De-escalating Angry Caregivers: A Randomized Controlled Trial of a Novel Communication Curriculum for Pediatric Residents

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Abstract

Objective: Medical providers struggle when communicating with angry patients and their caregivers. Pediatric residents perceive communication competencies as an important priority for learning, yet they lack confidence and desire more training in communicating with angry families. Few curricula exist to support trainees with de-escalation skill development. We developed, implemented, and evaluated the impact of a novel de-escalation curriculum on pediatric resident communication skills.

Methods: We conducted a randomized controlled trial of a 90-minute de-escalation curriculum for pediatric residents from August to September 2016. Trained standardized patient (SP) actors rated residents' communication skills following 2 unique encounters before and after the intervention or control sessions. Residents completed a retrospective pre/post communication skills self-assessment and curriculum evaluation. We used independent and paired *t*-tests to assess for communication improvements.

Results: Eighty-four of 88 (95%) eligible residents participated (43 intervention, 41 control). Residents reported frequent encounters with angry caregivers. At baseline, interns had significantly lower mean SP-rated de-escalation skills than other residents ($P = .03$). Intervention residents did not improve significantly more than controls on their pre/post change in mean SP-rated de-escalation skills; however, intervention residents improved significantly on their pre/post mean self-assessed de-escalation skills ($P \leq .03$).

Conclusions: Despite significant self-assessed improvements, residents' SP-rated de-escalation skills did not improve following a skills-based intervention. Nevertheless, our study illustrates the need for de-escalation curricula focused on strategies and peer discussion, suggests optimal timing of delivery during fall of intern year, and offers an assessment tool for exploration in future studies.

Keywords: curriculum; de-escalation; medical education; pediatrics; residency

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What's New

This study describes the frequency of de-escalation encounters for pediatric residents, offers a novel de-escalation skill framework and standardized patient de-escalation assessment tool, and suggests recommended timing and future directions of de-escalation teaching for curriculum planning.

Medical providers struggle when communicating with angry patients and caregivers (parents, guardians, or adults). Practicing physicians report nearly 1 in 6 adult outpatient encounters as difficult,[1–3] and 1 in 3 pediatric residents report some form of verbal abuse from patients or families during residency.[4] The Accreditation Council for Graduate Medical Education has identified communication and interpersonal skills as a competency equal in importance to clinical skill and medical knowledge for pediatric residents.[5] Pediatric residents perceive communication competencies as a priority for learning, yet they lack confidence in dealing with the difficult patient or parent.[6] In a needs assessment on relational crises in medicine, pediatric residents chose angry families as the top difficult situation for which they wanted more training.[7] As such, communication with angry patients and caregivers has emerged as a need for trainee development.[8,9]

De-escalation, an important component of conflict management, provides foundational techniques and strategies for approaching disagreement that minimize the negative and enhance the positive effects of conflict within or

Table 1. De-escalation Skills and Fundamental Communication Skills

De-escalation Skills	Fundamental Communication Skills
Prepare yourself*	Opened the interview by introducing him/herself and his/her role on the health care team
Actively elicit and explore the caregiver's concern(s)	Asked caregiver's preferred name
Acknowledge and restate the content about the caregiver's concern and check accuracy	Asked caregiver's relationship to patient
Acknowledge stated emotion or inquire about unstated emotion	Attended to caregiver's comfort
Express empathy or understandability of the caregiver's emotions	Demonstrated appropriate eye contact
Negotiate a mutually acceptable plan of action	Demonstrated open posture
Provide closure	Actively listened
Allow time and space for responses	Explained using words that the caregiver can understand
Care for yourself*	Managed encounter smoothly
	Treated caregiver with respect

*This skill was not measured during the standardized patient encounters.

between social entities.[9,10] In health care—where clinical practice can include complex interactions among medical providers, patients, and caregivers, often in the setting of high levels of stress[11]—de-escalation targets the prevention of escalation of agitation or aggression to physical violence.[12] Younger, less experienced medical practitioners may be at greater risk of experiencing verbal workplace aggression.[11,13,14] Competency in conflict management and de-escalation may help trainees more skillfully navigate interactions with angry caregivers and has been shown to improve practitioners' safety and well-being.[15,16]

