Evaluating Physicians' Experiences and Compliance with the SPIKES Protocol for Communicating Adverse News: A Cross-Sectional Study Conducted in Muscat, Oman

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Abstract

Objectives: This study aimed to assess the knowledge, attitude and experience of physicians in delivering bad news and their adherence to the SPIKES protocol within Directorate General of Health Services (DGHS)-Muscat, Oman.

Methods: A cross-sectional study was conducted from December 2023 to June 2024 at the primary health care centers in Muscat. Data were collected through an online self-administered questionnaire completed by physicians at these centers.

Results: A total of 140 physicians completed the questionnaire (response rate =100%). The vast majority of the participants (n = 133, 95%) recognized the importance of training in breaking bad news and expressed willingness to attend future training. Nearly half of the participants (n = 67, 47.8%) reported negative experiences due to improper delivery of bad news. Overall, adherence to the SPIKES protocol was categorized as low (n = 2, 1.4%), medium (n = 25, 17.9%), and high (n = 113, 80.7%). No significant associations were found between adherence levels and any sociodemographic or clinical characteristics.

Conclusion: Physicians in primary care face challenges in delivering bad news, influenced by cultural factors, training, and protocol adherence. These challenges can be mitigated through regular, targeted training programs, starting at the undergraduate level and continuing throughout physicians' careers.

Keywords: Communication, Bad news, Empathy, Physician- Patient relation, Oman

Introduction

The growing emphasis and advances of patient-centered approaches (as opposed to traditional hierarchical) models of healthcare have been highlighted over the past two decades. This field testified to major conceptual and new considerations for health practitioners toward the quality of medical encounters and patients' satisfactions.[1,2] Thus, the role of the communication process in physician-patient interaction is acknowledged as a cornerstone in this model of healthcare, as well as being an essential skill and part of clinical competence.[1,3] Undoubtedly, the process of breaking

bad news (BBN) constitutes an investable sensitivity, even traumatizing, among physicians and patients alike, as BBN comprises an integral duty to many physicians.1 Buckman described bad news as "any news that drastically and negatively alters the patient's view of her or his future." Most of the bad news is in the message given, as it has an impact and informs the patient to adapt and face difficult futures.[4] Examples of such messages include but are not limited to a) informing a patient that they have tested positive for HIV; b) informing a patient that they have neurological degenerative diseases such as Alzheimer's or Parkinson's disease; and c) informing a patient that a tumor is malignant. In addition, bad news delivery includes disease recurrence, the failure of treatment, the spread of a disease, irreversible side effects, or the diagnosis of any other life-altering disease.

Proper training of communication skills is a unique process, as they are diverse according to the region and culture.[3] This can be observed in many studies in Western countries, which showed that truth-telling-centered strategies are supported by evidence of benefits in many aspects of patients' lives, such as quality of life.[5] On the other hand, other societies and cultures with a high level of family involvement are opposed to diagnosis disclosure directly to patients, such as Spain, Greece, China, Singapore, Japan, Saudi Arabia, and Korean Americans and even Mexican Americans in the USA.[6] Similarly, in nearby countries such as Saudi Arabia, which has a comparable culture to the Sultanate of Oman, some physicians find themselves unable to provide full information to a terminally ill patient about their condition, which is usually because of family issues and some other factors.[7]

This disparity between different approaches to truthful telling leading to stressful experiences while breaking bad news and the necessity of adequate training have been reported by many authors.[8] Moreover, requests for nondisclosure are common, and they lead to considerable distress for physicians who are used to an autonomy-focused approach. It is the patient who ultimately has the right to decide how they want to exercise autonomy about their own illness.[9]

The SPIKES protocol is widely recognized as a key framework for training communication skills in the delicate task of delivering bad news, particularly in the context of cancer care.[8,10] It outlines six essential steps for this process and has been assessed in various countries, including the United States and Germany.[11,12] The initial step, referred to as the setting up phase (S), emphasizes the importance of creating a private and comfortable environment for the conversation. The second step involves gauging the patient's understanding of their illness through open-ended questions. The third step invites the patient to express their desire for information regarding their condition. The fourth step, known as knowledge (K), encompasses all relevant details pertaining to the diagnosis. The fifth step focuses on emotion (E), where the healthcare provider demonstrates empathy and acknowledges the patient's feelings while offering support. Finally, the last step (S) involves summarizing the information related to treatment options and prognosis, ensuring the patient has a clear understanding of their situation.[13,14]

These guidelines are widely regarded as effective for communicating unfavorable news and addressing critical matters, despite a lack of robust scientific evidence. The present study aims to evaluate how well doctors follow the SPIKES protocol when delivering bad news, investigate their knowledge, attitudes, and experiences related to this process in Oman, assess the application and compliance with the SPIKES protocol among physicians across various specialties and healthcare institutions in Oman, and examine the training opportunities available as well as the interest of physicians in enhancing their skills in delivering bad news.

