Medical environment: bad news' impact on patients and doctors – towards an effective model of communication

Ambiente médico: o impacto da má notícia em pacientes e médicos – em direção a um modelo de comunicação mais efetivo

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RESUMO: As más notícias fazem parte da rotina dos médicos, no entanto, seu impacto em ambos os médicos e paciente, não é bem conhecido. Com esse conhecimento, os médicos seriam capazes de transmitir estas notícias de forma mais eficaz. O objetivo deste estudo é revisar o impacto fisiológico e psicológico das más notícias em ambos, médico e paciente, e estratégias para melhorar as habilidades de comunicação e minimizar estes efeitos. Ao transmitir uma má notícia, médicos podem ter um aumento na frequência cardíaca, pressão arterial e débito cardíaco de forma tão expressiva que pode ser um fator de risco para hipertensão. Alterações nos níveis de cortisol e as respostas imunes também estão relacionadas a estas situações. Médicos relataram que dar más notícias envolve um risco de perder o controle de diferentes maneiras, com relação às emoções, profissionalismo e confiança. Em relação ao impacto nos pacientes, até o momento, nenhuma pesquisa investigou os efeitos fisiológicos; entretanto, os pacientes reagem com choro, seus "corpos podem agitar" e eles podem sentir uma "sensação de frio no estômago". Os pacientes precisam de tempo para se adaptar a informação dada; eles querem que seus médicos sejam sensíveis e respondam as suas perguntas no mesmo dia, dando-lhes a sensação de que eles estão sabendo de tudo. Dados mostram desde os que de estudantes de medicina a médicos experientes sentem desconforto e despreparo em transmitir más notícias. Isso enfatiza a necessidade de um modelo eficiente para o desenvolvimento de habilidade na revelação. Questões pessoais, institucionais, de treinamento e linguagem vêm sendo reconhecidas como potenciais barreiras para a transmissão de más notícias. Estratégias que estão sendo desenvolvidas para melhorar a transmissão de más notícias incluem o uso de diretrizes como o SPIKES e programas de treinamento intensivo. Tais estratégias têm sido comprovadas para minimizar o impacto em ambos, pacientes e médicos. Assim, é necessária a inclusão destas estratégias na graduação de medicina, residência e programas de treinamento médico.

DESCRITORES: Revelação da verdade; Comunicação; Educação médica; Estresse psicológico; Relações médico-paciente.

ABSTRACT: Breaking bad news is part of physicians' routine; however, its impact on both doctors and patients is not well-known. With that knowledge, physicians would be able to convey such news more effectively. This study aims to review physiological and psychological impacts of breaking bad news on both doctors and patients, and strategies to improve communication skills and minimize those effects. Physicians, while breaking bad news, may have increases in heart rate, mean arterial pressure and cardiac output in such an expressive way that it might be a risk factor for hypertension. Cortisol levels and immune responses were also found to be enhanced in these situations. Doctors declared that giving bad news involved a risk of losing control in different ways, concerning emotions, professionalism and confidence. When it comes to the impact on patients, the physiological effects have not been investigated by any research, but patients react by crying, their "body may shake" and they can feel a "cold sensation in stomach". Patients need time to adjust to the information given; they want their doctor to be sensitive and to answer all their questions on the same day, giving them a sensation of knowing everything. Data have showed awkwardness and unpreparedness in conveying bad news from undergraduate medical students to experienced physicians. That emphasizes the need of an efficient model to develop physicians' skills in truth disclosure. Personal, institutional, training and language issues have been recognized as potential barriers to breaking bad news. Strategies that have been developed to improve breaking bad news include the use of guidelines such as the SPIKES; and time-intensive training programs. Such strategies have been proven to minimize the impact on both patients and doctors. Thus, the inclusion of these strategies is needed in medical undergraduate, residency and continuing medical training programs.

KEYWORDS: Truth disclosure; Communication; Education, medical; Stress, psychological; Physician-patient relationship.

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INTRODUCTION

Communication skills development is essential for a good medical practice. Along a 40 year career, hospital doctors experience around 150000 to 200000 encounters with patients and their relatives[1]. Among the needed abilities, delivering bad news is a common one in the medical environment. A study shows that oncologists may give bad news to patients in an average as high as 35 times a month and they have difficulty in discussing topics such as curative treatment and hospice care[2]. Also, doctors refer that the stress they feel lasts several hours to more than 3 days[3]. This shows how hard it is for doctors to perform this kind of chore. Not only truth disclosure affects doctors, but it affects patients too. They have a plenty of different reactions that are uttered subjectively through expressions and metaphors. The fact is that responsibility of giving bad news comes early in medical training, and few doctors receive adequate guidance and help during their initial formative experiences[4]. There are protocols and guidelines to improve communication between doctors and patients so that the impacts on both can be diminished. Therefore, we developed this review to summarize evidence regarding the effects of delivering bad news on physicians and patients, and to point out the strategies to improve communication skills and decrease the negative impact of giving bad news.

METHODS

We performed a search of English publications in the last ten years in the NCBI - Pubmed using the following keywords: Truth disclosure; stress, Psychological; Stress, Psychological/immunology; Stress, psychological/physiopathology; Stress, Psychological/epidemiology; Stress, psychological/prevention & control; Physicians; Physicians/psychology; Heart rate/blood pressure/physiology; Students, medical; Physician-patient relations; Professional-family relations; Patient satisfaction; Patient simulation; Patient care; Adaptation, Psychological; Neoplasms/psychology; Communication; Communication barriers; Empathy; Emotions; Self efficacy; Palliative care; Education, medical; Medical oncology/education; Models, educational; Internship and residency; Ethics, medical; Education, medical, Undergraduate; Problem-based learning; Physician's practice patterns; Education, medical, graduate/methods; Competency-based education.

Complementary bibliography was added by including relevant studies that had been mentioned in the retrieved articles.

Psychological and physiological impacts on doctors

The majority of articles analyzed in the present review agree that giving bad news enhances psychological and physiological stress responses which can lead to significant hazard to the physician's health.

The psychological impact of bad news on physicians has been evaluated by self-referred stress scales.

In an article that analyzed stressors present in cancer patients' consultations[5], the most difficult aspects to manage were: patients' response to hearing bad news; deterioration in patients' condition and bio psychosocial effects of cancer on the patients and his/her family.

