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The effect of guided group reflection on the ability and convenience of breaking bad news in pre-hospital emergency staff

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Abstract

Background Bad news refers to any information that create negative changes in a person's understanding or expectations of in present and future. Breaking Bad News (BBN) is a stressful task that may have disturbing effects on the professional performance and general health of the medical staff. Pre-hospital emergency staff often needs to deliver bad news to the patient or his family. This study was conducted to determine the effect of guided group reflection training on the ability and comfort of BBN in pre-hospital emergency staff.

Methods This quasi-experimental study was conducted on 95 staff of the pre-hospital emergency, in the test and the control groups. For the test group, a 4-hour training workshop on BBN was held, and then a group was formed in virtual space to discuss and exchange opinions about the scenarios of BBN and reflecting on it. Data collection tools were SPIKES Questionnaire and the Visual Analogue Mood Scale. The data were analyzed with $SPSS_{V.18}$.

Results The mean score of the ability to BBN after the intervention was 44.01 ± 6.21 in the test group and 31.40 ± 4.51 in the control group, and a significant difference was found using the independent t-test ($P = 0.0001$). Besides, the mean scores of the convenience of BBN in post-test was 5.52 ± 1.64 in the test group and 3.50 ± 1.28 in the control group using the independent t-test with a significant difference ($P = 0.0001$).

Conclusion According to the findings, training in guided group reflection improved the ability to BBN and its convenience in pre-hospital emergency staff. Therefore, it is suggested the use of this method in training for health care providers. Relating to BBN.

Keywords Bad news, Breaking bad news, Delivering Bad News, Communication skills, Ability, Comfort/convenience, Pre-hospital emergency

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Introduction

Bad news designates those types of news that cause negative changes in a person's understanding or expectations of his present and future [1]. Breaking Bad News (BBN) is a dynamic process that begins before the moment of transmission of bad news; it also covers the time during and after the moment of transmission [2]. Dissemination of bad news is an irritating and stressful task in the medical profession [3]. This is because the way of delivering bad news exerts an effect on the treatment, course of a person's illness, and the prognosis of the illness [4]. If it is done inappropriately, it may lead to stress, resentment, decreased trust, and non-compliance of treatment in the patient and family [5].

The BBN is one of the important and difficult tasks of the care team [6]. This situation is exhausting for the clients, as much as it is stressful for the medical care team [7]. BBN can have disturbing effects on the performance, burnout and general health of care providers [8]. Therefore, the ability of BBN to patients and their companions is an important skill for the medical staff [9]. In the past, it was believed that the physician is the only person who delivers bad news; yet, presently BBN is a process that needs the cooperation of other members of the health care team, including physician, nurses, and psychologist, friend, clergy and others [1].

Nurses are the largest group of service providers in the health care system. They are often the strongest source of information and spend the most time with patients [7]. However nurses encounter daily with bad news in their workplace [7]. Additionally, nurses working in emergency department frequently have to deliver bad news to patients and family members, and usually these situations are crucial due to the lack of enough time to prepare the patent and family [10]. Nonetheless, the results of limited research show that nurses have doubts about their ability to delivery bad news and a limited number of nurses have received academic training in this field [7]. There is also a lack of training on BBN for pre-hospital emergency staff and it is necessary to add announcing bad news to the nursing emergency curriculum [11]. In a pilot study, a short educational intervention had an effect on the comfort of BBN in pre-hospital providers [11].

Some protocols have been provided To better deliver bad news to clients and families [4] . The six-stage SPIKES framework is one of the most common, and more accepted practical method for BBN [12]. This protocol consist of Setting, Perception of condition/seriousness, Invitation from the patient to give information, Knowledge: giving medical facts, Explore emotions and sympathize, Strategy and summary [13]. It is necessary to innovative and active approaches to teaching communication skills such as BBM [13]. The guided group reflection is one of the learning methods requiring the active participation of all in the teaching process. Reflection in education is a process where learner describe their learning, how it changed, and how it might connect to future learning experiences [14]. Guided group reflection known to be effective in improving the level of awareness and skills in clinical situations [15]. Furthermore, guided group reflection can help the medical staff to spread the bad news from a spiritual, social, and psychological point of view [16]. Considering the lack of studies in the field of BBN in pre-hospital emergency and the importance of correctly BBN to the patient and family and reduce the stress of staff, this study was conducted to investigate the efficacy of the guided group reflection training on the ability and convenience of BBN in pre-hospital emergency staff.

Method

Study design

This was quasi-experimental study on test and control groups with pretest and posttest design.

