Original Article Open Access

Archives Of Breast Cancer

DOI: 10.19187/abc.20163241-49

Measuring Attitude and Practice of Physician toward Breaking Bad News to the Breast Cancer Patients: Development and Validation of a Questionnaire

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ARTICLE INFO

Received:
5 May 2016
Revised:
16 May 2016
Accepted:
27 May 2016

Keywords:
Physician,
bad news,
telling truth,
psychometric,
questionnaire development

ABSTRACT

Background: Breaking bad news to cancer patients is one of the important responsibilities in the oncology setting. The purpose of this study is develop and validate a new theoretically based tool for measurement of attitude and practice of physicians toward breaking bad news.

Methods: The psychometric properties of the scale were established by following the guidelines of Clark and Watson. In the first phase, a literature review was performed to create items; then items were assessed for content validity through individual interview (n = 12) and construct validity was assessed by using factor analysis. Reliability was evaluated by Cronbach's alpha. Research data was gathered from physicians working in breast cancer setting.

Results: A total of 12 expert reviews concluded that a large amount of items of attitude and practice questionnaires were important and essential (Content Validity Ratio > 0.73). The exploratory and confirmatory factor analyses for a sample of physicians (n = 200) indicated a 12-item of attitude scale with three factors: full disclosure, non-disclosure and individual disclosure. Cronbach's Alpha for the factors returned 0.746, 0.834 and 0.795, respectively. The exploratory and confirmatory factor analyses for a sample of physicians (n = 200) indicated a 20-item of practice scale with six factors: preparation, setting of the interaction, communicate well, use of the "cancer" word, patient's right to know and close the interview, and summarized. Cronbach's Alpha for the factors returned 0.765, 0.63, 0.65, 0.793, 0.759 and 0.7, respectively.

Conclusions: A resultant 12 items of attitude and 20 items of practice questionnaire were developed to assess how physicians are giving bad news to breast cancer patients. The reliability of the new tools needs to be evaluated for further studies. This new questionnaire will provide researchers and clinicians with a thorough and suitable instrument to measure belief and practice regarding disclosing the truth to breast cancer patients.

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Introduction

Being diagnosed with cancer is a highly distressing and in some cases devastating experience.[1, 2] The majority of cancer patients will at least experience elevated levels of emotional distress. A smaller group will develop significant long-term psychological problems in reaction to

this potentially traumatic event.[3-6]

Breast cancer (BC) is also the global number one type of malignancy among women.[7] In addition, BC is known to be the leading type of cancer among Iranian women; and it remains a major health problem.[8] Depression and/or anxiety can be observed within BC patients at any stage of illness.[9,10] Being informed of the diagnosis of breast cancer is emotionally challenging.[11]

In the oncological setting, patients commonly receive news of life-threatening diagnoses.[12] Giving bad news is 'any news that negatively impacts the patient's sense of her or his future. The quality of conveying bad news to patients seems to be directly related to patients percived stress and anxiety, their adjustment to the bad news, coping and satisfaction with treatment and health outcome.[13]

There is a comprehensive model proposed by the World Health Organization (WHO) in its behavioral science learning model on communicating bad news.[14] Within this structure, Donovan describes a non-disclosure, a full-disclosure, and an individualized disclosure model. According to Donovan, these three disclosure models are related to global professional attitudes regarding the doctor–patient relationship, management, decision-making style and overall doctor–patient communication.

The traditional 'non-disclosure model' assumes that knowledge of the diagnosis causes distress and anguish, the doctor-patient relationship is depicted as a paternalistic one, in which the doctor makes the best choices for the patient.[15] The full-disclosure model suggests giving full information to each patient and stresses the ethical right of each individual on knowing the truth. This model makes the patient responsible for decision making. There are several number of comprehensive studies claiming that breast cancer patients who are involved in decision-making strategies were significantly more hopeful, and had an overall better medical condition than patients who adopt the previous passive role.[16]

The individualized disclosure model recognizes that each patient should receive the amount of information suitable for themselves. Previous research has shown that when it comes to bad news, there is a difference between what patients want to know.[17, 18] Several factors cause these differences, such as primary tumor site, socio-demographic characteristics, and coping with life-threatening illness.[14]

In order to convey such bad news, various approaches have been suggested, including SPIKES, ABCDE, BREAKS and 3-step communication.[19] The most widely used guideline, the SPIKES protocol,[1] suggests a six-step protocol for bad news delivering, especially applicable to cancer patients.[2] It is used as a guide for this sensitive practice and for practicing communication skills in this context.[20,21]