In another study focusing on the psychological impacts[6], doctors listed and rated the characteristics that influence the difficulty in breaking bad news. Doctors considered delivering bad news that involved some medical error by far the utmost stressful situation, whereas delivering bad news that involved illness-specific factors was the least stressful one, though all of them were above the midpoint in the stress scale.

Introducing palliative and hospice care has been reported as one of the most difficult topics in bad news consultations[2]. In a report which gathered concerns about breaking bad news to terminally ill patients with cancer[7], physicians declared to perceive in the act of delivering bad medical news a risk of losing control in different ways, concerning emotions, oneself, confidence, professionalism and patient trust. They claimed it was difficult to exchange the role of healer for that of executor. Some of them said that it reminded them of their own death and, because they could not control death, they sometimes distrusted themselves and their right to make life and death judgments. Others declared that having a close relationship with the patients places professionalism at stake. Doctors stated that they felt distrusted and frustrated when the patient's family demanded a treatment they had found on the Internet, because it was impossible for them to keep track of all the ongoing or published studies.

An article analyzed oncologist-reported burden while communicating discontinuation of anticancer treatment[8]. Forty seven percent of the oncologists surveyed reported high levels of burden and 17% of them declared that they sometimes, often or always want to stop oncology work because of this burden.

Doctors are susceptible to "burnout", a concept which has three components that are independently related: emotional exhaustion, depersonalization - treating people in an unfeeling, impersonal way - and low productivity accompanied by feelings of low achievement[10,11,12]. Physicians who feel poorly trained in communication skills, such as the ability of conveying bad news, have a higher prevalence of depersonalization and low personal accomplishment than those who feel sufficiently prepared[10]. A research developed in England and Wales and published in the 1990s[9] reported that the suicide rate for doctors was just about twice the national average.

In a 1994 study, four specialist groups (gastroenterologists, surgeons, radiologists, and oncologists in the UK) were submitted to measures of burnout and psychiatric morbidity[11]. The higher the global rating of job stress was, the higher were emotional exhaustion, depersonalization and psychiatric morbidity; in addition, these parameters were inversely related to global job satisfaction. Work overload was the major source of overall job stress, but, as mentioned, delivering bad news is an important source of stress too and may be also related with those outcomes. To emphasize the importance of these aspects, in 2002, those parameters were reassessed[13]. The prevalence of consultants with psychiatric morbidity rose from 27% in 1994 to 32% in 2002. The proportion of emotional exhaustion increased from 32% in 1994 to 41% in 2002. This was attributed to increases in job stress without a comparable increase in job satisfaction. Altogether, it can be inferred that the lack of training in communication of bad news - and the stress that may derive from it - is associated with a negative impact on doctors' health, what consists in higher burnout rates and higher psychiatric morbidity.

Regarding the physiological aspects, researches have observed cardiovascular, endocrine and immune responses to stress.

Hulsman et al.[14] have investigated the cardiovascular impact of simulated history taking and bad news consultations in medical students. They perceived that there were expressive increases compared to baseline in heart rate, mean arterial pressure and cardiac output in both history taking and bad news consultations. Nonetheless, these changes were more significant when the bad news consultations took place. Similar results were obtained in a study performed in Australia[15], in which doctors' heart rate was greater while breaking bad news than while providing good information concerning the patient's health. These outcomes are yet confirmed by a third work[16], which bears a strong resemblance to the Australian one, but evaluated systolic and diastolic blood pressures and found increased levels during anticipation of a bad news compared to a good news consultation.

Furthermore, Hulsman et al.[14] considered that the duration of stress-related cardiovascular response may be a risk factor for hypertension. This conjecture is based in the stress 'reactivity hypothesis', according to which a highly reactive psychological disposition or physiological constitution may enhance risk for cardiovascular diseases[17,18,19].

Concerning the endocrine reaction to stress, it was observed[20] that the anticipation of a bad news assessment increased medical students' cortisol responses in comparison with the measures on a calm day. It must be emphasized, however, that the fact that the students were being evaluated may suffice to cause stress in this experiment.

The immune system activation was also found to be associated with the stress of delivering bad news. A group of scientists[16] verified a significant increase in NK cell cytotoxicity only in the doctors responsible for disclosing bad news, but not in those responsible for giving good news. It was not clear, however, whether this change was due to a modification in cell function or to NK cell redistribution.

Impact on doctors' communication performance

Communication performance may be affected by the stress involved in the bad news encounter, and the physicians' ability to assess their own communication practice may be influenced by the interview's content.

In 1908, Yerkes and Dodson[21] published a very renowned theory which describes the relationship between stress and general performance as a U-curve turned upside down. Hence, it is expected that stress induced by breaking bad news, when experienced by the doctors in extreme levels (very low or very high), would lead up to a poor communication performance.

A study performed in the Netherlands[20] evaluated medical students' communication performance - by means of videotape analyses performed by experienced observers -, and physiological and psychological stress responses during a bad news assessment. No significant correlation was found between the students' physiological and psychological stress responses and the quality of their communication. This result was ascribed to a possible ceiling effect and to not enough variation to detect mutual relations. Furthermore, only 70 students agreed to participate and, out of them, 57 yielded complete data records. This might also have limited the findings.

Another report[15] found that, even though high autonomic arousal was not related to the bad quality of the doctors' communication, high burnout and higher fatigue level would eventually lead to a poor communication performance.

In their work, Ramirez et al.[11] found that high levels of stress derived from: work overload; low satisfaction; dealing with patients' suffering; low levels of satisfaction from relationships with patients, their relatives, and co-workers. All of that was associated with high levels of depersonalization and, therefore, poor communication ability.

When physicians are uncomfortable with the truth disclosure process, they may avoid distressing information (bad prognosis, e.g.) or convey the news in an overly optimistic way[22]. The latter comprises most of the prognostic errors, and this tendency is reinforced by greater proximity between the patient and the doctor[23].

Bad news' impact on patients

Physiological Impact

How does a patient react to bad news? Literature is very scarce when it comes to the physiological impact of bad news on patients. However, we know that they experience stress[24] and we can assume that they respond physiologically. It is well known that stress causes increases in blood pressure, heart rate, sympathetic nerve activity and circulating catecholamines, and activation of the hypothalamic–pituitary–adrenal axis leading to increases in glucocorticoids (cortisol and corticosterone)[25]. The magnitude and quality of such reaction in patients under bad news impact still deserves investigation. It should be considered that one limitation in this area is that it is quite impossible to monitor the physiological aspects of the patients while receiving bad news without intervening with their response.