Setting and subjects

The samples were selected from among the pre-hospital emergency staff of Yazd, Iran, using purposive sampling method based on the inclusion and exclusion criteria. Then, they were randomly assigned into two test and control groups. The sample size was calculated as 44 persons in each group based on z $(1\text{-}\beta)=0.95$, z $(1\text{-}\alpha/2)=1.96$, $P=0.05$ and considering a subject attrition rate of 10%. Inclusion criteria was have at least one year of work experience in pre-hospital emergency and exclusion criteria was individuals who passed the special course of BBN.

Procedure

In the study, the participants of the test group were divided into three subgroups of 17 subjects. During three days, the BBN training class for was held in three parts. The first part consisted of a 15-min BBN clip, which displayed the bad news with and without observing the principles of SPIKES protocol. The second part entailed teaching the communication skills needed to announce bad news. The third part included announcing the bad news scenario and group reflection on the desired scenario that was held by getting feedback from all participants on how to respond in such scenes. In addition, at the end of the session, the participants were asked to express their experiences of the scenes where it was necessary to announce the bad news; then, the opinions of the participants were heard and the answers were discussed. Then, after the end of in-person learning, a WhatsApp group was formed for the participants of the test group. In this group were explained the reflection process and guide to writing BBN stories based on your own experiences. Then, some participants relayed their

real experiences in BBN, and the research team designed it as a scenario. Each of the scenarios was discussed for a week. This process continued for a month. It should be noted that the subjects of the control group received training about BBN after completed the study.

Data collection

The data collection questionnaire consisted of three parts: the first part included demographic information, including gender, marital status, age, academic major, education level, and experience of announcing bad news. The second part was the 16-item SPIKES questionnaire with the goal of measuring the skill of BBN. This questionnaire consisted of psychological and environmental domain: initial coordination, strategy determination, planning, and professionalism). The questionnaire is scored using a 5-point Likert scale (never=0, rarely=1, sometimes=2, often=3, and always=4). To obtain the points related to each dimension, the total points related to each of its items were summed. The face and content validity of Persian version of questionnaire were confirmed by Farokhyar et al.'s (2013).Also, the reliability of the questionnaire was established by Cronbach's alpha of 0.724 and ICC=0.903 [17]. It should be pointed out that for item #5, due to the fact that the operational staff of emergency ward rarely faced cancer news, this phrase (cancer news breaking) was replaced with death news. The minimum score of the questionnaire was zero and the maximum score was 64; also, 32 was considered as the median. A higher score indicated a better performance in the field of conveying bad news (Supplementary Information 1) .The third part of data gathering tool was Visual Analogue Mood Scale in which the participants were asked to indicate their mood on a 10-point Likert scale (from 0=very sad to 10=very happy). The higher score indicated the more comfortable in announcing bad news. This scale has high validity and reliability [18] (Supplementary Information 2).

Ethical approval

In the present study, to comply with ethical considerations, permission obtained from Committee of Ethics in Human Research at Shahid Sadoughi University of Medical Sciences and health services in Yazd with code of ethics: IR.SSU.REC.1399.294. The written informed consent was obtained from all subjects.

Data analysis

The data were imported into SPSS v.18 software and then analyzed using descriptive statistical indices (mean, standard deviation SD, number, and percentage) and inferential statistics including Chi-square, t-test, and Fisher's exact test, independent samples t-test, and paired-samples t-test .

Results

According to the findings, in this study, 51 people participated in the test group and 44 people in the control group. The mean age was 36.09±10.26 of the test group and 37.52±7.74 of the control group. The mean work experience was 11.86±5.63 in the test group and 13.36±6.89 in the control group. The independent t-test showed there was no significant difference between the mean age and work experience of the test and control groups, respectively (P=0.724) and (P=0.246). Other demographic characteristics are presented in Table 1.

The findings showed that independent t-test revealed no significant difference the mean score of the ability to BBN in the pre-hospital emergency staff in the pre-test in the test and control groups. However, wherein, the difference was significant using independent t-test, the mean score of the ability to BBN in the post-test in the test and control groups, wherein, the difference was significant using independent t-test. Also, the mean score of the ability to BBN in the test group in the pre-test and post-test, showed a significant difference using the paired t-test; nevertheless, the mean score of the ability to BBN

