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The Use of Spikes Protocol in Cancer: an Integrative Review

REVIEW

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Abstract

This is a review which aims to evaluate the use of the SPIKES protocol in Oncology. We selected articles written in English published in MEDLINE and CINAHL databases between 2005-2015, with the descriptors defined by the Medical Subject Headings (MeSH): cancer, neoplasms, and the uncontrolled descriptor: SPIKES protocol. Six articles met the inclusion criteria and were fully analyzed; three thematic categories were established: aspects inherent to the health care professional; aspects related to the patient and aspects related to the protocol. The main effects of the SPIKES protocol can strengthen the links between health professionals and patients, and ensure the maintenance and quality of this relationship. The results indicate an important limiting factor for effective doctor-patient relationship; the lack of training provided to medical professionals for the communication of poor diagnoses, verified by the difficulty reported in this moment through interviews in the analyzed studies.

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Introduction

The process of communicating the diagnosis of cancer to the patient is the medical physicians' responsibility. It can be considered as a complex and challenging time, which must be shared with a multi-disciplinary team that takes care of cancer patients.

The communication of a poor diagnosis is often present in the routine of health professionals working in oncology. So, the approach to the cancer patients is a difficult task in clinical practice. It conveys the patient information involving diagnosis and prognosis, the possible risks and benefits of treatment, and their chance of progression clinically through the disease [1].

Thus, according to Silva [2] on the perception of patients regarding the impact of a poor diagnosis, it illustrated that the methods in which they reported the diagnoses of cancer may be influenced by cultural patterns, both social and educational. Furthermore, this skill to communicate prognosis is often experienced as a negative experience for health professionals.

Some discrepancies have occurred with respect to evidence of the cancer diagnosis. Thus, emphasizing the autonomy of the patient relative to their diagnosis, starting from the hypothesis that the way the poor diagnosis is expressed, can allow the patient to participate in decision-making on adherence to proposed treatments. This can increase their compliance and level of confidence in the team of health professionals involved in their care [3].

However, the study conducted by Primo [1] demonstrated that notification of the diagnosis, treatment options and prognosis of patients with cancer; is achieved in approximately 60% of cases. Nevertheless, it has proven inadequate regarding vocal language applied by physicians at the time to convey the diagnosis.

Consequently, the effective training of verbal and nonverbal communication skills can circumvent communication barriers between the health professional team with the patients and their families. According to Muller [4], the ability to communicate a narrative properly can fundamentally influence how patients approach their illness and its treatment adherence.

Accordingly, Eid et al. [5] conducted a study with a standardized intervention, focusing on formal preparation for the development of the cancer diagnosis communication skills. Therefore, after the involvement of communication skills, the attribution of positive characteristics by health professionals regarding how to communicate a difficult diagnosis; and that the intervention was perceived as important for clinical practice of health professionals.

Sequentially, Bonamigo and Destefani [6] assessed the role-play technique as a teaching strategy

during the academic medical training. The authors established as a result 15 studies related to the subject, and revealed the presence of a set of role-playing activities, simulations and workshops, aimed as a strategy for teaching skills related to communication of a poor diagnosis to patients and their families during medical training advancement.

Amongst the reading list investigated for the preparation of this study, the SPIKES protocol was established, which highlights strategies for effective and appropriate communication, prepared by a renowned group of North American oncologists associated to the MD Anderson Cancer Center, University of Texas, USA and Sunnybrook Regional Cancer Center in Toronto, Canada [7].

This protocol, SPIKES (Setting, Perception, Invitation, Knowledge, Explore emotions, Strategy and summary) comprises of six steps: careful how the diagnosis is transmitted, the perception of emotional and cognitive conditions of the patient, recognizing how much the patient desires to know about the disease, the presentation of the treatment possibilities, recognition of emotions and feelings that may arise in this context, and completion, which involves performing a synthesis of all that has been said and verified as understood by the patient [7].

The manual INCA [9] reports the use of the SPIKES protocol in the training of oncologists, through workshops on Communication in Difficult Situations. The SPIKES protocol was applied in these workshops, as a rudimentary guide for the training of communication skills through discussion and role-play; case pooled by the team of health care professionals in communicating situations of poor diagnosis to patients and their relatives.

Also, according to the INCA [8], the implementation of these realistic simulation workshops, with the support of the SPIKES protocol, generated pronounced mobilization and effects of strong emotional impact on health professionals. They were

considered more confident in communicating poor diagnoses after being taught these communication skills.

Methods

We chose the method of integrative review. This method seeks synthesis and analysis of the knowledge produced about the investigated theme in order to provide understanding and discussion of a topic of research [9].

The methodological path negotiated consisted of six phases: defining the problem; establishment of inclusion and exclusion criteria; categorization of studies; assessment of selected studies; interpretation and discussion of the results; and synthesis of knowledge achieved [10, 11].

