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Development of a New Resident-centric Sex Trafficking Education Program for Obstetrics/Gynecology, Emergency Medicine, and Family Medicine Programs

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Title:

Development of a New Resident-centric Sex Trafficking Education Program for
Obstetrics/Gynecology, Emergency Medicine, and Family Medicine Programs

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Resident education, sex trafficking, human tracking, continuing medical education, research methods

Abstract:

Introduction:

Human sex trafficking is widespread and a nationally recognized public health crisis. Trafficked individuals and survivors often utilize the health care system, yet health care professions cite lack of formal training to identify and provide appropriate care. This study aims to increase Obstetrics/Gynecology, Emergency Medicine, and Family Medicine residents' knowledge and confidence when caring for individuals involved in sex trafficking.

Methods:

Obstetrics/Gynecology, Emergency Medicine, and Family Medicine residents voluntarily attended an evidence-based education session and received an electronic pre-, immediate-post-, and five-month-post session survey measuring knowledge, attitudes, beliefs, and confidence. Validated survey items were adapted from previous studies. Paired t-tests ($p < 0.05$) and descriptive analyses were used to determine differences. A concluding focus group was facilitated to further understand trainee experiences and awareness when caring for suspected sex-trafficked individuals and survivors. Thematic analysis determined reoccurring themes.

Results:

Between 2019 and 2021, 48 pre-session, 28 immediate-post-session, and 13 five-month-post-session surveys were collected. Resident knowledge and confidence increased from pre-session to immediate-post-session. Session pre- and post-surveys were linked (n=14) and demonstrated a statistically significant increase in knowledge ($p<0.05$) and an increase in confidence. The mean number of correct knowledge questions remained higher 5 months after the session compared to the pre-session. Focus group themes included increased resident knowledge and confidence.

Conclusion:

Improvement and retention in resident knowledge and confidence in caring for sex trafficked individuals illustrates the utility of this education intervention and expands on current literature. This study provides an example of an education session that can be adapted for other medical trainees.

Key Words: Resident education, sex trafficking, human trafficking, continuing medical education, research methods

Introduction

Human trafficking has increased in prevalence throughout the entire United States, with cases spanning across all 50 states.¹ Defined as obtaining labor or commercial sexual acts from an individual against their will, 11,500 cases of human trafficking were identified by the National Human Trafficking Hotline in 2020.^{2,3} This is a five percent increase compared to 2018.² Of these human trafficking cases reported, 7,648 specifically identified sex trafficking, or the “harboring, transportation, provision, or obtaining of a person for the purpose of commercial sex.”^{2,4}

Sex trafficking is an important public health concern to healthcare providers due to the prevalence, but also because sex trafficked individuals and survivors experience adverse physical, mental, reproductive health outcomes.^{5,6} Furthermore, a qualitative study by Lederer et al. showed that 87.8% of survivors had direct contact with a healthcare provider while trafficked.⁵ Therefore, healthcare professionals are in an optimal position to screen for sex trafficking and care for trafficked individuals and survivors. More specifically, Obstetrics/Gynecology (OBGYN), Emergency Medicine (EM), and Family Medicine (FM) residents are in a unique and prominent position to screen for sex trafficking as residents are often interact with patients presenting to labor and delivery, clinics, and the emergency department.

The greatest barriers for these health care professionals in identifying trafficked individuals are a lack of training and awareness.⁷ Efforts across the country have been attempted to advance health care professionals knowledge and clinical skills.⁸ Most common, studies evaluating these education interventions focus on emergency department and pediatric healthcare professionals as a targeted sample and leave out other specialties, such as obstetricians/gynecologists who may

more commonly interact with trafficked individuals.⁸⁻¹³ In addition, residents in any specialty should be able to confidently recognize the signs of sex trafficking and provide necessary support to trafficked individuals and survivors. This study provides an example of a sex trafficking education program for OBGYN, EM, and FM residents with an aim to increase residents' knowledge and confidence when caring for trafficked individuals and survivors.

Methods

Study design and setting

A prospective, mixed-methods education intervention was conducted at a single academic medical center in the Midwestern United States. The study was approved by the Medical College of Wisconsin institutional review board (IRB).