Table 1 Distribution of demographic variables in test and control groups

Variable		Control group	test group	*P*-value*
		F(%)	F(%)	
Marital status	Single	2(3.90)	2(4.50)	0.880
	Married	49(96.10)	42 (95.50)	
Education	Associate degree	20(45.5)	25(48)	0.587
	BS	24(54.5)	25(48)	
	MSc	0	1(2)	
Academic major	Emergency Medical Technicians	31(70.50)	44(86.30)	0.054
	Nursing	12(27.30)	5 (9.8)	
	Nurse anesthetists	0	2(3.9)	
	Perioperative nurse	1(2.2)	0	
Experience of announcing bad news	Yes	33(75)	11(25)	0.277
	No	33(64.70)	18(35.30)	

*Chi-Square or Fisher's exact test

Table 2 Comparison of the scores of the ability to BBN in pre-hospital emergency staff before and after the study in the test and control groups

Time	Test group			Control group			Min-Max score of questionnaire	*P*-value*
	N	Mean	SD	N	Mean	SD		
Pretest	51	35.78	9.55	44	28.45	4.63	0-64	0.007
Post-test	51	44.01	6.21	44	31.40	4.51	0-64	0.0001
P-value**	0.0001			0.480				

*Independent samples t-test

**Paired-Samples T Test

Table 3 Comparison of mood scores after BBN in pre-hospital emergency staff before and after the study in the test and control groups

Time	Test group			Control group			Min-Max score of questionnaire	*P*-value*
	N	Mean	SD	N	Mean	SD		
Pretest	51	3.49	1.74	44	3.63	1.36	0-10	0.655
Post-test	51	5.52	1.64	44	3.50	1.28	0-10	0.0001
P-value**	0.0001			0.658				

*independent samples t-test

**Paired-Samples T Test

in the control group was in the pre-test and post-test indicating no significant difference using the paired t-test (Table 2).

The findings given in Table 3 showed that the mean mood score after BBN in pre-hospital emergency staff in the pre-test in the test and control groups suggesting no significant difference using independent t-test. However, the mean score of mood after BBN in the post-test in the test and control groups suggesting a significant difference using the t-test. In addition, the mean mood scores after of BBN in the test group in the pre-test and post-test, which showed a significant difference using the paired t-test; yet, the mean mood scores after BBN of the control group in the pre-test and post-test indicated no significant difference using paired t-test.

Discussion

On the finding, descriptive results showed no significant difference between the test and control groups in demographic information including age, work history, marital status, level of education, academic major, and experience of announcing bad news. Hence, the subjects of the study were same in terms of demographic characteristics. Based on the findings, at the beginning of the study o, the mean score of the ability to BBN in the pre-hospital emergency staff in the test and control groups was lower than the median. There was no significant difference between the two groups; thus, it is clear that the training and preparation of the pre-hospital staff regarding BBN is necessary. Consistent with the findings of the research, Abbaszadeh et al. (2014) showed that nurses and emergency medical staff play an important role in BBN to patient and their family, and therefore they should be trained in this field and communication skills to be able to present the bad news in an appropriate and effective way [19]. Rasmus et al. (2020) showed that 89% of emergency medical staff had not participated in any formal training about BBN, and only a few of them were familiar with the SPIKES protocol [20]. Moreover, Anderson et al. (2019),showed ambulance staffs want additional opportunities to learn about death announcement and, communication with bereaved relatives [21]. Narayanan et al. (2010) showed that the lack of adequate training for BBN is a handicap for most health care workers, and improvement of ability in dealing with challenging situations has positive outcome and is a professionally satisfying one [22]. Joyubari et al. (2012) wrote that nurses use indirect methods in BBN to patient and company, do not have specific guideline regarding BBN to client and their families, and every nurse behaves in their own style [23]. Gholami Baroughi et al. (2018) showed that nursing students have an average level of knowledge regarding how to BBN [9]. Ferreira da Silveira et al. (2017) suggested that it is necessary to present the issue of BBN in academic courses [24]. Therefore, based on the findings of this study and other studies, the ability of medical emergency staff and other healthcare workers about BBN is not sufficient and emphasize the necessity of using appropriate interventions to improve the ability to BBN in medical staff.

Based on other findings, the average score of the ability to BBN in pre-hospital emergency staff in the test group after the intervention was significantly higher than the median, but the average score of the ability to BBN in the control group after in the post test was below average. The difference between these two groups was statistically significant; so, it is clear that guided group reflection training has been able to increase the ability of

pre-hospital emergency staff relating to BBN; yet, there were no studies exactly similar to the current study to compare the results .However, other studies also suggest training to improve the ability to BBN. Consistent with our findings, Managheb et al.(2010) showed that training in the form of group discussion and role playing are effective in improving the ability of medical interns to BBN [25]. Baghdari et al. (2016) showed in a study on midwifery students that training with regard to SPIKES protocol can improve awareness in BBN [7]. Moreover, Park et al. (2010) state that high-fidelity simulation cases to learn of BBN for emergency physicians is a good use of educational time and an important procedure [26]. In addition, Servotte et al. (2019) showed that a short BBN simulation-based training can be added to standard clinical course of medical students and residents and it has the probable to significantly increase self-efficacy, the BBN process, and communication skills [10]. Thus, based on the present study and the studies above, it appears that training of BBN is accompanied by the improvement of the ability of healthcare staff.

