Improving Perinatology Residents' Skills in Breaking Bad News: A Randomized Intervention Study

Aprimoramento das habilidades de residentes em perinatologia para comunicar más notícias: um estudo de intervenção randomizado

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Abstract

Objective Breaking bad news (BBN) is particularly difficult in perinatology. Previous research has shown that BBN skills can be learned and improved when taught and practiced. This project evaluated whether a structured training session would enhance perinatology residents' skills in BBN.

Methods This was a randomized controlled intervention study with year 1 to 4 Perinatology residents from a medical school in Brazil, during the 2014/15 school year. A total of 61 out of 100 (61%) eligible residents volunteered to a structured training program involving communicating a perinatal loss to a simulated patient (SP) portraying the mother followed by the SP's immediate feedback, both video recorded. Later, residents were randomly assigned to BBN training based on a setting, perception, invitation, knowledge, emotion and summary (SPIKES) strategy with video reviews (intervention) or no training (control group). All residents returned for a second simulation with the same SP blinded to the intervention and portraying a similar case. Residents' performances were then evaluated by the SP with a checklist. The statistical analysis included a repeated measures analysis of covariance (RM-ANCOVA). Complementarily, the residents provided their perceptions about the simulation with feedback activities.

Results Fifty-eight residents completed the program. The simulations lasted on average 12 minutes, feedback 5 minutes and SPIKES training between 1h and 2h30m. There was no significant difference in the residents' performances according to the SPs' evaluations ($p = 0.55$). The participants rated the simulation with feedback exercises highly. These educational activities might have offset SPIKES training impact.

Conclusion The SPIKES training did not significantly impact the residents' performance. The residents endorsed the simulation with feedback as a useful training modality. Further research is needed to determine which modality is more effective.

Keywords
- medical
- education
- health communication
- patient simulation
- internship and residency
- perinatology

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Resumo

Objetivo É uma tarefa particularmente difícil transmitir más notícias em perinatologia. Habilidades de comunicação podem ser aprendidas, ensinadas e praticadas. O presente estudo avalia se uma sessão de treinamento estruturado para comunicar más notícias ampliaria as habilidades dos residentes de perinatologia.

Métodos Estudo de intervenção controlado e aleatorizado com residentes do 1° ao 4° ano do curso de perinatologia de uma faculdade de ciências médicas no ano letivo de 2014/15. Um total de 61 dos 100 residentes elegíveis (61%) voluntariaram-se para um programa de treinamento envolvendo comunicar uma perda perinatal para uma paciente simulada no papel da mãe, seguido do feedback imediato da atriz, ambos filmados. Posteriormente, os residentes foram aleatoriamente designados para um grupo de treinamento em más notícias baseado na estratégia SPIKES e revisão dos vídeos (intervenção) ou para um grupo-controle, sem treinamento. Todos os residentes retornaram numa segunda simulação análoga à primeira, com a mesma paciente simulada cega à intervenção. Avaliou-se as habilidades dos residentes segundo um checklist preenchido pela atriz. A análise estatística incluiu análise de covariância para medidas repetidas (ANCOVA-MR). Os residentes avaliaram a atividade de simulação com feedback.

Resultados O programa foi completado por 58 residentes. As simulações duraram em média 12 minutos, o feedback 5 minutos, e o treinamento SPIKES entre 1h e 2,5h. Não houve diferença significativa nas atuações dos residentes segundo a paciente simulada ($p = 0.55$). Os residentes avaliaram a simulação com feedback positivamente. Essas atividades podem ter reduzido o impacto do treinamento SPIKES.

Conclusão O treinamento SPIKES não teve impacto significativo na atuação dos residentes. Os residentes consideraram as simulações com feedback úteis. Mais pesquisas são necessárias para determinar qual modalidade é mais eficaz.