The acronym SPIKES refers to six steps recommended for breaking bad news: (i) Setting up the interview, (ii) assessing the patient's Perception, (iii) obtaining the patient's Invitation, (iv) giving Knowledge and information to the patient, (v) addressing the patient's Emotions with empathic responses and (vi) Strategy and Summary. Another guideline is ABCDE which includes five stages for breaking bad news: A-Advance preparation, B-Build a therapeutic environment/relationship, C-Communicate well, D-Deal with patient and family reactions, E-Encourage and validate emotions.[22]

Physician competence in conveying bad news influences patient adjustment to illness, anxiety, depression, hope and decision making.[23] Poor delivery of bad news stems from being too "frank", discussing bad news at an inappropriate place and time, and conveying a sense of no hope.[24] In a survey of 100 women with breast cancer, adjustment to illness 6 months after diagnosis was correlated with how they felt the bad news had been given.[25] Among models of communication of bad news, women with breast cancer prefer the patient-centered model. This model is characterized by dosing and timing of the communication of information according to patients' needs and encouraging them to share their feelings and concerns.[26] They were more satisfied with patient-centered communication and experienced the least increase in negative emotions.[27, 28] So, attitude and practice of the clinician especially in oncology settings for telling the truth to the patient is important. Harvey *et al.* had shown that most radiologists in breast imaging have little teaching for the giving breaking bad news.[29]

Understanding barriers for communicating bad news and general communication, are initial steps in learning this important task. Therefore, before any action, it is necessary to know what attitudes and practices exist toward this situation. So there needs to be useful tools for their proper measurement. Several questionnaire-based studies have examined physicians' attitudes toward bad news in different cultural and professional settings.[29-31] De valck developed the Attitudes towards Breaking Bad News Questionnaire to measure attitudes regarding disclosure of bad news.[14] The questionnaire has a low number of items and increasing them will surely increase its reliability. Although several protocols exist regarding breaking bad news, there have not been many attempts to adopt current guidelines into useful tools for measurement of practice. Consequently, the purpose of this study was to develop and examine the psychometric properties of the attitude and practice of physician toward breaking bad news questionnaire.

Methods

Following the guidelines of scale development by Clark and Watson, the attitude and practice of

physician toward breaking bad news questionnaire was developed and validated with the following five-step procedure: (1) the conceptualization of main construct, (2) review of literature, (3) creation of the initial item pool, (4) initial data collection (testing the item pool), and (5) psychometric evaluation.[32]

Clark and Watson began by conceptualizing the target construct.[32] The development of the attitudes regarding disclosure of bad news questionnaire was based on a World Health Organization (WHO) guideline in its behavioral science learning model on communicating bad news.[14] Within this framework, Donovan identify a non-disclosure, a full-disclosure, and an individualized disclosure model. The practice for the telling truth questionnaire was based on SPIKES model of breaking bad news and five steps of ABCDE.[33, 34] An initial literature review was conducted in order to identify previous research that had been conducted on physicians' attitude and practice for breaking bad news.[17, 18, 35-37] These scales were content analyzed to identify factors that had been previously included in measures of attitudes and practice for breaking bad news. The initial pool of 11 items for attitude section and 16 items for practice section was then created by a research team with a breast cancer surgeon, a community medicine specialist and a psychologist.

The questionnaire is composed of three main parts: the first part includes demographic information e.g. physicians' age, gender, practice environment and the estimated number of breast cancer patients that were provided with bad news in clinical settings. The second part is about physicians' attitudes towards disclosure of bad news. This scale comprises 11 items on which participants indicated their disagreement or agreement with item statements on a Likert type rating scale ranging from 1 (disagree strongly) to 5 (agree strongly). The final part is physician's practice toward breaking bad news. This scale comprises 16 items, each with a 5-point rating scale ranging from 1, never, to 5, always.

Assessment of the psychometric properties

The assessment of the validity of scale was performed by content validity and construct validity.

Content Validity: Content validity was evaluated through qualitative and quantitative methods. Qualitative review criteria given by McKenzie and Quantitative Review Content Validity Ratio Method by Lawshe were used.[38,39]

The panel of experts was the primary and fundamental step in establishing the content validity. In this step, 12 experts were consulted of whom 1 was a hematologist-oncologist, 4 were surgeons, 1 was a radiologist, 2 were medical and radio-therapeutic oncologists, 2 were pathologists, 1 was an oncology nurse, and 1 specialist in palliative medicine. The experts were academics/professionals with relevant experiences between 2 and 25 years (Mean±SD = 8.3±16.1) in research or work on breast cancer. They had on average informed over 10 patients of breast cancer in the last three months. The experts were invited via face to face contact, a covering letter was provided and the purpose of the study was explained to all the participants. Their consent for participation in the validation phase along with their demographics and experience details were obtained.

