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Original Research Article

Impact of SPIKES -protocol on knowledge, attitude and practice on breaking bad news in obstetrics practice among obstetrics and gynecology postgraduate residents

Sara Khan*, Saima Shreen, Uma Gupta, S. P. Jaiswar

Department of Obstetrics and Gynecology, Era's Lucknow Medical College and Hospital, Lucknow, Uttar Pradesh, India

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*Correspondence:

Dr. Sara Khan,

E-mail: drsara2123@gmail.com

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ABSTRACT

Background: Breaking bad news (BBN) is a critical communication skill in Obstetrics and Gynaecology, particularly when dealing with adverse pregnancy outcomes such as stillbirth, congenital anomalies, and miscarriage. Despite its importance, formal communication training is often inadequately addressed during postgraduate medical education.

Methods: A prospective interventional study was conducted in the Department of Obstetrics and Gynaecology at Era's Lucknow Medical College and Hospital, Lucknow, over a period of 24 months from January 2024 to December 2025. Twenty-five postgraduate residents participated in the study. Baseline assessment of knowledge, attitude and practice was performed using a validated questionnaire. Participants subsequently underwent structured training based on the SPIKES protocol, including interactive lectures, role-play sessions and simulation exercises. Communication skills were evaluated using Objective Structured Clinical Examination (OSCE) and SPIKES-based assessment before and after training. Participant feedback regarding the training programme was also obtained.

Results: Only 12% of residents reported prior formal training in breaking bad news. Baseline assessment demonstrated positive attitudes but inconsistent communication practices and limited familiarity with structured communication protocols. Significant improvements were observed following training across all OSCE domains ($p < 0.001$). Participants reported increased confidence, preparedness and satisfaction following the training programme.

Conclusions: Structured SPIKES-based communication training significantly improves knowledge, communication skills and confidence among postgraduate residents. Incorporation of formal communication training into postgraduate obstetrics and gynaecology curricula may enhance patient-centred care and improve management of adverse pregnancy outcomes.

Keywords: Breaking bad news, Communication skills, Obstetrics education, Postgraduate residents, SPIKES protocol, Stillbirth counselling

INTRODUCTION

Breaking bad news (BBN) is defined as any information that adversely and seriously affects an individual's perception of their future.¹ Pregnancy a priceless time of joy sometimes, becomes equally distressing for those who end up in stillbirth, miscarriage, congenital anomalies, fetal growth restriction, severe maternal illness, infertility, and reproductive loss. Such conversations are emotionally

challenging for both patients and healthcare providers and have a lasting impact on patient satisfaction, psychological well-being, trust in healthcare professionals, and subsequent healthcare decisions. This leads to guilt, anger, mistrust and self-blame. The grief leads to major mental illnesses such as posttraumatic stress disorder.²

The manner in which bad news is communicated can significantly influence patients' understanding, coping

mechanisms, emotional adjustment, and long-term psychological outcomes. Poor communication may result in confusion, dissatisfaction, anxiety, depression, and loss of trust in healthcare providers. Declaring death is the physician's responsibility and a daunting task. With limited training, individual abilities, and other constraints it often results in vandalism, violence, maladjustment, and unrest to which there is hardly any preparedness.³ There is a definite correlation between length of medical service and the ability to effectively communicate bad news, still many experienced clinicians and senior paramedical staff feel the need of communication training for better management. Paradoxically, junior doctors with little experience declare more deaths than their seniors.⁴

Although communication skills are recognized as a core competency in medical education, formal training in breaking bad news remains limited in many postgraduate training programmes.⁵ Most residents acquire communication skills through observation and clinical exposure rather than structured educational interventions. Consequently, substantial variability exists in the quality of communication delivered during adverse obstetric events.

