Original Article Open Access

Comparison of in-person and non- attendance of training programs to improve the skills of transmitting bad news by emergency medical assistants

Mohamad Hoseini Kasnavieh[1], Mahdi Rezai[2], Alireza Amanollahi [3], Saleh Seyedein[1*]

[1] Trauma and Injury Research Center, Iran University of Medical Sciences, Tehran, Iran.
[2] Emergency Medicine Management Research Center, Iran University of Medical Sciences, Tehran, Iran.
[3] Department of Epidemiology, School of Public Health and Safety, Shahid Beheshti University of Medical Sciences, Tehran, Iran.

Article Info

Article history:
Received 19 Dec 2020
Accepted 28 Apr 2020
Published 02 Jan 2021
Keywords:
Breaking Bad News
Performance
Attitude
Emergency Medicine Assistance
Communication skills

***Corresponding author:**
Saleh Seyedein, Trauma and Injury Research Center, Iran University of Medical Sciences, Tehran, Iran.
Email: dr.seyedein@yahoo.com

Abstract

Background & Objective: Physician-patient communication requires specific communication skills specially while transmitting bad news. Inadequate communication and lack of appropriate education in that matter can cause irreparable discomfort to patients and their companions. Therefore, this study aimed to assess the effectiveness of educational programs for transmitting bad news.

Materials and Methods: 40 emergency medical students in the Iran University of Medical Sciences in 2019 were entered to study. Participants were divided with couple and odd method to in-person (lecture, group discussion) and non- attendance (receiving training packages, slides, and video) training groups with SPIKES. The Questionnaire of performance and attitude based on the strategy of the SPIKES was used to assess of how to transfer bad news. The results of pre-test and post-test in both groups were compared.

Results: The mean scores before and after the training in the in-person group were 121.75 and 119.5 in attitude and in the performance approach 52.8 and 63.45, and in non-attendance group were respected 117.45 and 115.6 for attitude and 50.85 and 62.70 in performance. The attitude scores of the study groups increased after the intervention, but there was no statistically significant difference between the educational programs. (P> 0.05).

Conclusion: This study showed that training, both in-person and non-attendance programming, can help to improve the breaking bad news skills of emergency medicine assistants, as training is effective in raising the attitude score of participants.

Copyright © 2020, This is an original open-access article distributed under the terms of the Creative Commons Attribution-noncommercial 4.0 International License which permit copy and redistribution of the material just in noncommercial usages with proper citation

Introduction

Evidence shows that there is an unfavorable physician-patient relationship, and lack of necessary communication skills, especially in breaking bad news, will lead to irreparable suffering in patients and their companions (1). Accountability of the health system and efforts made to provide suitable behavioral space in hospitals and healthcare centers are so important that they have become a principle of service efficiency in health systems (2-4). In this regard, accountability is considered as one of the important outputs of healthcare systems, defined by the world health organization (WHO) as a suitable response to non-medical expectations of patients and their companions, such as an appropriate physical space and proper behavior of the medical staff (4). In addition to being concerned about treatment, patients and their companions focus on the healthcare service provision environment and the medical personnel's behavior, support, and respect for their self-esteem and personality (5, 6). Patients with fatal diseases require a physician with strong and effective communication skills. Meanwhile, they face unfavorable behaviors from these individuals in hospitals and clinics (7).

Poor communication skills or lack of proper physician-patient communication, especially in breaking bad news, will lead to the suffering of patients' companions (8). There are various definitions for bad or unpleasant news (disclosing unfavorable information), such as expressing frustration with the success of treatment for both the

[Downloaded from edujournal.zums.ac.ir on 2026-11-07]
[DOR: 20.1001.1.22519521.1399.13.39.8.9]
[DOI: 10.29252/edcj.13.39.52]

[Downloaded from edujournal.zums.ac.ir on 2026-11-07]

[DOR: 20.1001.1.22519521.1399.13.39.8.9]

[DOI: 10.29252/edcj.13.39.52]

present and the future. This condition varies from the inability to diagnose the cause of disease and remaining concerned about what is going to happen in the future up to the patient's sudden death (9, 10). Information that drastically alters the life-world of the patient is termed as bad news. Therefore, breaking bad news is an important skill for physicians and has benefits for both patients and physicians in terms of better service provision management (10). Breaking bad news is not an easy task and is considered a skill. As such, conveying bad news is difficult for a physician, which makes the provision of training in this area crucial (11). There are ways to simplify the process of breaking the bad news that can cause less damage (12). Confidence and experience are critical factors in communicating serious news. In addition, feeling prepared, educated, and well-rehearsed can enhance confidence when delivering bad news (13).

