2024

Trauma Informed Care Medical Education Practices

Elise A. Prehoda
University of Vermont, elise.prehoda@med.uvm.edu

Anne Dougherty
University of Vermont

Trauma Informed Care Medical Education Practices

Elise Prehoda[1], Anne Dougherty[1,2]

[1]University of Vermont Larner College of Medicine

[2]University of Vermont Health Network Department of Obstetrics, Gynecology, and Reproductive Sciences

Abstract:

In 2021, the American Medical Association formally adopted policy recognizing trauma-informed care (TIC) as a practice. Subsequently, in 2022, the National Collaborative on Trauma-Informed Health Care Education and Research (TIHCER) developed a validated set of TIC competencies for undergraduate medical education (UME). While trauma can stem from many events, including early traumas such as adverse childhood experiences (ACEs), sexual and gender-based violence are pervasive causes. As TIC evolves, gaps in UME curriculum exist; this study seeks to evaluate undergraduate medical education coverage of topics pertaining to sexual violence (SV), gender-based violence (GBV), and trauma-informed care at the Larner College of Medicine at the University of Vermont (UVM LCOM). The study also seeks to explore demographic differences in knowledge and attitudes of medical students regarding the same topics. Data was collected through distribution of a short Knowledge, Attitudes, and Practices (KAP) style voluntary, anonymous survey to the medical student body. Most students (approximately 96% of respondents) feel inclusion of SV, GBV, and TIC is important in their medical education and in the education of all future healthcare providers. Despite this, a minority of students (approximately 17%) feel they receive an appropriate amount of education on these topics, and only around 15% of respondents feel comfortable with their ability to provide trauma informed care. Additional analysis will compare differences in pre-clinical and clinical level students. While we expect no significant change in responses regarding importance of stated topics based on pre-clinical or clinical level, we do expect a gradient in responses regarding comfort level with ability to provide patient care as students progress through training. Notably, nearly 1/3 of respondents identified as a survivor of SV, with the vast majority of those survivors being female or LGBTQ+ identifying individuals, highlighting the pervasiveness of SV and its intersection with academic medicine as detailed in the 2022 AAMC report on Understanding and Addressing Sexual Harassment in Academic Medicine. This study was initially developed to evaluate education in topics of SV, GBV, and TIC, and will be used to guide implementation of these subjects in the Larner College of Medicine undergraduate medical curriculum. Initial programmatic changes since the conception of this study includes the revision of a first-year orientation session about Sexual Violence Prevention and Reporting, increased inclusion of topics related to SV, GBV, and TIC on curricular mapping initiatives, presentation of findings to the curriculum Thematic Working Group, and collaboration with the Thematic Working Group on potential curricular changes. Immediate next steps include the presentation of discussed potential curricular changes at the upcoming Curricular Change Committee meeting for implementation in the subsequent academic year. Future studies proposed include collaboration with UVM Medical Center graduate medical education, collaboration with the UVM College of Nursing and Health sciences, and surveying of students at discrete points in the medical curriculum in order for more succinct conclusions to be drawn.

Introduction:

In 2021, the American Medical Association adopted a policy recognizing trauma-informed care (TIC) as a practice, definitively addressing the importance of recognizing the impact trauma can have on patients and the necessity to incorporate practices to avoid re-traumatization into medical care[1]. Trauma is defined by the Substance Abuse and Mental Health Services Administration as any event or circumstance that either results in physical, emotional, or life-threatening harm, or has lasting adverse effects on an individual's mental, physical, emotional, or social well-being[4]. As such, trauma and TIC is especially relevant not only regarding patient care but for those pursuing medical education who are likely to experience or have experienced their own trauma. TIC itself is regarded as the ways in which healthcare providers can better care for those who have experienced trauma[7]. At its core, TIC represents the intersection of patient centered care and trauma-specific care[2,7], wherein patient centered care is universally applied and includes the assessment and potential amendment of existing care modalities to reflect an understanding of the impact care systems may have on those who have experienced trauma regardless of known history, and trauma-specific care is comprised of the care and empowerment given to a patient who is known to have experienced trauma[7].