After taking consent from the experts, they were provided with a copy of the questionnaire and an inventory of questions to be answered by the experts. The experts were requested to provide their feedback on the overall questionnaire including directions, content area, and items of the questionnaire, need for revision of items, deletion of items and any additional suggestions. They assessed the necessity of the items using a three-point rating scale: (a) not necessary, (b) useful, but not essential, and (c) essential. The reviews given by all the expert members were collected by hand and appropriate changes were made after a thorough among discussion authors. The changes were again discussed with the experts, and consensus was achieved.

Construct validity: Construct validity refers to the degree to which the items on an instrument relate to the relevant theoretical construct.[40] Factor analysis is a statistical method commonly used during instrument development to cluster items into common factors and summarize the items into a small number of factors.[41]

To be included in the current study, Iranian physicians had to be board certified in surgery, radiotherapy, radiology, medical and radio-therapeutic oncology and nursing (faculty member, clinical fellows, specialists, residents) in Tehran medical centers that most of the breast cancer patients were referred. They were included in the study from December 2015 until March 2016. The samples were selected using a convenient sampling method. All the selected subjects consented to participate in the study. The recommended sample size of 5–7 physicians per item was found when conducting factor analysis as long as there were at least 200 physicians in the sample.[42] Physicians filled in the questionnaires anonymously to ensure that investigators were not aware of their name when the data were analyzed.

Reliability: Once the validity procedures were completed, the final version of the questionnaire was examined to assess its reliability. Estimators of reliability which were used in this study were internal consistency and Cronbach's alpha.

Ethical approval

The study was approved by the Research Ethical Committee of Tehran University of Medical

Sciences. All participants provided informed consent, and all rights of the participants were protected.

Statistical Methods

After receiving each expert's ratings, the content validity ratio (CVR) was calculated by applying the formula developed by Lawshe and then, construct validity was assessed.[39] Exploratory factor (EFA) was conducted within each domain with maximum likelihood extraction and oblimin rotation to accommodate possible correlation between factors. The most parsimonious factor solution was selected according to the following criteria: a good conceptual fit, high percentage of variance explained, high factor loading scores with minimal cross loading and stability of factors across different solutions. Items were considered to load on a factor if the factor loading was ≥ 0.30.[43] Confirmatory Factor Analyses (CFA) using maximum likelihood estimation was performed to evaluate model fit and confirm the structure in the data. We evaluated the fit of these models using various fit indices including the goodness-of-fit index (GFI), the adjusted goodness-of-fit index (AGFI), the comparative fit index (CFI), and the root mean square error of approximation (RMSEA). Specifically, these indexes have been considered as indicators of good fit when GFI, AGFI and the CFI values are greater than or equal to 0.90. RMSEA, values of 0.08 or less reflected adequate fit, and values of 0.06 or less represented excellent fit.[44] Data management and statistical analysis were performed using SPSS version 21.0 (SPSS Inc., Chicago, Illinois) and Amos™ version 18.0.

Results

There were 80 males (40.9%) and 120 females (59.1%) physicians, with a mean age of 37.87 years (range 21–60). Twenty-three percent (n=46) of the physicians were faculty member, 25% (n=50) residents, 10% (n=20) clinical fellows and 42% (n=84) were clinicians. Twenty-three percent (n=45) of the physicians were surgeons, 16% (n=31) hemato-oncologists, 15% (n=30) radiologists, 19% (n=38) radiation oncologists, 20% (n=42) nurses and 7 % (n=14) were midwives. The average work experience in oncology setting was 3.88±6.09 years. overall, fifty-nine percent (n=117) had informed less than 5 patients of breast cancer, 19% (n=36) between 5-10 and 21% (n=47) over 10 patients, in the last three months

Content Validity

According to the Lawshe table, an acceptable CVR value for 12 experts is 0.56 in this study [39], No item had a CVR less than 0.73. The mean CVR for the Attitude of Physician about Breaking Bad News scale was 0.9, indicating a satisfactory content validity (see Table 1) and the mean CVR for the Practice of Physician about Breaking Bad News scale was 0.83 indicating a good content validatity (see Table 2).

Five experts argued that the important challenge in communicating about telling truth to breast cancer patients was family's requests about withholding information from patients, and patients having their diagnosis withheld from them by concerned family members. Therefore, we added two questions and changed two questions to cover this dilemma. The P9 "At first, I inform the patient about the diagnosis, then share with the family, in the event of patient's will and desire" and P14 "I disclose bad news in presence of patient's family for their support" were added.

