Integrating trauma-informed approaches into obstetrics and gynecology medical education: a framework for safer learning and care

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Trauma-informed medical education extends the principles of trauma-informed care into medical training to foster awareness and sensitivity to trauma, aiming to avoid further harm. Trauma-informed care is patient-centered, emphasizes shared decision-making, and promotes safety, empowerment, and healing within physician—patient relationships. Similarly, trauma-informed medical education promotes a safe learning environment in which learners and educators share mutual respect and responsibilities for achieving educational goals. Trauma is a common human experience, with substantial portions of the population experiencing adverse events. Medical students also report high rates of childhood trauma. Medical education itself can exacerbate trauma, affecting learners' cognitive load, emotional resilience, and capacity to learn. The sensitive nature of obstetrics and gynecology makes it particularly relevant for a trauma-informed approach. Despite this need, trauma-informed training is sparse in medical education. Notably, few trauma-informed care curricula focus on obstetrics and gynecology, especially at the clerkship level. Incorporating trauma-informed medical education in obstetrics and gynecology curricula can enhance understanding of gynecologic and obstetric conditions' trauma-related pathophysiology. Clinical training should involve trauma-informed patient interactions, sensitive history taking, and examinations. Beyond obstetrics and gynecology, trauma-informed medical education should permeate the entire medical educational continuum, shaping academic and administrative cultures. Developing and studying the impact of trauma-informed medical education will support both learners and the patients they serve.

Key words: curriculum, medical education, obstetrics and gynecology, patient care, patient safety, trauma-informed care, trauma-informed medical education

Introduction to trauma-informed medical education

Trauma-informed medical education (TIME) is an extension of the trauma-informed movement, which developed following the inclusion of post-traumatic stress disorder as a condition in the *Diagnostic and Statistical Manual of Mental Disorders* (third edition; American Psychiatric Association, 1980). Trauma-informed care (TIC) espouses approaching health issues with an

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awareness and sensitivity to potential prior traumatic exposures, with an intention to avoid further harm.[1] TIC is an approach to patient care which is patient-centered, based on shared decision-making, and which promotes safety, empowerment, and healing within physician–patient relationships. Essential to TIC is interrupting cycles of mistrust and retraumatization, such that patients are empowered to access care on their terms, and physicians become a trusted partner in achieving health goals. Applications of TIC now extend across medical specialties. Patient satisfaction and outcomes are improved within organizations and at the individual level when TIC is practiced routinely.[2,3] TIC espouses 6 key principles: ensuring safety for all (psychological and physical); building and maintaining trust through decisions made mutually and with transparency; peer support for healing and recovery; collaboration and mutuality with leveling of hierarchies; ensuring empowerment of all, with opportunities for expression and self-determination ("voice and choice"); and an acknowledgment and consideration of the historical, cultural, and gender-based experiences with trauma that affect individuals and communities (Table).

In the original description of TIC, an emphasis was placed on institutional support for TIC; that is, the culture of an institution needs to not only accommodate a patient-centered and trauma-informed practice but infrastructure must also be cultivated to support this practice. Part of this infrastructure development is ensuring the philosophy extends to medical education. Learners need to understand the principles of TIC as part of their training to care for patients of their own and to protect themselves against trauma experienced in the educational process itself.

A trauma-informed approach to medical education—TIME—espouses trusting relationships between learners and instructors and a safe and welcoming learning environment across the educational continuum. In turn, multidirectional learning occurs, retraumatization is mitigated, and resiliency is promoted.[4] In TIME, trauma-informed principles are woven throughout a curriculum: from the neuroscience and pathophysiology of trauma exposure in basic sciences, to the application of trauma-informed principles in patient care during clinical courses, and to self-care and wellness of learners to reinforce strengths and build resiliency. Applying trauma-informed principles to educating learners has the potential in turn to positively impact learners' interactions with patients. Crucially, trauma-informed principles need to encompass the academic and administrative structure of a medical education program to fully express the benefits of TIME. In this article, we explore the literature on TIME and describe best practices to promote the incorporation of trauma-informed principles into clinical teaching in obstetrics and gynecology (OBGYN) medical education across the educational continuum.