In many developed countries, physicians have been trained to prepare for this important task. Without proper training, disclosing unpleasant information increases concern and distrust, and may interrupt the physician-patient relationship (14). Various models (e.g., SPIKES and ABCDE) have been prepared and use as physician education guidance to breaking bad news to patients (10). In this regard, the present study aimed to compare the method of teaching how to break the bad news to emergency medical assistants in Iran University of Medical Sciences by SPIKES model in two modes of in-person and non-attendance.

Materials and Methods

This was a quasi-experimental research performed during 2018-2019. The research population included emergency medical assistants in Iran University of Medical Sciences, who were studying as an assistant in this field at the time of the study. The research setting was Rasoul Akram Hospital, which was affiliated with the university. In total, 40 assistants were enrolled in the research, and there were no inclusion and exclusion criteria for sample selection. However, assistants whose presence in the emergency department was required for medical work were not included in the study. All other emergency medical assistants entered the study and attempts were made to include all of these individuals in the study's program after making the necessary coordination with the head of the ward and head of the department due to the educational objectives of the study. It is notable that the participants were ensured of the confidentiality terms regarding their personal information. The present article was approved as an assistant thesis with the ethical code of IR.IUMS.FMD.REC.1398.104. After sample selection, the participants were divided into two educational groups by the method of even and odd student numbers. Overall, 20 subjects were allocated to the first (in-person) and second (non-attendance) groups and received training bout how to break the bad news. Moreover, attitude and performance questionnaires were completed by all participants before and after the educational programs (one week after the intervention) to assess the effectiveness of the interventions. The process of selection, allocation, follow-up, and analysis of participants in the study was drawn in accordance with the CONSORT flowchart (Figure 1).

The in-person group included three hours of group discussion and lectures carried out based on SPIKES content. On the other hand, a 45-minute educational slide along with five educational films with a duration of 15 minutes was provided to the subjects in the non-attendance group by emergency medical professors. However, the content was prepared with the assistance of psychologists as well. SPIKES framework guideline is a tool that helps medical staff to improve their ability to deliver bad news and includes six stages of setting up an interview, assessing patient's perception, obtaining the patient's invitation, giving knowledge and information to the

patient, addressing the patient's emotions with the empathetic response, strategy and summery (10).