Four experts argued that the use of "cancer" word avoidance applied to all individuals involved in the disclosure of cancer as well as the physical environment and culminated in the concealment of cancer. The use of the word "cancer" as well as related terminology was avoided during almost all communication, even when patients were informed of their diagnosis. Physicians tended not to use the language indicative of cancer in their daily communication with patients or family members. Therefore, we added one question in attitude: A12" Saying the word "cancer" leads to panic in patients" and P12: "I informed patients about diagnosis and treatment without use of word "cancer" and P13 "I avoid using the word "cancer" as a diagnosis when telling truth to patients". The revised Attitude and Practice of Physicians toward Breaking Bad News Questionnaire comprises 12 items for the attitude scale and 20 items for practice scale.

Construct validity of the scale

Attitude of Physician about Breaking Bad News scale: EFA using the Principal Axis Factoring extraction method with Promax (oblique) rotation on the twelve items of the scale was performed in sample (n = 200) to examine its factorial structure and construct validity. The appropriateness for conducting the EFA was confirmed by the Kaiser–Meyer–Olkin measure of sampling adequacy (KMO = .787) and Bartlett's test of sphericity ($\chi 2$ = 571/833, p < .0001) results. As expected, the analyses resulted in a 3 factor solution with an eigenvalue over 1 and factor loadings of 0.30 or above, explaining 54.25% of the variance.

After performing factor analysis, the subscales were renamed, as shown in Table 1. The final version of the questionnaire thus consisted of 12 items divided into the following subscales: Full-disclosure (5 items: A11, A10, A7, A3, A1), Non-disclosure (5 items: A8, A9, A5, A12, A4), and Individualized disclosure (2 items: A6, A2). All of the 12 item subscales proved to be internally consistent (Full-

disclosure α = 0.746, Non-disclosure α = 0.834, and Individualized disclosure α = 0.795). Table 1 presents the twelve-selected items and their factor loadings. Results confirmed the intended 3-factor structure of the attitude questionnaire. The 12-item scale with a correlated 3-factor structure resulted in an acceptable model fit (RMSEA = 0.01, CFI = 0.729, AGFI = 0.76 and CFI= 0.834). There was a reasonable overall fit between the model and the observed data.

Table 1. Factor loadings of the items of the Attitude about Breaking Bad News (n = 200)

Items	Number of items	Non-disclosure	Full-disclosure	Individualized disclosure	CVR
Informing patients only makes them worry and feel anxious.	a8	0.806			1
News of breast cancer diagnosis takes away the patient's hope.	a9	0.793			0.86
Disclosure is damaging to the Patients' Quality of Life.	a5	0.787			1
Mentioning the word "cancer" leads to panic in patients.	a12	0.737			1
If the family asks for information to be withheld from patients, the patient should not be told about the diagnosis of cancer.	a4	0.720			0.73
Disclosure of the diagnosis of breast cancer to patients is necessary.	a11		0.751		1
The decision for selecting the type of treatment is made easier when informed them.	a10		0.701		0.86
Confusion and ambiguity for the patient and family are avoided by informing them.	a7		0.640		0.73
Disclosure of bad news ,enables patients to further cooperate during treatment.	a3		0.592		1
Most of patients want to know the truth about their illness.	a1		0.525		1
Disclosure of bad news should be done according to psycho-emotional status of individual patients.	a6			-0.767	1
If the patient doesn't like to know what the definitive diagnosis is, their request should be respected.	a2			0.631	0.73
Eigenvalue		3.367	2.113	1.03	
Amount of variance explained by the factor (%)		28.062	17.612	8.58	
Total amount of variance explained by the factor (%)		28.062	45.674	54.254	

Physicians Practice about Breaking Bad News scale: An EFA was carried out to explore the factor structure of the data. The analyses resulted in a 6 factor solution with an eigenvalue over 1 and factor loadings of 0.30 or above, explaining 60.85% of the variance.

After performing factor analysis, the subscales were renamed. As can be seen in Table 2, the final version of the questionnaire consisted of 20 items divided into the following subscales: Preparation (4 items: P15, P10, P11, P4), Setting of the interaction (3 items: P1, P2, P5), Communicate well (4 items: P7, P8, P3, P14), Use the "cancer" word (2 items: P13, P12), Patient's right to know (2 items: P9, P6) and Close the interview and summarize (5 items: P18, P19, P17, P20, P16). All of 20 items proved to be internally consistent (Preparation: α = 0.765, Setting of the interaction: α = 0.63, Communicate well: α = 0.65, Use the "cancer" word: α = 0.793, Patient's right to know: α = 0.759 and close the interview and summarize: α = 0.7). Table 2 presents the twelve-selected items and their factor loadings. Results of CFA confirmed the intended 6-factor structure of the practice questionnaire. The 20-item scale with a correlated 3-factor structure resulted in an acceptable model fit (RMSEA = 0.05, CFI = 0.859, AGFI = 0.813 and CFI= 0.744). There was an acceptable overall fit between the model and the observed data.