Methodology

This self-administered questionnaire-based descriptive cross-sectional study was conducted among physicians working under the Ministry of Health (MOH). The study involved 30 local health centers under Directorate General of Health Services (DGHS)-Muscat. The questionnaire assessed their Compliance with the SPIKES framework for delivering unfavorable news. The data collection was carried out over a period of 7 months from December 2023 to June 2024. The study targeted all the doctors practicing in all primary healthcare centers at DGHS-Muscat (general practitioners, medical officers, family medicine residents, specialists, senior specialists, consultants, and senior consultants). Exclusion criteria include doctors who have no direct contact with patients as well as those on long leaves (i.e. maternity, study leaves, etc.)

An online self-administered survey utilizing Google Forms (Google LLC, Mountain View, California, USA). was distributed through different platforms, including the national Ministry of Health electronic portal Al Barwah as well as emails and WhatsApp messages, in addition to visiting the doctors at the different primary health centers across Muscat governorate. The questionnaire was disseminated following the ethical approval granted by the Health Studies and Research Approval Committee (HSRAC) of the Ministry of Health in Oman, as well as obtaining authorization from DGHS-Muscat for its distribution. The participation is voluntary and anonymous, and a written informed consent was obtained before filling out the questionnaire. All the participants were informed about the study objectives and that they had the right to withdraw at any time. Confidentiality was both assured and stressed. Each participant was allowed only one electronic response.

A validated and systematically organized questionnaire was employed for data collection. An English version of the survey, previously utilized in earlier studies, is available.[15,16] The questionnaire comprised five primary sections, beginning with the socio-demographic section that collects personal details from participants, such as age, gender, qualifications, and years of experience. The second section focused on physicians' knowledge and experience regarding the delivery of bad news, featuring nine items assessed on a 3-point Likert scale (usually, sometimes, and never). The third section included six items aligned with the SPIKES model for delivering bad news. The fourth section addressed physicians' perspectives on breaking bad news, consisting of 25 items. The final section explored the obstacles encountered in delivering bad news.[16]

The sample size was estimated to be 140, derived from the total number of doctors in Primary Health Care (PHC) within the Directorate General of Health Services (DGHS) in Muscat. This estimation included a margin of error of 5% and a confidence level of 95%. Data analysis was conducted using the Statistical Package for the Social Sciences (SPSS) version 28, developed by IBM Corp. in Armonk, New York, USA. Categorical variables were presented as frequencies and percentages, while continuous variables were expressed as means and standard deviations. The relationships between independent and outcome variables were assessed using an independent sample t-test and the Chi-square ($\chi 2$) test. A p-value of ≤ 0.05 was deemed statistically significant.

Results

A total of 140 physicians engaged in primary health care within the Muscat governorate completed this the questionnaire. Among these respondents, 14 (10%) were male and 126 (90%) were female. The average age of the participants was 35.0 ± 10.0 years, with an age range of 24 to 55 years; notably, the majority (n = 110; 78.6%) were 40 years old or younger. Regarding their clinical roles, the largest group consisted of residents (n = 52; 37.1%), followed by house officers (n = 31; 22.1%), specialists (n = 12; 8.6%), senior specialists (n = 8; 5.7%), consultants (n = 5; 3.6%), and senior consultants (n = 3; 2.1%). The average work experience among the participants was 10.0 ± 9.0 years, with a range of 1 to 30 years [Table 1].

Table 1: Demographic characteristic of physicians (N=140).

