Communication Skills Training for General Surgery Residents

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BACKGROUND: Although good communication skills are essential for surgeons, there is no formal communication training during general surgery residency.

OBJECTIVES: To implement a communication skills training program based on evidence-based teaching methods in general surgery residency.

DESIGN: We developed a 2-hour communication skills training program for general surgery residents, consisting of a small group skill practice session using role play with simulated patients along with real-time feedback from facilitators and observing peer residents. A board-certified palliative care physician and a board-certified surgeon facilitated each session. Outcome measures were self-assessment of preparedness with the session immediately before and after the session and 2 months after the session, resident satisfaction, and self-report frequency of skill practice. Results were compared between junior residents (postgraduate year 1-3) and senior residents (postgraduate year 4-5).

SETTING: Columbia University Medical Center in New York City, a tertiary care, urban academic center with a 5-year General Surgery Residency program.

PARTICIPANTS: Thirty-one out of 39 (79.4%) general surgery residents (20 junior and 11 senior) were trained over a 9-month period. All participants completed the immediate pre- and post-session surveys, and twenty residents (64.5%) completed the 2-month postsession follow-up survey.

RESULTS: Overall, self-assessment of preparedness for specific communication challenges improved significantly for 7 of 11 tasks. At baseline, senior residents felt significantly more prepared than junior residents in all 11 tasks. Junior residents' self-assessment of preparedness improved significantly in 10 of 11 tasks. Overall satisfaction with the session was very high (mean 4.74 on a 5-point scale). Residents reported high frequency of self-directed skill practice in the 2-month follow-up survey.

CONCLUSIONS: This 2-hour communication skills practice session for general surgery residents was feasible, and it improved resident self-assessment of preparedness in communication and augmented self-directed skill practice. (J Surg Ed 76:1223−1230. © 2019 Association of Program Directors in Surgery. Published by Elsevier Inc. All rights reserved.)

KEY WORDS: surgeon training, surgical residents, physician-patient communication, interpersonal skills

COMPETENCIES: Practice-Based Learning and Improvement, Interpersonal and Communication Skills, Professionalism

INTRODUCTION

"Interpersonal and Communication Skills" is one of the 6 core competencies required to be incorporated into general surgery resident training programs by the Accreditation Council of General Medical Education (ACGME). In addition, according to The American Board of Surgery, the board certified general surgeon is expected to have knowledge and skills for basic palliative care. Studies have shown that the quality of physician-patient communication influences patient and family satisfaction, adherence to medications, and clinical outcomes.[1-3] Moreover, good communication skills are regarded as imperative for high stakes surgical decision making.[4] Surgeons value communication skills and consider them as "absolutely critical" and "as important as operative technical skills".[5,6]

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In their role on the front lines of patient care, even the most junior surgical residents are required to deliver difficult news to patients and families and participate in decision making conversations. Despite this, the overwhelming majority of current surgical graduate medical education focuses on technical aspects of diagnosis and treatment as opposed to exploring patients' goals and values and attending to emotions in communication. Formal training in communication during residency is not routine and trainees express that they are not well prepared for difficult conversations.[5,7] However, like any other technical skill acquired through continued supervised practice and feedback, communication is a skill that can be learned successfully.[8]

Reports of communication skills training for surgical residents using simulation or Objective Structured Clinical Examination (OSCE) are highly variable in terms of teaching and assessment methods.[9] Many of these programs focus on discrete tasks such as informed consent or shared decision making, as opposed to the conceptual skills of managing emotion and communicating empathically. VitalTalk is an evidence-based communication skills teaching model focused on attending to emotion and responding empathically in difficult conversations with seriously ill patients and their family members. Originally developed to train oncology fellows,[10] it has since been extended and applied to other specialties involved in the care of seriously ill patients, including nephrology,[11] cardiology,[12] adult intensive care,[13] emergency medicine,[14] geriatrics medicine, and palliative care.[15] The VitalTalk teaching model is based on evidence-based principles, including brief didactic sessions to introduce specific communication skills, followed by intensive skills practice workshops with standardized patients during which group feedback is provided with a focus on meeting learners' needs and attending to learners' attitudes and emotions.[16] Based on this model, we developed a 2-hour communication skills training program customized for general surgery residents, We hypothesized that it would be feasible to integrate this communication skills educational program into the general surgery residency curriculum, and that it would improve self-reported preparedness and augment self-directed practice of communication skills for residents.