Psychological impact: What does the patient experience?

What we do know, interestingly, is that studies around the world have pointed out that not all patients want to know their diagnosis and prognosis. One study in Japan has looked specifically at the wishes of cancer patients and found that out of all patients 66% recalled being given a diagnosis and only 61% wanted to discuss the prognosis[26]. Also, 12% of the patients did not want to be informed that they had little time left to live[26]. In Albania, among 150 cancer patients, only 46% wanted full information of their diagnosis. However, 70% of the Albanian population without cancer that was randomly interviewed wanted to know the whole truth about any diagnosis[27]. This reveals that not everyone wants to know the truth. People without cancer may not understand that because maybe they don't know what the cancer patients are going through. This shows that doctors need to know and ask what the patient wants before giving information about the patients' health (see details below).

Patients react differently to bad news[28]. Morse[29] analyzed short stories and biographical trade books containing different descriptions of patients and their relatives and how they reacted while receiving bad news. They found that before the patients actually know what is going on in regard to their health, they search cues while talking to the physician by observing his posture, facial expression and possible hesitations. Additionally, they read their relatives responses; for example, when a mother knows the diagnosis of her child she acts differently around him/her and the child notices that something is not right by these different behaviors. In cases of sudden illnesses and accidents, the patients' body may "shut down" because the news is unexpected and/or because they are not prepared to hear the information. They can eventually faint or enter in a state of shock. Morse et al. called this "emotion overwhelming cognition"[29]. Patients described physical and psychological responses when hearing bad news as: "body may feel cold or hot", they may "shake uncontrollably", the news act like a "physical blow to the body" ("cold sensation in the stomach"), "stomach churns", "body stands still and mind moves rapidly", turns the persons world "upside down", they hear but don't comprehend everything and a sensation of "bodily flush". They react by sobbing, crying and reaching for physical contact[29]. Usually they don't process the news immediately after being told and it may take some time to accept the new situation[29]. Patients who find the news too threatening may employ forms of denial, shunning or minimizing the significance of the information[36]. When reading the descriptions of patients, Morse[29] realized that most of them described the moment they heard the bad news by metaphors that were interpreted as: feelings of unreality (unable to comprehend the news), danger and harm, physical forces ("being hit by…"), sinking in (time is often needed for the news to be understood), feelings of vulnerability (risk for self and the body), words are not only "heard" but also "felt", incongruity between body/mind, struggling to understand the news.

Patients diagnosed with cancer, may experience an anticipatory grief due to all the losses they had or to all the ones that they will experience: loss of functioning, identity, role definition and possible death[31]. Not only the patients but their families and friends suffer too. The bad news has impact on all people that relate to the patient. An interesting note is that patients' biggest fear is a breakdown in family relationship and/or changes in friends' attitudes[26].

Psychological impact: What does the patient want?

It doesn't matter the severity of the disease, patients want the sensation that they received a full disclosure of the prognosis during the clinical treatment[28]. They want, after the bad news, a little hope and it is suggested that they prefer the part of the interview that gives them information about diagnosis and treatment plans. These parts are associated with the highest levels of satisfaction[32]. Many desire accurate information to assist them in making important quality-of-life decisions[36]. Also, they want their preferences to be respected by the clinicians. A study with cancer patients found out that less depression and lower psychological morbidity was associated with telling the patient the seriousness of their disease, not avoiding the word "cancer", discussing life expectancy and how the cancer may affect other aspects of life[32]. They like encouragement to be involved in treatment decisions. Patients reported lower anxiety levels when the doctor prepared them for a possible diagnosis of

cancer; had the people they wanted present to hear the diagnosis; received much information about diagnosis as desired; received written information; received information clearly; had their questions discussed in the same day; talked about their feeling; and felt reassured[32]. As we said, not all patients want to know everything about their disease, but they want to have the sensation of knowing it all[32]. The large majority of patients don't want the doctor to withhold information. But if prognosis is poor, a small minority of patients doesn't want to know. If doctor don't ask the patients what they want to know, not only unwanted information can be given, but patient may try to find out about the disease outside the doctor's office like on the internet. Studies have shown that this type of information can be misleading and inappropriate which can lead to divergence in expectations between patient and doctor and ultimately a loss of trust. Studies also reported that patients want to understand risks and benefits of treatments like chemotherapy because not all of them want a prolongation of life in exchange of potential side effects[26].

Patients need the doctor to be sensitive and understand their position and how the disease can affect their lives[33]. The expertise of the clinician was a great value to them. Content (information giving), facilitation and support (caring) are the three main categories that patient want when they receive bad news[34]. Female patients and patients with more formal education seem to give more importance on getting detailed information about their condition[34]. Also, female patients value the quality of information and emotional support given by the clinicians[35].

The quality of the information (understandability, personalization and completeness) together with the emotional support is a part of what patients judge while receiving bad news. As the studies point out, giving a less worse news does not mean that the patient doesn't want as much attention and care from the physician as giving really bad news. Patients want both quality of information and emotional support from the physicians[35].

Also, patients understand their conditions differently depending on the nature of the disease. When asked "What is your understanding of your illness?" Morris et al.[30] found that patients responded basically in 5 different categories: naming the diagnosis and physiopathology description, illness history (recounting a medical timeline of events), symptoms, causality, and prognosis. In addition, 50% answered the question specifically stating their diagnosis by name and those with cancer were more likely to respond like that when compared to non-cancer diagnosis (heart failure and chronic obstructive pulmonary disease). The non-cancer patients were more likely to tell their symptoms and appeared to not know the clear identity of their illness and not know or understand their diagnosis[30]. This shows that it's important for the doctor to ask the patient what they understood about the news they were given so that the possible holes in the doctor's explanation are filled and the patient leaves knowing and understanding what they have.

What is effective communication of bad news?

Medical education has focused on obtaining information skills rather than giving it to patients and families and helping them to cope with difficult news[37]. Such physician-centered approach consists in a barrier for patients to talk about their concerns[38]. Moreover, it's well established that the way the news is communicated affects patients' satisfaction[13,36], comprehension, level of hopefulness and psychological adjustment afterwards[36]. Also, good communication can decrease malpractice liability for physicians without effects in consultation length[39]. Then, a concept of effective communication has been proposed to include four main goals[36]: 1. determination of patients' knowledge and expectations through information gathering; 2. adequate information delivery (accordance with patients' needs and desires); 3. reduction of emotional impact through specific skills employment; 4. development of a treatment plan with patient's involvement. An approach achieving these goals guarantees positive outcomes in this bad news' encounter.