Despite calls for advanced curricula on de-escalation,[4,6,9,11,17] few curricula or studies exist that support resident de-escalation skill development. None have identified the optimal training level of participants or ideal timing of interventions. One pilot study of a communication workshop with 33 postgraduate year 1 (PGY1) pediatric and medicine-pediatric residents found that trainees' communication with angry standardized patient (SP) actor family members improved following workshop participation.[18] Another study of a simulation-based curriculum that included conversations with angry families when delivering difficult news found that pediatric residents rated the overall curriculum as useful; however, there was no description of the skills taught, and outcomes were limited to participant self-report.[7] A third study described implementation of a longitudinal communication skills curriculum into a pediatric residency program that included a session on how to deal with hostile parents, but the authors found no significant improvements in their 5 volunteer residents' SP-rated communication skills despite reports that the course was valuable and effective.[19]

Given the pressing need to address the topic and the limited available evidence to guide implementation of effective de-escalation teaching strategies into pediatric residency programs, the purpose of our study was to develop and implement a novel communication curriculum and to evaluate its impact on pediatric residents' ability to de-escalate angry SP caregivers.

METHODS

SETTING AND PARTICIPANTS

This randomized controlled trial (RCT) was conducted from August to September 2016 at Lucile Packard Children's Hospital Stanford, a freestanding, university-based children's hospital with 311 beds and a pediatric residency program with 91 PGY1 to PGY5 residents, including 10 in pediatric anesthesia and 4 in pediatric neurology programs (31 PGY1, 29 PGY2, 28 PGY3, 1 PGY4, 2 PGY5). All residents, except for 1 PGY3 and 2 PGY2 residents who had reviewed and piloted the cases and curriculum, were invited to participate on a voluntary basis. This study was reviewed and determined exempt by Stanford University's Institutional Review Board.

INTERVENTION AND CONTROL GROUP CURRICULUM DEVELOPMENT

We used Kern's 6-step approach to develop the de-escalation curriculum intervention. We created and distributed a communication skills needs assessment to our residents that identified communication with angry families as a top priority for training and simulation as a preferred learning method. Informed by Kolb's experiential learning theory[20] and our needs assessment results, we chose simulation to evaluate the intervention's impact. Following this needs assessment and over the course of 1 year, we performed a thorough literature review of content in PubMed, Ovid, PsycINFO, Medline, Scopus, MedEdPORTAL, ERIC, communication books, assessment tools, and online material to identify core communication skills critical to de-escalation and conflict resolution. Through an iterative process that consisted of weekly in-person meetings and ongoing review of materials, we developed a 9-step, skills-based de-escalation framework (Table 1) that was the benchmark for our study.

The de-escalation curriculum consisted of an expert-facilitated 90-minute discussion of the 9-step framework that included instruction on evidence-based language to demonstrate each skill and 3 role-plays for practice. For example, when discussing how to express empathy or understandability of the caregiver's emotions (Table 1), the facilitator instructed the residents on the use of "I statements" and the difference between the phrases "I imagine that you were upset about . . ." and "I understand," which residents then practiced during the role-play scenarios. Prior to implementation, curriculum content was reviewed and revised by experts, including residency program directors, clinicians, graduate medical

educators, a psychologist, a family advisory council member, a PGY3 resident, and a social worker.

The control session consisted of individual reading of an article on difficult pediatric patient or parent encounter approaches[21] and self-facilitated group discussion.

Assessment Tool Development

Guided by one author's (DG) expertise in simulation behavior tool development, we created a 23-item SP assessment tool, in part using items adapted from previous communication tools.[22–26] The final tool (see Supplementary Material 1) was reviewed for content validity by experts in patient-provider communication, simulation, and learner assessment and consisted of 3 global ratings, including overall successful de-escalation performance (no vs yes, 5-point scale), 10 fundamental communication skills (no, partially, yes) (Table 1), 7 de-escalation skills (5-point scale) (Table 1), 2 milestones (9-point scale), and 1 open-ended keep/stop/start section. We chose to include fundamental communication skills because we do not formally evaluate these elsewhere in our residency program, and we sought to determine whether strong fundamental communication skills would predict successful de-escalation. We also created a 19-item retrospective pre/post resident communication skills self-assessment that paralleled the SP tool. We administered the retrospective pre/post self-assessment at the end of the session and asked residents to assess how their skills at the beginning of the session compared to those at the end. We used this approach to minimize pre-test sensitivity and response shift bias[27,28] and to avoid premature exposure of the control group to elements of the de-escalation framework.