The SPIKES protocol (Table 1) is one of the most widely accepted frameworks for delivering bad news. The acronym represents setting, perception, invitation, knowledge, emotions, and strategy/summary. The protocol provides a structured approach that facilitates patient-centred communication while addressing both informational and emotional needs.⁶

Table 1: SPIKES steps.⁶

SPIKES step	What to do in practice
Setting	Find a quiet, private space; sit down with the client; to minimize distractions
Perception	Ask, "What have you noticed about the pet's name recently?"
Invitation	Ask, "Would you like me to explain all the details, or just the main points?"
Knowledge	Use clear, simple language; share the diagnosis/prognosis gently
Emotions	Pause, listen, and acknowledge the client's feelings: "I can see this is very hard for you"
Strategy/summary	Discuss options and next steps together; offer support resources

Simulation-based training, role-play exercises, and structured feedback have emerged as effective methods for improving communication skills among healthcare professionals. However, limited data are available regarding the effectiveness of such interventions among postgraduate obstetrics and gynaecology residents in India.

The present study was therefore undertaken to assess the knowledge, attitude, and practice of postgraduate residents regarding breaking bad news and to evaluate the impact of a structured SPIKES-based training programme on communication competence.

METHODS

Study design

This was a prospective interventional educational study conducted among postgraduate residents in the Department of Obstetrics and Gynaecology.

Study setting

Department of Obstetrics and Gynaecology, Era's Lucknow Medical College and Hospital, Lucknow, Uttar Pradesh, India.

Study duration

This study conducted from January 2024 to December 2025 (24 months).

Study participants

All postgraduate residents undergoing training in the Department of Obstetrics and Gynaecology during the study period were invited to participate.

Inclusion criteria

Postgraduate residents enrolled in the Department of Obstetrics and Gynaecology, willingness to participate in the study, and provision of written informed consent were included.

Exclusion criteria

Residents unavailable during training sessions or assessments, incomplete questionnaire responses, and refusal to participate were excluded.

Sample size

A total of 25 postgraduate residents participated in the study (Judgemental sampling).

Study tool

A validated structured questionnaire was developed after review of relevant literature and communication frameworks. The questionnaire assessed three domains: knowledge, attitude and practice related to breaking bad news.

Responses were recorded using a five-point Likert scale as Strongly Agree (SA), Partially Agree (PA), Neutral (N), Partially Disagree (PD), and Strongly Disagree (SD).

Educational intervention

Residents underwent structured communication skills training based on the SPIKES protocol. The programme consisted of: didactic lectures on principles of breaking bad news, introduction to SPIKES communication framework, demonstration sessions, small-group discussions, role-play exercises using obstetric scenarios, and facilitated feedback sessions. Scenarios included stillbirth, missed miscarriage, congenital anomalies, and adverse maternal outcomes.

Outcome assessment

Following completion of training, participants underwent repeat OSCE assessment using standardized scenarios. Performance was evaluated using a structured checklist covering.

Feedback assessment

Participants completed a post-training feedback questionnaire assessing perceived usefulness, realism, preparedness, and confidence related to communication skills training.

Statistical analysis

Data were entered into Microsoft Excel and SPSS software Version 21.0 for analysis. Continuous variables were expressed as mean±standard deviation, whereas categorical variables were expressed as frequencies and percentages. Pre- and post-training scores were compared using appropriate statistical tests. A p value <0.05 was considered statistically significant.

RESULTS

Baseline knowledge regarding breaking bad news

Twenty-five postgraduate residents participated in the assessment of knowledge regarding breaking bad news. Responses demonstrated variable levels of awareness regarding communication principles. A majority of residents recognised the importance of privacy during communication, with 52% strongly agreeing that privacy of the environment is important while communicating bad news. Similarly, 52% strongly agreed that an accompanying support person should be offered when the patient is alone. However, only 12% reported having received specific prior training in breaking bad news. Furthermore, 52% either strongly or partially agreed that communication should be guided by instinct rather than a structured protocol, indicating limited familiarity with evidence-based communication frameworks (Table 2).

Table 2: Knowledge on breaking bad news-response distribution (n=25).