Three different aspects related to the bad news encounter can be considered to achieve those goals: The Environment, What the Physician should say and How the Physician should say it.

The Environment. The bad news' setting must be a comfortable environment (not at corridors, typical examination or waiting rooms), with doctors sitting close to the patient and free from interruptions. They must turn off any sounding gadgets or leave them away, and there should be plenty of time to empathize and cover the patients' needs[40].

What the Physician should say. At the first moment of information delivery, medical professionals must think about how much information of diagnosis and prognosis they should give to the patient. Specifically in clinical oncology, full information about diagnosis and part information in prognosis could be adequate to the majority of the patients. But, in the absence of literature information about the impact of inadequate quantity of information in patients, a strict policy has to be avoided[41].

How the Physician should say. The acceptability of the patients depends mostly on the emotional supportiveness (empathy) and on the personalized way of information delivery, both producing a strong effect when combined (especially in women). The latter means an understandable and complete information in the patients' viewpoint, i.e., an adequate language associated

with sufficient transmitted knowledge. As mentioned, the quality of information is characterized by adequate levels of understandability, personalization and completeness. Besides, the request to the patient to be accompanied and the inquiring of his expectations (i.e., what the patient knows or suspects about the diagnosis) before the news' delivery are also worthy[42].

Aspects as the severity of the bad news, gender or age of the patients may not affect the acceptability of bad news. It has been found that the severity of bad news had no impact in its acceptability by the patient. On the other hand, the quality of information and emotional supportiveness explained more than 95% of the variance in patient´s acceptability of the news[42]. Also, in a cancer diagnosis scenario, little difference was observed in patients' disclosure preferences between the less and the more severe cases; and other items, such as educational background and trait anxiety, have not well predicted what they preferred[41]. The authors concluded that most patients would be satisfied if the physician could convey full details of their diagnosis and some information on prognosis at the first adequate opportunity[41].

The efficient bad news' disclosure can be described as a three-phased process. The Pre-delivery phase is the initial moment for preparation of the patient to the news' delivery through the assessment of his/her knowledge, understanding and feelings about the situation, where can be added the environment issues. The Delivery phase is a precise and concise disclosure of the news. As for the Post-delivery phase, it is the informational support, if patients request more information, and the emotional support, if they are distressed[43].

This description - in which fit most of the recommendations and guidelines mentioned in the literature - can be used as a model to apply all those characteristics of effective communication and to achieve its goals.

Finally, effective communication can be defined as an approach that results in a patient with adequate knowledge about his/her situation (in patients' perspective), fully involved in treatment decisions and feeling comfortable with the continued emotional support.

What are the barriers to effective communication?

Although there is an attempt to define effective communication of bad news, that practice elicits a plethora of barriers, which involves: Personal Issues, Institutional Issues, Language Issues and Training Issues.

Personal Issues

A great difficulty related by residents in a specific study was about discernments regarding bad news[37].

First of all, there is a difference in what each component of the triad physician-patient-family perceives as bad news. At the residents' perspective, their own experiences determined the degree of severity given to their patients' case; and, as reported in the study made by Dosanjh et al.[37], none of the doctors interviewed tried to assess how severe the patients considered the situation before expressing their professional viewpoints. The result is that patients may be induced to respond in a way before deciding whether the case is good or not for them[44]. Then, the doctors waiting for patients' judgment of the news is an important step before they form their own opinions[45], since those medical attributions can affect the duration and intensity of emotions, create anxiety, fear, depression and or resignation in the patients[46].

Second, the sequence of facts in the progression of the patient's case constitutes a continuum of loss, a sequence of bad news, what increases the awfulness of the news; therefore, it increases its impact on both patients and doctors.

Third, there are doctors' feelings of ineffectiveness and powerlessness in situations physicians cannot remedy[47]. In consequence, to keep them only in comfortable areas, their relationship with the patients and patients' relatives becomes limited.

Physicians' fears also constitute an important personal issue to be considered. In a study involving residents, the participants were afraid of being perceived as uncaring or as not empathic by patients and their family members. They reported stress dealing with, and responding to, patients' and their relatives' reactions, especially by telephone, and discomfort in talking about death and dying subjects. They also reported that the sense of unpreparedness to bad news' outcomes affected communication performance[37].

Institutional issues

Limitations of the institutions in what concerns the bad news delivery include issues related basically to its time organization and the physicians' support staff[37].

Time constraints harm doctors' preparation, information content of the interview, and the good emotional processing after the encounter (especially in acute-care hospital settings, where life and death instantaneous decisions can be found, but also in chronic-care hospital settings). Services of patients and family rights are affected in cases of viewing the deceased patient's body with the family members accompanied by the doctor, e.g. Besides, there is an interference in the normal reaction of denial that most people present in immediate life and death decision making and in heavy caseloads situations, when there is no adequate time for patients to react to the information delivered[37].

Moreover, the colleagues, supervisors and other

healthcare professionals perform an important role in emotionally supporting physicians during and after the interview with the patient. Unfortunately, that situation doesn't happen frequently, constituting a barrier to bad news coping by the doctor[37]. Considering all the impacts on doctors, the patient is affected consequently.

Language Issues

Physicians' communication performance is impacted negatively by various aspects, which include high burnout and fatigue level, being uncomfortable with the bad news conveying process, and lack of clarity in the information delivered to the patient.

An inadequate disclosure might be result of high levels of burnout and fatigue[15] and might lead to more Burnout[48]. Besides, concerning distressing information, physicians may convey the news in an overly optimistic way or may censor information, what might be an attempt of self emotional protection as much as an attempt to protect the patient[49]. That's not what actually happens. The information withholding practice has shown, for instance, to limit adolescents' participation in treatment management, and to not diminish uncertainty and anxiety level of those patients[50]. Further, the use of euphemistic expressions is quite common in cancer consultations, and physicians are unaware whether the information has been conveyed with correct meaning or not, especially if the nonverbal language does not correspond to the verbal one[49]. Such ambiguities may lead to distortions in emotional adjustment to cancer and higher self-reported psychological distress[51].