METHODS

At the beginning of the academic year, basic communication skills such as the SPIKES protocol and NURSE statements[17] were introduced to all general surgery residents in a 1-hour didactic lecture. Subsequently, throughout the academic year, residents participated in a 2-hour simulation-based communication skills practice session following the VitalTalk model. Our surgery communication simulation course was led by 2 facilitators (SN and KF). One facilitator (SN) is a board-certified palliative care physician and was formally trained in VitalTalk's 4-day faculty development program. The other facilitator (KF) is board-certified in general surgery and critical care medicine and has cultivated academic expertise in communication and shared decision making.

In order to accommodate all of the general surgery residents ($n = 39$), the didactic and skills practice sessions were incorporated into the residents' existing protected educational time. The didactic lecture was delivered as part of the didactic curriculum to all residents collectively at the start of the academic year. In addition, 7 2-hour skills practice sessions were scheduled over the course of the academic year. In order to accommodate all residents, participation in these sessions was scheduled during blocks requiring minimal disruption to clinical service, with 4-6 residents per session. The ratio of facilitators to residents was 1:2-3.

For the skills practice sessions, we designed 2 clinical vignettes, shown in the Box 1, to represent common clinical situations facing surgery residents and practicing surgeons. Both scenarios represent a patient with significant a life-threatening illness that requires complex decision making. In this workshop, we focused on skills articulating empathy, as a basis of difficult communication (NURSE statements and "I wish" statement[18]). Prior to the sessions, we held a 4-hour training session with 2 actors who were taught to develop the character (the patient's family member and health care agent). The two actors played the same family member, but with different emotional tones: one was anxious and tearful, and the other was angry and aggressive. Both actors were trained to respond to the residents fluidly. They were instructed to reward the residents with favorable

Box 1. Clinical Vignettes

Scenario 1
A 88-year-old female with a history of Hepatitis C and hepatocellular carcinoma who underwent transcatheter arterial chemoembolization 3 months ago. She presented to the Emergency Department with abdominal pain and pneumoperitoneum on her chest X-ray. The resident is supposed to have a conversation with her son.
Scenario 2
The same patient underwent an exploratory laparotomy and was found to have perforated diverticulitis. She had a Hartman's procedure. After 7 days in the ICU, she has developed multisystem organ failure and is on multiple life sustaining treatments. The resident is supposed to have a conversation with her son.

comments and attitude, allowing the conversation to move forward if the residents used specific communication skills and empathic statements. If the resident did not use specific skills adequately attending to emotion, the actor was instructed to continue to escalate the emotional tone of the discussion, hindering the progress of the conversation until the resident successfully incorporated a particular skill or utilized an appropriate empathic statement.

All skills practice sessions with residents began with a brief introductory session which reviewed specific skills for articulating empathy such as NURSE statements and "I wish" statements. This was followed by a 90-minute skills practice sessions in which each resident had at least 2 separate opportunities to be the residents interacting with the actor playing a family member in front of the other residents (Fig. 1). Each simulation followed the VitalTalk pedagogy: prior to the start of his or her turn, the resident would set a goal and specify the skill he or she would like to try. Then the resident would interact with the actor for 3-4 minutes or until the conversation became stalled. At this time, the group would take a time out and give feedback to the resident who would have a brief opportunity to incorporate a particular skill into the conversation using the "rewind and replay" pedagogical style of VitalTalk. Then the next resident would get a turn as the resident and the scenario would start again. Observing residents actively participated by taking notes about the interactions between the resident and the actor. These notes were used to provide feedback to the residents. Each actor would serve in his role for 45 minutes, switching half way through the session to permit each resident the opportunity to participate in both scenarios and to experience both actors' emotional tones. At the end of the session, we spent 10 minutes debriefing the session during which we emphasized the importance of deliberate practice of communication skills in daily encounters.

Measurements

We administered anonymous surveys to the residents at 3 different time points: pre-, post- and 2 months after the session. We adapted the survey from the OncoTalk evaluation,[19] which includes self-assessment of preparedness, self-report of frequency of skills practice, and resident satisfaction with the session. The schedule of survey administration is summarized in Table 1. All surveys used 5-point Likert scales. In order to assess