Palavras-chave

- educação médica
- comunicação em saúde
- simulação de paciente
- internato e residência
- perinatologia

Introduction

Births are supposed to be celebrations of life. Although fear is always present in this transition to motherhood, losing a baby is contrary to every parental expectation.[1–3] It is a traumatic event rarely expected.[3,4] The experience starts with the diagnosis, but has many other emotional unfolding events that can have significant and lasting impact on the parents' well-being.[5] Mothers who experience stillbirth have been found to be at greater risk of complicated grief and are more likely to suffer from long-term psychological distress.[5] The way physicians transmit difficult news can have a profound psychological effect on parents.[6,7] The timing of the diagnosis and the way in which the news are delivered are crucial for the emotional recovery of those parents, preventing long-term mental health complications.[8] The literature on parents' perceptions and dissatisfaction with the disclosure of bad news suggests lack of training and practicing for developing the skills necessary to communicate bad news, especially in such intense emotional context as in perinatology.[9–12] Ellis et al,[11] in a systematic review on the experiences of parents and health care professionals, suggests that improvements to training programs are needed. Educational training programs, when offered early, could mitigate the difficulties associated with communicating bad news, since junior residents are usually not prepared to face this uncomfortable situation.[12]

Breaking Bad News (BBN) about a child loss is one of the hardest tasks for junior doctors, even if it is part of a perinatology resident's everyday life. It can be challenging for both recipients and caregivers.[13] When providers are trained and prepared to help parents, the care and the interactions with the health team can mitigate the negative effects of experiencing perinatal deaths.[8,14] Formal training in BBN to deal with the patient's emotions or the doctors' own fears and insecurities is usually absent in perinatology residency programs. Lack of training contributes to feelings of powerlessness and ineffectiveness in young professionals.[15] In general, BBN is limited to observing senior physicians in action, "a highly variable *on the job—see one do one* training, not always appropriate, with dubious indirect messages, mostly disguised by euphemisms or technical language."[16] Junior residents may incorporate these patterns as the right way to communicate, perpetuating the difficulties.[15] They tend to avoid BBN situations while constantly encountering them.[17]

According to the Accreditation Council for Graduate Medical Education's (ACGME) requirements in Neonatal-Perinatal Medicine, doctors must understand the psychosocial implications of disorders of the fetus, neonate, and young infant, as well as the family dynamics surrounding the birth and care of a sick neonate.[18] In Brazil, the National Residency Committee defines the 28 main areas all pediatric residents

should be competent in. Three of them refer to doctor-patient communication, dealing with family stress, and helping to cope with death and pain.[19] For obstetrics, one of the competencies to be developed is to deal with fetal death.[20] This suggests that residency training should include teaching, learning and practicing the skills necessary for BBN, just like any other technical ability.[21–23] Nevertheless, as far as we know, no such training has been incorporated in the pediatrics or obstetrics residency programs in Brazil.

The skills required for BBN have been described, and the consensus guidelines are available.[6,24,25] Based on these guidelines, Baile et al[26] suggest six stages doctors should follow to organize the task of BBN. It includes setting, perception, invitation, knowledge, emotions and summary, and it is known as SPIKES. It is designed to provide some structure to help doctors navigate through the patients' emotional turmoil and their own, minimizing its potentially negative impact.[27] Oncologists developed the protocol in the 1990s to deal with their everyday work.[28] Nevertheless, the SPIKES model is applicable to many health care areas.[29] The literature shows that an effective learning should include a model such as SPIKES and create opportunities to discuss issues, practice, and provide feedback.[6] In Brazil, the Ministry of Health offered training on BBN in oncology for health providers using the SPIKES strategy from 2009–2011 (INCA).[30]

For training in sensitive subjects such as BBN, many programs use simulated patients (SPs) who can give constructive feedback, helping learners to gain confidence to deal with real-life challenges.[24,31,32] Recording of performances and subsequent review by participants, with guided feedback, is useful to teach health care providers appropriate communication techniques and to deal with challenges surrounding patients' responses.[33] This type of training is valuable because it helps individuals to identify their own reactions to stressful situations.