Background of trauma and medical education

Trauma—"an event, series of events, or set of circumstances experienced by an individual as physically or emotionally harmful, or life-threatening, and that has lasting adverse effects on the individual's functioning, and mental, physical, social, emotional, or spiritual well-being"[1]—is a common human experience. Surveys consistently demonstrate rates of trauma exposure approaching 90% for adults in the United States, including a community-based survey of adults in Detroit from 1996[5] and a nation-wide survey from 2013,[6] while data from the World Health Organization show more than 70% of adults worldwide report lifetime experience of trauma.[7,8] Medical students matriculate with levels of exposure to adverse childhood events (ACEs) similar to that of the general population, with 51% reporting at least one ACE and 12% reporting more than 4 ACEs,[7,9,10] compared with general population rates of 61.6% and 15.8%, respectively.[11] Although newly matriculated medical students may have greater resiliency than peers, with lower reported rates of depression, anxiety, and burnout symptoms than age-matched peers,[9,12] the experience of medical training results in higher rates of those symptoms by the clinical years.[13–16] While trauma exposure can and does affect people from all cohorts, spanning societal strata, race, and gender minorities, individuals from marginalized communities or low socioeconomic status have higher rates of exposure to trauma.[6,17] Students from minoritized and marginalized backgrounds may also be at higher risk of suffering the impact of trauma[18]; this impact can be magnified by historical and current bias and discrimination,[19] and by the hidden curriculum,[20] which can be described as the implicit messages, values, and community norms which are not explicitly taught as part of an educational program but which are conveyed nonetheless, and which can serve to reinforce biases and discrimination. Medical education itself can be traumatic, from mistreatment and harassment at all phases of training to vicariously experiencing traumatic events in clinical care. Learners in health professions with a prior history of trauma are at risk of retraumatization.[21] Trauma can elevate stress levels and cognitive load, which reduces the brain's capacity to focus and process new learning.[22] Exposure to trauma may also result in learners shutting down emotionally, suffering burnout, and empathy fatigue.[23] All these can adversely impact learning capacity, learner success, and ultimately patient care.

Practicing TIC promotes health equity and access to healthcare.[24,25] Multiple studies demonstrate the value of TIC in improved patient–clinician communications and improved engagement with healthcare.[26,27] Retraumatization of trauma survivors may be avoided by embracing TIC.[28,29] Application of similar principles in medical education may help ensure engagement of

TABLE
TIME in an OBGYN clerkship: examples from SAMHSA's 6 principles

Principle	Individual-level examples	Clerkship-level examples
Safety Physical and emotional safety for students and faculty; minimizing risk of retraumatization	Providing a private sleep room while on call and secure spaces for personal belongings while in clinic.	Posting face sheets of students, faculty, residents, and nurses with names, photos, and short bios on labor floor to promote team members' sense of belonging and recognition.
Trustworthiness & transparency Clear, honest communication; transparency in decision-making and procedures	Students and preceptors receive accurate schedules for clinics where students are expected to fill meaningful patient care roles.	Clerkship Director posts clear grading expectations and performance objectives online and in administrative office for learners and faculty.
Peer support Inclusion of individuals with lived experience; fostering mutual support	Student near-peer mentoring, "big sib-little sib" programs	Clerkship hosts breakfast for current students and residents for small group discussions to process clinical experiences focused on guided reflections and building resilience.
Collaboration & mutuality Shared decision-making; leveling power differences between faculty and learners	Student and preceptor together set learning goals at the start of a session or case, encouraging self-directed learning.	Students and recent graduates invited to co-create curricular content and co-teach didactics, promoting learner agency.
Empowerment, voice, & choice Supporting autonomy; validating strengths; offering choices in learning	Students choose which subspecialty clinics to attend, tailoring learning experiences to personal goals or preferences	Clerkship provides opportunities to participate in advocacy and community engagement work as option for OBGYN clerkship duties.
Recognition of cultural, historical, & gender issues Recognizing and addressing cultural, historical, and gender factors that influence trauma	Students and faculty invited to share personal stories which illuminate and influence clinical experiences, fostering identity-safe spaces.	Didactics include discussion of the role of historical and cultural disparities in disease epidemiology and adverse outcomes in OBGYN.

OBGYN, obstetrics and gynecology; *SAMHSA*, Substance Abuse and Mental Health Services Administration; *TIME*, trauma-informed medical education.

learners with educators and avoidance of retraumatization of learners in medical training.