Training Issues

Several barriers to communication skills improvement, especially in communicating bad news, can be specified, and they involve all levels of practice. The lack of prioritization by both trainees (residents and fellows) and faculty, emphasized by the inadequate quantity of formal and informal training reported, contrasts with the great importance given to those abilities by them. Still, unsatisfactory time to practice and improve, lack of positive role models and discomfort with the subject are obstacles as such.

Some trainees affirm that particular role models were some "of the best learning moments" in the residency. This, so, can also be explored as an important topic in training programs development[52].

Self-reported knowledge of effective communication techniques appears insufficient at the perspective of professionals of all levels of practice, including 40% of attendings. That knowledge did not have a significant increase by a year of training among all trainees (residents and fellows). Otherwise, comfort level increased significantly by year of training, self-perceived knowledge, and frequency of delivering bad news, and it was poorly associated with amount of personal feedback of the practice. But still the majority of residents feel not sufficiently comfortable for independent practice, i.e., they feel unprepared[52].

Another important data is a significant disparity within fellows' and attendings' group between those aspects: high comfort despite low knowledge levels. This data shows that experience in delivering bad news may confer comfort in a way that does not correspond statistically with a good knowledge level about communication techniques and skills. Then, such situation may be a barrier to active search and learning about the communication subject, contributing to the lack of improvement in this area along years[52]. Experience may bring a kind of knowledge based on a trial-and-error approach[53], whose bad effects on patients and family members could be avoided with a well structured and supervised training[52].

What are the strategies to improve communication regarding undergraduates, residents and experient physicians?

All the barriers to good communication may turn the bad news' delivery uncomfortable and highly impacting on both physicians and patients. The ineffective approach results in insufficient detection of patient's psychological disturbances, dissatisfaction with care, poor compliance, and increased risks of litigation for malpractice[54]. A lot of strategies have been developed to struggle with those effects, what includes guidelines such as the mneumonics SPIKES and ABCDE[55] and teaching-learning models applied during medical training (undergraduateship and residency).

SPIKES

The SPIKES is based on the consensus of cancer patients and professionals related to the most important aspects of the breaking bad news process (Table 1), and makes relation to the presented concept of effective communication. The fact that this protocol is not wholly derived from empirical data must be clear, and its use depends on the interaction present in the interview, i.e., the physician must be guided by patients' understanding, preferences and behavior[36], what turns SPIKES in a context-dependent guideline, and not a recipe. As mentioned, bad news' delivery can be seen as a process with four essential goals: determination of patients' knowledge and expectations; adequate information delivery; reduction of emotional impact through specific skills employment; and development of a treatment plan with patient's involvement[36]. Having a plan to achieve those goals can

increase physician's confidence, patients' adherence and involvement in difficult treatment decisions[36], and may reduce stress and burnout rates among physicians[48]. As showed in some studies, the guideline SPIKES combined with experiential techniques may increase practitioners' confidence.

ABCDE

The mneumonic "ABCDE" emphasizes five issues in breaking bad news: "Advance preparation", "Build a therapeutic environment/relationship", "Communicate well", "Deal with patient and family reactions" and "Evaluate the effects of the news"[55]. It is notable that both SPIKES and ABCDE emphasize the need of an adequate time and place and the evaluation of what t patients know and what they want to know before delivering the bad news. In addition, both enhance the necessity of adequately dealing with patients' reactions to the impact of bad news.

It should be remembered that the presence of guidelines does not ensure their application, and bad news disclosure in an unplanned and unstudied way may cause bad outcomes in families, such as depression[56]. Consequently, the presence of experiential training and its implementation in all levels of medical education are essential for the good development of the needed communication skills.

Time-intensive programs

Traditional learning of clinical skills comprises the observation of seniors' work or active learning through clinical practice[54]. Regarding communication skills, there is great variation in the way seniors communicate and deliver bad news, generating confusion concerning the best approach[37].

At University of South Florida, College of Medicine, there is a specific communication training model[57]. It is characterized by 2- to 3-h sessions with 3 to 5 students that focus on bad news' disclosure. Encounters with patients in standardized simulated situations including new diagnosis of cancer, recurrence of disease, or progression of metastatic disease, are subjects of the news conveyed. This is done in different scenarios focusing on diverse aspects of the breaking bad news process, including "initial shock/disbelief", "inoperable/ incurable disease", "estimated survival rate", "family needs", "patient autonomy" and "discussion of alternate treatment options". The patients go through a special training to reenact a natural response to hearing bad news, and many of them are cancer survivors, which elicits a personal connection to the news besides their training. Before the task, students receive selected assignments on communication skills involving the SPIKES protocol. The encounters are videotaped bidirectionally (to observe student's and simulated patient's actions), reviewed and discussed with all the students, with the standardized patient and with an instructor (physician specialized in cancer care) after the encounter. In order of preference, regarding the best way of learning the students included the discussion (57,2%), video reviewing (22,5%), the patient encounter itself (18,8%), and watching other students interactions (5,4%). It should be noticed that each of the sessions' components has characteristics that increase significantly students' experience.

The Video reviewing allows the perception of the impact of delivering bad news on verbal and nonverbal unnoticed behaviors of both students and patients and the possibility of calmly analyze and discuss them with the other students, the standardized patients and the leading instructor. In this way, students can pay attention and be oriented on the impact of delivering bad news on their own body language (eye contact establishment, fidgeting reducing, e.g.) and on their verbal language (clear and sensitive information delivery).

Watching other students' interactions disclose different techniques and different patients' reactions to the impact of receiving bad news (anger, denial, shock, tears, etc.), increasing evenly more their approach repertoire.

The discussion about the interaction between students, standardized patients and instructor permits feeling, thought and doubt exchange. Besides, there is a rich contribution of the specialist's advices regarding personal approaches, good and bad techniques, and own experiences. This method permits that the learning could be experienced in three ways: self-reflection, peer review, and preceptor advice. The data showing that 57.2% of students rated the discussion as the best part of the process emphasize the relevance of the teacher-student interaction for the development of skills to perceive and adequately deal with the impact of delivering bad news.

Such teaching-learning model has showed to be highly useful as a formal course to be applied during undergraduateship - as it also might be useful during residency[57]. A review confirmed the efficacy of learner-centered, skills-focused, and practice oriented communication skills training programs with small groups (maximum of six participants) and lasting at least 20 hours[58].