The SPIKES model has been used and evaluated as an adequate educational tool for teaching and training in BBN in obstetrics[34] and pediatrics.[12] We explored whether a training session using a SPIKES methodology would improve perinatology residents' communication skills in BBN. We hypothesized that residents who participated in the training would increase their abilities to BBN when compared with residents who had simulation and feedback only. Complementarily, we evaluated the residents' perceptions of the value of simulation-with-feedback exercises for improving their BBN skills.

Methods

Design and Subjects: This is a randomized controlled study involving gynecology & obstetrics and pediatrics residents enrolled in the 2014 school year at a medical school in Campinas, Brazil. Data collection occurred between June of 2014 and February of 2015, right before promotion to the next residency year (March 2015). Of the 100 eligible residents (50 from the pediatrics and 50 from the gynecology & obstetrics program), 61 volunteered (61%) to participate in the study. After the first, and before the second simulated encounter, we randomly allocated residents to one of two groups according to a computer-generated list based on their entrance number in the project: SPIKES training (intervention) or control group. The residents who were not available to participate in one or both simulations and/or in the SPIKES training were excluded from the final analysis.

Ethics: The study proposal was approved by the review board of the institution under protocol number 496.794, December 2013. CAAE 23188813.1.0000.5404. The study registration number for randomized studies is REBEC #RBR8K3cyk. The residents' preceptors agreed with the protocol and authorized the residents' participation. Each participant provided a signed informed consent form.

General procedures: *Resident's enrolment*: The principal investigator (PI) presented the study to the residents. They were guaranteed anonymity and freedom to withdraw from the study at any time. Once they agreed to participate, they scheduled the first simulated encounter (SE1) from a list of spots available three times a week after regular working hours at the Simulation Laboratory of the medical school.

Phase 1: BASELINE - Simulation Encounter 1 (SE1): Upon arrival at the Simulation Laboratory for SE1, the residents signed the informed consent form and filled a brief questionnaire with demographics: age, sex and year of residency, school of graduation, previous experience with simulation, and previous training in BBN. The residents read the door note detailing the case, including the social context. For pediatrics, a three-week-old newborn, delivered after premature rupture of membranes at 27 gestational weeks, in septic shock whose death was imminent. For obstetrics, a fetal demise associated with hypertensive disorder at 28 weeks of gestation. The single mother, played by a standardized patient (SP), was primiparae, and was alone in the room. The SPs' training lasted 16 hours and included discussing and practicing the role, adjusting the acting, learning to complete the scoring checklist and giving feedback through the mother's perspective. The resident had 25 minutes to communicate the death (imminent or real) and complete the encounter.

After the simulation, in a separate a room, the SP filled a 15-item checklist (►**Appendix 1**) for the expected behaviors during the resident's performances describing the steps and skills necessary for BBN. The checklist is based on Doc.com module 33, an online unit of an interactive learning resource for healthcare communication from the Drexel Medical School and the American Academy of Communication in Healthcare (AACH), translated to Brazilian Portuguese.[35] Upon completion, both the SP and the resident returned to the consultation room for guided debriefing based on the performance. The SP's feedback was meant to provide psychological safety to the resident over an emotionally demanding situation. The SP made clear to the resident how she felt during the session and which words or actions had a positive (or negative) impact on her as a mother. She discussed the residents' strengths and weaknesses in a constructive way giving suggestions for

improvement. Next, the resident left the room and filled a survey (►**Appendix 2**) evaluating the activities before being randomly assigned to intervention (SPIKES training) or to control group (no training) according to the residents' entrance number in the project as per a computer-generated list.