	Frequency	**Percent (%)**
Gender		
Male	14	10
Female	126	90
Age ranged 22 - 60		
≤40	110	78.57
>40	30	21.4
Marital status		
Single	30	21.4
Ever been married	110	78.57
Clinical position		
House officer	31	22.1
Intern	2	1.4
GFP	7	5
Resident	52	37.1
Specialist	12	8.57

Senior specialist	8	5.7
Consultant	5	3.75
Senior consultant	3	2.1
Other	20	14.28
Years of experience		
1-10	91	65
>10	49	35
Qualifications		
Bachelor Degree	16	11.4
Board Exams	22	15.7
Fellowship	2	1.4
MD	92	65.7
Memberships	8	5.7

A significant number of participants (n = 133; 95%) indicated that they had prior experience in delivering bad news to patients. Among them, a notable portion (n = 97; 69.3%) reported having received education and training on this topic. The overwhelming majority concurred on the necessity of training for physicians to cultivate the essential skills required for breaking bad news (n = 133; 95%) and expressed a strong interest in participating in future training sessions (n = 133; 95%). Nearly half of the participants (n = 67; 47.8%) acknowledged having encountered negative experiences with patients due to inadequate delivery of bad news. Additionally, one quarter of the participants (n = 34; 24.3%) confessed to initially informing the patient's family of distressing health information without the patient's consent, despite the fact that most (n = 110; 78.6%) believed that such news should be communicated directly to the patient. A small number of respondents (n = 20; 14.3%) admitted to conveying bad news to patients over the phone instead of in person [Table 2].

Table 2: Percentage distribution of responses to selected questions related to knowledge, training and experience (N=140).

Item	Yes (%)	No (%)
1. Have you ever received any education/training for breaking bad news?	97 (69.28)	43(30.7)
2. Do you feel that training is needed for adequate skill development in breaking bad news?	133(95)	7 (5)
3. Are you willing to attend training regarding breaking bad news in the future?	133(95)	7 (5)
4. Have you ever broken bad news to patients or patients' family?	133 (95)	7 (5)
5. Did you have any bad experiences due to improperly breaking bad news?	67(47.8)	73 (52.2)
7. Do you believe that the bad news should be delivered directly to the patients?	110 (78.6)	30(21.4)
8. Have you ever broken bad news to patients' family without the patient's consent?	34 (24.3)	106 (75.7)
9. Have you ever broken bad news to patients' through phone?	20(14.3)	120 (85.7)

Adherence to the SPIKES protocol was consistently reported by 55.7% to 84.3% of participants. However, 15% to 37.9% indicated that they sometimes adhered to certain steps, while 0.7% to 6.4% reported never following specific steps of the protocol [Table 3]. The average adherence score was 10.12 ± 2.0, with a range of 3 to 12 and a median score of 11. A perfect score was achieved by 44 doctors, representing 31.4% of the respondents [Table 4]. In terms of adherence levels, 2 participants (1.4%) reported low adherence, 25 (17.9%) reported medium adherence, and 113 (80.7%) reported high adherence to the SPIKES protocol [Table 5]. No significant correlations were identified with any sociodemographic or clinical characteristics [Table 6].

Table 3: Participant`s adherence to SPIKES protocol (N=140).

Item	Never (N, %)	Sometimes (N, %)	Usually (N, %)

1. **S.** Do you **set up** (plan) the interview for the patient to feel comfortable and maintain privacy?	9 (6.4%)	53(37.9%)	78(55.7%)
2. **P.** Do you assess the patient's **perception** (what he already knows) about the condition?	3 (2.1%)	33(23.6%)	104(74.3%)
3. **I.** Do you obtain the patient's **invitation** (ask him what they want to know)?	9 (6.4%)	47 (33.6%)	84 (60%)
4. **K.** Do you give information (**knowledge)** to the patient about their condition?	1 (0.7%)	21(15%)	118 (84.3%)
5. **E.** Do you assess the patient's **emotions** with **emphatic** responses?	3 (2.1%)	31 (22.1%)	106(75.7%)
6. **S.** Do you explain the future **strategies** including treatment options and prognosis?	2 (1.4%)	23 (16.4%)	115(82.1%)

Table 4: Participant`s SPIKES protocol scores (N=140).

SPIKES score	Frequency	Percentage (%)
3	1	0.7
4	1	0.7
6	10	7.1
7	7	5
8	8	5.7
9	14	10
10	21	15
11	34	24.3
12	44	31.4

Table 5: Participant`s SPIKES protocol scores categories (N=140).

SPIKES score category	Frequency	Percent (%)
Low adherence (scores of <6)	2	1.4
Medium adherence (scores of 6–8)	25	17.9
High adherence (scores of ≥ 9)	113	80.7

Table 6: Association of Participant`s SPIKES protocol scores categories and Demographic characteristic (N=140).