Study population

Obstetrics and Gynecology (OBGYN), Emergency Medicine (EM), and Family Medicine (FM) residents from the Medical College of Wisconsin Affiliated Hospitals' Residency Programs voluntarily attended the evidence-based education session and completed anonymous electronic surveys. The EM residency is composed of 9 to 12 residents per post-graduate year, across three years for a total of 31 residents. The FM residency is composed of 8 to 9 residents per post-graduate year for a total of 26 residents, and the OBGYN residency is composed of 8 residents across four post-graduate years for a total of 32 residents (Table 1).

Education session

The 45-minute education session was created based on an extensive literature review of 202 articles that produced 7 studies that evaluated sex/human trafficking education programs in 2019.^{9-10,13-16} These education sessions varied from facilitator-led lecture to self-directed online learning modules. Both virtual and in-person education programs included a didactic component via a PowerPoint or video and an interactive component via case discussion or quizzes. Content included definitions and statistics regarding sex trafficking in addition to identification and treatment of potential trafficked individuals.^{7-11,14,15} The American College of Obstetrics and Gynecology's (ACOG) Committee Opinion on Human Trafficking and best practice resources from the National Human Trafficking Hotline and Health Education Advocacy Linkage (HEAL) Trafficking were also utilized.¹⁷⁻¹⁹

Based on the prior studies and other PowerPoint was created with learning objectives of discussing standard definitions specific to human and sex trafficking, as well as national and local statistics on trafficking rates, strategies to identify sex trafficked individuals, principles of trauma-informed-care, and presenting an algorithm to care for suspected or established sex trafficked individuals with local and national resources (Appendix A). The algorithm was adapted from the algorithm created by Rabbit et al. to include patients over the age of 18 years (Appendix B)⁶. After completing the education session, participants were provided with the algorithm and a list of local resources. Questions were embedded throughout the education session to engage active learning and for participants to make connections with the content. The research team decided to focus on sex trafficking rather than the larger topic of human trafficking due to the concern that the full topic of human trafficking may not be adequately covered in one 45-minute session. The HEAL Assessment Tool for Health Care Provider Human Trafficking Training was used to confirm important content was included in the presentation.

The educational presentation was reviewed by a locally recognized institutional leader in the field of sex trafficking education.

The 45-minute education session was facilitated by one of the authors (MB) during the residents' scheduled didactic time. Due to sudden onset of the COVID-19 global pandemic, the educational session for all OBGYN residents was converted from an in-person learning experience to a virtual format via Webex, a video conferencing and online meeting application (n=21) due to mandatory restrictions on in-person gatherings. A second in-person education session was held for the incoming OBGYN first-year residents during their residency orientation (n=8). EM residents completed an in-person session during their scheduled didactic session (n=18). FM residents completed a virtual session during their scheduled didactic time (n=17). A recorded version of the OBGYN virtual session was provided to the OBGYN and EM residents via email for those that could not attend the session. All sessions were completed between May 2020 and May 2021.

Education session assessment

An anonymous 27-item electronic survey was developed to assess residents' baseline knowledge, confidence, experience, and perceived barriers regarding suspected or confirmed sex trafficked individuals and survivors (Appendix C). The nine knowledge questions were acquired with permission from the studies performed by Hansen et al and Beck et al with the intent to increase the validity of the knowledge questions.^{7,9} Previous studies informed the development of five Likert scale questions (1 = not at all confident, 2 = somewhat confident, 3 = confident, 4 = moderately confident, 5 = extremely confident) to evaluate residents' confidence to identify and screen trafficked individuals, identifying indicated medical evaluation and treatment, providing

resources, and discussing the topic with patients.^{10,14,16} Questions asking participants to reflect on experiences and barriers were also included.^{7,11} Additionally, the pre-education-session survey requested demographic questions of post-graduate year in residency program and identified gender. Participants were asked to create an identification code used to link surveys across the three instances of pre-, immediate-post, and five-month-post survey.

The 27-item pre-education session survey was adapted to inform the 21-item post-education survey and the 22-item, five-month-post-education survey (Appendix C). Each of these surveys included the same questions evaluating participants' perceptions, knowledge, confidence, and perceived barriers. The immediate post-session and five-month-post surveys included additional questions on screening for sex trafficked individuals and usefulness of the education session (Appendix C). The surveys were pilot tested by faculty, residents of non-OBGYN and emergency medicine specialties, and non-resident/physicians for clarity.

