



CONFLICT MANAGEMENT EDUCATION IN THE INTENSIVE CARE UNIT

By Bobbie Ann Adair White, EdD, MA, Heath D. White, DO, MS, Christie Bledsoe, EdD, Randy Hendricks, EdD, and Alejandro C. Arroliga, MD, MSc

Background Conflicts in medical settings affect both team function and patient care, yet a standardized curriculum for conflict management in clinical teams does not exist.

Objectives To evaluate the effects of an educational intervention for conflict management on knowledge and perceptions and to identify trends in preferred conflict management style among intensive care unit workers.

Methods A conflict management education intervention was created for an intensive care team. The intervention was 1 hour long and incorporated the Thomas-Kilmann Conflict Mode Instrument as well as conflict management concepts, self-reflection, and active learning through discussion and reviewing clinical cases. Descriptive statistics were prepared on the participants' preferred conflict management modes. A pretest/posttest was analyzed to evaluate knowledge and perceptions of conflict before and after the intervention, and 3 open-ended questions on the posttest were reviewed for categories.

Results Forty-nine intensive care providers participated in the intervention. The largest portion of participants had an avoiding conflict management mode (32%), followed by compromising (30%), accommodating (25%), collaborating (9%), and competing (5%). Pretest/posttest data were collected for 31 participants and showed that knowledge ($P < .001$) and perception ($P = .004$) scores increased significantly after the conflict management intervention.

Conclusions The conflict management educational intervention improved the participants' knowledge and affected perceptions. Categorization of open-ended questions suggested that intensive care providers are interested in concrete information that will help with conflict resolution, and some participants understood that mindfulness and awareness would improve professional interactions or reduce conflict. (*American Journal of Critical Care*. 2020;29:e135-e138)

Medicine is collaborative; however, many clinical providers do not have the skills necessary to lead in a team environment.^{1,2} A lack of leadership and conflict management education creates team dysfunction and job strain, which affects working relationships, job satisfaction, and patient care.^{3,4} Up to 70% of intensive care unit (ICU) workers reported at least 1 conflict per week, and these occurrences affect both team and patient outcomes.^{3,5}

Some medical schools and graduate medical education programs have leadership education curricula that may or may not include conflict management, but standardized requirements have not been adopted.⁶⁻¹¹ Given the importance of this topic and the lack of data on the most appropriate education and management strategies for managing conflict in the ICU, we conducted an educational intervention and assessed knowledge gain, perceptions about conflict management, and trends in conflict management mode.

Materials and Methods

This study was conducted at Baylor Scott & White Health, a level I trauma center with approximately 636 beds in Temple, Texas. Participants were from multiple disciplines. Demographic information, including years of experience, clinical specialty, and area of practice, were collected. The research was approved by the institutional review board (Ref. No. 300999).

An educational session and assessment were designed by the first author (B.A.A.W.) and reviewed by an expert panel of 2 ICU doctors (H.D.W., A.C.A.) and a regionally known

conflict management expert. The educational assessment and intervention involved 2 instruments: (1)

the Thomas-Kilmann Conflict Mode Instrument (TKI), which was used primarily as an educational tool,¹²⁻¹⁵ and (2) a pretest and posttest with Likert-type multiple choice questions (pretest/posttest) (see Supplement). Demographic data and the TKI were analyzed with descriptive statistics, and the pretest/posttests were analyzed with the Wilcoxon test.

The 1-hour conflict management educational intervention for this study was led by the lead author, who has expertise in organizational psychology and medical education, and had 4 overarching objectives: (1) diagnose conflict type and cause; (2) recognize internal dialogue; (3) identify conflict management modes; and (4) develop awareness of self and others. The education session incorporated basic knowledge concepts of conflict management, self-reflection around the TKI, and an emphasis on active learning through reviewing clinical cases. The educational intervention went through several iterations of revision after feedback from experts in the field but continued to include components of literature, conflict management content, and adult learning.

The session opened with discussion of literature that highlighted the importance of conflict management and basic concepts about conflict including conflict types, language, common causes of conflict, perception, cognitive processing of conflict, and resolution hints. Following the background section of the intervention, participants completed the TKI and discussed each conflict management mode. After participants understood the concepts, the leader introduced interprofessional conflict cases and the group discussed the cases as an interprofessional team. Participants used their new knowledge to dissect scenarios and name potential symptoms, diagnoses, and treatment plans for the conflict. The session was intended to educate and enlighten participants and encourage diplomacy and empathy in ICU teams.

Results

Forty-nine providers (10 physicians, 1 advanced practice provider, 18 registered nurses, 8 respiratory therapists, and 12 not specified) participated in the

Conflict management training is needed to encourage positive dialogue and minimize avoidant culture.