The current state of trauma-informed medical education in obstetrics and gynecology

The relevance of a trauma-informed approach and universal application of TIC is of particular importance in the setting of OBGYN. Experiences such as sexual assault or pregnancy loss are very common throughout the population, including among patients and among medical learners. The sensitive nature of OBGYN is fraught with potential for traumatization. For medical students, the intimate nature of OBGYN histories and physical examinations can be traumatizing by reliving their own experiences. Fear of harming or hurting patients and issues of consent for examinations for educational reasons all contribute to a need for a trauma-informed approach in the learning environment. While patients welcome and expect physicians to ask about ACEs and other trauma, physicians report discomfort with a trauma disclosure.[30]

Although trauma exposure is ubiquitous, training in TIC is not. Gerber et al noted that of 11 published medical school curricula focused on TIME, only 2 were intended for use at the clerkship level, with 9 aimed at the preclerkship learner. A recent scoping review looking at TIME curricula for OBGYN found only one published curriculum, which was for graduate medical education learners.[31,32]

Best practices for incorporating trauma-informed medical education into obstetrics and gynecology clerkships and advanced electives

At the basic sciences level, the role of chronic stress in the development of fibroids,[33] endometriosis,[34] preterm birth,[35] low birthweight,[36] and early onset preeclampsia[37] should be included in pathophysiology, with discussion of trauma as a contributing factor to chronic stress. This might include an exploration of the relationship between psychological stress and oxidative stress at the cellular level and an understanding of the intergenerational effects of trauma exposure as demonstrated in epigenetic phenomena.[38] In clinical epidemiology and social medicine courses, instructors may examine the role of trauma exposure in chronic disease and the role of violence and abuse in women's health, for example, identifying intimate partner violence as a leading cause of maternal/fetal death.[39,40]

In clinical clerkships, TIME can be implemented at the individual and clerkship-wide level. While single session training programs have been described,[41,42] weaving a trauma-informed approach to patient care throughout clinical training is likely to result in more long-term familiarity and increased use of TIC. The role of TIME is perhaps best understood in the context of physical examination and clinical skills curricula. Demonstrations of TIC behaviors and language with

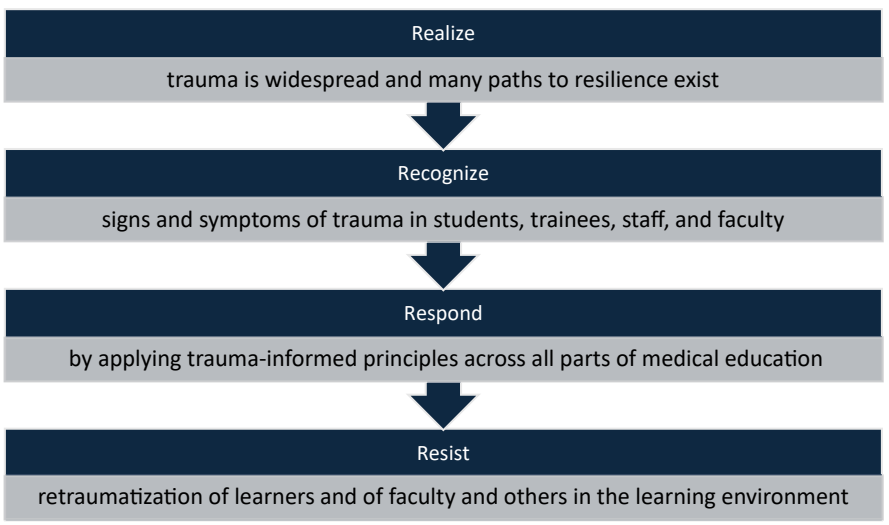
standardized patients, instruction in responding to trauma disclosures, and juxtaposition of trauma-informed behaviors with nontrauma-informed behaviors are useful learning tools.[43] Other trauma-informed approaches include explicit instruction in techniques of TIC and using a trauma-informed perspective in learner–instructor interactions. In using the TIC framework of 6 principles, Table gives specific examples of how to incorporate this on an individual and clerkship level.