Prior to the education session, an email was provided to all residents, with a description of the study and a link to the anonymous pre-session survey (n=39 OBGYN, 35 EM, 26 FM residents).

The immediate-post-session and 5-month-surveys were distributed in a similar fashion.

The OBGYN and EM residents were encouraged/reminded to complete the surveys by the research team with one additional email. The FM residents received a due date in the email with the embedded link.

Survey data was stored in an electronic database. Ten surveys were removed due to non-completion or error in identification code. Paired-sample T-tests with p-value of 0.05 were used to investigate change in knowledge and confidence among residents using survey responses with matched codes. Descriptive statistics were used to compare total number of correct knowledge questions, reported confidence levels, reported barriers to care, encounters with sex trafficked

individuals and survivors, from pre-intervention to post-intervention and 5-month-post-intervention.

A concluding focus group was facilitated to further understand trainee experiences and awareness when caring for suspected sex-trafficked individuals and survivors. The semi-structured session occurred over Zoom, an online meeting platform. One of the study team members (MB) led 4 OB/GYN residents through 8 open ended interview questions (Appendix D). The session was recorded and transcribed verbatim. Two study team members (MB and KK) independently coded the transcription to structure reoccurring codes and subsequent themes.

Results

Demographics

The pre-, immediate-post-, and 5-month-post-education session surveys were emailed to 39 OBGYN, 35 EM, and 26 FM residents. The pre-session surveys were completed by 32 OBGYN (82%), 11 EM (31%), and 5 FM (19%) residents at the Medical College of Wisconsin Affiliated Hospitals (n=48). Most residents who completed the pre-session survey were female (n=31, 64.5%) and in their first year of residency (n=19, 39.5%). The education session was attended by 29 OBGYN (21 virtual, 8 in-person), 18 EM (in-person), and 17 FM (virtual) residents. Twenty-eight residents (16 OBGYN, 7 EM, 5 FM) completed the post-education session survey. Of the residents who completed the immediate-post-education session survey, sixteen residents attended the virtual session, ten attended an in-person session, and two residents watched a recorded-virtual session. Thirteen residents (9 OBGYN, 3 EM, 1 FM) completed the 5-month post-session survey.

Clinical knowledge

Knowledge was assessed by the number of questions answered correctly out of 9. Globally, the mean number of correct knowledge questions answered by participants increased from pre-session to immediate-post-session and then decreased from immediate-post-session to five-months-post-session. The mean number of correct knowledge questions remained higher five months after the session compared to pre-session (Figure 1).

Paired-sample T-tests of the 14 sets of linked pre-session and immediate-post-session surveys demonstrated a statistically significant increase in knowledge from pre-session ($M = 5.92$, $SD = 1.63$) to post-session ($M=7.71$, $SD=0.91$; $t(13) = 3.88, p<0.01$) (Table 2). Paired-sample t-tests of the four sets of surveys that included linked pre-session, immediate-post-session, and 5-month-post-session surveys demonstrated a persistent statistically significant improvement in knowledge from pre-session ($M=5.75$, $SD=1.25$) to 5-months-post-session ($M=7.25$, $SD=0.95$, $t(3)=3$, $p<0.05$) (Table 3). Overall knowledge decreased from immediate-post-session to 5-months post-session.

Two sample t-tests comparing the correct number of knowledge questions immediately post-session between participants who attending a virtual session ($M=7.5$, $SD=1.4$) versus an in-person session ($M=7$, $SD=1.15$) demonstrated no statistically significant difference ($t(24)=0.91$, $p=0.36$). Similarly, the number of correct knowledge questions 5-months post-session was not significantly different between participants who attending the virtual session ($M=6.71$, $SD=1.49$) and those that attended an in-person session ($M=6.8$, $SD 1.3$) ($t(10)=-0.10$, $p=0.92$).

Correct number of knowledge questions immediately post-education session were similar between OBGYN ($M=7.5$, $SD=1.20$) and EM ($M=6.71$, $SD=1.38$) ($t(21)=1.48$, $p=0.15$), between

OBGYN and FM ($M=7$, $SD=1.58$) ($t(19)=0.84$, $p=0.40$), and between EM and FM ($t(10)=-0.33$, $p=0.74$).