Phase 2: Educational Intervention— SPIKES training: The residents assigned to the intervention group had one training session with the PI. The training sessions happened in groups, pairs and individually, depending on the resident's availability. The researcher had the residents' recorded performances from SE1 downloaded on her laptop to offer training at a time and place that was convenient for the participant. The training intervention included discussions centered on residents' previous experiences and challenges in BBN during medical school or residence. The PI presented each one of the six stages of the SPIKES model bringing up its relevance in the context of perinatal loss. The SPIKES training served as a guide for residents to reflect about effective behaviors, attitudes and skills in helping parents and themselves. Lastly, residents watched their own videos from SE1 to identify their strengths and weaknesses. The sessions lasted between 1h and 2.30h, depending on the number of participants.

Phase 3: Final assessment - Simulated Encounter 2 (SE2): All residents (intervention, after completing SPIKES training; control, after completing SE1) returned for a second simulation (SE2) with the same SP from SE1, blinded to residents' allocation to the intervention or control group. The second cases were similar to the first ones: for pediatrics, a single mother, primipara, alone in the room, whose two-day old neonate's death is imminent due to an after-birth diagnosis of a lethal cardiac malformation. For obstetrics, a single mother, primipara, alone in the room, to be informed about a fetal demise confirmed by ultrasound after a bleeding episode. The SE2 followed the same procedures as the SE1. The residents assigned to the control group were offered SPIKES training after participating in the study.

Sample size: A convenient sample was obtained, limited by the number of residents enrolled in the program: 50 from gynecology and obstetrics, and 50 from pediatrics. Nevertheless, a sample size calculation was also performed, based on Amiel et al[31] Considering the difference between the mean scores of independent groups with a bilateral hypothesis, with a 5% significance level and 90% power, we calculated the minimal sample size would be 56 individuals. Outcome measures included SP checklist assessment of residents' performances (►**Appendix 1**), and complementarily, residentś evaluation of the simulation-with-feedback activity (►**Appendix 2**). For summary purposes, the top two and the lower two ratings were combined.

Analysis: We used descriptive statistics with central trends measures to describe the sample: we calculated frequency for categorical variables, and means, standard deviations (SDs), and minimum and maximum values for continuous numeric.

To assess if there were differences in demographics or experience between the SPIKES and control groups we used Fisher exact test and chi-square for dichotomous variables, and Mann-Whitney for continuous variables. The significant threshold was set at 0.01. To evaluate the impact of the SPIKES training, we conducted a repeated measured analysis of covariance (RM-ANCOVA). Here, the dependent variable was the SṔs checklist score (total number of points attained) and independent variables were time (SE1, SE2) and group. Covariates included school of graduation, previous experience with simulation and days between SE1 and SE2. All data analyses were conducted using SAS version 9.4.

Results

Sixty-one out of 100 eligible residents agreed to participate. In total, 58 residents, comprising 116 simulated encounters, completed the study. Only three residents (two in the intervention and one for control group) did not return and were excluded from the analysis (►**Fig. 1**). Simulated encounters lasted on average 12 minutes and feedback 5 minutes. The two groups, SPIKES and controls, were comparable regarding their demographics characteristics (►**Table 1**).

The statistical analysis included the "days between simulated encounters" covariate and the p value was not statistically significant ($p = 0.55$) for the SPIKES effect over time ("within subject" effect) or between groups ($p = 0.79$) ("between subjects" effect), that is, there was no difference between the performances of the two groups with respect to the SPIKES training. There was a SE effect though. The average over groups performance was better at SE2 than at SE1 with statistically significant p value ($p < 0.05$) (►**Table 2**).

►**Fig. 2** shows the mean performance scores the SP attributed to residents for both simulated encounters using the 15–item checklist. Independently from the time of the simulated encounter (SE1 or SE2), both groups (SPIKES and Control) performed similarly.