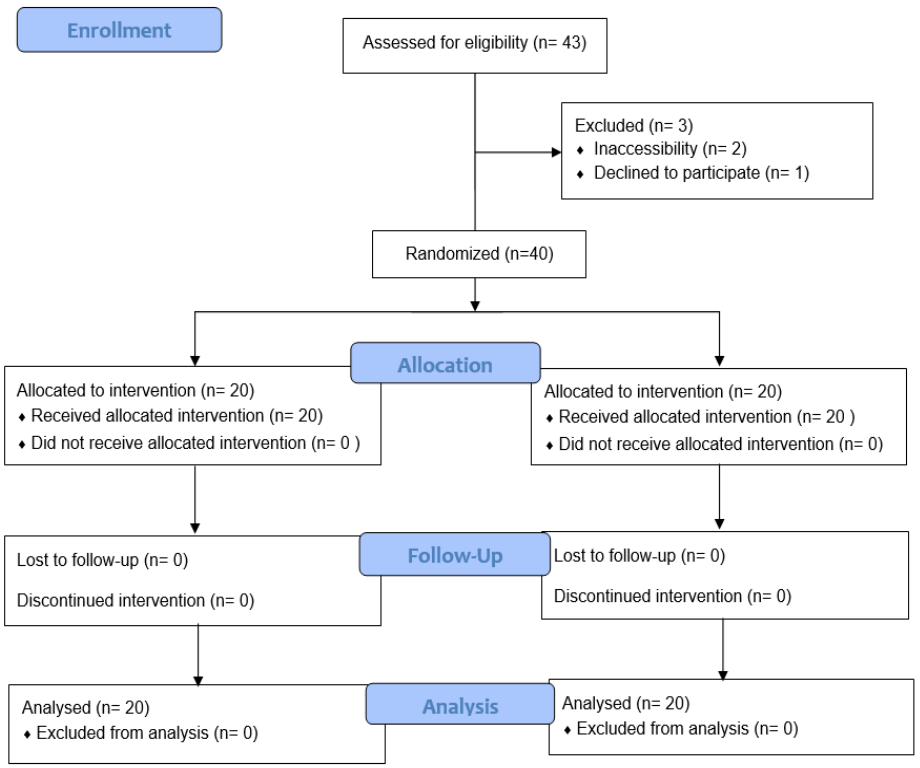


Figure 1: CONSORT Flow Diagram

Data collection tools: Data collection tools were a 16-item performance questionnaire and a 35-item attitude assessment questionnaire scored based on a 5-point Likert scale about the conveying of bad news based on the SPIKES strategy. The validity and reliability of the two questionnaires were formerly confirmed by Managheb and Farrokh Yar (23-25). The items in the performance questionnaire were scored based on a five-point scale from one (never) to five (always), and the total score of the tool showed the overall performance of the individual. Therefore, the minimum and maximum performance scores were 16 and 80, respectively, where a higher score was indicative of better performance in the field of breaking bad news. Moreover, the items of the attitude questionnaire encompassed positive and negative sentences, each allocated a score of one (completely disagree) to five (completely agree). Notably, the negative sentences were scored reversely. As such, the minimum and maximum attitude scores were 35 and 175, respectively. In this study, obtaining a higher score in the attitude questionnaire was defined as a more positive attitude regarding the method, place, time, and manner of conveying bad news.

Data analysis: In this study, the analysis of pretest and posttest results of the two groups with each other and evaluation of the level of attitude and performance in each group before and after the intervention was performed in SPSS version 21 using descriptive and analytical statistics, mean and

[Downloaded from edujournal.zums.ac.ir on 2026-11-07]
[DOR: 20.1001.1.22519521.1399.13.39.8.9]
[DOI: 10.29252/edcj.13.39.52]

[Downloaded from edujournal.zums.ac.ir on 2026-11-07]

[DOR: 20.1001.1.22519521.1399.13.39.8.9]

[DOI: 10.29252/edcj.13.39.52]

standard deviation, as well as independent and dependent t-tests. Notably, a P-value of 0.05 was considered statistically significant.

Results

In total, 40 assistants participated in the research with a mean age of 35.34±5.24 years. In terms of gender, 24 subjects (60%) were female and 16 (40%) were male. According to the research design, 20 subjects (50%) were trained with the in-person educational program, whereas 20 (50%) participants received non-attendance training. None of the participants had a history of participating in a training program about how to break the bad news. Table 1 presents the demographic characteristics of the participants (Table 1).

Table 1: Demographic information of study participants

Variable	Group	Number	Percentage
Sex	Female	24	60
	Male	16	40
Type of education	in-person	20	50
	non-attendance	20	50
Years of study	3	8	20
	2	23	57.5
	1	9	22.5

Table 2 shows the performance and attitude of assistants in two in-person and non-attendance groups before the education. In this regard, the mean attitude score of the in-person and non-attendance groups was reported to be 121.75 and 117.45, respectively, which showed no significant difference in this regard (P=0.17). Furthermore, the mean performance score of the subjects in the in-person and non-attendance groups was estimated at 52.8 and 50.85, respectively, which demonstrated no significant difference in this respect (P=0.09).

Table 2: Comparison of performance and attitude of pre-training assistants

Variable	Group	N	mean	t	p-value
Attitude	in-person	20	121.75	1.37	0.17
	non-attendance	20	117.45		
performance	in-person	20	52.8	1.72	0.09
	non-attendance	20	50.85		

Table 3 introduces the results of educational programs in the two groups after the intervention. According to the results, the mean attitude score in the in-person and non-attendance groups was calculated at 119.5 and 115.6, respectively, which indicated no significant difference (*P*=0.2). Moreover, the mean performance score of the subjects in the in-person and non-attendance groups was reported to be 63.45 and 62.7, respectively, which was indicative of no significant difference in this respect (*P*=0.69).

Table 3: Comparison of performance and attitude of post-training assistants

Variable	Group	N	mean	t	p-value
performance	in-person	20	63.45	0.4	0.69
	non-attendance	20	62.70		
Attitude	in-person	20	119.5	1.3	0.2
	non-attendance	20	115.6		

According to the results, the mean performance score after the intervention was significantly different than the score obtained before the intervention. In other words, both educational programs caused an increase in the scores of the participants compared to the base mode, which indicated the effectiveness of the two methods.