We also developed a brief survey for residents to evaluate the intervention and control activities, including questions on satisfaction and applicability to clinical practice, as well as 2 open-ended questions on what was most valuable and could be improved.

Standardized Patient Encounters

Two clinician educator authors (SLH, RLB) created 2 unique SP encounters containing scripts and improvisation guidelines. These were reviewed by 3 expert clinical and simulation faculty and 1 PGY3 resident who did not participate in the RCT. We successfully piloted the de-escalation curriculum, assessment tools, and SP encounters in May 2016 with 4 graduating and 2 PGY2 residents, who did not participate in the RCT, and amended materials accordingly based on their feedback prior to implementation.

Implementation

We randomized residents into an intervention (I) or a control (C) group, stratified by PGY level, using GraphPad Software (La Jolla, Calif). Residents were blinded to their group assignment. We ran 6 protected 5-hour sessions for the residents, each concurrently with separate I and C groups and a maximum of 8 residents per group. Two of the 6 sessions were for PGY1 residents; the other 4 included PGY2 through PGY5 residents. Each I and C session consisted of a 20-minute orientation by an author (SLH) and the SP trainer, 15-minute baseline SP encounter, 90-minute de-escalation curriculum or resident-facilitated article review and discussion, second 15-minute SP encounter, 15-minute retrospective pre/post resident self-assessment, 60-minute session debrief that included a discussion and curriculum survey (Figure), and 2 30-minute breaks given SP and simulation center work flow constraints. To control for case difficulty effect, half of the participants underwent SP encounter 1 then 2; the other half had the order reversed. SPs were blinded to PGY level and group. One author (ALB) monitored each C session but did not provide any discussion facilitation.

Rater Training

The 8 SPs we recruited from Stanford University School of Medicine's Standardized Patient Program underwent 24 hours of training by our simulation instructor author (SLH) and SP trainer. Training included case and assessment tool review and discussion, mock encounters, and rating and discussion of 5 videos that we recorded during our pilot displaying varying levels of effectiveness in de-escalation. We evaluated inter-rater reliability by calculating intraclass correlation coefficients of SP ratings of residents' overall de-escalation performance, fundamental communication skills, and de-escalation skills in these pilot videos.

Statistical Analysis

We de-identified all data and then analyzed participant characteristics using descriptive and chi-square tests. Data for comparisons were normally distributed as defined by skewness and kurtosis between −3 and 3. We felt that mean ratings were more interpretable than absolute scores (eg, 3 = good de-escalation on our scale); thus, we calculated an aggregate mean de-escalation skill rating for each resident by averaging ratings on all 7 de-escalation skills (questions 14 to 20; see Supplementary Material 1). We calculated within-group pre/post differences in both SP-rated and self-assessed mean de-escalation skills for each of the intervention and control groups using paired *t*-tests and a 95% confidence interval. We calculated the difference in differences between intervention and control SP-rated and self-assessed pre/post mean de-escalation skill ratings using unpaired *t*-tests and a 95% confidence interval. We adjusted for multiple comparisons using the Holm-Bonferroni method. Assuming 44 residents per group based on our predetermined residency program sample size, the study was powered at 80% to detect a difference in 0.4 points on a 5-point scale for each change score between groups with an alpha of 0.05.

We performed a secondary analysis of the de-escalation tool to assess for validity evidence using Messick's framework.[29] Expert reviewers of the curriculum provided content validity evidence. The intraclass correlation coefficients for the inter-rater reliability provided response process evidence.

We used Cronbach's alpha to evaluate the 7 de-escalation skills for internal structure. Finally, to evaluate response to other variables, we used 1) unpaired *t*-tests to compare fundamental communication skills (no/partially vs yes) to overall de-escalation performance (5-point scale), adjusting for multiple comparisons using the Holm-Bonferroni method; and 2) Pearson's *r* to correlate each de-escalation skill with overall de-escalation performance (5-point scale). We performed all analyses using SAS University (Cary, NC) and R (Vienna, Austria).