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educational intervention and completed the TKI during the intervention. The TKI assessed 5 constructs, with each participant having at least 1 high score and 1 low score. Because the inventory allows for multiple high and low scores, the total number of scores is not the same as the number of participants. The 49 participants had 57 high scores. The high scores (Figure 1) indicate that the most frequently used conflict modes were avoiding (32%), compromising (30%), and accommodating (25%). The low scores (Figure 2) indicate that the least frequently used modes were competing—with 50% of the population scoring lowest in this mode—and collaborating (25%). There was no correlation between conflict management mode scores and specialty or years of experience.

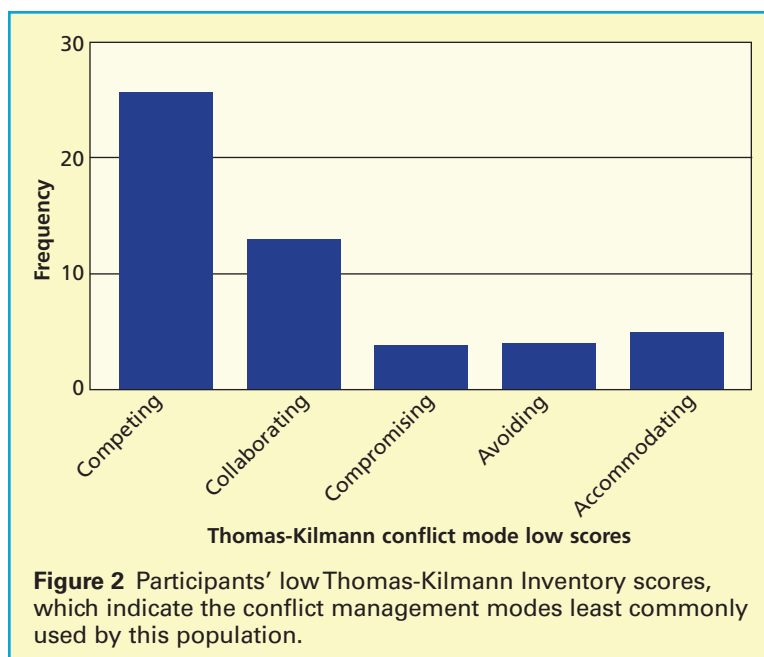
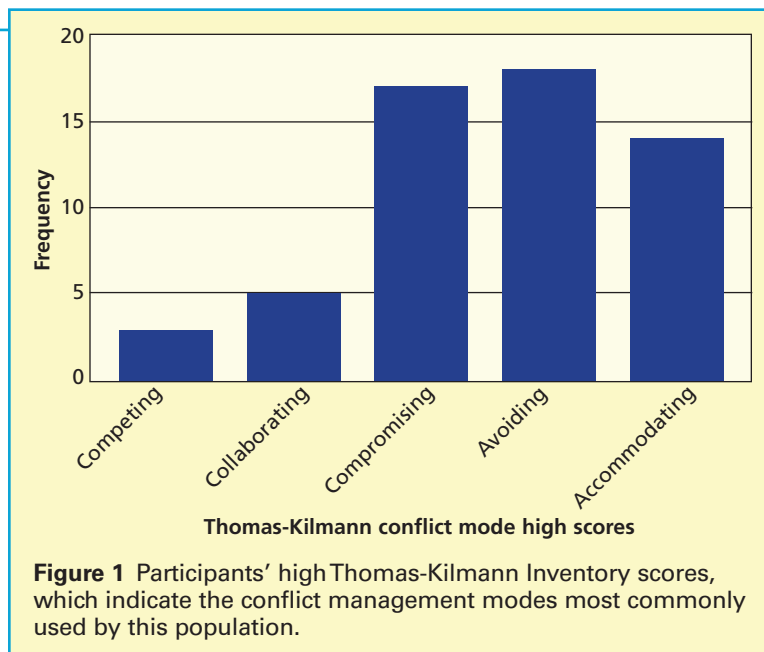
In addition to the quantitative research questions, there were 3 open-ended questions that yielded some insight for future iterations of conflict management education. Participants reported that taking the TKI provided personal insight and taught them about how to work in a team. Participants identified mindfulness as a strategy that they would apply in practice. Most importantly, participants wanted further exposure to concrete skills for conflict resolution and believed that insights about communication were an important part of conflict resolution.

Of the 49 participants in the educational intervention, 31 (5 physicians, 1 advanced practice provider, 17 registered nurses, and 8 respiratory therapists) completed the pretest/posttest. The participants who completed the pretest/posttest represented the cardiothoracic ICU (10 participants), medical ICU (9 participants), surgical trauma ICU (9 participants), and combinations of the 3 ICUs (9 participants). Their clinical experience ranged from less than 1 year to more than 30 years. The Wilcoxon rank sum test showed a significant change in participants' knowledge ($P < .001$) with a large effect size ($d = 1.47$). The difference in perception scores was significant as well ($P = .004$).

Discussion

We conclude that conflict management can be taught in a short time frame. Participants gained knowledge, changed their perceptions, and planned to use the gained knowledge in their practice. Additionally, participants believed that the following would improve or reduce conflict: communication, mindfulness, dialogue, interdisciplinary rounds, and awareness.