The residents' evaluation of their experience with simulation-with-feedback shows a high percentage of high ratings at SE1 (►**Table 3**). The results indicated that, at baseline (SE1), the participants valued such approach for the purposes of practicing BBN. Similar high ratings were obtained at SE2 for both groups, independently of the SPIKES training previously offered to one of the groups before SE2. More than 90% of residents rated the educational value of the activity highly, would recommend simulation with SP feedback to their peers, thought it was a good use of their time, and thought it could influence their future practices in BBN.

Discussion

In our study, participants experienced the SPs credible performances, their feedback and the dual opportunity to practice asking questions, saying the words, responding to emotions, experiencing their own responses to the interaction, as suggested by Fortin et al.[36] The SP-based encounters followed the guidelines for effective simulation: context specific, practice oriented, repeatable, safe, skill focused,

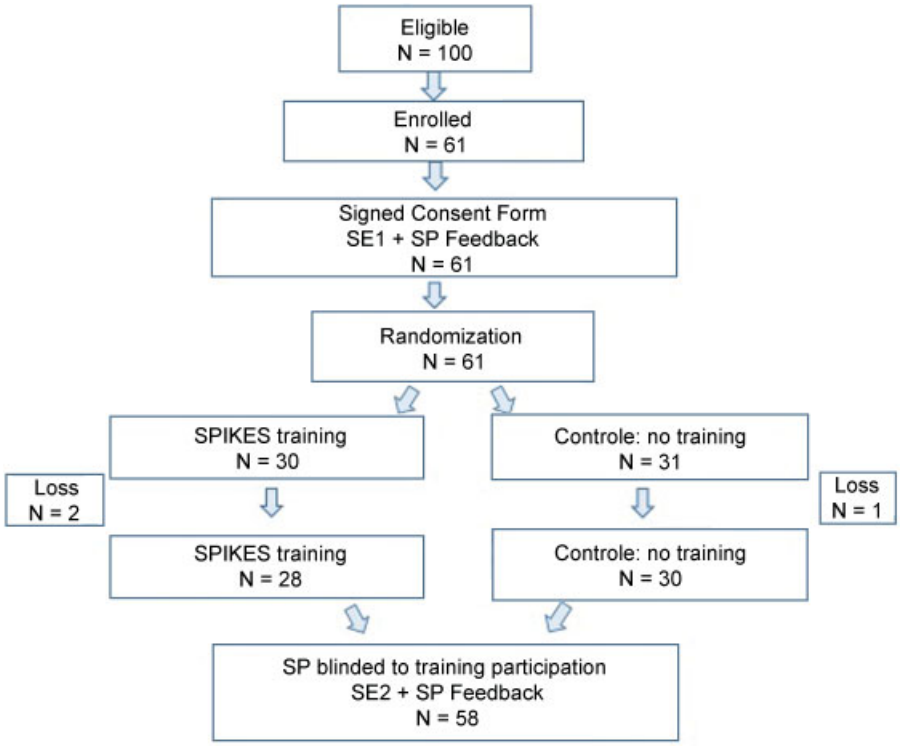

Fig. 1 Flow diagram: Participants' eligibility, enrollment, first simulation, randomization to intervention or control group, followed by second simulation with the final number analyzed.

tailored to address the participants' needs and with feedback from a well-trained SP.[37] All of this yielded an intense learning opportunity for both groups, independently of the SPIKES training.

The SP's feedback might have contributed the greatest in offsetting the impact of the SPIKES training. By recalling nuances from the encounter and expanding on it, the SP made clear to the resident how she felt as a mother during the session, pointing out the positive (or negative) impact of their chosen words on her. She related them back to the student, following what is described in the literature as mirroring, discussing the residents' strengths