Two authors (SLH, RLB) independently analyzed curriculum evaluation open-ended questions through manifest content analysis.[30–32] We inductively coded each question, met to agree upon one codebook, and reapplied this codebook to the responses. We calculated code frequencies to compare I and C groups.[30–32]

RESULTS

Of 88 eligible residents, 84 (95%) participated (43 I, 41 C) (Figure). Residents reported frequent encounters with angry caregivers (Table 2). We found no significant differences between intervention and control residents in gender, race/ethnicity, prior de-escalation formal training, or number of prior encounters with angry caregivers in the inpatient acute and outpatient settings. Control residents reported more encounters with angry caregivers in the intensive care unit than intervention residents (Table 2).

STANDARDIZED PATIENT RATINGS OF RESIDENT DE-ESCALATION SKILLS

The intraclass correlation coefficients were 0.99 for overall de-escalation performance, 0.94 for fundamental communication skills, and 0.88 for de-escalation skills. At baseline, PGY1 residents had significantly lower mean SP-rated de-escalation skills than other residents: PGY1 mean (standard deviation [SD]) = 3.2 (0.7); PGY2 mean = 3.6 (0.7); and PGY3+ mean = 3.5 (0.8) ($P = .03$). On our 5-point scale, therefore, PGY1 resident performance tended more toward "good" as compared to "very good" for PGY2 and PGY3 residents. Intervention residents at each PGY level did not improve significantly more than corresponding controls on their pre/post change in mean SP-rated de-escalation skills: PGY1 mean change = 0.6 (I) versus 0.3 (C) ($P = 0.44$); PGY2 mean