Based the other findings of the study, the mean score of the comfort of BBN in both the test and control groups before the intervention was below the median and there was no significant difference between the two groups. Nonetheless, the mean score of the convenience of BBN was higher than the median in the test group after intervention, and the control group still had a score lower than the median; a significant difference was found between the test and control groups. Therefore, the findings of the study show that guided group reflection training has been able to increase the comfort of BBN in the pre-hospital emergency staff. Mostafavian et al. (2018) showed that the ability of BBN in physician is not enough and recommended to hold training courses during general medicine course to increase the confidence of patients and reduce the worry and discomfort of BBN [27]. Ponce et al. (2010) showed that a short educational intervention can affect the comfort of BBN IN prehospital providers [11]. Fukui et al. (2010) revealed that a in a 6-h workshop of communication skills training program can significantly increase the level of self-confidence in Japanese nurses [28]. Baghdari et al. (2016) showed that training in BBN using SPIKES strategy multimedia can improve attitude in BBN in midwifery students [7]. Consequently, based on the present findings and other studies, training on how to BBN can increase the comfort of healthcare workers. Yet, the pre-hospital emergency staff was more comfortable in BBN after guided group reflection training, the score obtained is still far from reaching the maximum. Finally, it is necessary to use other methods as well as more effective and long-term interventions to achieve maximum comfort.

One of the limitations of the present research was the use of the SPIKES questionnaire, which is designed for hospital settings, and considering that no other related questionnaire was available, the researchers used this questionnaire. The participants themselves via self-report method did the assessment of the ability to break bad news; this was another limitation of the present study.

Conclusion

BBN to patients and family is a very important issue; it is also important to pay attention to the mental and psychological conditions of the employees who are in charge of this important task; thus, it is suggested to use the group reflection method to increase the ability and comfort of the personnel. It is also suggested that teaching of BBN be included in the curriculum of all emergency medicine technician, nursing and others related major. The Guided group Reflection method can be used as an effective teaching method. Finally, it is recommended that managers of pre-hospital emergency, while measuring the ability and comfort of heath care providers in BBN, improve it by the use of appropriate strategies Such as guided group reflection training.

Abbreviation

BBN Breaking bad news

Supplementary Information

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Supplementary Material 1. The 16-item SPIKES questionnaire.

Supplementary Material 2. The Visual Mood Scale.

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Authors' contributions

MRZ & KHN & SM conceptualized and designed the study. MRZ & SMJM collected the data. KHN & SM & SMJM analyzed the data. All authors have met criteria for authorship and had a role in preparing the manuscript. Also all authors approved the final manuscript.

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Availability of data and materials

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Declarations

Ethics approval and consent to participate
This study was carried out in accordance with the Declaration of Helsinki. This study was approved by the Committee of Ethics in Human Research at Shahid Sadoughi University of Medical Sciences and health services in Yazd (IR.SSU.REC.1399.294).In addition, informed written consent forms were obtained from all participants.

Consent for publication
Not applicable.

Competing interests
The authors declare no competing interests.