While trauma can stem from many events and circumstances, sexual and gender-based violence are especially pervasive causes[6]. A 2022 report by the AAMC on occurrence of sexual harassment among US medical school faculty found that 22% of all faculty and 34% of female identifying faculty experienced sexual harassment[5]. Further highlighting the ubiquitousness of sexual violence, data from the National Sexual Violence Resource Center (NSVRC) indicates 1 in 3 women and 1 in 6 men experience some form of sexual violence in their lifetime[6]. Although the need for TIC is clear given the near universal harm caused by traumatic events, education has lagged substantially behind interest. Medical students appear especially interested in gaining skills in TIC, especially when they receive baseline information on the relevance to clinical practice[8].

Brown et al emphasized the need for robust trauma-informed medical education (TIME), which can serve as a framework both for trauma-informed medical care, and to more directly address adversity faced by medical students and professionals[2]. Through this proposed framework, they highlight the critical need to adopt a trauma-informed approach in the educational context that trauma-related subjects are being taught[2]. This model emphasizes the intersection of student identities and acknowledges the extensiveness of trauma in all populations, allowing for a learning environment supportive of all students. In 2022, the National Collaborative on Trauma-Informed Health Care Education and Research (TIHCER) developed a validated set of TIC competencies for undergraduate medical education (UME)[3]. These competencies, which highlight pillars such as interprofessional collaboration, personal and professional development, patient care, and more, are easily accessible in public domain[3], yet have not been widely adopted in medical academia. As TIC evolves, gaps in UME curriculum exist[2,7] and continue to grow despite demonstrated learner interest[8]. This study seeks to evaluate undergraduate medical education coverage of topics pertaining to sexual violence (SV), gender-based violence (GBV), and trauma-informed care at the Larner College of Medicine at the University of Vermont (UVM LCOM). The study also seeks

to explore demographic differences in knowledge and attitudes of medical students regarding the same topics.

Methods:

A short Knowledge, Attitudes, and Practices (KAP) style voluntary, anonymous survey was created. IRB exemption was granted 01/31/2023. The survey was purpose-built for this study in REDCap with no prior template used. It consists of 4 total sections which were estimated to take an average 7-10 minutes to complete. Section 1 includes a series of demographic questions including respondent level of education, year in program, race, ethnicity, gender, sexuality, and self-reported status as a survivor of SV or GBV. Section 2 includes 16 Likert scale questions with response options of "Agree", "Disagree", "Neutral", and "Don't Know/Unsure". Questions 1-3, 5-7, and 16 assess medical student perspectives on importance of SV, GBV, and TIC education. Questions 4 and 10-15 assess medical student perspectives on need for supplemental resources to learn about and comfort with current skillset in SV, GBV, and TIC. Questions 8 and 9 evaluate medical student perspectives on whether curriculum is representative of attitudes and perspectives of survivors of SV and GBV. Section 3 includes 12 true/false statements with an additional answer option of "Don't Know" to obtain baseline knowledge levels of students responding to the survey regarding the fields of SV, GBC, and TIC. Section 4 includes 10 subtopics of SV, GBV, and TIC with Likert scale options of "Very Interested", "Interested", "Neutral", "Uninterested", and "Very Uninterested" to gauge medical student interest in additional curricular opportunities. The survey was published and distributed to the medical student body via the standard "LCOM Student Research" email account on 2/06/23 and 2/24/23. A final reminder was sent by the same account on 8/14/23 and the survey was closed to responses on 8/31/23. Descriptive statistics were mainly used for data analysis, and cross tabulation with Pearson Chi-Square was used to compare responses to questions 10-15.

Results:

A total of 134 responses were collected through our survey. We excluded 21 responses due to survey being incomplete. Of the 113 remaining responses, demographic data was obtained. Regarding gender identity, a majority of 78 respondents identified as "Cis/Cisgender Female" and 25 respondents identified as "Cis/Cisgender Male" as seen in Demographic Data Figure 1. Sexual orientation was also collected, and 82 respondents identified as "Straight or Heterosexual" with remaining respondents distributed across other sexual identities as shown in Demographic Data Figure 2. Race and Ethnicity data were also obtained and respondents a majority of 86 and 105 respondents identified as "White or Caucasian" and "Not Hispanic or Latinx" respectively as seen in Demographic Data Figures 3 and 4. As shown in Demographic Data Figure 5, approximately 30% respondents identified as survivors of sexual violence, and approximately 15% identified as survivors of gender-based violence. There was no correlation of sexual or gender-based violence survivorship with factors of gender, sexuality, or race during descriptive analysis. Student body demographics were not available for comparison to respondent demographics.