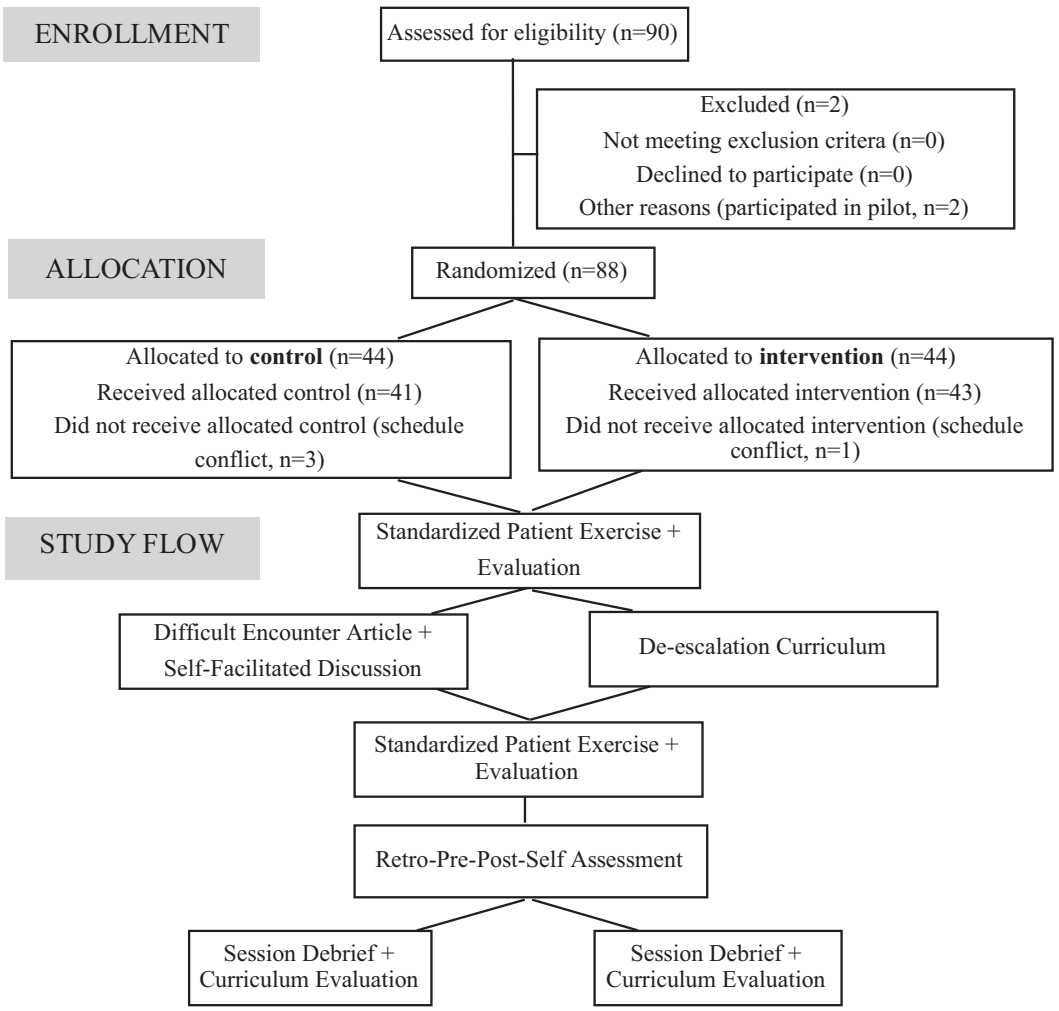

Figure. *Randomization and study flow.*

Table 2. Participant Characteristics

Characteristic	Control No. (% of 41)	Intervention No. (% of 43)	*P* Value
Gender*			.92
Female	31 (75.6)	34 (79)	
Male	8 (19.5)	9 (21)	
Prefer not to answer	1 (2.4)	0 (0)	
Race/ethnicity†			
Non-Hispanic white	27 (65.8)	24 (55.8)	.54
Hispanic or Latino	4 (9.8)	2 (4.7)	.42
Asian	7 (17)	12 (27.9)	.39
Black or African American	2 (4.9)	2 (4.7)	>.99
Other	1 (2.4)	1 (2.3)	>.99
Prefer not to answer	3 (7.3)	3 (7)	>.99
Training level			.99
PGY1	14 (34)	15 (35)	
PGY2	15 (36.6)	15 (35)	
PGY3+	12 (29.3)	13 (30)	
Prior formal training in de-escalation*			.05
None	3 (7.5)	12 (28)	
Some (eg, 1 or 2 lectures)	32 (80)	26 (60)	
A lot (eg, an academic course)	5 (12.5)	5 (12)	
Prior experience: frequency of caregiver de-escalation event in an average week			
Inpatient acute care‡			.79
0	1 (2.6)	1 (2.3)	
1–3	25 (64.1)	32 (74.4)	
4+	10 (25.6)	8 (18.6)	
NA§	3 (7.7)	2 (4.7)	
Inpatient intensive care*,‖			.02¶
0	0	5 (11.6)	
1–3	22 (55)	26 (60.5)	
4+	7 (17.5)	1 (2.3)	
NA§	11 (27.5)	11 (25.6)	
Outpatient*,#			.84
0	8 (20)	12 (27.9)	
1–3	18 (45)	18 (41.9)	
4+	3 (7.5)	2 (4.7)	
NA§	11 (27.5)	11 (25.6)	

PGY indicates postgraduate year; NA, not applicable.
*40 respondents in control group.
†Residents checked all that applied.
‡39 respondents in control group.
§Some PGY1 residents had not worked in these settings yet.
‖Pediatric intensive care unit only (not neonatal, intermediate, or cardiac).
¶Significant at the $P < .05$ level.
#Does not include emergency department.

change = 0.0 (I) versus −0.1 (C) ($P = .94$); and PGY3+ mean change = −0.2 (I) versus 0.0 (C) ($P = .65$) (Table 3).

Resident Self-Assessment of De-escalation Skills

Intervention residents at each PGY level improved significantly on their pre/post mean self-assessed de-escalation skills: PGY1 mean change = 0.4 ($P = .001$); PGY2 mean change = 0.3 ($P = 0.03$); and PGY3 mean change = 0.5 ($P = .02$) (Table 3). Control group residents did not show significant self-assessment changes (Table 3).

Resident Curriculum Evaluation

Forty-one (95%) intervention residents reported that they would "apply the skills learned to my clinical practice" compared with 33 (80%) controls. Forty (93%) intervention residents reported that their ability to de-escalate angry caregivers would improve following the curriculum compared with 32 (78%) controls. Intervention residents reported that the most valuable components of the session were learning de-escalation strategies (19, 44%), discussion with peers (18, 42%), and SP encounters (12, 28%). Control residents reported that discussion with peers (26, 63%), SP encounters (9, 22%), and learning de-escalation strategies (8, 20%) were most valuable. Intervention residents identified omitting role plays (8, 19%), wanting more discussion (4, 9%), and increasing the difficulty of SP encounters (3, 7%) as areas for improvement. Control residents reported increasing the difficulty of SP encounters (14, 34%), shorter overall session length (5, 12%), and more discussion of strategies (4, 9%) as areas for improvement. The majority of residents felt that this topic would be best taught during fall of PGY1. Residents denied emotional sequelae.