Statement	SA	PA	N	PD	SD
Pregnant woman should be asked to get dressed before delivering bad news	9 (36)	2 (8)	10 (40)	1 (4)	3 (12)
Pregnant woman should be given privacy when breaking bad news	7 (28)	6 (24)	7 (28)	2 (8)	3 (12)
Privacy of the environment is important	13 (52)	2 (8)	3 (12)	3 (12)	4 (16)
If pregnant woman is alone, ask if she wants accompaniment	13 (52)	2 (8)	2 (8)	3 (12)	5 (20)
I had specific training before BBN	3 (12)	3 (12)	4 (16)	6 (24)	7 (28)
One should go by instinct rather than protocol	7 (28)	9 (36)	6 (24)	3 (12)	0
Diagnosis, management and prognosis should not be discussed together	2 (8)	9 (36)	8 (32)	3 (12)	2 (8)
I do not know any protocolized approach to BBN	4 (16)	9 (36)	3 (12)	4 (16)	4 (16)
I have the ability to discuss prognosis	6 (24)	9 (36)	4 (16)	3 (12)	2 (8)

*SA = Strongly Agree; PA = Partially Agree; N = Neutral; PD = Partially Disagree; SD = Strongly Disagree; *(Number in parenthesis is %)

Attitude towards breaking bad news

Residents generally demonstrated positive attitudes toward patient-centred communication. Twelve (48%) strongly agreed that they assessed what patients already knew before communicating bad news. Similarly, 44% strongly agreed that second opinions should be encouraged when requested (Table 3). However, opinions differed regarding the timing and setting of disclosure, indicating variability in communication approaches

Practice related to breaking bad news

Practice assessment demonstrated that most residents incorporated several desirable communication behaviours. Fourteen participants strongly agreed that they carefully considered what they would say before delivering bad news. Sixty-eight percent either strongly or partially agreed that patients should be seated before disclosure. Only 40% strongly or partially agreed that they felt comfortable delivering the news of stillbirth, highlighting the need for formal communication training (Table 4).

Table 3: Attitude on breaking bad news-response distribution (n=25).

Statement	SA	PA	N	PD	SD
Bad news should be broken while patient is on the couch	3 (12)	6 (24)	9 (36)	2 (8)	5 (20)
Before communicating bad news, I ask what patient already knows	12 (48)	5 (20)	3 (12)	2 (8)	3 (12)
I express inability to change the situation	6 (24)	4 (16)	10 (40)	2 (8)	3 (12)
I try to empathize with the patient	10 (40)	5 (20)	6 (24)	2 (8)	2 (8)
I do not believe in prolonged discussion	0	7 (28)	9 (36)	5 (20)	4 (16)
If patient wants a second opinion, I encourage her	11 (44)	4 (16)	3 (12)	3 (12)	4 (16)

*(Number in parenthesis is %)

Table 4: Practice on breaking bad news response distribution (n=25).

Statement	SA	PA	N	PD	SD
Lights are turned on before reporting bad news	7 (28)	9 (36)	6 (24)	2 (8)	1 (4)
Woman is asked to sit before delivering bad news	9 (36)	8 (32)	3 (12)	3 (12)	2 (8)
I first think about what I will say	14	2 (8)	3 (12)	4 (16)	2 (8)
I am comfortable breaking bad news of stillbirth	5 (20)	5 (20)	10 (40)	3 (12)	2 (8)
I do not give warning shot and tell directly	2 (8)	2 (8)	6 (24)	4 (16)	11 (44)

*(Number in parenthesis is %)

Table 5: Impact of SPIKES-based training on OSCE performance comparison of pre- and post-training OSCE scores (n=25).

Communication skill	Pre-test Mean±SD	Post-test Mean±SD	P value
Prepare yourself	1.52±0.52	3.76±0.43	<0.001
Introduce yourself	1.52±0.50	3.64±0.48	<0.001
Privacy	1.52±0.50	3.64±0.48	<0.001
Accompaniment	1.40±0.50	3.84±0.68	<0.001
Assess patient knowledge	1.56±0.50	3.80±0.57	<0.001
Invitation	1.40±0.50	3.84±0.68	<0.001
Warning shot	1.40±0.50	3.52±0.50	<0.001
Allow denial	0.64±0.56	3.54±0.58	<0.001
Explain situation	1.40±0.50	3.60±0.50	<0.001
Listen to concerns	1.12±0.33	4.00±0.00	<0.001
Allow ventilation	1.56±0.50	3.80±0.64	<0.001
Offer help	1.28±0.45	3.84±0.62	<0.001
Summarize	1.32±0.47	3.48±0.50	<0.001
Further management	1.64±0.48	3.72±0.67	<0.001

Impact of SPIKES-Based training on OSCE performance

Following the educational intervention, significant improvements were observed across all assessed communication competencies. The greatest gains were noted in allowing denial, listening to patient concerns, and offering emotional support (Table 5).