Responses to Likert scale questions 1-16 were grouped and analyzed as shown in graphs 1-4. Greater than 95% of respondents answered "agree" to the statement in questions 1-3, "It is

important for me to learn about [sexual violence and prevention/gender-based violence and prevention/trauma-informed care] in my field" (Graph 1). Similarly, greater than 95% of respondents answered "agree" to the statement in questions 5-7 "All future healthcare providers should receive training on [sexual violence/gender-based violence/trauma-informed care]" (Graph 1). Over 90% of respondents agreed with question 16 statement "I plan to incorporate trauma-informed care into my practice as a future healthcare provider" (Graph 1). When presented with the statement "[Sexual/Gender-based] violence education practices at my institution are informed by survivors attitudes and perspectives" in questions 8 and 9, over 50% of respondents were unsure or disagreed, with approximately 20% agreeing (Graph 3).

Regarding the statement proposed in questions 10 and 11, "I have to seek out supplemental resources in my education if I want to learn about [sexual/gender-based] violence," nearly 50% of respondents agreed (Graph 2), however approximately 42% agreed with question 12 statement "I have to seek out supplemental resources in my education if I want to learn about trauma-informed care" (Graph 2). When presented with the statement "I feel comfortable with my current skillset to provide care for a survivor of [sexual/gender-based] violence" in questions 13 and 14, 55% of respondents disagreed, with close to 47% of respondents disagreeing with question 15 statement "I feel comfortable with my current skillset to provide trauma informed care" (Graph 2).

Cross tabulation with Pearson Chi-Square was utilized for questions 10-15 comparing pre-clinical level respondents to clinical level respondents and answers of "agree" to "disagree". Chi-Square analysis of questions 10-12 did not yield statistically significant differences between clinical level of respondents. Chi-Square analysis of questions 13, 14, and 15, however yielded values of 12.691 ($p=0.005$), 17.503 ($p<0.001$), and 13.158 ($p=0.004$) respectively (Graph 4). Responses from questions in sections 3 and 4 regarding respondent baseline knowledge and subtopic interest were not analyzed, but rather held for internal use with future curricular planning.

Discussion:

The pervasiveness of sexual violence (SV) and gender-based violence (GBV) in both society and in academic medicine is redemonstrated by this study. Nearly one in three respondents identify as a survivor of SV, and over one in seven respondents identify as a survivor of GBV. There was no correlation of survivorship with factors of gender, sexuality, or race. Given the ubiquitous impact of SV and GBV, Trauma Informed Care (TIC) is an important subject for physicians and other healthcare providers to master. This, as well as the importance of subjects of SV and GBV, is reflected by medical student responses to survey questions assessing student perspectives. Greater than 95% of respondents reported perceived importance in receiving training on TIC, SV, and GBV both in their personal medical education, and in the education of all future healthcare providers. A similar majority of respondents reported planning to incorporate TIC into their future practice as a physician. Such an overwhelming interest from students in subjects such as SV, GBV, and TIC highlights the growth of this field in academic medicine, and serves as a beacon towards which curricular efforts should navigate.

Despite the overwhelming majority of respondents indicating the importance of the subject, many appeared uncertain of the content of their current curriculum. A majority of respondents

reported feeling unsure of or not knowing whether SV or GBV education practices at their institution were informed by survivor attitudes or perspectives. An additional majority of respondents reported a need to seek out supplemental resources in order to learn about SV, GBV, or TIC.

Respondents were additionally asked to self-evaluate their comfort level providing TIC and care for survivors of SV and GBV. A majority of respondents indicated they did not feel comfortable with their current skillset. When responses are analyzed according to pre-clinical vs clinical level students, a statistically significant gradient of comfort level is evident, with clinical level students being more likely to report feeling comfortable with their current skillset. This suggests that TIC is inherently being taught to students throughout curriculum, however given responses to questions regarding comfort level and need for supplemental resources, it appears that students are not wholly aware where they are receiving this training.

These responses indicate a need for UVM LCOM to provide more clarity for students regarding where in curriculum TIC is discussed as well as providing students with well-defined information regarding if curriculum has been informed by survivor perspectives. Additionally, an investigation of potential gaps in curriculum should occur, and curricular review should prioritize evaluating sources of education to ensure survivor voices are included in materials taught.