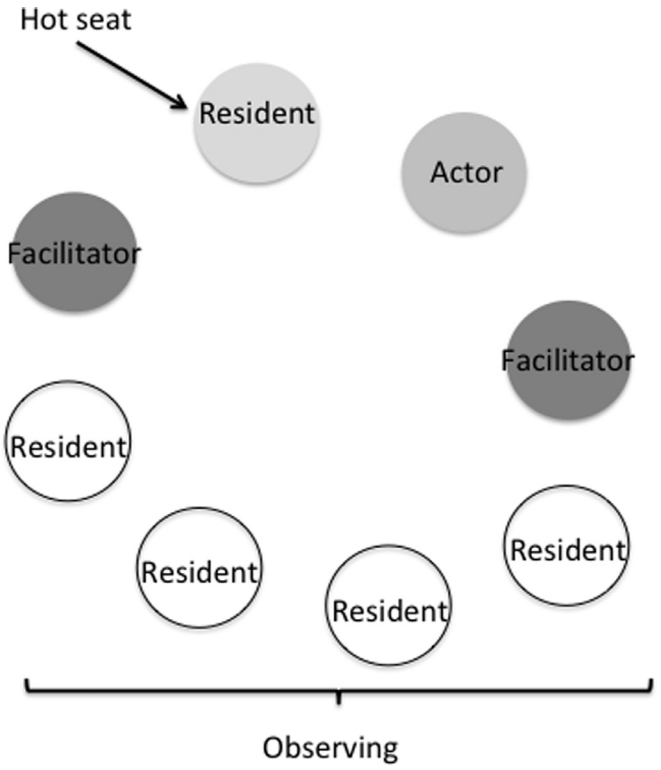

FIGURE 1. The "hot seat" role-play. A resident in a "hot seat" would interact with the actor. Observing residents actively participate by taking notes about interactions. After 3-4 minutes, facilitators or a resident in a "hot seat" take a time out. After brainstorming, a resident will try a particular skill in the "rewind and replay" session. Residents take turns to sit in a hot seat and interact with the actor.

TABLE 1. Schedule for Resident Assessment

	Pre	Post	2 months
Self-assessment of preparedness	x	x	x
Self-report of skills practice	x		x
Resident satisfaction		x	

Pre = immediate presession survey; Post = immediate postsession survey; 2 months = two-month postsession follow-up survey.

differences in responses based on level of training, we used postgraduate years (PGY) and divided the group into junior (PGY 1-3) and senior (PGY 4-5) residents, and compared all the results between the 2 groups.

Pre- and postsurveys were distributed and collected in hard copy to residents immediately before and after the skills session. Two months after the session, the follow-up survey was electronically sent to residents.

Data Analysis

Wilcoxon signed rank test was used to compare pre- and postsession survey responses. Mann-Whitney test was used to compare immediate postsession and 2-month follow-up surveys, as well as for all comparisons between junior and senior residents. A p value <0.05 was regarded as statistically significant, and all reported p values were 2-tailed. Statistical analysis was performed using IBM SPSS Statistics (for Mac, version 24.0; IBM Corp., Armonk, New York). The institutional review board of our institution reviewed and approved this study.

RESULTS

Participants

Between October 2017 and May 2018, we held 7 2-hour simulation-based communication skills practice sessions. Out of 39 general surgery residents in our program, 31 participated (79.4%). Approximately 20% of residents were missed due to sudden schedule changes or emergent surgery in which they were expected to participate. Eighteen (58.1%) were male. There were 11 senior residents (35.5%, PGY5: 5, PGY4: 6) and 20 junior residents (64.5%, PGY3: 4, PGY2:9, PGY1: 7). All of the residents completed the immediate pre- and postsession surveys and 20 residents (64.5%) responded to the 2-month follow-up survey.

The results of self-assessment of preparedness are shown in Table 2. At baseline, senior residents reported being significantly more prepared than junior residents in all 11 communication skills. Immediately after the session, the overall self-assessment score significantly improved in 7 communication skills. In junior residents,