Discussion

The object of this study was to develop a new scale of attitude and practice of breaking bad news and validate it. Based on Donovan's disclosure model and SPIKES protocol and ABCDE the attitude and practice of breaking bad news was developed.[14] To achieve this goal, two steps were taken. Firstly, a psychometric scale containing 12 items for attitude scale and 20 items for practice scale was developed by experts in the field. Then content validity was achieved through inclusion of stakeholders, such as physicians and residents. Including items related to use of the word "cancer" for the process of giving bad news were suggested. Studies have shown that using the word "cancer" can result in cognitive disruption for the patients and emotional distress.[29,37,45,46] So one of the challenges of clinicians in telling truth to cancer patients is whether to use or not use the word "cancer". Therefore, it's necessary to measure attitude and clinical practice in this situation. Another comment was attention to the involvement of family members in this process. Studies have shown that families' request for non-disclosure was the first and "biggest" barrier to truthful communication, which challenged their ability to talk honestly to patients at the outset.[47] Hence, cultural influences sometimes override professional consideration. Sometimes the information is shared with the relatives without patient's permission.[48-50] Considering this as neglecting patients' rights, we added items to the questionnaire. .

Secondly, the newly developed tool was used for psychometric examination. The result of EFA

Table 2. Factor loadings of the items of the physicians' practice about breaking bad news (n = 200)

Items	Number of items	Preparation	Close the interview and summarize	Communicate well	Use of the "cancer" word	Setting of the interaction	Patient's right to know	CVR
I offer support and empathy to the patient by body language and eye contact.	P15	0.815						0.86
I prepare patient for bad news by setting up an introduction.	P10	0.744						1
I inform patients about diagnosis, treatment and possible side effects in separate steps.	P11	0.729						0.78
I wear medical gowns when breaking bad news.	P4	0.718						0.73
After I introduce methods of treatment of breast cancer, I leave patients free to choose from them.	P18		0.795					0.86
I reassure the patient that I will do my utmost best for their health.	P19		0.717					1
After breaking bad news, I schedule another meeting with the patient.	P17		0.671					0.73
I introduce patients to psychosocial support team after disclosure of breast cancer.	P20		0.626					0.73
I remind her that everything is in the hands of god.	P16		0.403					0.86
If patients are silent or crying after hearing the truth, I allow them to express their emotions.	P7			-0.619				0.73
I avoid talking on the phone when breaking bad news.	P8			-0.615				0.86
I use medical jargon to hide the truth about the disease.	P3			0.609				0.73
I disclose bad news in the presence of patient's family to use their support.	P14			.539				1
I avoid using the word "cancer" as a diagnosis to patients.	P13				0.779			1
I inform patients about diagnosis and treatment plans, without using the word "cancer".	P12				0.775			1
For giving bad news, I prepare a quiet, private place.	P1					0.809		1
I choose a proper time to break the bad news to spend more time with the patient.	P2					0.785		0.86
I sit down next to the patient when telling truth.	P5					0.574		0.73
Firstly, I inform patient about diagnosis then, share with family, if the patient is willing.	P9						0.801	1
I talk to patients directly and without reservation about disease.	P6						0.673	1
Eigenvalue		4.158	2.397	1.783	1.38	1.258	1.193	
Amount of variance explained by the factor (%)		20.789	11.985	8.914	26.908	6.289	5.966	
Total amount of variance explained by the factor (%)		20.789	32.774	41.688	48.596	54.885	60.851	

demonstrated a three-factor solution for attitude scale using the twelve items and was later confirmed by the CFA results that provided fit and the proposed three-factor solution as model optimally fit the data. According to Donovan's disclosure model, three distinguished models (non-disclosure, full-disclosure, and individual disclosure) are used regarding doctor-patient communication.[14] Within this field, different prototypes of disclosure style are according to the amount of patient autonomy and physician authority.[51] The Cronbach alpha coefficient shown there has good internal consistency between items of subscale.