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References

1. Karim Z, Imanipour M, Bahrani N. Bad news in critical care and emeregency units and nurses'participation in the process of breaking bad news in affiliated hospitals of tehran university of medical sciences. Nurs Midwifery J. 2015;13(5):377–85.
2. Jalali R, Jalali A, Jalilian M. Breaking bad news in medical services: a comprehensive systematic review. Heliyon. 2023;9(4):e14734.
3. Studer RK, Danuser B, Gomez P. Physicians' psychophysiological stress reaction in medical communication of bad news: a critical literature review. Int J Psychophysiol. 2017;120:14–22.
4. Labaf A, Jahanshir A, Amir Shahvaraninasab A. Difficulties in using Western guidelines for breaking bad news in the emergency department: the necessity of indigenizing guidelines for non-Western countries. IJMEHM. 2014;7(1):4–11.
5. Kasnavieh MH, Rezai M, Amanollahi A, Seyedian S. Comparison of in-person and non- attendance of training programs to improve the skills of transmitting bad news by emergency medical students %J. J Med Educ Dev. 2021;13(39):52–9.
6. Powell S. Breaking bad news to patients in the emergency department. Emerg Nurse. 2022;30(2):32–40.
7. Baghdari N, Torkmannejadsabzevari M, Karimimoonaghi 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 Educ Dev. 2016;9(22):12–20.
8. 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.
9. Gholami Baroughi S, Ravanipour M, Jahanpour F, Bayandari F. Nursing students and conveying bad news to patients. Iran J Nurs. 2018;31(114):17–27.
10. Servotte J-C, Bragard I, Szyld D, Van Ngoc P, Scholtes B, Van Cauwenberge I, Donneau A-F, Dardenne N, Goosse M, Pilote B. Efficacy of a short role-play training on breaking bad news in the emergency department. Western J Emerg Med. 2019;20(6):893.
11. Ponce A, Swor R, Quest TE, Macy M, Meurer W, Sasson C. Death notification training for prehospital providers: a pilot study. Prehospital Emerg care. 2010;14(4):537–42.
12. Powell S. Breaking bad news to patients in the emergency department. Emerg Nurse: J RCN Accid Emerg Nurs Association. 2022;30(2):32–40.
13. Villagran M, Goldsmith J, Wittenberg-Lyles E, Baldwin P. Creating comfort: a communication-based model for breaking bad news. Communication Educ. 2010;59(3):220–34.
14. O'Brien B, Graham MM. BSc nursing & midwifery students experiences of guided group reflection in fostering personal and professional development. Part 2. Nurse Educ Pract. 2020;48:102884.
15. Abedini Z, Begloo J, Raeisi M. Effectiveness of reflection in clinical education: nursing students' perspective. Iran J Nurs. 2011;24(71):74–82.
16. Atienza-Carrasco J, Linares-Abad M, Padilla-Ruiz M, Morales-Gil IM. Breaking bad news to antenatal patients with strategies to lessen the pain: a qualitative study. Reprod Health. 2018;15(1):1–11.
17. Farokhyar N, Shirazi M, Bahador H, Jahanshir A. Assessing the validity and reliability of spikes questionnaires regard in of medical residents awareness breaking bad news in tums 2012. Razi J Med Sci. 2014;21(122):29–36.
18. Nikbakht A, Neshat-Doost HT, Mehrabi H. Comparison of none-attendance interventions methods of standardized cognitive bias modification, cognitive bias modification based on self-generation and cognitive-behavior training on depressed students. Iran J Psychiatry Clin Psychol. 2018;24(3):270–83.
19. Abbaszadeh A, Ehsani SR, Kaji MA, Dopolani FN, Nejati A, Mohammadnejad E. Nurses' perspectives on breaking bad news to patients and their families: a qualitative content analysis. J Med Ethics. 2014;7:18.
20. Rasmus P, Kozłowska E, Robaczyńska K, Pękala K, Timler D, Lipert A. Evaluation of emergency medical services staff knowledge in breaking bad news to patients. J Int Med Res. 2020;48(6):0300060520918699.
21. Anderson N, Slark J, Gott M. How are ambulance personnel prepared and supported to withhold or terminate resuscitation and manage patient death in the field? A scoping review. Australasian J Paramed. 2019;16:1–11.
22. Narayanan V, Bista B, Koshy C. Breaks'protocol for breaking bad news. Indian J Palliat Care. 2010;16(2):61.
23. Joyubari LM, Ghana S, Kheyrabad SS, Sanagoo A. The nurse's experiences of breaking Bad News to the patients and their relatives. J Med Ethics. 2013;7(24):11–31.
24. Ferreira Da Silveira FJ, Botelho CC, Valadão CC. Breaking bad news: doctors' skills in communicating with patients. Sao Paulo Med J. 2017;135:323–31.
25. Managheb S E, Mosalanejad N. Teaching How To Break Bad News: Comparing Role-Play And Group Discussion On Practice Of Medical Interns In Jahrom Medical School. Iranian Journal of Medical Education. 2012;11(7):789–97.
26. Park I, Gupta A, Mandani K, Haubner L, Peckler B. Breaking bad news education for emergency medicine residents: a novel training module using simulation with the spikes protocol. J Emergencies Trauma Shock. 2010;3(4):385.
27. Mostafavian Z, Shaye ZA. Evaluation of physicians' skills in breaking bad news to cancer patients. J Fam Med Prim care. 2018;7(3):601.
28. Fukui S, Ogawa K, Fukui N. Communication skills training on how to break bad news for Japanese nurses in oncology: effects of training on nurses' confidence and perceived effectiveness. J Cancer Educ. 2010;25(1):116–9.

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