPIKES guidelines. The mean age of participants was 26.19 ± 0.94 years with a minimum age of 26 years and a maximum age of 29 years with a median of 29 years.

54 (36%) male and 96 (64%) female formed the study population. There was no difference between the two sexes in terms of average age (*P* = 0.653).

The frequency of senior medical student's presence in clinical departments including internal medicine, pediatrics, gynecology, surgery, cardiology, emergency medicine, psychiatry, social medicine, infectious diseases, orthopedics, dermatology, neurology were 24%, 14.6%, 14%, 12%, 7.33%, 5.33%, 4.67%, 4.67%, 4.67%, 4%, 3.33% and 1.33% respectively.

The overall results of the students' scores regarding the

DBN based on SPIKE'S guideline are shown in Table 1.

The comparison of the total score and the fields of the SPIKES guideline, based on the sex of the students, are given in Table 2. As can be seen, the total score and the environmental score of DBN are significantly higher in female students. Also, according to the Pearson test, no significant correlation was observed between the age of students and the fields of ability to deliver bad news (*P* = 0.512, *r* = 0.021).

The average total scores of the ability of the studied students to deliver bad news based on the clinical department in which they were present are as follows: internal medicine, pediatrics, gynecology, surgery, cardiology, emergency medicine, psychiatry, social medicine, infectious diseases, orthopedics, dermatology, neurology 59.75, 57.545, 62.143, 57.111, 58.182, 54.625,

62.286, 58, 57, 61.167, 68.4 and 54 respectively. As mentioned, the overall ability of students in

DBN in the departments of orthopedics, dermatology, gynecology, and psychiatry is significantly higher than the average score of total ability in other departments.

Discussion

DBN is an essential communication skill that all doctors must be able to perform well. There are many benefits of DBN, for both the patient and the healthcare team looking after the patient. Although in most medical schools this skill is not formally taught to medical students and they learn this skill by observing experienced people in

Table 1. Overall result of the students' scores

Score	Mean ± standard deviation	Minimum	Maximum
Field			
Psychological	30.32 ± 5.22	16	39
Environmental	28.90 ± 4.72	17	38
Dimension			
Empathy	7.31 ± 1.81	2	10
Knowledge and information	14.56 ± 2.74	5	20
Invitation to deliver information	7.03 ± 1.81	2	10
Basic coordination	10.80 ± 2.36	5	15
Determining strategy	7.96 ± 1.74	2	10
Planning	7.06 ± 2.32	2	10
Professionalism	4.50 ± 0.95	1	5
Overall score	59.23 ± 7.82	35	73

Table 2. Comparison of the total score and the fields of the spikes guideline, based on the sex

Field	Male	Female	<i>P</i> value
Psychological	29.37 ± 5.36	30.86 ± 5.08	0.098
Environmental	28.75 ± 4.34	29.50 ± 4.14	0.025
Total score	57.22 ± 8.34	60.36 ± 7.32	0.023

Note: The results are presented as mean ± standard deviation. The *P* value for statistical significance was considered lesser than 0.05.

this field, there are multiple guidelines and instructions that help doctors to deliver bad news such as SPIKES, BREAKS, and ABCDE which have redefined ways of breaking bad news and death.¹⁹⁻²¹ Also, courses and workshops about DBN have been held for undergraduate and postgraduate students to help them. Evaluating how useful these workshops are should be determined in practice over time.

In this study, we designed a questionnaire based on SPIKES guidelines to evaluate the level of knowledge and skills of senior medical students regarding DBN to plan future educational programs more practical and helpful. In our study, we found that female students performed better in DBN to patients. They had a higher total score and environmental score compared to male students. Also, the total score of the ability of students in DBN in the departments of orthopedics, dermatology, gynecology, and psychiatry was significantly higher. Unlike the results of our study, in the study done by Azadi et al about the investigation of medical students' skill in reporting bad news based on SPIKES, they stated that the characteristic factors such as age and sex of medical students had no significant effect on skill and performances of them in reporting bad news. They also concluded work experience was a significant factor in student's skills, and students with more work experience perform better in informing bad news to the patients.²² In a study reported by Locatelli et al,²³ based on beliefs, attitudes, and practices of 50 Italian oncologists towards informing news to elderly patients suffering from cancer they demonstrated that not only the sex and age of the doctor but also the sex of the patients is effective in how to inform them of the bad news. Also, the geographical area where the doctor worked had an effect on the way she/he communicated with the patient. Of course, the socio-cultural dimension in this regard should not be ignored. In Stiefel et al study comparing male and female students' skill in breaking bad news, it was noticed in palliative scenarios female students delivered significantly higher reassurance utterances, but in curative scenarios, male students had a higher ability to provide appropriate treatment scenarios in terms of the psychological aspect.²⁴

Regarding the effect of the doctor's age in DBN, as mentioned, in our study, no relationship was observed between the age of students and their performance. Also, in our study, there was no big difference in the age of the participants. Meanwhile, other studies showed that older doctors have more ability to deliver bad news.^{23,25} It can be concluded that the older the doctor is, the more experience they have in this field, and as a result, they can perform better in these situations.

In our study, the overall ability of students in DBN in the departments of orthopedics, dermatology, gynecology, and psychiatry was significantly higher than the average score of total ability in other departments. In a study conducted by Moawed et al²⁶ about comparing

physicians' specialty in breaking bad news skills to the patient, the total performance and mean skill score of performances in breaking bad news was significantly higher in family medicine physicians compared to other specialties. This result may be due to the emphasis on the importance of training family physician residents on how to communicate with the patient, interviewing them and establishing a proper relationship with the patient, and paying attention to the patient's needs and care. In another study young surgeons stated that they need more training regarding giving bad news to patients and improving their communication with patients and their families.²⁷ In general, the studies conducted on the doctor's skill to deliver bad news indicate the lack of formal and sufficient training on how to communicate with patients and deliver bad news regarding their health.²⁸⁻³¹ Hence, they require proper training in this regard, and holding educational courses about DBN should be included in the official training curriculum of all medical students.

Limitations

This study was a single center study with a limited sample size and this can limit its power. Besides, use of questioner can obscure some aspects of its reliability. Comparison between answers to questioners and performance of study subjects in real situations can improve the reliability of results.

Conclusion

According to the results obtained in this study, the sex of medical students is one of the factors involved in their ability to deliver bad news to patients, but such relationship has not been observed regarding their age. On the other hand, the average ability score of the studied students is low compared to the existing standards, and therefore, adding a training program to increase

the skills of medical students in DBN to the general medical training curriculum can be useful in improving the academic aspects of general practitioners.

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Author's Contribution

Conceptualization: Seyedpouya Paknezhad.

Data curation: Zahra Vand Rajabpour.

Study Highlights

What is current knowledge?

- Medical students have enough knowledge in delivering bad news

What is new here?

- • medical students educational program needs a course to teach about how to deliver bad news

Formal analysis: Zahra Vand Rajabpour.
Methodology: Seyedpouya Paknezhad.
Project administration: Zahra Vand Rajabpour.
Software: Seyedpouya Paknezhad.
Supervision: Seyedpouya Paknezhad.
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Visualization: Seyedpouya Paknezhad.

Competing Interests

The authors declare no actual or potential conflicts of interest.

Ethical Approval

This research was approved by the regional ethics committee of Tabriz University of Medical Science's emergency department with registry no IR.TBZMED.REC .1400.491.

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