TABLE 2. Self-Reported Communication Sskills Preparedness

	Overall					Junior					Senior				
How well prepared do you feel to do the following?	**Pre** ***n*** **= 31**	**Post** ***n*** **= 31**	**p Pre vs Post**	**2 mos** ***n*** **= 20**	**p Post vs 2mos**	**Pre** ***n*** **= 20**	**Post** ***n*** **= 20**	**p Pre vs Post**	**2 mos** ***n*** **= 13**	**p Post vs 2mos**	**Pre** ***n*** **= 11**	**p Junior vs Senior**	**Post** ***n*** **= 11**	**p Pre vs Post**	**2 mos** ***n*** **= 7**	**p Post vs 2mos**
Give bad news to a family about their loved one's illness	3.58	3.90	0.060	4.00	0.663	3.30	3.95	0.005	3.85	0.626	4.09	0.011	3.82	0.527	4.29	0.151
Conduct a family conference	3.13	3.58	0.042	3.70	0.570	2.60	3.45	0.006	3.38	0.937	4.09	<0.001	3.82	0.527	4.29	0.151
Express empathy	4.06	4.29	0.135	4.50	0.386	3.80	4.45	0.002	4.46	0.901	4.55	0.004	4.00	0.096	4.57	0.221
Discuss various treatment options, including palliative care, with family of critically ill patients	3.19	3.65	0.068	3.90	0.247	2.75	3.70	0.003	3.77	0.792	4.00	0.001	3.55	0.301	4.14	0.151
Respond to family members who deny the seriousness of their loved one's illness	2.87	3.71	0.001	3.55	0.447	2.60	3.75	0.001	3.38	0.235	3.36	0.027	3.64	0.429	3.86	0.614
Discuss discontinuing intensive care treatment	2.81	3.61	0.006	3.50	0.603	2.25	3.65	<0.001	3.15	0.138	3.82	<0.001	3.55	0.719	4.14	0.228
Respond to family members who want treatments that you believe are not indicated	3.00	3.71	0.006	3.85	0.665	2.70	3.80	<0.001	3.62	0.582	3.55	0.021	3.55	0.760	4.29	0.070
Discuss code status (DNR) with a family member	3.55	3.77	0.507	4.15	0.114	3.20	3.74	0.164	4.08	0.254	4.18	0.005	3.82	0.336	4.29	0.233
Discuss religious or spiritual issues with families	2.68	3.30	0.006	3.55	0.580	2.35	3.11	0.004	3.38	0.500	3.27	0.011	3.64	0.340	3.86	0.848
Discuss a family's request to hasten death	2.42	3.43	0.003	3.50	0.877	1.85	3.37	0.001	3.15	0.590	3.45	<0.001	3.55	0.672	4.14	0.306
Elicit a family's concerns at the end of a patient's life	3.35	4.23	0.001	4.15	0.648	3.05	4.16	0.002	4.00	0.582	3.91	0.008	4.36	0.212	4.43	0.960

Five point Likert scale (1 = Not at all, 5= Very much).
Junior = postgraduate year 1-3 resident; Senior = postgraduate year 4-5 resident.
Pre = immediate presession survey; Post = immediate postsession survey; 2 mos = two-month postsession follow-up survey.
DNR = do not resuscitate.

TABLE 3. Resident Satisfaction With Communication Skills Educational Program

	Total $n = 31$	Junior $n = 20$	Senior $n = 11$	p
Importance of training	4.68	4.60	4.82	0.309
Usefulness of interactive didactic session	4.58	4.50	4.73	0.404
Usefulness of communication skills small group practice sessions	4.61	4.55	4.73	0.563
Effectiveness of the small-group leaders	4.90	4.85	5.00	0.184
Usefulness of actors in small-group sessions	4.84	4.75	5.00	0.119
Usefulness of reflective exercises (taking it home session)	4.54	4.47	4.67	0.444
Overall, how would you rate the educational quality of the program?	4.84	4.85	4.82	0.821
Would recommend this training to other residents	4.81	4.80	4.82	0.904
Commitment to changing two self-identified communication behaviors	4.61	4.50	4.82	0.418
How would you rate the importance of good communication skills to being an excellent surgeon?	4.97	5.00	4.91	0.178

Five point Likert scale (1= Not at all, 5= Very much).
Junior = postgraduate year 1-3 resident; Senior = postgraduate year 4-5 resident.

10 of the 11 scores improved significantly. In senior residents, on the other hand, there were no significant differences in self-assessment preparedness scores. At 2-month follow-up, there were no significant changes in self-assessment of preparedness for any of the resident groups compared to the post-session survey.

Course Satisfaction

Residents' satisfaction ratings are detailed in Table 3. Overall, they rated the program positively (mean score 4.74 on a 5-point Likert scale). They rated educational quality of the program as 4.84 on a 5-point Likert scale. The average score for "I would recommend this training to other residents" was 4.81 on a 5-point Likert scale.

Skills Practice

Self-directed skills practice patterns are summarized in Table 4. Out of 5 specific communication skills surveyed, junior residents reported that they practiced significantly more than baseline in the domains of "expressing empathy" and "checking what the patient/family know before the explanation" There was no significant change in skills practice pattern for senior residents at 2-month follow-up.

DISCUSSION

We designed and implemented a customized communication skills curriculum for general surgery residents based on the evidenced-based VitalTalk model.[16] We conducted a total of 7 2-hour simulation-based communication skills practice sessions over a 9-month period and trained 31 general surgery residents. The communications skills program was easily incorporated into existing educational time.

Most importantly, residents received this program very positively as shown by the course evaluations. Residents rated the educational quality highly and all said they would recommend this training to other residents. In fact, since the feedback from the first year of sessions, the communication skills training has been formally incorporated into the surgery residency curriculum.