Next steps in the incorporation of trauma-informed medical education into obstetrics and gynecology medical education

Resiliency

TIME provides learners with opportunities to develop resiliency and strength to respond effectively to trauma exposures, which may occur at any point in medical training.[44–46] Trauma exposure may take many forms, including natural disasters or political events, witnessing harm occurring to a patient or population, caring for critically ill patients, or bullying. Jackson et al found as many as 57% of surgical trainees screened positive or "at risk" of posttraumatic stress disorder due to work-related experiences.[45] Application of trauma-informed principles to medical education may mitigate the effects of this level of stress: Elesseou identified the Substance Abuse and Mental Health Services Administration's 4-R approach (Figure) as a model for building resiliency and prevention of burnout in medical professionals, noting "TIC can transform the experience of healthcare for patients, trainees, and employees alike".[47] Providing our learners with the skills to mitigate adverse effects of trauma is vital to help learners to cope with traumatic events of a medical education.[48] Brown et al describe "trauma stewardship", wherein physicians manage the occupational exposure to trauma by caring for patients and understand their lived experiences without suffering the burden of that trauma themselves.[31] In offering resources to protect learners from traumatic educational experiences, it is important not to give the impression that clinical experiences are necessarily triggering. Fostering resilience should include setting realistic expectations about the spectrum of human experience encountered, which may expand the learner's perspective without inducing trauma.

FIGURE
The 4 Rs of trauma-informed medical education



Training faculty

Training materials aimed at practicing physicians are lacking. The lack of TIC training for faculty impacts their ability to not only embrace TIC in their own practices but also to model, teach, and assess these skills for learners. American College of Obstetricians and Gynecologists recognized in a 2021 Committee Opinion the need for trauma-informed training.[49] Brown et al in 2021 set out principles for introducing TIC into medical education, calling on medical educators to "address the epidemic of trauma and adversity faced by medical students, the medical professionals they will become, and ultimately the patients they will serve."[50] Despite this broad need, a substantial gap exists between the recognized importance of TIC training and the implementation of structured TIC curricula. Brown et al found most TIME curricula focus on undergraduate medical education or graduate medical education, with a paucity of continuing medical education efforts, and call attention to this generational gap as amplifying the lack of TIME.[31] While learners may be well-versed in the language and practice of TIC, practicing clinicians may not, thus contributing to the hidden curriculum and potentially to alienation and burnout of learners.

Learner participation

A key principle of TIME, based on the principles of trustworthiness, transparency, collaboration, and empowerment, is inclusion of learners in the design and implementation of curricular materials, including assessment tools. Millham et al describe a team-based approach to adapting the core Entrustable Professional Activities for Entering Residency (EPAs)[51] to include trauma-informed principles, allowing faculty to give detailed assessments based on direct observation.[4] EPAs, defined by the Association of American Medical Colleges as observable, measurable tasks performed by physicians, that trainees become entrusted to perform unsupervised once they have attained sufficient specific competence. While each EPA includes elements of Interpersonal and Communication Skills

and Professionalism, Millham et al assembled a multidisciplinary team of students, residents, and faculty to work together in an iterative, consensus-building process to modify the existing EPA framework to include assessing students' knowledge, behaviors, and skills for trauma-informed practice. Lee et al found curricular co-creation and co-implementation increases medical student engagement and satisfaction with their education.[52] With current learners (and future educators) deeply involved in content development, TIME has the potential to improve medical school curricula to better meet the evolving needs of the profession.

Overcoming barriers

Barriers to introducing TIME may include lack of faculty with content knowledge, lack of time in an overcrowded curriculum, and unfamiliarity with existing guidelines. Faculty buy-in may be improved by departmental sponsorship of training through grand rounds presentations. Engaging with students, trainees, and staff to develop curricular content and implement curricular change can successfully augment faculty efforts and is in keeping with the principles of collaboration, mutuality, and empowerment.[53] Published resources for building curricular content include TIC core competencies developed by Berman et al, a trauma-informed approach to teaching history-taking[54] and the physical examination,[43] and assessment tools which incorporate trauma-informed principles into the entrustable professional activities framework.[4] The National Collaborative on Trauma-Informed Health Care Education and Research offers resources, training, and a shared framework to help institutions overcome these barriers and integrate trauma-informed principles into the education of health professions.[53,55]

Conclusion

TIME calls for the intentional integration of trauma science and principles throughout the medical curriculum, from foundational understanding of neurobiology and pathophysiology to trauma-informed clinical care, and support for learner well-being and resilience. Trauma-informed principles applied throughout medical education have the potential to decrease burn-out, increase resiliency, and shape academic and institutional cultures to improve well-being for learners, faculty, staff, and patients. While principles of TIME are particularly relevant to OBGYN, trauma-informed principles should be developed, implemented, and studied across the educational continuum to better support both learners and the patients they serve. ■

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