Although there are good results showing the short term efficacy of training programs in developing communication skills, in good part of the assessments regarding the impact of those methods on physicians' level of stress and burnout, the results are inconsistent[58]. Considering the bad effects of those bad news' delivery outcomes, training must be also focused, besides communication skills, on stress management skills. The Belgian Interuniversity Curriculum (BIC) has been developed aiming to attend junior physicians on both aspects[54].

The BIC consists in a two-domain based training course: communication skills (including three-person interviews - with a patient and a relative) and stress management skills. The content of this program can be acquired in an unpublished manual through a request from the authors - Bragard et al.[54]. The first domain focuses on increasing knowledge about psychosocial consequences of cancer and effective communication skills, and on developing facilitative communication behaviors with patients and relatives. The BIC aims, with its second domain, the improvement of physicians' work-related quality of life and, as a consequence of all, an increase in patients' contentment. To make those objectives possible, the program also tries to maintain those acquired skills and to transfer them to clinical practice[54].

The basis of the training is a learner-centered method, which includes cognitive, behavioral and affective approaches[54] as described below.

Cognitive: knowledge about effective communication skills and stress management skills, as self-monitoring of stress intensity, relaxation techniques, cognitive coping skills, and self-management skills (time management skills).

Behavioral: practice of those skills through exercises and role plays, what may result in expressive changes in attitudes and behaviors.

Affective: participants expression of their attitudes, feelings, and perceived stress related to the interview with the cancer patient and his/her relative.

A low number of participants is essential for better results in learning as it gives the opportunity for greater practice, participation, and individualized coaching[20], what permits a more active learning process[54] and a comfortable environment for disclosing personal feelings and attitudes regarding the impact of delivering bad news[59]. This method needs four to eight participants per facilitator[20], and the use of slides and handouts helps the following of the course structure and the transmission of difficult material[54].

The final objective of every communication training program must be the transference of the skills newly learned to clinical practice. Some barriers, as inadequate amount of interviewing time in daily work[37] and data that communication skills once learned are easily forgotten[54], make that transference a difficult process, and BIC may ensure that through its 40-h training[54].

A recent study[43] assessed the efficacy of that training program with residents of various specializing disciplines. It was the first study to design such assessment in a randomized controlled way during a simulated patient breaking bad news consultation. The results showed such efficacy: residents submitted to the program used more directive questions, more assessment and supportive skills, and demonstrated more empathy. Besides, the participants reduced the number of emotional, medical and social words coupled with a greater use of function words than content words. That means a less transmission of information and, therefore, leaves more room for patient expression. It is evidenced by this study through an increase in emotional and medical words expressed by simulated patients. In addition, a lengthening in the pre-delivery phase and a shortening in the delivery one during the residents' interview translate the possibility of a longer patient's preparation for the bad news' delivery. In the end, trained residents' presented a shorter and more precise delivery. It is important to point out the absence of a study that shows the application of those skills in clinical practice, which is necessary before the generalization of this intensive and expensive training program[43].

To summarize, BIC couples really important aspects of a good medical practice, physicians' work-related quality of life and patients' satisfaction by ensuring effective communication skills, stress management skills, and transference of such skills to clinical practice. Beyond that, the efficiency of communication and stress management skills teaching could be improved by a long term learning process, which includes all levels of medical education (undergraduateship, residency, and continuing medical education)[54], and such implementation should be encouraged.

CONCLUSION

Bad news' disclosure is a difficult but important task that physicians have to routinely deal with. The content conveyed within the medical encounter has well evidenced effects on both patients and doctors. Recent research in this theme aimed physiological and psychological impacts on physicians, and mostly psychological impacts on patients. The lack of information regarding physiological effects on patients is explained by methodological limitations and the ethic constraint in the measurement of these variables. Regarding physicians, delivering bad news has been associated with physiological cardiovascular, endocrine and immunological effects. Considering psychological impact, physicians state that there is a fear of losing control in different ways, concerning emotions, oneself, confidence, professionalism and patient trust. In addition, the higher the global rating of job stress is, the higher may be emotional exhaustion, depersonalization and psychiatric morbidity.

Regarding patients, bad news' disclosure may produce a myriad of different impact and reactions. Evidenced by patients' reports, those responses can consist in an "emotion overwhelming cognition" reaction, as proposed by Morse[29]. Patients' preferences determine their satisfaction with the way they received the news. Sensation of full disclosure, involvement in treatment decisions, adequate time for emotional response and support are essential for a reduced psychiatric morbidity.

Besides the impact itself, a myriad of barriers to efficiently deliver a bad news has been described, including personal, institutional, language and training issues.

The perception and management of the negative impacts and the barriers to delivery bad news are essential to ensure an effective process of communication. Based on that data, there has been an effort in developing strategies including the development of guidelines and training programs to improve communication and stress management skills.

The focus should be the improvement of communication skills of medical undergraduates and physicians in all levels of practice with a learner-centered, skills-focused, and practice oriented training programs that involve small groups and that comprise medical education as a whole (undergraduateship, residency and continuing education). Such characteristics summed up with good communication skills (including interviews involving patients' relatives) and stress management skills, may end up reducing bad news' impact on both patients and doctors.

This study also elicits the need for further research in the bad news' disclosure area. There is a need for more evidences of immunological effects on doctors in a simulated doctor-patient scenario. Besides, research lacks studies on effectiveness of communication training programs, including physiological benefits to doctors and behavioral changes on doctors. It is unsubstantiated that described training programs reduce stress and burnout levels; so, there is a need for evidences regarding the efficiency of training models that include communication skills and stress coping strategies. Yet, those training programs must be adequately inserted in medical education, given the high importance of effective bad news communication. Hence, models of teaching and learning communication skills have to be a focus on future research.