Discussion

In the present study, there was no significant difference between the in-person and non-attendance groups regarding the performance and attitude of assistants toward breaking bad news to patients before the intervention, and it could be expressed that the two groups were almost homogenous in this regard. In a research by Bail et al. (2002), 53% of the physicians considered their ability to break the bad news to be good and very good, whereas 47% considered it to be moderate or poor (15). In 2012, Sereshti et al. evaluated nurses working in maternity, gynecology, and neonatal wards in Shahrekord, Iran. According to the results, 63.2% of the subjects had a positive attitude toward conveying bad news to parents. In addition, 77.6% of the participants encountered problems in breaking bad news, and 92.6% of the subjects considered educational workshops to be crucial in this regard. However, no significant relationship was observed between the attitude of the subjects and the variables of gender and age (16). In a research by Monagheb & Mohammadi on the knowledge and attitude of clinical professors, family physicians, and interns of Jahrom University of Medical Science in terms of breaking bad news, the mean scores of knowledge and attitude were respectively reported to be 15.96 (out of 25) and 34.43 (out of 52) in the faculty group, 16.72 and 35.22 in the family physician group, and 15.26 and 33.43 in the group of interns. The knowledge level of all three groups was moderate and their attitude towards teaching these skills was evaluated positively. Furthermore, there was no significant difference between the knowledge and attitude of the three groups (17).

[Downloaded from edujournal.zums.ac.ir on 2026-11-07]
[DOR: 20.1001.1.22519521.1399.13.39.8.9]
[DOI: 10.29252/edcj.13.39.52]

[Downloaded from edujournal.zums.ac.ir on 2026-11-07]

[DOR: 20.1001.1.22519521.1399.13.39.8.9]

[DOI: 10.29252/edcj.13.39.52]

According to the results of the current research, the performance score of the subjects in the two groups improved after the intervention. Moreover, the mean scores were more suitable in the in-person group, compared to the non-attendance group. Therefore, it could be concluded that in-person training had a higher impact on subjects' ability to convey bad news. While the mean scores of the two groups were different, there was no significant difference between the training methods regarding their effectiveness on assistants' performance scores. Nonetheless, the results were indicative of a higher performance score in subjects receiving in-person education. In a similar study, Baghdari et al. (2016) concluded that training based on SPIKES strategy using non-attendance multimedia and role-playing methods equally increased students' knowledge of breaking bad news. Meanwhile, there was a greater change in the attitude of students in the multimedia group, compared to the role-playing group (18). Monagheb and Mosalanejad demonstrated that while both group discussion and role-playing training methods improved interns' ability to break bad news, the role-playing method was more effective, compared to the other technique (19). Maintaining the patient's mood during hospitalization and sharing information clearly is one of the most important things in breaking bad news skills and should be considered in this process regardless of patients' culture and nationality (20). In 2016, Rajavel assessed interns' attitudes after being trained in an in-person workshop on breaking bad news skills and compared it to before the workshop using the OSCE test. In the end, a significant difference was observed between the intervention and control groups in this regard (21). Furthermore, Amiri et al. (22) indicated a higher mean score of anxiety control in the intervention groups of the booklet and in-person educational programs, compared to the control group, which received no education on the topic. In this regard, our findings are consistent with the results of the foregoing studies.

Conclusion

Overall, the mean performance score of the assistants was higher in the in-person group. Therefore, implementation of this type of educational program could improve the skill of conveying bad news by emergency medical assistants and those studying in other fields. One of the major drawbacks of the present study was the lack of attendance of all assistants. In addition, involving other specialists, who also break the bad news to patients, in the educational programs could increase the accuracy and overall view toward this topic in other areas. However, this was one of the few studies performed in the country that included an educational program on how to break bad news in the field of emergency medicine, which is considered a strength of the research.

Acknowledgments

Hereby, we extend our gratitude to all emergency medical assistants, as well as physicians and professors who assisted us in performing the research. We would also like to thank the education department for making the necessary arrangements.

Conflicts of Interest: The authors declare that there are no conflicts of interest.

References

1. Lloyd M, Bor R, Noble LM. Clinical communication skills for medicine. London: Elsevier Health Sciences; 2018, 63-71

2. Ministry of health . Fourth Health Sector Strategic Plan July 2018 - June 2024. republic of Rwanda Ministry of Health: Ministry of Health; 2018.