The result of EFA demonstrated six-factor solution for practice scale using the twenty items and was later confirmed by the CFA result that provided fit and confirmed six-factor solution. Based on SPIKES and ABCDE the scale of physician practice for giving bad news, the first component is *preparation.* This factor shows the physician's preparedness for communication with the patient. Studies have shown that some physicians indicated stress when telling truth to patients.[52, 53] Therefore, preparation should be taken into consideration in order to decrease stress. Physicians are recommended to mentally prepare for the interaction with the patient, review what information needs to be communicated, rehearse key steps and phrases in the interaction and plan how emotional support will be provided. These are critical to be considered before giving bad news.[54]

The second component is *setting of the interaction.* All of the protocols for giving bad news pay attention to appropriate environment. An important factor in this section is arranging for privacy, managing time constraints and interruptions, sitting down and making a connection with the patient and ensuring patient and family that appropriate social support are present.[49,54]

The third component is *communicate well.* One of

the stages of ABCDE protocol for effective delivery of bad news is "communicate well".[34] Communication is an essential part in the management of cancer patients. The impact of this communication affects the patient's emotional adjustments, treatment compliance and overall health outcome.[55] Studies have shown that higher patient–physician relationship and physician attentiveness and empathy were associated with greater patient satisfaction, increased self-efficacy, and reduced emotional distress.[56] Effective communication between clinician and patient leads to information sharing, emotional responses, management of uncertainty, and decision making.[57]

The forth component is *use of the word "cancer".* As mentioned earlier, the word "cancer" is one of the communication challenges in cancer patients and physicians tend not to use the language indicative of cancer in their daily communication with patients or family members.[37]

The fifth component is *patient's right to know.* While most patients ask for full information about their diagnosis, it's not the case in others patients.[33] It is important to ascertain whether the patient wants to have information about their diagnosis and attention to desire for involving the family in this process.

The last component is *close the interview and summarize.* The last section of interview with patients delineates the next steps for them and the family, including additional tests or interventions.[54] Patients who have a plan for the life are less likely to feel stress and uncertainty.[33] It's so much better if physicians recommend a schedule with goal and landmark and provide psychosocial support for patients. All components are important in practice of clinician for delivering bad news to cancer patients.

This questionnaire is at an early stage of development, requiring further psychometric testing. For example, test-retest reliability and criterion validity change will enhance confidence in the measure's psychometric properties. The current study demonstrated that the physician's attitude and practice toward breaking bad news scale is a reliable and valid tool for the measurement of attitude and practice of clinicians, by distinguishing between three models of disclosure and attempted to design a practical scale based on standard protocols for breaking bad news. The newly developed Attitude and practice of Physician toward Breaking Bad News is an easy-to-utilize tool available to physicians especially in breast cancer.

Acknowledgments

The author would like to acknowledge the assistance and cooperation of Dr Seyed Hasan Emami Razavi, Dr Abbas Rabani, Dr Nahid Nafisi, Dr Azadeh Jolai, Dr Adele Yazdankhah, Dr Farhad Shahi, Dr Sanambar Sadighi, Dr Zahra Ahmadinejad, Dr Fereshteh Ensani, Dr Asieh Olfatbakhsh, Dr Toktam Beheshtian and Dr Mansour Jamali Zavarehei for the content validate of questionnaire and cooperation all of physicians for fill out questionnaires

Conflict of Interest

The study was supported by Tehran University of Medical Sciences (Virtual School and Faculty of Medicine). The authors declare that there is no conflict of interests.

References

1. Jim HS, Jacobsen PB. Posttraumatic stress and posttraumatic growth in cancer survivorship: a review. Cancer J 2008; 14(6): 414-9.
2. Koutrouli N, Anagnostopoulos F, Potamianos G. Posttraumatic stress disorder and posttraumatic growth in breast cancer patients: a systematic review. Women Health 2012; 52(5): 503-16.
3. Jarrett N, Scott I, Addington-Hall J, Amir Z, Brearley S, Hodges L, *et al.* Informing future research priorities into the psychological and social problems faced by cancer survivors: a rapid review and synthesis of the literature. Eur J Oncol Nurs 2013; 17(5): 510-20.
4. Mitchell AJ, Chan M, Bhatti H, Halton M, Grassi L, Johansen C, *et al.* Prevalence of depression, anxiety, and adjustment disorder in oncological, haematological, and palliative-care settings: a meta-analysis of 94 interview-based studies. lancet Oncol 2011; 12(2): 160-74.
5. Stein KD,Syrjala KL, Andrykowski MA. Physical and psychological long-term and late effects of cancer. Cancer 2008; 112(S11): 2577-92.
6. Kangas M, Henry JL, Bryant RA. Predictors of posttraumatic stress disorder following cancer. Health Psychol 2005; 24(6): 579-85.
7. BogaartsMP, Den Oudsten BL, Roukema JA, Van Riel JM, Beerepoot LV, De Vries J. Development of the Psychosocial Distress Questionnaire-Breast Cancer (PDQ-BC): a breast cancer-specific screening instrument for psychosocial problems. Support Care Cancer 2011; 19(10): 1485-93.
8. Jazayeri SB, Saadat S, Ramezani R, Kaviani A. Incidence of primary breast cancer in Iran: Ten-year national cancer registry data report. Cancer Epidemiol. 2015; 39(4): 519-27.
9. Baumeister H, Kriston L, Bengel J, Härter M. High agreement of self-report and physician-diagnosed somatic conditions yields limited bias in examining mental–physical comorbidity. J Clin Epidemiol 2010; 63(5): 558-65.
10. Härter M, Reuter K, Aschenbrenner A, Schretzmann B, Marschner N, Hasenburg A, *et al.* Psychiatric disorders and associated factors in cancer: results of an interview study with patients in inpatient, rehabilitation and outpatient treatment. Eur J Cancer 2001; 37(11): 1385-93.