	Low/medium adherence (n=27)	High adherence (n=113)	P value
Gender			
Male	3 (11.1)	11 (9.7)	0.734
Female	24 (88.9)	102 (90.3)	
Age			
≤40	20(74.1)	90 (79.6)	0.602
>40	7 (25.9)	23 (20.4)	
Marital status			
Single	6 (22.2)	24(21.2)	1.00
Ever been married	21 (77.8)	89 (78.8)	
Clinical position			
House officer	3 (11.1)	28 (24.8)	0.161
resident	15 (55.6)	37 (32.7)	
Specialist	3 (11.1)	9 (8)	
Senior specialist	2 (7.4)	6 (5.3)	
Consultant	1(3.7)	4 (3.5)	
Senior consultant	1 (3.7)	2 (1.8)	
Years of experience			
1-10	17 (63)	74 (65.5)	0.825
>10	10 (37)	39 (34.5)	
Qualifications			
MD/MBBS	22 (81.5)	94 (83.2)	0.782
Board/Fellowship	5 (18.5)	19 (16.8)	

Discussion

For medical professionals who frequently engage with patients breaking bad news is a crucial communication skill,[17,18] it is one of the most difficult tasks for doctors, and in the field of clinical medicine, there is minimal opportunity for doctors to develop this skill.[19] According to a global survey of doctors employed in hospitals across five continents and 40 countries, only 33.4% of them had received formal training in breaking bad news to patients.[20] Despite having less formal training in this area, younger practitioners and those with fewer years of experience were more likely to be involved in breaking bad news to patients.[20] Nonetheless, a recent meta-analysis of qualitative studies examining the experiences of healthcare professionals in delivering such news highlighted how emotionally taxing this role is, sometimes leading to discomfort and relational anxiety.[21] According to other research, breaking bad news can result in a physiological stress reaction as well as emotions of concern, guilt, exhaustion, failure, and dissatisfaction.[22,23]

The aim of this study was to investigate the ability of physicians to break bad news to patients in primary care facility in Muscat governorate in Oman. In the current research, 95% of the practitioners who responded to the study said they had previously received training on how to provide patients with bad health news. These results show an increased organization of pertinent training in this field into medical school instruction, which is in line with research done in Egypt and Brazil.[24,25] It is important to note, though, that medical schools usually place more emphasis on imparting medical knowledge than on helping students develop their practical communication skills. Although the current study's participants knew the fundamentals of how to give uncomfortable health information, several were not aware that their usual methods for breaking bad news to patients followed a specific protocol.

It is not uncommon for physicians to give bad news in an inappropriate manner. In the present research, 47,8% of questioned doctors had unpleasant experiences as a result, which is in line with results from earlier research conducted in Nigeria, Korea, and Sudan.[26-28] A lack of training and knowledge is frequently the root cause of this problem. For a long time, global medical school curricula have ignored the importance of effective communication in breaking bad news. It has only recently been acknowledged that teaching these skills is an essential part of a doctor's education.[29] Nevertheless, it is important to understand that education is insufficient on its own and that further training is needed.[30] In addition to reducing the anxiety associated with the job, proper training in breaking bad news increases a doctor's self-confidence and effectiveness.[31,32]

In the farber et al. study, 63% Of physicians had seen a deadly condition in a family, and 17% had personally encountered a terrible disease. This study found that personal experience with life threatening diseases was significantly associated with enhanced emotional support.[33] In Ghaffarinejad et als study, having a dangerous sickness in himself or his near relatives was associated with increased emotional backing while reporting unpleasant news.[34] In the present research project, the vast majority of respondents (95%) felt that training is required to build adequate skills in breaking bad news. This is consistent with findings from a research performed in Sudan, whereas 94.8% of the participating physicians had a similar mindset.[26]

Patients are significantly impacted by social and cultural factors, which frequently overshadow professional considerations.[35,36] Notably, family participation in medical decision-making differs significantly between Easter and Western cultures. Individualism values personal autonomy in Western nations, Whereas collectivism values familial relationships and communal harmony in Eastern cultures.[37] Additionally, family members' healthcare preferences are greatly influenced by their cultural and religious views, with decisions being made in accordance with customs and shared values.[38] Significant family involvement in healthcare decision-making has been validated by earlier studies conducted in Oman. involves keeping the patient unaware of the diagnosis itself.[39,40]

Cultural influences can sometimes outweigh professional considerations. perhaps this was the motivation for sharing patient information with family rather than with the patient. Cultural considerations may have significant impact on decision making when it comes to imparting terrible news. Cultures with strong family relationships and largely patriarchal households, such as Omani culture to delegate decision making to elders without regard for rights or confidentiality. Doctors must follow cultural conventions. The dilemma is exacerbated by a lack of training in delivering unpleasant news. It makes the physician more vulnerable to uncomfortable situations, and he or she is more likely to feel comfortable sharing patient-related information with family or relatives without the patient's permission.