Table 1 Comparison between the SPIKES and control groups regarding demographics

Characteristics	SPIKES N = 28 n (%)	Control N = 30 N (%)	Total N = 58 %	*p*
Age (mean)	27	27	27	1.00*
Female (%)	21 (75)	25 (83)	79	0.4337&
Pediatricś(yes)	17 (61)	47 (24)	53	0.2830&
Residency year				
Y1 residence (%)	13 (46)	10 (33)	40	0.7622#
Y2 residence (%)	6 (22)	9 (30)	26	
Y3 residence (%)	5 (18)	5 (17)	17	
Y4 residence (%)	4 (14)	6 (20)	17	
Graduation at UNICAMP (yes)*	10 (41)	7 (29)	41	0.0185&
Summative simulation experience (yes)	26 (93)	27 (90)	91	1.0&
Formative simulation experience (yes)	22 (79)	16 (53)	65.5	0.0433&
Previous BBN training (yes)	7 (25)	10 (33)	29	0.4860&

*Mann-Whitney
&Chi-Square
#Fisher, $p < 0.01$ is significant.
The mean interval between SE1 and SE2 for the control group was 133 days (minimum of 15 and maximum of 216 days, SD = 54.88), and for the SPIKES group it was 121 days (minimum of 14 and maximum of 219 days, SD = 50.21).

Table 2 Repeated measures of analysis of covariance (RM-ANCOVA) for "days between simulated encounters" (SEs), according to the standardized patient's (SP) checklist scores for SPIKES group and controls: time effect (SE and SE*SPIKES) and group effect (SPIKES x Control)

		f-value	Num DF	Den DF	*p*-value
Within subject effects	SE*SPIKES	0.36	1	53	0.5537
Time effect	SE	7.00	1	53	0.0107
Between subjects effects Group effect	SPIKES	0.07	1	53	0.7902

Abbreviations: Num DF, numerator degrees of freedom; Den DF, denominator degrees of freedom for the statistical test; f-value - statistical test; $p < 0.05$ is significant.

and weaknesses in a constructive way. The SP provided suggestions for improvement.[38] With this strategy, the residents were able to understand a parent's perspective of their communication experiences, similarly to what is described by Henley and Schott.[7] According to Meert et al,[39] having the parent's perspective helps health care personnel to communicate with greater sensitivity and confidence, reducing discomfort with and avoidance of difficult conversations. The fact that both groups had the baseline SP's feedback may have contributed to the improvement of all residents' performances in the second encounter, leading to a similar final performance to both groups, shadowing the benefits of the SPIKES training session.

Kim et al[40] described the difficulties to communicate with parents with whom residents had no prior contact. In their study, they created two scenarios to train perinatal residents to deliver bad news to SPs of infants with lethal diagnosis. Debriefing sessions involved the trainee, the SP and a team of participant observers. In their study, the simulations lasted in average 10 minutes due, probably, to the intensity and challenges of the task. In our study, in which residents were also seeing the "mother" for the first time, the average time was even longer (12 minutes), thus further mitigating the risk of being considered insufficient for BBN.

Communication training approaches vary considerably regarding length, intensity, teaching methods and choices of outcome measures.[41] A study evaluating the positive impact of a simulation-enhanced BBN workshop in pediatrics describes a five-hour training, which included simulation with actors in the role of parents.[12] Some authors

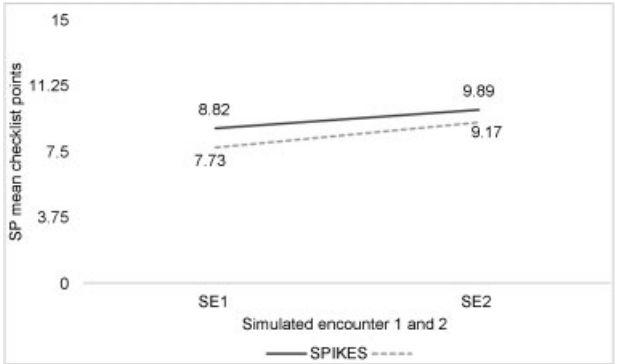

Fig. 2 Standardized Patients' (SPs) checklist mean score of residents' performances.

suggest a three-day workshop.[42] Longer training programs in larger groups were effective in showing SPIKES training effects.[42,43] Lienard et al[44] recognized a half day training as feasible due to the participants' workload, and considered it as a good start to a process that could be continuous, since communication skills in BBN can always be improved. In our study, a short training (one session of 1 to 2.30 hours) made the residents' participation possible.