In this study, the underpinning question was: "What is the scientific knowledge produced about using SPIKES protocol in Oncology?"

The inclusion criteria for this study were: studies on the use of SPIKES protocol in Oncology, in English, published in January 2009 period to December 2015, indexed in databases: *Medical Literature Analysis and Retrieval online* (MEDLINE) and *Cumulative Index to Nursing and Allied Health Literature* (CINAHL) - with abstracts available. For consideration of such studies, we applied the combination of the following descriptors: defined by the Medical Subject Headings (MeSH): cancer, neoplasms and the descriptor is not controlled: SPIKES

protocol, it was understood there were combinations of the three descriptors in each database. The following exclusion criterion was applied: literature review articles, since they have no level of evidence classification.

The survey of the articles was conducted simultaneously in September 2015 for the two databases. At the intersection of the descriptors, we found a total of 26 articles, 19 in CINAHL and 7 in MEDLINE, of which 4 were coincident between the two databases, leaving 22 references to be scrutinized. After reading and analyzing the titles and abstracts of the studies, we applied the inclusion criteria and selected references for full examination. From this appraisal, we selected six articles that met the inclusion criteria and composed the final sample of this review.

The studies were organized according to publication year and the source from which data they were extracted. Then the comprehensive analysis of the articles was finalized in order to achieve the objectives of this study and compare the data found in the literature was performed.

Results

For this integrative review, we analyzed six full studies (**Table 1**), which were published from 2009, which can be related to the increased need for development of studies on the communication of the diagnosis of cancer.

Table 1. Description of the studies included in the integrative review, according to the titles, publication year, journal and database.

| Study | Title | Year | Magazine | Data base |
|-------|--|------|--------------------------------------|-----------|
| 01 | Breaking bad news in Cancer Patients. | 2015 | Indian Journal of Palliative Care | CINAHL |
| 02 | Breaking bad news-what Patients want and What They get: Evaluating the SPIKES protocol in Germany. | 2014 | Annals of Oncology | Medline |
| 03 | Confronting therapeutic failure: a conversation guide. | 2015 | The Oncologist | CINAHL |
| 04 | Framing family conversation after early diagnosis of iatrogenic injury and incidental findings. | 2009 | Springer | Medline |
| 05 | SPIKES: a framework for breaking bad news to Patients with cancer. | 2010 | Journal of Clinical Oncology Nursing | CINAHL |
| 06 | Videotaped simulated interviews to Improve medical students' skills in disclosing the diagnosis of cancer. | 2010 | Psycho-Oncology | CINAHL |

Table 2. Description of the studies that constitute the integrative review, according to the study design, level of evidence, the lead author of training and country of origin.

| Study | Design | Level of Evidence | Formation of the main author | Country |
|-------|--|-------------------|------------------------------|---------|
| 01 | Est. Descriptive, qualitative, non-experimental, longitudinal | III | Medicine | Greece |
| 02 | Est. Descriptive, qualitative, non-experimental, longitudinal | SAW | Medicine | Germany |
| 03 | Est. Descriptive, qualitative, non-experimental, longitudinal | VII | Medicine | U.S |
| 04 | Est. Descriptive, qualitative, non-experimental, longitudinal controlled | II | Medicine | U.S |
| 05 | Case report and review of the Protocol | SAW | Nursing | U.S |
| 06 | Est. Descriptive, qualitative, non-experimental, longitudinal | III | Medicine | France |

Table 3. Summary of knowledge based on the themes of the studies.

| Study | Topic category | Synthesis of knowledge |
|-------|--|--|
| 01 | Aspects related to the health professional | Although most doctors do not recognize the recent guidelines and techniques for communication of bad news, in most cases expend appropriate place and time, and have a consistent plan dialog. The lack of specific training to physicians may indicate a lack of confidence about its role as bearers of news or inability to respond to the reactions and emotions of the patient. |
| 02 | Aspects related to the patient | The evaluation of the quality of the bad news in this study correlates with reported emotional state after receiving bad news, emphasizing the importance of the communication process. Satisfaction with communication depends on communication skills, biomedical and psychosocial factors. |
| 03 | Aspects inherent in the protocol | The study proposes a review of the SPIKES protocol focusing on failures of cancer treatment. Such algorithm guides the team in communicating bad news, bereavement care and comfort for the patient. |
| 04 | Aspects related to the health professional | The study suggests that the simulation can be used to train residents in the disclosure of unexpected results, improving the communication skills required for these disclosures. The scenarios described reflect common situations faced by the general surgeon in practice and require qualified conduct very difficult conversations. Although further research is needed, this study suggests that the integration of simulated disclosure practices in medical education would benefit the surgeon development. |
| 05 | Aspects inherent in the protocol | After describing a case report, it is confirmed that the application of the SPIKES protocol can help to relieve anguish felt from the patient and health professional. The strategy includes demonstration of empathy, recognition and appreciation of the patient's feelings, exploring the understanding and acceptance and provide information on possible interventions. Considered as action plan, it provides structure for discussion. |
| 06 | Aspects related to the health professional | After the preparatory course which included a discussion group on the SPIKES protocol, filming simulating the implementation of the protocol and communication skills, and feedback from a senior physician with previous assessments, it was realized that communication techniques help medical students gain confidence in their skills in breaking bad news, supporting the theory with practice and feedback through the psychological stress generated by real simulated conditions. |