Limitations:

There were multiple limitations of this study that warrant discussion. Most notably, this study included a relatively small (~23% of the student body) sample size. This may be in part due to restrictions on method of survey distribution, which occurs through a UVM LCOM approved email address, so students who may be more responsive to alternative survey distribution methods were lost. This additionally may be due to lack of incentive to complete survey, lack of affiliation of the survey with a tangible course or curricular committee, or time of year of survey distribution. Due to restrictions in access to student body demographics, we were unable to compare respondent demographics to those of the student body in order to evaluate for bias. Given this limitation, it is unclear whether results were skewed based on respondent identity, or if respondents were truly reflective of the student body at large. An additional limitation of this study is the variation in timing of survey response submission. Due to the large window in time that this survey was open, some students responded at the beginning of their clinical level curriculum and some were able to respond in the middle, however class year would appear the same in their response. Given this discrepancy in timing, we grouped respondents into pre-clinical vs clinical level for further data analysis as opposed to grouping by class. Furthermore, the survey did not include any variation in questioning for preclinical or clinical level students, and all respondents answered the same survey. While we felt this was most appropriate for standardization of responses, more succinct conclusions may have been drawn by adapting the survey to reflect expected education and comfort levels of preclinical vs clinical level students.

Programmatic Changes and Next Steps:

Since the conception of this study, UVM LCOM students and faculty worked together to revise a first-year orientation session about Sexual Violence Prevention and Reporting. While the

previous session centered on Title IX and UVM reporting policies, the revised session was lengthened in order to include an interactive component encouraging newly matriculated students to discuss with each other potential intersections of their identities as student and healthcare provider with regards to sexual and gender-based violence. Additionally, UVM LCOM curricular administration has committed to including topics of SV, GBV, and TIC in their curricular mapping. This measure provides students with the ability to search for and map out where they are learning these subjects in the curriculum, and easily access associated learning materials in doing so.

Since the completion of this study, we were able to meet with the UVM LCOM Thematic Working Group to present findings and propose further programmatic changes. The outcome of this meeting involved numerous agreed upon pressure points where TIC can be further incorporated, or highlighted where it already exists, in the curriculum. One such suggestion is including a question on TIC in the Larner Student Assessment (LSA), an internal survey administered by UVM LCOM to students annually to identify curricular strengths and weaknesses. By including a question on TIC in this survey, administration would be able to map out progression of students satisfaction with education on the subject, and continuously adjust and improve. Additionally, the curricular mapping project was re-discussed, and a plan was made to better instruct students on how to access their curricular mapping, so they can easily identify where they are learning about TIC in the curriculum and review as needed. Furthermore, we discussed with the Thematic Working Group the validated set of TIC competencies developed by TIHCER in 2022. Notable curricular weaknesses as shown in our study in comparison to these competencies include inclusion of survivors perspectives in educational practices and clinical competency in TIC.

To better include survivor voices in curriculum, the Thematic Working Group agreed to investigate means to host panel events or otherwise share stories from survivor perspectives as a dedicated part of curriculum. Additionally, the Thematic Working Group revealed that TIC is now included in “Doctoring Skills” curriculum, specifically in sections where students are taught how to ask a sexual history, however given the pervasiveness of trauma it was agreed that TIC should be highlighted as a pillar of patient skills, and not siloed into few fields. It was also discussed that TIC is one of the few elements of the current UVM LCOM curriculum that is not formally assessed through a written or clinical exam. The Thematic Working Group discussed potential for including competencies of TIC in assessments where it is taught. Finally, we discussed the importance of including faculty in further discussions regarding curricular revision with respect to TIC, in order to ensure that those educating students are equally aware of the necessity of the subject. The Thematic Working Group plans to present these suggestions to the Curricular Change Committee at the end of the 2023-2024 academic year with hopes of implementing change in the subsequent semester.

Given the responses to this study indicating immense interest in the fields of TIC, SV, and GBV with concurrent ambiguity regarding educational practices, we propose further assessments regarding curricular needs. Subsequent studies should aim to survey students at matriculation and after completion of 4th year clinical curriculum, and at discrete points during the academic year rather than over several months. Additional proposed studies include an interdisciplinary

collaboration with the University of Vermont College of Nursing and Health Sciences to evaluate undergraduate nursing curriculum pertaining to the same topics, as well as collaboration with the University of Vermont Medical Center to evaluate specialty-specific graduate medical education coverage in the same topics.