11. Azu MC, Jean S, Piotrowski J-M, O'Hea B. Effective methods for disclosing breast cancer diagnosis. Am J Surg 2007; 194(4): 488-90.
12. Fallowfield L, Jenkins V. Communicating sad, bad, and difficult news in medicine. Lancet 2004; 363(9405): 312-9.
13. Fallowfield L, Jenkins V. Effective communication skills are the key to good cancer care. Eur J Cancer 1999; 35(11): 1592-7.
14. De Valck C, Bensing J, Bruynooghe R. Medical students' attitudes towards breaking bad news: An empirical test of the World Health Organization model. Psychooncology 2001; 10(5): 398-409.
15. Murgic L, Hébert PC, Sovic S, Pavlekovic G. Paternalism and autonomy: views of patients and providers in a transitional (post-communist) country. BMC Med Ethics 2015; 16(1): 65.
16. BookerMJ, Simmonds RL, Purdy S. Patients who call emergency ambulances for primary care problems: a qualitative study of the decision-making process. Emerg Med J 2013; 31(6): 448-52.
17. Khalil RB. Attitudes, beliefs and perceptions regarding truth disclosure of cancer-related information in the Middle East: A review. Palliat Support Care 2013; 11(1): 69-78.
18. Fumis R, DeCamargo B, Del Giglio A. Physician, patient and family attitudes regarding information on prognosis: a Brazilian survey. Ann Oncol 2012; 23(1): 205-11.
19. Uprety D, Kasireddy V. Breaking Bad News in Cancer Patients. SM J Community Med 2015; 1(1): 1005.
20. Deshields T, Tibbs T, Fan MY, Taylor M. Differences in patterns of depression after treatment for breast cancer. Psychooncology 2006; 15(5): 398-406.
21. Burgess C, Cornelius V, Love S, Graham J, Richards M, Ramirez A. Depression and anxiety in women with early breast cancer: five year observational cohort study. BMJ 2005; 330(7493): 702.
22. Fields SA, Johnson WM. Physician-patient communication: breaking bad news. W V Med J 2012; 108(2): 32-5.
23. Back AL. Communicating bad news. West J Med 2002; 176(3): 177-80.
24. Norton SA, Talerico KA. Facilitating end-of-life decision-making: strategies for communicating and assessing. J Gerontol Nurs 2000; 26(9): 6-13.
25. Roberts CS, Cox CE, Reintgen DS, Baile WF, Gibertini M. Influence of physician communication on newly diagnosed breast patients' psychologic adjustment and decision-making. Cancer 1994; 74(S1): 336-41.
26. Ford S, Fallowfield L, Lewis S. Doctor-patient interactions in oncology. Soc Sci Med 1996; 42(11): 1511-9. .
27. Mast MS, Kindlimann A, Langewitz W. Recipients' perspective on breaking bad news: how you put it really makes a difference. Patient Educ Couns 2005; 58(3): 244-51.
28. Lobb EA, Butow PN, Kenny DT, Tattersall MH. Communicating prognosis in early breast cancer: do women understand the language used? Med J Aust 1999; 171(6): 290-4.
29. Harvey JA, Cohen MA, Brenin DR, Nicholson BT, Adams RB. Breaking bad news: a primer for radiologists in breast imaging. J Am Coll Radiol 2007; 4(11): 800-8.
30. Grassi L, Giraldi T, Messina E, Magnani K, Valle E, Cartei G. Physicians' attitudes to and problems with truth-telling to cancer patients. Support Care Cancer 2000; 8(1): 40-5.
31. Spiegel W, Zidek T, Maier M, Vutuc C, Isak K, Karlic H, *et al.* Breaking bad news to cancer patients: survey and analysis. Psychooncology 2009; 18(2): 179-86.
32. Clark LA, Watson D. Constructing validity: Basic issues in objective scale development. Psychol Assess 1995; 7(3): 309-19.
33. 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; 5(4): 302-11.
34. Rabow MW, Mcphee SJ. Beyond breaking bad news: how to help patients who suffer. West J Med 1999; 171(4): 260-3.
35. Shaw J, Brown R, Heinrich P, Dunn S. Doctors' experience of stress during simulated bad news consultations. Patient Educ Couns 2013; 93(2): 203-8.
36. Aljubran AH. The attitude towards disclosure of bad news to cancer patients in Saudi Arabia. Ann Saudi Med 2010; 30(2): 141-4.
37. Zamanzadeh V, Rahmani A, Valizadeh L, Ferguson C, Hassankhani H, Nikanfar AR, *et al.* The taboo of cancer: the experiences of cancer disclosure by Iranian patients, their family members and physicians. Psychooncology 2013; 22(2): 396-402.
38. MacKenzie SB, Podsakoff PM, Podsakoff NP. Construct measurement and validation procedures in MIS and behavioral research: Integrating new and existing techniques. MIS Q 2011; 35(2): 293-334.
39. Lawshe CH. A quantitative approach to content validity. Pers Psychol 1975; 28(4): 563-75.
40. DeVon HA, Block ME, Moyle-Wright P, Ernst DM, Hayden SJ, Lazzara DJ, *et al.* A psychometric toolbox for testing validity andreliability. J Nurs Scholarsh 2007; 39(2): 155-64.
41. Norris M, Lecavalier L. Evaluating the use of exploratory factor analysis in developmental disability psychological research. J Autism Dev Disord 2010; 40(1): 8-20.