As regards the definition of the characteristics of the studies, we analyzed the articles regarding its identification and methodological aspects, considering the research design of these items and their level of evidence (**Table 2**).

Regarding the articles analyzed, we found that all the major authors of the articles are medical physicians. As for the developing countries of studies,

three of articles have been published in the United States, one in Greece, one in Germany and one in France.

Table 3 shows the synthesis of knowledge based on the themes of studies and on the research design and level of evidence.

Discussion

It was noticed that predominant in the main authoring medical studies, providing evidence [12], the medical physician often assumes the role of communicating the diagnosis, because they are accountable for the medical treatment decisions. However, communication of a poor diagnosis can also be understood as a process that includes the interactions that occur before, during and after the time when the bad news is reported.

In Brazil, the calculations of the INCA indicate the occurrence of almost 600,000 new cases of cancer amongst males and females for the years 2014 and 2015. Naturally, discretion is important when sharing with cancer patients their diagnosis. Regarding the applicability of the SPIKES protocol; generally, the systematic time of reporting can affect the uniqueness and necessity of each case. Although there are currently difficulties, the protocol can be applied as a factor to the interpersonal moment, giving the particularity of signals from each patient [13].

Furthermore, Bonnaud-Antignac et al. [14] intended to evaluate the performance communication of poor diagnosis for fifth year medical students in cancer patients diagnosed after participating in a preparative course. The activity consisted of three sessions: discussion group SPIKES protocol, filming a mock interview about the issue and implementation of the activity feedback.

In this context, academic participants reported overall improvement in their ability to deal with the reaction of patients and identify their own emotions in stressful situations. Thus, the training course through theory application associated with the practice, guaranteed confidence in communication skills to assessed students.

As for the research design and the level of assessed evidence; we recognized that studies with a higher level of evidence should be integrated into the practice of medicine and help to increase the quality of care offered in the area of oncology.

Regarding the themes presented in **Table 3**, in the category aspects inherent to the health professional, the SPIKES protocol exercise illustrated an improvement in the communication of cancer diagnosis, and promoted positive effects to health professionals. Study 6 stated that after the preparatory course which included a discussion group on the SPIKES protocol, filming simulation of the implementation of the protocol and communication skills, with feedback from a senior physician with previous assessments and the course later, realized communication techniques that helped students to gain confidence in their skills in conveying a poor diagnosis. Thus, supporting the theory with practice and feedback through the psychological stress generated by real simulated conditions.

Regarding categorical aspects inherent to the patient; it was recognized that, according to Article 2 the evaluation of the quality of the poor diagnosis in this study correlates with reported emotional state after receiving poor diagnosis, emphasizing the importance of the communication process. Satisfaction with communication depends on communication skills, biomedical and psychosocial factors.

In the categorical aspects essential to the protocol, the SPIKES guides the team in communicating a poor diagnosis, bereavement care and comfort for the patient. Study 5 confirms that the application of the SPIKES protocol can help to relieve distress felt by the patient and health professional. The strategy includes demonstration of empathy, recognition and appreciation of the patient's feelings, exploring the understanding and acceptance and providing information on possible interventions. It is presented as an action plan that provides further thought for discussion.

Conclusion

The lack of training provided to medical professionals to communicate a poor diagnosis was perceived as a major limiting factor to an effective doctor-

patient relationship. We also verified the difficulty in reporting this moment through interviews in the studies assessed.

A search conducted on the selected databases consisted of six works. No publications were sourced from Brazil, demonstrating the need for further studies on this subject. Amongst the studies selected, five were developed by medical professionals.

Consequently, the application of training aiming to improve the communication of a poor diagnosis, especially this care based on the algorithm proposed by the SPIKES protocol, can improve the professional-patient interaction and bring security to the patient. We highlight the need for further research that aims to support evidence-based practice in health care.

Authors' contributions

All authors participated in the acquisition of data and revision of the manuscript. All authors determined the design, interpreted the data and drafted the manuscript. All authors read and approved the final version submitted for publication.

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Competing interests

The authors declare no competing interests.

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