Conclusion:

Medical students at the University of Vermont Larner College of Medicine report an overwhelming interest in topics of SV, GBV, and TIC and show increasing comfort levels with skills in the field with increasing clinical level. Despite this, clarity regarding and ongoing review of curriculum is necessary for robust training in these subjects, especially given their redemonstrated pervasiveness in academic medicine.

References:

1. American Medical Association Council on Science and Public Health. Adverse Childhood Experiences and Trauma-Informed Care H-515.952. AMA Policy Finder. https://policysearch.ama- assn.org/policyfnder. Published 2021. Accessed October 20, 2023.

2. Brown T, Berman S, McDaniel K, et al. Trauma-Informed Medical Education (TIME): Advancing Curricular Content and Educational Context. Acad Med. 2021;96(5):661-667. doi:10.1097/ACM.0000000000003587

3. Berman, Brown, Gerber, et al. Trauma-Informed Care (TIC) Competencies for Undergraduate Medical Education. https://tihcer.weebly.com/uploads/1/2/9/5/129591462/tic_competencies.pdf. Published 2022. Accessed October 20, 2023.

4. Trauma and violence. What Is Trauma and the Effects? | SAMHSA. https://www.samhsa.gov/trauma-violence.

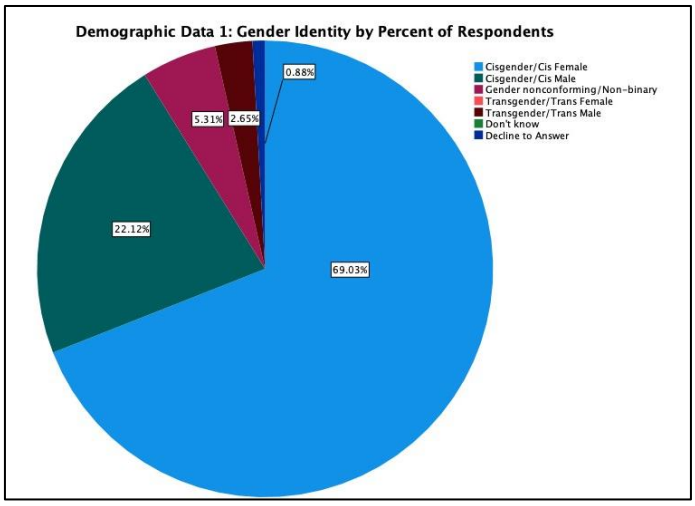
5. Understanding and Addressing Sexual Harassment in Academic Medicine | AAMC. AAMC. https://www.aamc.org/data-reports/faculty-institutions/report/understanding-and-addressing-sexual-harassment-academic-medicine.

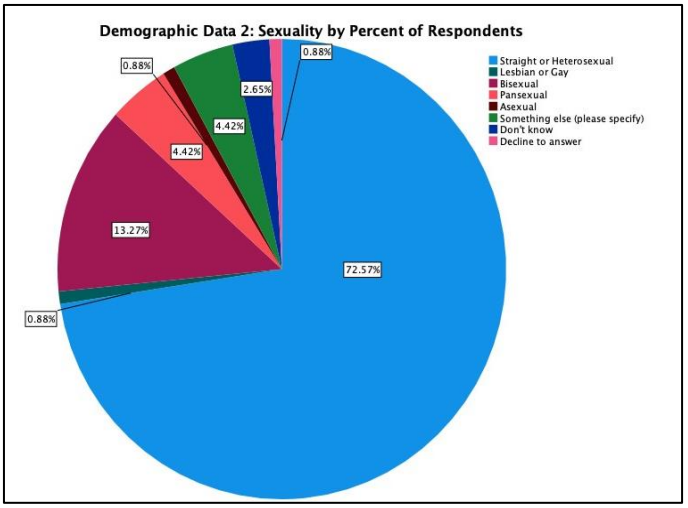
6. Statistics In-Depth. National Sexual Violence Resource Center. https://www.nsvrc.org/statistics/statistics-depth.