REFERENCES

1. Fallowfield L, Jenkins V, Farewell V, Saul J, Duffy A, Eves R. Efficacy of a cancer research UK communication skills training model for. Lancet. 2002;359(9307):650-6. http://dx.doi.org/10.1016/S0140-6736(02)07810-8
2. Baile WF, Lenzi R, Parker PA, Buckman R, Cohen L. Oncologists' attitudes toward and practices in giving bad news: an exploratory. J Clin Oncol. 2002;20(8):2189-96. Doi:10.1200/JCO.2002.08.00
3. Ptacek JT, Ptacek JJ, Ellison NM. "I'm sorry to tell you ..." physicians' reports of breaking bad news. J Behav Med. 2001;24(2):205-17. Doi: 10.1023/A:1010766732373
4. Fallowfield L, Jenkins V. Communicating sad, bad, and difficult news in medicine. Lancet. 2004 Jan 24;363(9405):312-9. http://dx.doi.org/10.1016/S0140-6736(03)15392-5
5. Jones FM, Fellows JL, Horne DJ. Coping with cancer: a brief report on stress and coping strategies in medical students dealing with cancer patients. Psychooncology. 2011;20(2):219-23. Doi: 10.1002/pon.1751
6. Ptacek JT, McIntosh EG. Physician challenges in communicating bad news. J Behav Med. 2009;32(4):380-7.
7. Friedrichsen M, Milberg A. Concerns about losing control when breaking bad news to terminally ill patients with cancer: physicians' perspective. J Palliat Med. 2006;9(3):673-82. doi:10.1089/jpm.2006.9.673.
8. Otani H, Morita T, Esaki T, Ariyama H, Tsukasa K, Oshima A, et al. Burden on oncologists when communicating the discontinuation of anticancer. Jpn J Clin Oncol. 2011;41(8):999-1006. doi: 10.1093/jjco/hyr092
9. Kelly S, Charlton J, Jenkins R. Suicide deaths in England and Wales, 1982-92: the contribution of occupation and. Popul Trends. 1995 Summer(80):16-25.
10. Ramirez AJ, Graham J, Richards MA, Cull A, Gregory WM, Leaning MS, et al. Burnout and psychiatric disorder among cancer clinicians. Br J Cancer. 1995 Jun;71(6):1263-9. Available from: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2033827/
11. Ramirez AJ, Graham J, Richards MA, Cull A, Gregory WM. Mental health of hospital consultants: the effects of stress and satisfaction at. Lancet. 1996;347(9003):724-8.
12. Freudenberger H. Staff Burnout. J Soc Issues. 1974;30:159-65.
13. Taylor C, Graham J, Potts HW, Richards MA, Ramirez AJ. Changes in mental health of UK hospital consultants since the mid-1990s. Lancet. 2005;366(9487):742-4. http://dx.doi.org/10.1016/S0140-6736(05)67178-4
14. Hulsman RL, Pranger S, Koot S, Fabriek M, Karemaker JM, Smets EM. How stressful is doctor-patient communication? Physiological and psychological stress of medical students in simulated history taking and bad-news consultations. Int J Psychophysiol. 2010;77(1):26-34. doi: 10.1016/j.ijpsycho.2010.04.001.
15. Brown R, Dunn S, Byrnes K, Morris R, Heinrich P, Shaw J. Doctors' stress responses and poor communication performance in simulated bad-news consultations. Acad Med. 2009;84(11):1595-602. doi: 10.1097/ACM.0b013e3181baf537.
16. Cohen L, Baile WF, Henninger E, Agarwal SK, Kudelka AP, Lenzi R, et al. Physiological and psychological effects of delivering medical news using a simulated physician-patient scenario. J Behav Med. 2003;26(5):459-71.

17. Kamarck TW, Lovallo WR. Cardiovascular reactivity to psychological challenge: conceptual and measurement considerations. Psychosom Med. 2003;65(1):9-21. doi: 10.1097/01.PSY.0000030390.34416.3E

18. Lovallo WR. Cardiovascular responses to stress and disease outcomes: a test of the reactivity hypothesis. Hypertension. 2010;55(4):842-3. doi: 10.1161/HYPERTENSIONAHA.110.149773

19. Manuck SB, Olsson G, Hjemdahl P, Rehnqvist N. Does cardiovascular reactivity to mental stress have prognostic value in postinfarction patients? A pilot study. Psychosom Med. 1992;54(1):102-8. Available from: http://www.psychosomaticmedicine.org/content/54/1/102.full.pdf

20. van Dulmen S, Tromp F, Grosfeld F, ten Cate O, Bensing J. The impact of assessing simulated bad news consultations on medical students' stress response and communication performance. Psychoneuroendocrinology. 2007;32(8-10):943-50. http://dx.doi.org/10.1016/j.psyneuen.2007.06.016

21. Yerkes, R.M., Dodson, J.D. The relation of strength of stimulus to rapidity of habit-formation. J. Comp. Neurol. Psychol. 1908;18:459-82. DOI: 10.1002/cne.920180503

22. Maguire P. Barriers to psychological care of the dying. Br Med J. 1985;291(6510):1711-3. Available from: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1418798/pdf/bmjcred00478-0047.pdf

23. Annas GJ. Informed consent, cancer, and truth in prognosis. N Engl J Med. 1994;330(3):223-5. DOI: 10.1056/NEJM19940303330092

24. Ptacek JT, Ptacek JJ. Patients' perceptions of receiving bad news about cancer. J Clin Oncol. 2001;19(21):4160-4. Available from: http://jco.ascopubs.org/content/19/21/4160.full.pdf+html

25. Pacak K, Palkovits M, Kopin IJ, Goldstein DS. Stress-induced norepinephrine release in the hypothalamic paraventricular nucleus and pituitary-adrenocortical and sympathoadrenal activity: in vivo microdialysis studies. Front Neuroendocrinol. 1995;16(2):89-150. Available from: http://dx.doi.org/10.1006/frne.1995.1004

26. Alifrangis C, Koizia L, Rozario A, Rodney S, Harrington M, Somerville C, et al. The experiences of cancer patients. QJM. 2011;104(12):1075-81. doi: 10.1093/qjmed/hcr129

27. Beqiri A, Toci E, Sallaku A, Qirjako G, Burazeri G. Breaking bad news in a Southeast European population: a survey among cancer patients in Albania. J Palliat Med. 2012;15(10):1100-5. doi: 10.1089/jpm.2012.0068

28. Miyata H, Takahashi M, Saito T, Tachimori H, Kai I. Disclosure preferences regarding cancer diagnosis and prognosis: to tell or not to tell? J Med Ethics. 2005;31(8):447-51. doi: 10.1136/jme.2003.007302

29. Morse J. Hearing bad news. J Med Humanit. 2011;32(3):187-211. doi: 10.1007/s10912-011-9138-4.

30. Morris DA, Johnson KS, Ammarell N, Arnold RM, Tulsky JA, Steinhauser KE. What is your understanding of your illness? A communication tool to explore patients' perspectives of living with advanced illness. J Gen Intern Med. 2012 Nov;27(11):1460-6. doi: 10.1007/s11606-012-2109-2.