Table 3. Standardized Patient and Resident Self-Assessed Pre/Post Mean De-escalation Scores by Study Group and PGY Level[†]

PGY	SP Mean (SD), Control			SP Mean (SD), Intervention			SP Difference in Differences (CI; *P* Value)	Self-Assessed Mean (SD), Control			Self-Assessed Mean (SD), Intervention			Self-Assessed Difference in Differences (CI, *P* Value)
	Pre	Post	Change	Pre	Post	Change		Pre	Post	Change	Pre	Post	Change	
1	3.1 (0.7)	3.4 (0.9)	0.3 (1.1)	3.3 (0.7)	3.8 (0.5)	0.6 (0.9)	0.3 (−0.5 to 1.1; *P* = .44)	3.5 (0.6)	3.6 (0.6)	0.1 (0.5)	3.5 (0.4)	3.9 (0.4)	0.4* (0.4)	0.4 (0.0 to 0.7; *P* = .05)
2	3.6 (0.6)	3.6 (0.4)	−0.1 (0.8)	3.6 (0.6)	3.6 (0.4)	0 (1.0)	0.0 (−0.7 to 0.7; *P* = .94)	3.7 (0.5)	3.9 (0.4)	0.2 (0.4)	3.6 (0.6)	3.8 (0.5)	0.3** (0.4)	0.0 (−0.3 to 0.4; *P* = .80)
3+	3.5 (0.9)	3.5 (0.7)	0 (1.2)	3.5 (0.7)	3.3 (0.5)	−0.2 (1.0)	−0.2 (−1.1 to 0.7; *P* = .65)	3.5 (0.5)	3.7 (0.5)	0.1 (0.3)	3.5 (0.6)	4.0 (0.7)	0.5*** (0.6)	0.3 (−0.1 to 0.7; *P* = .11)
All	3.4 (0.8)	3.5 (0.7)	0.1 (0.0)	3.5 (0.7)	3.6 (0.6)	0.1 (1.0)	0.0 (−0.4 to 0.5; *P* = .84)	3.6 (0.5)	3.7 (0.5)	0.2 (0.4)	3.5 (0.5)	3.9 (0.5)	0.4**** (0.5)	0.2 (0.0 to 0.4; *P* = .02)

SP indicates standardized patient; SD, standard deviation; CI, confidence interval; PGY, postgraduate year.
†Rated on a 5-point scale: 1 = poor, 2 = fair, 3 = good, 4 = very good, 5 = excellent; scores 1, 3, and 5 were anchored with specific descriptions for each of the de-escalation skills.
*$P = .001$.
**$P = .03$.
***$P = .02$.
****$P = <.0001$.

Secondary Analysis of Assessment Tool

Three of the 7 fundamental communication skills—attending to the caregiver's comfort, managing the encounter smoothly, and treating the caregiver with respect—were positively associated with higher SP-rated overall de-escalation performance ($P < .01$) (see Supplementary Material 2). Cronbach's alpha was 0.91. Each of the 7 observed de-escalation skills significantly correlated with higher SP-rated overall de-escalation performance ($r^2 = 0.59$ to 0.77; $P < .0001$) (see Supplementary Material 3).

Discussion

This study is the only RCT to date on teaching de-escalation skills to pediatric residents and the first to examine differences among all PGY levels. Although we found significant improvements in resident self-assessed de-escalation skill behaviors, we did not observe significant differences in SP-rated de-escalation skill behaviors following the curricular intervention. Nevertheless, our study responds to a recent call to teach de-escalation skills to residents[9] by providing evidence that residents 1) frequently experienced angry caregiver encounters; 2) perceived the 90-minute de-escalation curriculum as being directly applicable to patient care; 3) valued learning de-escalation strategies, discussing these with peers, and practicing with SPs; and 4) recommended instruction on this topic in the fall of PGY1.

Only one previous study of 33 pediatric and medicine-pediatric residents found significant improvement in SP-rated de-escalation skills following implementation of a communication skills workshop.[18] It is possible that residents found their 4-step framework versus our 9-step framework easier to learn or our curriculum content too complex to be able to immediately demonstrate behavior change. Additionally, residents may have found either previously learned de-escalation behaviors difficult or unnecessary to change following our intervention, particularly given that PGY1 residents' baseline mean de-escalation skill level was "good" (a 3 on a 5-point scale). Another study of 76 nursing students showed significant expert-rated de-escalation performance improvements following implementation of 24 hours of training.[33] However, neither of these studies was a RCT or used assessment tools with full validity evidence, and the nursing study included a training time commitment far beyond what is realistic in most pediatric residency programs.