Our working hypothesis that the SPIKES training would enhance the perinatology residents' skills in BBN when compared with the control group was not proven. We observed that, despite randomization, the SPIKES group had higher scores than the control group at baseline, according to the SP evaluation. Having higher ability at SE1 left them with less room than the control group for improvement.

This study was the first one offering a specific training program in BBN utilizing active learning methodologies as simulation with feedback and SPIKES model for perinatology residents at our medical school. Its strengths rest on the fact of the residents' volunteer participation and on the small number of follow up losses, which show the residents' interest and need for training in BBN. Ideally, all residents should have participated in the project, and a larger sample (beyond a self-selected sample) would have strengthened the study. This could only be achieved by making the training mandatory, or by having a multisite study, a challenging methodological option.

Due to budget constraints, we opted to have the presence of just the "mother," excluding fathers from the encounters, despite recommendations that both parents should be present, so grief can start synchronized.[45] The budget constraint also limited us to a single post intervention station encounter, thereby reducing reliability of resulting scores. Although the simulated cases created for obstetrics and pediatrics were about communicating a child's death to the mother, they were not the same. This might have elicited different behaviors from the residents. One single case scenario for residents from both specialties could have minimized this effect. Simulation plus SP's feedback may have worked as an intense and relevant intervention for both groups since less than a third of them had had some previous training in BBN. It might have reduced the potential effect of the SPIKES training. Based on the study design, it is not possible to disentangle the independent effects of the SP's feedback and the SPIKES training with our data. A follow up study with a control group that gets no SP feedback would probably do so.

Table 3 Participants' responses to the value of the simulation-with-feedback activity

Questions	Simulated Encounter 1 N = 58			Simulated Encounter 2 N = 58		
	Not at all/a little	Somewhat	Quite bit/a great deal	Not at all/a little	Somewhat	Quite bit/ a great deal
1. How much did today's activity increase your ***knowledge*** of how to communicate bad news in perinatology?						
	2 (3.5%)	17 (29.3%)	39 (67.2%)	4 (6.9%)	12 (20.7%)	44 (75.9%)
2. How much did today's activity increase your ***ability*** to communicate bad news in perinatology?						
	4 (6.9%)	18 (31.0%)	36 (62.1%)	1 (1.7%)	10 (17.2%)	47 (81.1%)
3. How much did today's activity increase your ***understanding*** of how to communicate bad news in perinatology?						
	0 (-)	10 (17.3%)	48 (82.7%)	2 (3.5%)	9 (15.5%)	46 (79.3%)
4. How much did today's activity increase your ***comfort*** in communicating bad news?						
	19 (32.7%)	20 (34.6%)	19 (32.7%)	11 (18%)	13 (22.4%)	34 (58.6%)
5. How much did today's activity increase your ***comfort in responding to patients' emotional reactions?***						
	14 (24.1%)	21 (36.2%)	23 (41.8%)	7 (12.1%)	19 (32.8%)	32 (55.2%)
6. How likely is today's activity to change your ***future practices*** in communicating bad news?						
	1 (1.72%)	5 (8.6%)	52 (89.7%)	0 (-)	4 (6.9%)	54 (93.1%)
7. How much did today's activity increase your ***comfort in consoling a patient*** to whom you have given bad news about her baby?						
	7 (12.1%)	20 (34.5%)	31 (53.4%)	3 (5.2%)	11 (19.0%)	44 (75.9%)
8. How much did today's activity increase your ***communication skills*** in breaking bad news?						
	6 (10.3%)	20 (34.6%)	32 (55.1%)	4 (6.9%)	8 (13.8%)	46 (79.3%)
9. Please rate the overall ***educational*** value of today's activity						
	0 (-)	5 (8.6%)	53 (91.4%)	0 (-)	4 (6.9%)	54 (93.1%)
10. Was the SP activity ***with feedback*** a good use of your time?						
	0 (-)	2 (3.5%)	56 (96.5%)	0 (-)	3 (5.2%)	55 (94.8%)
11. Would you recommend this kind of learning experience to your colleagues?						
	0 (-)	1 (1.7%)	57 (98.3%)	0 (-)	1 (1.7%)	57 (98.3%)