The competing mode of conflict resolution was the most common low score, which has both positive and negative implications. Competing, which involves high concern for self and low concern for



others, is a necessary conflict management mode in medicine because providers must be comfortable competing with one another about what they feel is best for the patient. It may be advisable to coach staff on how to compete in a healthy way. If team members feel that they cannot speak up or contradict perceived leaders, poor patient outcomes can result.¹⁶ The most common high score was in the avoiding mode of conflict resolution. This finding also can have positive and

Participants' preferred conflict management modes were avoiding and compromising.

negative implications. Avoidance can be beneficial when a “cooling off” period is needed, but avoidance can lead to unresolved conflict that contributes to poor morale.¹⁷

The generalizability of these results is limited by the small sample size. However, the sample was fully powered and there was a large effect size; and thus these results support the use of conflict education as a tool. There have been efforts to include leadership principles in physician education, but there is little continuity across programs.¹⁸ Most programs yield only data on participants’ perception and no real quantifiable results.^{6,8,10,11} The effectiveness of this intervention should be reviewed further.

Conclusions

This is the first study to create a conflict management education intervention for teams in the ICU. In the group that completed the pretest and posttest, knowledge and perception scores increased significantly after the educational intervention. Significant

Interprofessional teams should consider conflict management education to normalize difficult conversations and minimize avoidance.

findings for knowledge gained and perceptions of conflict point to a need for continued research, as gained knowledge can assist individuals in their daily team interactions. We were surprised by results that showed that compromising and avoiding are preferred conflict management styles within

the ICU. Although there is no wrong conflict management mode, there are negative team repercussions of compromising and avoiding. Future investigations around conflict training and management are much needed.

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REFERENCES

1. Collins-Nakai R. Leadership in medicine. *McGill J Med*. 2006;9(1):68-73.
2. Physician leadership resources manual: leading high-performance teams. Ontario Hospital Association website. Accessed August 31, 2020. <https://www.oha.com/guidance-and-resources/hospital-physician-relations>
3. Azoulay É, Timsit J-F, Sprung CL, et al. Prevalence and factors of intensive care unit conflicts: the conflicus study. *Am J Respir Crit Care Med*. 2009;180(9):853-860.
4. Greer LL, Saygi O, Aaldering H, de Dreu CKW. Conflict in medical teams: opportunity or danger? *Med Educ*. 2012;46(10):935-942.
5. Rogers D, Lingard L, Boehler ML, et al. Teaching operating room conflict management to surgeons: clarifying the optimal approach. *Med Educ*. 2011;45(9):939-945.
6. Bhatia K, Morris CA, Wright SC, et al. Leadership training for residents: a novel approach. *Physician Leadersh J*. 2015;2(2):76-80.
7. Blumenthal DM, Bernard K, Bohnen J, et al. Addressing the leadership gap in medicine: residents’ need for systematic leadership development training. *Acad Med*. 2012;87(4):513-522.
8. Doughty RA, Williams PD, Brigham TP, et al. Experiential leadership training for pediatric chief residents: impact on individuals and organizations. *J Grad Med Educ*. 2010;2(2):300-305.
9. Edler A, Adamshick M, Fanning R, et al. Leadership lessons from military education for postgraduate medical curricular improvement. *Clin Teach*. 2010;7(1):26-31.
10. Pettit JE, Dahdaleh NS, Albert GW, et al. Neurosurgery resident leadership development: an innovative approach. *Neurosurgery*. 2011;68(2):546-550.
11. Webb AMB, Tsipis NE, McClellan TR, et al. A first step toward understanding best practices in leadership training in undergraduate medical education: a systematic review. *Acad Med*. 2014;89(11):1563-1570.
12. Horwitz IB, Horwitz SK, Daram P, et al. Transformational, transactional, and passive-avoidant leadership characteristics of a surgical resident cohort: analysis using the multi-factor leadership questionnaire and implications for improving surgical education curriculums. *J Surg Res*. 2008;148(1):49-59.
13. Song H, Chien AT, Fisher J, et al. Development and validation of the primary care team dynamics survey. *Health Serv Res*. 2015;50(3):897-921.
14. Thomas KW, Kilmann RH, Schaubhut NA. Thomas-Kilmann Conflict Mode Instrument [2007 Normative Update]. Accessed August 31, 2020. <https://marketplace.unl.edu/buros/thomas-kilmann-conflict-mode-instrument-2007-normative-update.html>
15. Kilmann RH, Thomas KW. Developing a forced-choice measure of conflict-handling behavior: the “MODE” instrument. *Educ Psychol Meas*. 1977;37(2):309-325.
16. Patterson K, Grenny J, McMillan R, Switzler A. *Crucial Conversations: Tools for Talking When the Stakes are High*. 2nd ed. McGraw Hill; 2012.
17. Saltman DC. Conflict management: a primer for doctors in training. *Postgrad Med J*. 2006;82(963):9-12.
18. Hartley K. Untangling approaches to management and leadership across systems of medical education. *BMC Health Serv Res*. 2016;16(Suppl 2):180.

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