Similar to Peterson et al,[7] we found significant resident self-assessed de-escalation skill improvements. Although evidence is inconclusive, Bandura[34–36] has demonstrated that high self-efficacy can predict successful use of new skills and actual performance; thus, our residents' improved confidence may be a vital step toward future improved performance that we were unable to capture immediately following the intervention. Conversely, given the lack of SP-rated de-escalation skill improvement and physicians' known difficulties with accurate self-assessment,[37] residents' perceptions of improved skill may have led to a false sense of self-confidence.

High inter-rater reliability and correlation coefficients for our tool's de-escalation skills provide validity evidence that our tool may be useful to other investigators. Given that 3 of our 7 fundamental communication skills were associated with higher overall de-escalation performance and that residents valued learning strategies and discussing these with peers, future curricula might focus on these elements.

Our de-escalation curriculum and ensuing study including simulated angry caregiver encounters serves as an example of educational training programs in conflict management specifically focused on minimizing or reducing workplace aggression. This approach is one of a combination of strategies likely required to tackle this issue[11] and prepare our trainees to be able to skillfully handle caregiver conflict. In a newly proposed "arc of conflict" model meant to serve as a scaffold for organizing conflict management and de-escalation skills in health care,[9] the first 2 of the 3 zones of threat (disagreement, agitation and aggression, and physical violence) have been addressed by our de-escalation skills training. Aside from sharing basic safety tips, we did not set out to address physical violence, a topic addressed elsewhere in the literature.

Our study has several limitations. This was a single institution study. Survey responses were subject to recall bias. In addition, we may have biased our results toward finding a null result in 2 ways: 1) SP encounters were designed to evaluate the impact of the curriculum but are unavoidably interventions themselves, and 2) control residents participated in an educational activity related to difficult encounters. We felt that selection of the control activity was appropriate, as it mimics clinical learning, but recognize that residents may have learned de-escalation skills through peer discussion. Another limitation is that we conducted the study in simulations of caregiver encounters and do not know what skills residents exhibit in real clinical settings. Because there is limited prior work on such curricula and we were keen to avoid excessive stress to participants, we were purposefully conservative in our design of case scenarios to provide basic situations requiring modest de-escalation rather than including cases of plausible but more complex or extreme anger. As curriculum survey results suggest, we may not have challenged our PGY2+ residents enough to elicit behavior change. The "dose" of the intervention and/or simulation may have been too low to result in significant behavior change.[38] Finally, baseline skill level was high; therefore, we may have had a ceiling effect.

Future studies may wish to focus on training PGY1 residents, as they have the lowest baseline scores, are least prepared to handle these situations, and may be most receptive to teaching. If PGY2+ residents are included, we recommend designing more difficult cases where a decision made by the participating resident triggers anger or caregivers do not respond positively to initial de-escalation efforts. In addition, to try to mitigate the gap between resident and SP assessments and to improve both resident self-assessment accuracy[39] and effective learning,[40] we recommend implementing real-time or post hoc educational feedback (ie, video review or verbal feedback by SPs, peers, and/or expert faculty), an educational strategy that we were unable to incorporate given study day work flow constraints. Our next steps include designing formative sessions that feature rapid cycle deliberate practice, an emerging method that appears particularly promising for new skill acquisition and mastery.[41]

CONCLUSION

Our study illustrates that de-escalation encounters are frequent in pediatric patient care, affirming the need for de-escalation training. Our assessment tool showed preliminary validity evidence, and our de-escalation communication curriculum was well received, applicable to practice, and significantly improved residents' perceptions of their performance. A de-escalation curriculum focused on concrete communication strategies and peer discussion may be beneficial, with fall of PGY1 being the ideal time to do so. The impact on participants' de-escalation behavior of both more difficult cases with SP actors playing angry caregivers and feedback on performance should be studied further.

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SUPPLEMENTARY DATA

Supplementary data related to this article can be found online at https://doi.org/10.1016/j.acap.2018.10.005.

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