The residents appreciated the fact that they could interact with the SP and receive feedback about their performance. Translating behaviors into practice requires multiple educational opportunities. Our project reinforces the contribution of training activities that contemplate reflection, discussion, practice and feedback in communication skills for residents in perinatology, including gynecology/obstetrics and pediatrics programs.

Conclusion

Both the control and the intervention groups enhanced their scores. The SPIKES training did not significantly improve the residents' skills in BBN compared with the control group. Nevertheless, simulation-with-feedback activities were highly valued by the residents. Long-term longitudinal evaluations, with larger sample sizes, could help establish which educational interventions are most effective for teaching residents how to break bad news.

Conflicts to Interest

The authors declare that there are no conflicts of interest.

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Contributions

All authors (Setubal M. S. V., Antonio M. A. R. G. M., Amaral E. M., Boulet J.) have participated in the concept and design; analysis and interpretation of data; drafting or revising of the manuscript, and they have approved the manuscript as submitted. All authors are responsible for the reported research.

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Appendix 1 Standardized patient's checklist of residents' performances rated by the standardized patient (SP) on Breaking Bad News

Simulation 1 & 2: BBN Skills Checklist Scores SP_____ () PED () OBS Resident #____ Date:_____		
Questions	**NO**	**YES**
1.Introduced him/herself		
2. Asked what the mother knew or understand about the baby illness so far		
3. Asked about what and how much detail the mother wants to know		
4. Used simple and straightforward language to deliver the diagnostic		
5. After telling the mother the diagnosis and prognosis, paused at least 3 seconds to allow her to speak or invited her to comment		
6. Used the "I" statement to express how s/he felt about conveying the news		
7. Acknowledge, legitimated, and/or explored the mother strong emotions before reassuring or moving		
8. Asked if the mother had any questions		
9. Elicited the mother's concerns or worries		
10. Offered some kind of comfort or hope		
11. Asked about/helped mobilize social support		
12. Described the next steps from then on (Allowed for exceptions)		
13. Established a concrete plan for immediate next steps		
14. Reassured the mother that s/he would support her throughout the process		
15. Before closing the encounter, asked if the mother had more questions and verified the situation's comprehension		

Adapted from the Daetwyler et al.[35]

Appendix 2 Residents' evaluation of the 1st and 2nd simulation-with-feedback. Residents' evaluation of usefulness of the simulation-with-feedback activity_____

Questions	No at all	A little	Somewhat	Quite a bit	A lot
1. How much did today's activity increase your ***knowledge*** of how to communicate bad news in perinatology?					
2. How much did today's activity increase your ***ability*** to communicate bad news					
3. How much did today's activity increase your ***understanding*** of how to communicate bad news in perinatology?					
4. How much did today's activity increase your ***comfort*** in communicating bad news?					
5. How much did today's activity increase your ***comfort in responding to patients' emotional reactions?***					
6. How likely is today's activity to change your ***future practices*** in communicating bad news?					
7. How much did today's activity increase your ***comfort in consoling a patient*** to whom you have given bad news about her baby?					
8. How much did today's activity increase your ***communication skills*** in breaking bad news?					
9. Please rate the overall ***educational*** value of today's activity					
10. Was the SP activity ***with feedback*** a good use of your time?					
11. Would you recommend this kind of learning experience to your colleagues?					

Adapted from the Daetwyler et al.[35]