DISCUSSION

The present study assessed the knowledge, attitude, and practice (KAP) of postgraduate residents regarding BBN and evaluated the effectiveness of a structured SPIKES-based training intervention. We observed that 52% [of 13/25] students agreed partially or totally on majority of

knowledge related questions (Table 2). Of our postgraduates 24% had some training on BBN, rest had never been trained. Similarly, Al-Sabaawi et al also reported that 63% doctors were not aware of any protocols for BBN.⁷ Similarly figures of Homendro et al reported 15% of participants received training on breaking bad news protocol.⁸ Only 14.1% of the participants had good knowledge of breaking bad news protocol. Thirty eight percent postgraduates in a study of north India by Jain et al had received training for breaking bad news.⁹

Our study found generally favorable attitudes toward patient-centered communication, with 68% of residents assessing patients' prior understanding before disclosure, 60% attempting to express empathy, and 60% supporting second opinions, although variability existed regarding

timing of disclosure (36% supporting couch-based disclosure versus 28% disagreeing) and emotional expression (40% expressing limitations, 40% neutral) (Table 3). Similarly, Naji et al reported that 72% of residents endorsed assessing patient understanding prior to BBN, and 65% supported shared decision-making principles.¹⁰

Elashiry et al observed that 58-70% of trainees favoured empathetic engagement but demonstrated uncertainty regarding appropriate emotional disclosure.¹¹ Muneer et al also reported that while 75% of physicians valued patient involvement, approximately 30% preferred limiting prolonged discussions due to perceived medicolegal concerns.¹² In contrast, Bosshard et al documented more uniformly positive attitudes following structured bioethics curricula, indicating that variability decreases after formal training.¹³ These findings align with Barry et al and Elwyn et al, who emphasized that shared decision-making improves patient-centered outcomes.^{14,15} Therefore, the present results are largely consistent with existing literature showing favorable attitudes but variability in emotional handling and disclosure timing prior to formal structured training.

Our study found highly significant improvement across all domains following structured training, with mean scores increasing from 1.52 ± 0.52 to 3.76 ± 0.43 for preparation ($p < 0.001$), 1.52 ± 0.50 to 3.64 ± 0.48 for introduction ($p < 0.001$), 1.52 ± 0.50 to 3.64 ± 0.48 for privacy ($p < 0.001$), 1.40 ± 0.50 to 3.84 ± 0.68 for accompaniment ($p = 0.001$), 0.64 ± 0.56 to 3.54 ± 0.58 for allowing denial ($p < 0.001$), 1.12 ± 0.33 to 4.00 ± 0.00 for listening to concerns ($p < 0.001$), and similar statistically significant improvements across all remaining domains (Table 5). Similarly, Johnson et al demonstrated significant OSCE score improvements following structured BBN workshops ($p < 0.001$).¹⁶ Cantú Quintanilla et al reported substantial reductions in complaints (IRR 0.54, 95% CI 0.44-0.67) and legal claims (IRR 0.039, 95% CI 0.005-0.295) with improved communication outcomes after bioethics training.¹⁷ Bosshard et al observed marked post-training improvements in structured communication competency scores.¹³ These findings strongly support that structured SPIKES-based training significantly enhances observable communication competencies, consistent with established global evidence advocating formal communication curricula in postgraduate medical education.

Mahendiran et al observed higher protocol awareness following institutional curriculum integration, suggesting that structured exposure significantly improves knowledge alignment with SPIKES principles.¹⁸ Implementation of formal training provides a tool for postgraduates to deal with BBN and capacity building to perform this function. Integration of SPKES in PG Curriculum as a training module on BBN is feasible, acceptable and helpful for postgraduate residents.

CONCLUSION

Structured SPIKES-based communication training significantly improves knowledge, communication skills and confidence among postgraduate residents. Incorporation of formal communication training into postgraduate obstetrics and gynaecology curricula may enhance patient-centred care and improve management of adverse pregnancy outcomes.

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Ethical approval: The study was approved by the Institutional Ethics Committee

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