The second important finding is that participation in the sessions was associated with improvement in the

TABLE 4. Self-Directed Skill Practices

				Junior			Senior		
	Pre $n = 31$	2 mos $n = 20$	p	Pre $n = 20$	2 mos $n = 13$	p	Pre $n = 11$	2 mos $n = 7$	p
Avoiding medical jargon	3.61	3.90	0.232	3.55	3.92	0.184	3.73	3.86	0.917
Expressing empathy	3.77	4.15	0.073	3.55	4.15	0.029	4.18	4.14	0.954
Exploring with open-ended questions	3.58	3.75	0.569	3.45	3.69	0.394	3.82	3.86	0.958
Asking family members what the patient would have wanted	3.61	3.70	0.630	3.35	3.62	0.329	4.09	3.86	0.481
Check what patient/family know before explanation	3.61	4.20	0.027	3.35	4.23	0.008	4.09	4.14	0.958

Five point Likert scale (1= Not at all, 5= A great deal).

self-reported preparedness of residents. Interestingly, junior residents and senior residents responded in different ways. The overall improvement between the pre- and postsession scores is largely attributable to the reported improvement among junior residents. Junior residents felt less well prepared before the session, and their scores improved significantly after the session. This is consistent with previous studies of learners in different specialties.[19,20] On the other hand, senior residents reported being significantly more prepared than junior residents before the session. There was no statistically different change in self-reported preparedness ratings for senior residents. Possible reasons for this negative finding include small sample size, greater baseline level of experience, and learning tension introduced in the course of the training experience. Assuming the latter may be true, we feel that our educational intervention has important value for allowing senior residents to recognize the limitations in their skill set and motivate them to improve further.

Of note, because our sessions were 2 hours and each resident was able to interact with actors only twice during the session, residents were not able to practice all the 11 communication challenges we used for self-assessment, such as "discuss religious or spiritual issues with families" or "discuss family's request to hasten death." Nonetheless, scores of junior residents improved in these areas too. One possible explanation could be that the skills practiced during the session, such as addressing emotions, gave residents more confidence in their overall communication skills and ability to tackle complicated patient and family interactions. In addition, the structure of the sessions allows for observational learning to take place from the process of constructively critiquing other residents' performances, which may have been reflected in the survey responses.

Third, we observed increases in deliberate skills practice in the 2 months following the session. In particular, junior residents reported practicing the skills of expressing empathy and active listening significantly more frequently than prior to the simulation session. We harbor no illusions that communication skills improve significantly after 1 2-hour session. As all skills acquired during a surgical residency, improvement in communication requires continuous deliberate practice. This session not only made residents more prepared for difficult communication, but also made them aware the importance of regular practice and self-reflection.

While there are many programs to teach communication skills in surgery residents reported in the literature,[9] the length of the programs vary from 20 minutes[21-23] to 40 hours.[24-26] Our particular session design proves more feasible because of its effectiveness in a short amount of time. It is challenging to incorporate new curricula into the already compressed schedule of surgical residency, but this 2-hour session could be easily accommodated and made a routine part of any program. In this workshop, we focused on skills articulating empathy, as a basis of difficult communication. In the future, we are considering the incorporation of higher level of skills, such as informed consent for surgery or shared decision making.

Finally, we believe that like any other surgical skill, the communication skills taught during the simulation would be best reinforced if residents could observe, attempt, and receive feedback from expert attending surgeons on the use of these skills. While there is currently a communication course for attending physicians at our institution, it is not specific to surgeons, and it focuses on the outpatient setting. For this reason, we hope over time to roll out a similar communication course for attending surgeons.

There are several limitations to this study. This project was performed in a single institution and the sample size was small, impacting our ability to show statistical significance in some areas. However, now that the communication session is an annual part of the residency program, we expect to have all residents participate multiple times in the course of their 5 years of training. While this will introduce challenges in statistical measurement of the effect of each repeated intervention, we are optimistic that a larger learner sample will add to the value of this dataset. A second limitation is that our outcome measures are limited to resident self-assessment after a short follow-up period. We have not yet developed a method to objectively evaluate residents' communication skills. Observation of residents' communication performance at bedside could be the possible evaluation of the intervention in the future. There are attempts being made at other institutions to qualitatively measure effectiveness of communication, and this is an area with great need for future development.[4,27]

CONCLUSIONS

Two-hour communication skills simulation-based practice session was feasible to integrate into the existing general surgery residency educational program, and highly rated by participants. This curriculum was beneficial for general surgery residents for both improving self-reported preparedness and augmenting self-directed deliberate practice.

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SUPPLEMENTARY INFORMATION

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