3. Gragnolati M, Lindelow M, Couttolenc B. Twenty years of health system reform in Brazil: an assessment of the Sistema Único de Saúde: The World Bank; 2013.

4. World health organization . Monitoring the building blocks of health systems: a handbook of indicators and

their measurement strategies. Switzerland: World Health Organization; 2010.

5. Kalhor R, Zolghadr S, Darba M, Aghababaei A. Exploring the concept of quality in hospital services from the viewpoint of patients and companions: A qualitative study. *EBHPME*. 2018;2(1):42-50.

6. Turabian JL. Doctor-Patient Relationships: A puzzle of eragmented knowledge. *J Family Med Prim Care Open Access.* 2019; 3: 1287. Barnett M. A GP guide to breaking bad news. *Practitioner.* 2004; 248(1659): 392-4.

8. Tripathi J, Rastogi S, Jadon A. Changing doctor patient relationship in India: a big concern. *Int J Community Med Public Health.* 2019;6(7): 3160-4

9. Royal College of Nursing. Breaking bad news: Supporting parents when they are told of their child's diagnosis. RCN guidance for nurses, midwives and health visitors. RCN; 2013

10. Baile WF, Buckman R, Lenzi R, Glober G, Beale EA, Kudelka AP. SPIKES—a six-step protocol for delivering bad news: application to the patient with cancer. Oncologist. 2000 Aug;5(4):302-11.

11. Narayanan V, Bista B, Koshy C. 'BREAKS'protocol for breaking bad news. Indian J Palliat Care . 2010;16(2):61-5

12. Bumb M, Keefe J, Miller L, Overcash J. Breaking bad news: An evidence-based review of communication models for oncology nurses. *Clin J Oncol Nurs.* 2017;21(5):573-80.

13. Mishelmovich N, Arber A, Odelius A. Breaking significant news: The experience of clinical nurse specialists in cancer and palliative care. *Eur J Oncol Nurs.* 2016;21:153-9.

14 .Hawken SJ. Strategies for dealing with the challenging patient. *N Z Fam Physician.*2005; 32(4): 266-269

15. Baile WF, Lenzi R, Parker PA, Buckman R, Cohen L. Oncologists' attitudes toward and practices in giving bad news: an exploratory study. *J Clin Oncol.* 2002 Apr 15;20(8):2189-96

16. Seresht M, Izadi A. The attitudes of health care providers toward breaking bad news in neonatal intensive care units and labor wards. Iran J Med Educ2013; 6 (4) :57-67. [Persian]

17. monagheb SE, mohammadi M. Knowledge and attitudes of clinical teachers, family physicians, and medical interns towards giving bad news, a study in Jahrom University of Medical Sciences. *Iran J Med Educ.* 2011; 11 (5)436-44. [Persian]

18. Baghdari N, Torkmannejad Sabzevari M, Karimi Moonaghi H, Rad M, Amiri M. The effect of educational approaches on knowledge and attitude of midwifery students in breaking bad news to patients. *J Med Edu Dev.* 2016; 9 (22):12-20. [Persian]

19.Monagheb SE, Mosalanejad N. Teaching how to break bad news: comparing role-play and group discussion on practice of medical interns in Jahrom Medical School. *Iran J Med Educ.* 2012; 11 (7) :789-797.

20. Fontes CM, Menezes DV, Borgato MH, Luiz MR. Communicating bad news: an integrative review of the nursing literature. *Rev Bras Enferm.* 2017 Oct;70(5):1089-95.

21. Rajavel MP, Padmavathi T. Effectiveness of educational intervention to enhance communication skills among interns. *Panacea J Med Sci.* 2016;6(1):20-5.

22. Amini K, Alihossaini Z, Ghahremani Z. Randomized clinical trial comparison of the effect of verbal education and education booklet on preoperative anxiety. *J Perianesth Nurs*, 2019 Apr 1;34(2):289-96.

Hoseini Kasnavieh M, Rezai M, Amanollahi A, Seyedein S. Comparison of in-person and non- attendance of training programs to improve the skills of transmitting bad news by emergency medical assistants. J Med Educ Dev. 2020; 13 (39) :49-55

[Downloaded from edujournal.zums.ac.ir on 2026-11-07]

[DOR: 20.1001.1.22519521.1399.13.39.8.9]

[DOI: 10.29252/edcj.13.39.52]