This dynamic could help to explain why 24.3% of respondents acknowledged giving a patient's relatives direct access to private information without the patient's consent.

According to a study done in Saudi Arabia, a country that is neighboring Oman, 70% of physicians would rather share information with close family members than with patients. In addition, 32% of them admitted to telling the patient's family members about critical illnesses without permission.[35] Conversely, studies conducted in Sudan and Egypt revealed that a greater percentage of respondents favored sharing bad news with the patient's family (34.4% and 59.2%, respectively).[26,28] In the current study, 78.6% of participants acknowledged the importance of patient's anonymity and autonomy, which support the truthful sharing of sad news with them.

Because family unity is highly prized in Omani society, some doctors break bad news to the patient's family directly, perhaps ignoring the patient's stated indigent rights. A decree known as Royal Decree 75/2019 specifies standards for practice in a number of medical specialties.[41,42] According to Article 12 of this decree, a doctor must inform a patient about the type and severity of their illness.[42] But if this isn't what's best for the patient. For instance, a second-degree family must receive the information if the patient is too sick or disabled to fully comprehend their circumstances. In order to safeguard patients' rights to safety, autonomy, and secrecy as well as to shield medical professionals from accountability, it is imperative that medical laws be followed. Notably, when it comes to child health situations, medical professionals usually have an obligation to inform the family directly of any upsetting information because the child is legally considered a minor and hence unable to make their own healthcare decisions.

55.7-84.3% of respondents stated that they usually followed each of the six SPIKES process phases, indicating a high level of overall adherence to the SPIKES practice in the current study. However, a number of studies have discovered that different parts of the regimen have differing percentages of adherence. For instance, only 35–79% of Sudanese physicians in a research adhered to every step of the SPIKES procedure.[26] According to another study of Korean physicians, 80% of them thought they were effectively using the SPIKES strategy when breaking bad news to their patients.[27] The current study did not discover any meaningful connections between adherence to the SPIKES methodology and most of the clinical or sociodemographic characteristics of the participants, including age, years of work experience, and gender. These results are in line with studies carried out at a university hospital in Oman, Sudan. Saudi Arabia and Egypt failed to find any meaningful connections with these traits.[16,26,28,35]

The fact that this study is the first to examine physician practices and compliance with the SPIKES protocol for giving patients unpleasant health information at basic healthcare institutions in the Muscat Governorate, Oman, is one of its main advantages. Nonetheless, it is important to acknowledge certain noteworthy limitations. First, sampling bias could result from the low response rate. Second, because the questionnaire was self-administered the findings might have been impacted by the respondents' memory recall biases and social legibility. Third, proving temporality is impossible due to the cross-sectional study design. Fourth, strict adherence to the SPIKES procedure is not always required in every clinical context; it is just meant to assist physicians in understanding the important steps to take when breaking terrible news to patients. Lastly, the results of this study can only be applied to the entire community because it was carried out at the primary level in the Muscat Governorate, Oman. A bigger sample size and physicians from a range of Oman's hospitals and health centers, as well as from all medical specializations and care levels, should be included in future multi-center studies.

Conclusion

Breaking unpleasant news is a vital skill for doctors, it impacts patients' trust in their doctors as well as their adherence to management directions. Communication skills should receive a significant amount of attention in medical curriculum. The findings of this study indicate that physicians' capacity to deliver bad news is inadequate in some circumstances. Despite the overwhelming majority of the questioned doctors had undergone prior education on breaking bad news. Similarly, a sizable proportion admitted to releasing health information to the patient's family without permission. As a result, training courses throughout physicians' education and after graduation are recommended to boost patient trust while reducing physicians' concerns and discomfort in difficult scenarios including undesirable information delivery. Furthermore, frequent refreshing and Continuing Professional Development for doctors from various medical specialties and at all stages of their careers is essential to strengthen these skills so that they may confidently break bad news for better health care delivery.

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