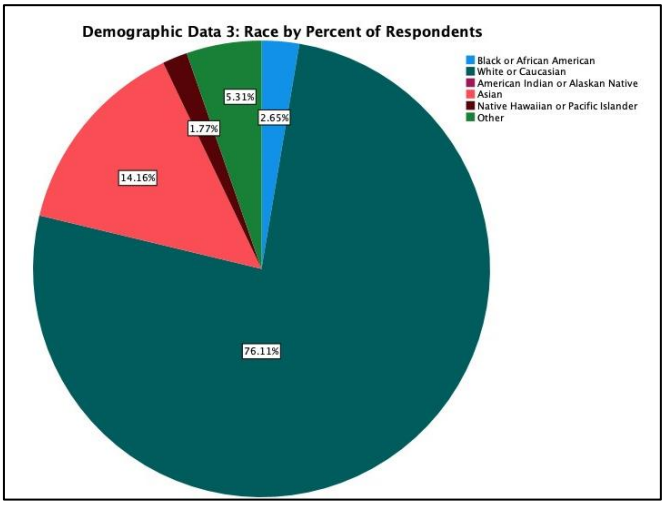
7. Raja, S., Hasnain, M., Hoersch, M., Gove-Yin, S., & Rajagopalan, C. (2015). Trauma informed care in medicine: current knowledge and future research directions. *Family & Community Health.*, *38*(3), 216–226. https://doi.org/10.1097/FCH.0000000000000071

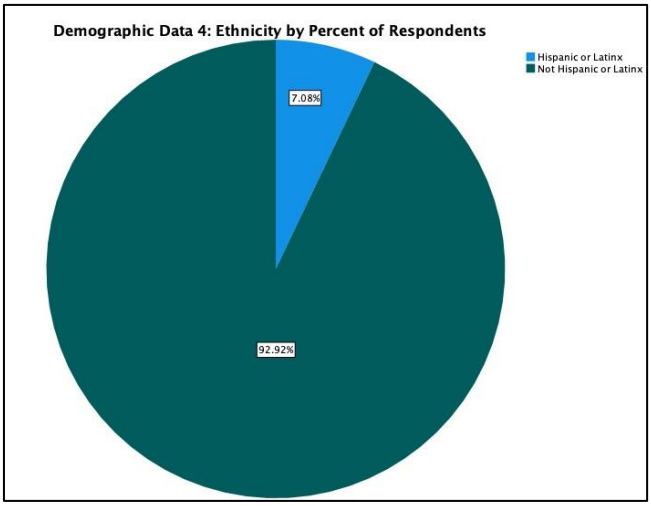
8. Goldstein E, Murray-García J, Sciolla AF, Topitzes J. Medical Students' Perspectives on Trauma-Informed Care Training. *Perm J*. 2018;22:17-126. doi:10.7812/TPP/17-126

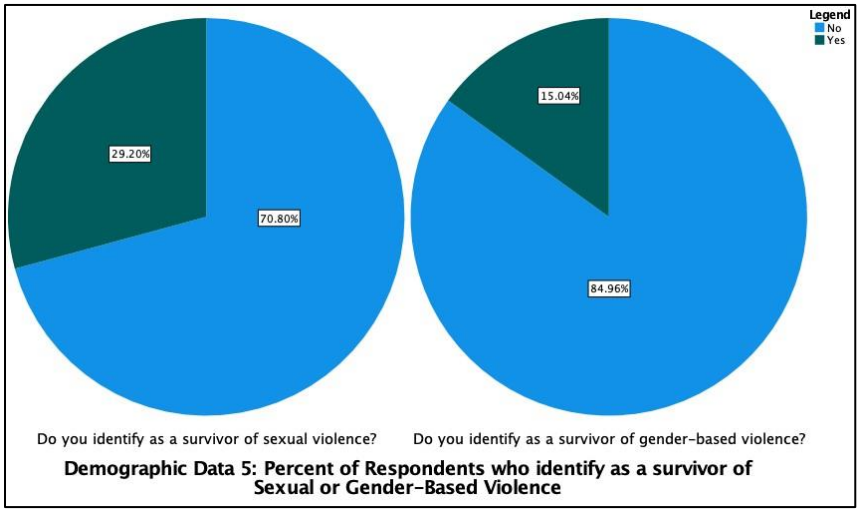
Figures:

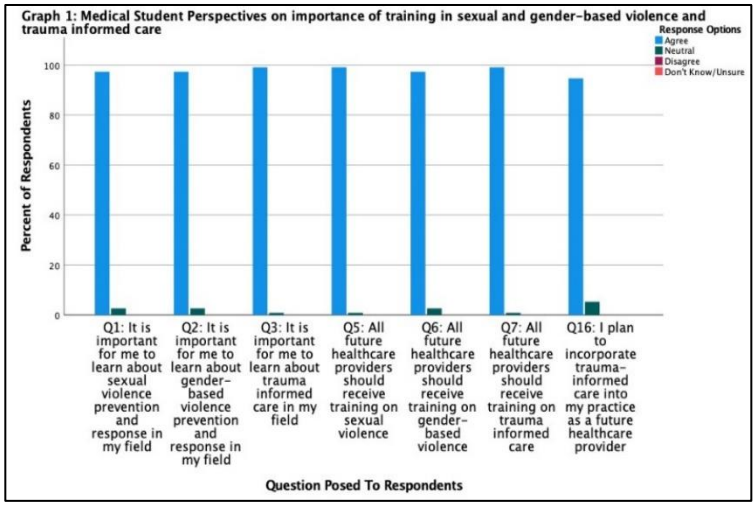

Demographic Data 1: Gender Identity by Percent of Respondents
Cisgender/Cis Female
Cisgender/Cis Male
Gender nonconforming/Non-binary
Transgender/Trans Female
Transgender/Trans Male
Don't know
Decline to Answer
0.88%
5.31%
2.65%
22.12%
69.03%

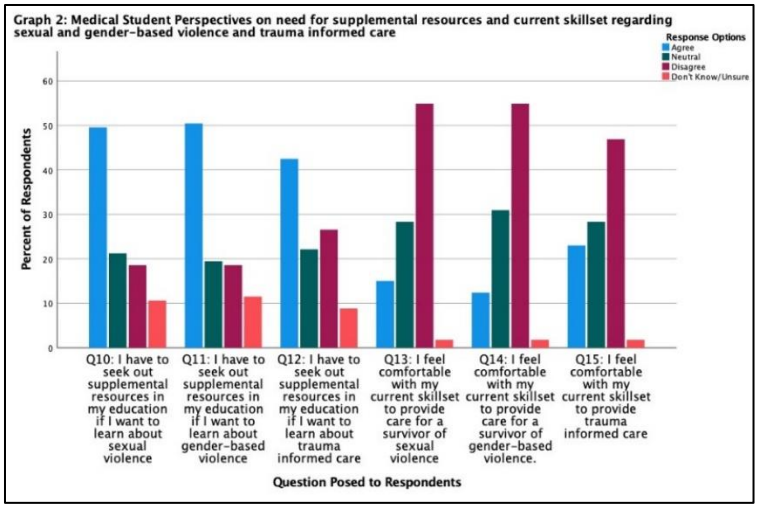

Demographic Data 2: Sexuality by Percent of Respondents
Straight or Heterosexual
Lesbian or Gay
Bisexual
Pansexual
Asexual
Something else (please specify)
Don't know
Decline to answer
0.88%
0.88%
2.65%
4.42%
4.42%
13.27%
72.57%
0.88%

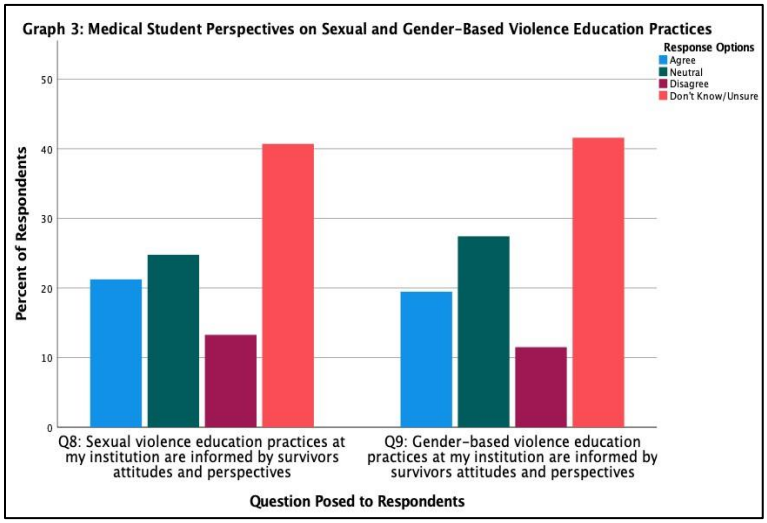

Demographic Data 3: Race by Percent of Respondents
Black or African American
White or Caucasian
American Indian or Alaskan Native
Asian
Native Hawaiian or Pacific Islander
Other
5.31%
2.65%
1.77%
14.16%
76.11%