42. Floyd FJ, Widaman KF. Factor analysis in the development and refinement of clinical assessment instruments. Psychol Assess 1995; 7(3): 286-99.
43. Izquierdo I, Olea J, Abad FJ. Exploratory factor analysis in validation studies: uses and recommendations. Psicothema 2014; 26(3): 395-400.
44. Bentler PM, Bonett DG. Significance tests and goodness of fit in the analysis of covariance structures. Psychol Bull 1980; 88(3): 588-606.
45. Hermelink K, Voigt V, Kaste J, Neufeld F, Wuerstlein R, Bühner M, *et al.* Elucidating Pretreatment Cognitive Impairment in Breast Cancer Patients: The Impact of Cancer-Related Post-Traumatic Stress. J Natl Cancer Inst 2015; 107(7): djv099.
46. Dean M, Street RL. A 3-stage model of patient-centered communication for addressing cancer patients' emotional distress. Patient Educ Couns 2014; 94(2): 143-8.
47. Chittem M, Butow P. Responding to family requests for nondisclosure: The impact of oncologists' cultural background. J Cancer Res Ther 2015; 11(1): 174-80.
48. Al-Mohaimeed AA, Sharaf FK. Breaking bad news issues: a survey among physicians. Oman Med J 2013; 28(1): 20-5.
49. Rollins LK, Hauck FR. Delivering bad news in the context of culture: a patient-centered approach. J Clin Outcomes Manag 2015; 22(1): 21-6.
50. Tang ST, Liu T-W, Lai M-S, Liu L-N, Chen C-H, Koong S-L. Congruence of knowledge, experiences, and preferences for disclosure of diagnosis and prognosis between terminally-ill cancer patients and their family caregivers in Taiwan. Cancer Invest 2006; 24(4): 360-6.
51. Emanuel EJ, Emanuel LL. Four models of the physician-patient relationship. JAMA 1992; 267(16): 2221-6.
52. Ptacek J, Ptacek JJ, Ellison NM. "I'm Sorry To Tell You..." Physicians' Reports of Breaking Bad News. J Behav Med 2001; 24(2): 205-17.
53. Shaw J, Brown R, Dunn S. The impact of delivery style on doctors' experience of stress during simulated bad news consultations. Patient Educ Couns 2015; 98(10): 1255-9.
54. Ahmady AE, Sabounchi SS, Mirmohammad sadeghi H, Rezaei A. A Suitable model for breaking bad news: review of recommendations. J Med Res 2014; 2014: 1-15.
55. Hasan I, Rashid T. Clinical communication, cancer patients & considerations to minimize the challenges. J Cancer Ther 2016; 7(02): 107-113.
56. Zachariae R, Pedersen CG, Jensen AB, Ehrnrooth E, Rossen PB, von der Maase H. Association of perceived physician communication style with patient satisfaction, distress, cancer-related self-efficacy, and perceived control over the disease. Br J cancer 2003; 88(5): 658-65.
57. Maguire P, Pitceathly C. Key communication skills and how to acquire them. BMJ 2002; 325(7366): 697-700.