31. Hottensen D. Anticipatory grief in patients with cancer. Clin J Oncol Nurs. 2010;14(1):106-7. doi: 10.1188/10.CJON.106-107.

32. Schofield PE, Butow PN, Thompson JF, Tattersall MH, Beeney LJ, Dunn SM. Psychological responses of patients receiving a diagnosis of cancer. Ann Oncol. 2003;14(1):48-56. doi: 10.1093/annonc/mdg010

33. Davies R, Davis B, Sibert J. Parents' stories of sensitive and insensitive care by paediatricians in the time leading up to and including diagnostic disclosure of a life-limiting condition in their child. Child Care Health Dev. 2003;29(1):77-82. doi: 10.1046/j.1365-2214.2003.00316.x

34. Parker PA, Baile WF, de Moor C, Lenzi R, Kudelka AP, Cohen L. Breaking bad news about cancer: patients' preferences for communication. J Clin Oncol. 2001;19(7):2049-56. Available from: http://jco.ascopubs.org/content/19/7/2049.long

35. Munoz Sastre MT, Sorum PC, Mullet E. Breaking bad news: the patient's viewpoint. Health Commun. 2011;26(7):649-55. doi: 10.1080/10410236.2011.561919.

36. 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. Oncologist. 2000;5(4):302-11. doi:10.1634/theoncologist.5-4-302

37. Dosanjh S, Barnes J, Bhandari M. Barriers to breaking bad news among medical and surgical residents. Med Educ. 2001 Mar;35(3):197-205. doi: 10.1111/j.1365-2923.2001.00766.

38. Kurtz S, Silverman J, Draper J. Teaching and learning communication skills in medicine. Abingdon: Radcliffe Medical Press; 1998.

39. Egnew TR, Mauksch LB, Greer T, Farber SJ. Integrating communication training into a required family medicine clerkship. Acad Med. 2004;79(8):737-43.

40. Ptacek JT, Ptacek JJ. Patients' perceptions of receiving bad news about cancer. J Clin Oncol. 2001;19(21):4160-4. Available from: http://jco.ascopubs.org/content/19/21/4160.long

41. Miyata H, Takahashi M, Saito T, Tachimori H, Kai I. Disclosure preferences regarding cancer diagnosis and prognosis: to tell or not. J Med Ethics. 2005;31(8):447-51. doi:10.1136/jme.2003.007302

42. Munoz Sastre MT, Sorum PC, Mullet E. Breaking bad news: the patient's viewpoint. Health Commun. 2011;26(7):649-55. doi: 10.1080/10410236.2011.561919.

43. Lienard A, Merckaert I, Libert Y, Bragard I, Delvaux N, Etienne AM, et al. Is it possible to improve residents breaking bad news skills? A randomised study. Br J Cancer. 2010;103(2):171-7. doi: 10.1038/sj.bjc.6605749.

44. Ptacek JT, Eberhardt TL. Breaking bad news. A review of the literature. JAMA. 1996;276(6):496-502. doi:10.1001/jama.1996.03540060072041.

45. Bor R, Miller R, Goldman E, Scher I. The meaning of bad news in HIV disease: Counselling about dreaded issues revisited. Counselling Psychology Quarterly. 1993;6(1):69-80. doi: 10.1080/09515079308254494

46. Saleeby D. The strengths perspective in social work practice. New York: Longman; 1997. p.1-19.

47. Girgis A, Sanson-Fisher RW. Breaking bad news: consensus guidelines for medical practitioners. J Clin Oncol. 1995;13(9):2449-56. Available from: http://jco.ascopubs.org/content/13/9/2449.long

48. Ramirez AJ, Graham J, Richards MA, Cull A, Gregory WM, Leaning MS, et al. Burnout and psychiatric disorder among cancer clinicians. Br J Cancer. 1995;71(6):1263-9. Available from: http://jco.ascopubs.org/content/13/9/2449.long

49. Fallowfield L, Jenkins V. Communicating sad, bad, and difficult news in medicine. Lancet. 200424;363(9405):312-9. http://dx.doi.org/10.1016/S0140-6736(03)15392-5

50. Clemente I. Clinicians' routine use of non-disclosure: prioritizing "protection" over the. Can J Nurs Res. 2007;39(4):19-34. Available from: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2409277/

51. Dunn SM, Patterson PU, Butow PN, Smartt HH, McCarthy WH, Tattersall MH. Cancer by another name: a randomized trial of the effects of euphemism and uncertainty in communcating with cancer patients. J Clin Oncol. 1993;11(5):989-96. Available from: http://jco.ascopubs.org/content/11/5/989.long

52. Orgel E, McCarter R, Jacobs S. A failing medical educational model: a self-assessment by physicians at all levels of training of ability and comfort to deliver bad news. J Palliat Med. 2010;13(6):677-83. doi: 10.1089/jpm.2009.0338.

53. Hilden JM, Emanuel EJ, Fairclough DL, Link MP, Foley KM, Clarridge BC, et al. Attitudes and practices among pediatric oncologists regarding end-of-life care. J Clin Oncol. 2001;19(1):205-12. Available from: http://jco.ascopubs.org/content/19/1/205.long

54. Bragard I, Razavi D, Marchal S, Merckaert I, Delvaux N, Libert Y, et al. Teaching communication and stress management skills to junior physicians dealing. Support Care Cancer. 2006;14(5):454-61. doi: 10.1007/s00520-005-0008-3

55. Rabow MW, McPhee SJ. Beyond breaking bad news: how to help patients who suffer. West J Med. 1999;171(4):260-3. Available from: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1305864/

56. Ablon J. Parents' responses to their child's diagnosis of neurofibromatosis 1. Am J Med Genet. 2000;93(2):136-42. doi: 10.1002/1096-8628(20000717)93:2<136 ::AID-AJMG11>3.0.CO;2-L

57. Kiluk JV, Dessureault S, Quinn G. Teaching medical students how to break bad news with standardized patients. J Cancer Educ. 2012;27(2):277-80. doi: 10.1007/s13187-012-0312-9.

58. Merckaert I, Libert Y, Razavi D. Communication skills training in cancer care: where are we and where are we. Curr Opin Oncol. 2005;17(4):319-30. doi: 10.1002/14651858.CD003751.pub3

59. Maguire P, Pitceathly C. Key communication skills and how to acquire them. BMJ. 2002;325(7366):697-700. doi: http://dx.doi.org/10.1136/bmj.325.7366.697.