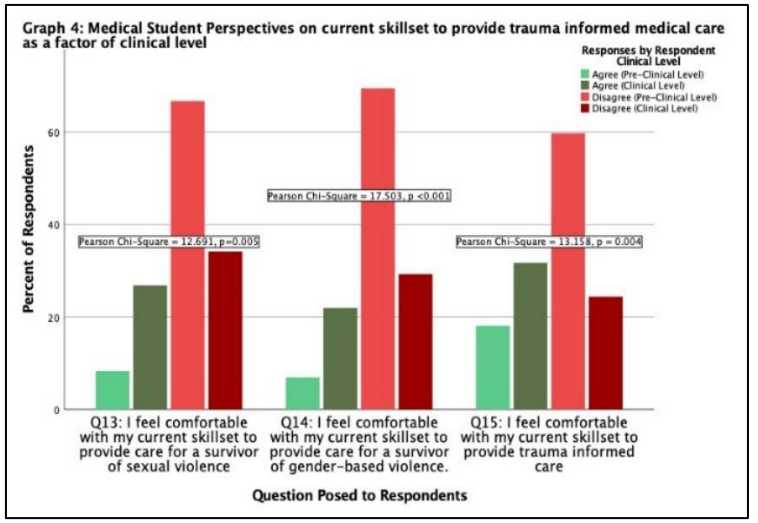

Demographic Data 4: Ethnicity by Percent of Respondents
Hispanic or Latinx
Not Hispanic or Latinx
7.08%
92.92%


Legend
No
Yes
29.20%
70.80%
15.04%
84.96%
Do you identify as a survivor of sexual violence?
Do you identify as a survivor of gender-based violence?
Demographic Data 5: Percent of Respondents who identify as a survivor of Sexual or Gender-Based Violence


Graph 1: Medical Student Perspectives on importance of training in sexual and gender-based violence and trauma informed care
Response Options
Agree
Neutral
Disagree
Don't Know/Unsure
Percent of Respondents
0
20
40
60
80
100
Q1: It is important for me to learn about sexual violence prevention and response in my field
Q2: It is important for me to learn about gender-based violence prevention and response in my field
Q3: It is important for me to learn about trauma informed care in my field
Q5: All future healthcare providers should receive training on sexual violence
Q6: All future healthcare providers should receive training on gender-based violence
Q7: All future healthcare providers should receive training on trauma informed care
Q16: I plan to incorporate trauma-informed care into my practice as a future healthcare provider
Question Posed To Respondents


Graph 2: Medical Student Perspectives on need for supplemental resources and current skillset regarding sexual and gender-based violence and trauma informed care
Response Options
Agree
Neutral
Disagree
Don't Know/Unsure
Percent of Respondents
0
10
20
30
40
50
60
Q10: I have to seek out supplemental resources in my education if I want to learn about sexual violence
Q11: I have to seek out supplemental resources in my education if I want to learn about gender-based violence
Q12: I have to seek out supplemental resources in my education if I want to learn about trauma informed care
Q13: I feel comfortable with my current skillset to provide care for a survivor of sexual violence
Q14: I feel comfortable with my current skillset to provide care for a survivor of gender-based violence.
Q15: I feel comfortable with my current skillset to provide trauma informed care
Question Posed to Respondents


Graph 3: Medical Student Perspectives on Sexual and Gender-Based Violence Education Practices
Response Options
Agree
Neutral
Disagree
Don't Know/Unsure
Percent of Respondents
0
10
20
30
40
50
Q8: Sexual violence education practices at my institution are informed by survivors attitudes and perspectives
Q9: Gender-based violence education practices at my institution are informed by survivors attitudes and perspectives
Question Posed to Respondents


Graph 4: Medical Student Perspectives on current skillset to provide trauma informed medical care as a factor of clinical level
Responses by Respondent Clinical Level
Agree (Pre-Clinical Level)
Agree (Clinical Level)
Disagree (Pre-Clinical Level)
Disagree (Clinical Level)
Pearson Chi-Square = 12.691, p=0.005
Pearson Chi-Square = 17.503, p <0.001
Pearson Chi-Square = 13.158, p = 0.004
Percent of Respondents
0
20
40
60
Q13: I feel comfortable with my current skillset to provide care for a survivor of sexual violence
Q14: I feel comfortable with my current skillset to provide care for a survivor of gender-based violence.
Q15: I feel comfortable with my current skillset to provide trauma informed care
Question Posed to Respondents