Confidence in providing care

Prior to the education session, most residents were not at all confident or somewhat confident in identifying ($n=41$, 85%) and screening sex trafficked individuals ($n=38$, 79%), identifying indicated medical evaluation and treatment ($n=35$, 72%), providing resources ($n=42$, 87%), and discussing the topic of sex trafficking with patients ($n=41$, 85%). The mean confidence level reported by residents increased from pre-session to immediate-post-session and then decreased from immediate-post-session to 5-months-post-session across all confidence categories. The mean confidence level of all confidence categories remained higher at 5-months-post-session compared to pre-session (Figure 2).

Paired-sample t-test comparing the change in confidence level from pre-session to immediate-post-session for the 14 residents whose surveys were linked demonstrated a statistically significant increase in confidence to: identify and screen victims, identify indicated medical evaluation and treatment, provide resources, and discussion of the topic ($p<0.01$) (Table 2).

Paired-sample t-tests of the four sets of surveys that included linked pre-session, immediate-post-session, and 5-month-post-session surveys did not demonstrate a persistent statistically significant improvement in confidence from pre-session to 5-months-post-session (Table 3).

Encounters with sex trafficking victims

Prior to the education session, most participants ($n=24$, 50%) did not know if they had encountered a sex trafficked individual over the course of 12 months. However, 32 (67%)

reported encountering a sex trafficked individual at some point in their training. The percentage of residents who reported having an encounter with a sex trafficked individual at some point increased from pre-session (n=32, 67%) to immediate-post-survey (n=21, 75%) and five-months post-session (n=11, 85%). When asked “do you routinely screen individuals for sex trafficking in your practice?” 5 of 47 (10.6%) residents responded “yes” pre-session and 5 of 13 (38.5%) responded “yes” at 5-months-post-session. Three residents who reported not routinely screening pre-session, reported routinely screening at 5 months-post-session.

Barriers to care

The most common reported barrier when caring for sex trafficked individuals pre-session were lack of training (78.3%), lack of awareness (47.8%) and lack of organizational policy/guidelines (32.6%). Immediate-post-session and 5-months-post-session the most common reported barriers were lack of training (35.7% and 46.2%), lack of awareness (46.4% and 38.5%) and a delicate subject matter (53.6% and 46.2%). Compared to pre-session, a decreased percentage of residents reported “lack of training” (n=10, 35.7%) and “lack of organization policy/guidelines” (n=4, 14.3%) as barriers to care immediate post session.

Participants’ perspectives gathered from the qualitative data from the focus group and open-ended survey questions in addition to categorical survey data provided insight into residents’ perspectives and opinions of the educational session.

From the focus group data, themes derived were distilled to 1) residents experienced an increase in knowledge and awareness after the education session, 2) residents desired to increase screening, and 3) residents experienced an overall retrospection of missed opportunities and discomfort when caring for a suspected sex trafficked individual. An example of a statement

supporting residents gaining knowledge includes a participant stating "now when I have a patient with multiple STIs like automatically that's the first thing I think about whereas like before you know your doctor mind is always like just like let's just treat all of these and carry on." The residents' desire to increase screening is illustrated by a participant stating, "I feel like the more that we talk about it, I think the easier it is to be aware of and like know what to do when we have a suspicion."

Regarding residents' satisfaction with their training regarding sex trafficking, prior to the education session, 73% of respondents were slightly to extremely dissatisfied with their training to identify and assist sex trafficked individuals. Immediately post education session 63% of respondents reported being moderately to extremely satisfied with their training. In addition, immediately after the education session 67% (n=19) of the 28 respondents reported that they strongly agree that sex trafficking-education should be a standard part of medical education.

Regarding the components of the education session, respondents reported that information about background, prevalence, definitions, community resources, phrasing/troubleshooting questions, and identifying risk factors was useful. Respondents reported that the education session could be improved by adding more interactive components and real-life examples/case scenarios.

Discussion

The research team created this education session focusing on victims and survivors of sex trafficking to help resident physicians feel more prepared to identify and care for these individuals. The findings demonstrate a 45-minute virtual or in-person didactic session improved residents' knowledge and confidence regarding the sex trafficking of adults and adolescents

utilizing both quantitative and qualitative data analysis. The education session was well-received by the residents and can be adapted for other residency programs.

The study provides an example of a PowerPoint-based education session that can be adapted by other programs by adding local statistics and resources. The session expands on other studies focusing on trafficked youth to include trafficked adults. The education session also expands the targeted audience of other studies which have focused on pediatric resident physicians and other healthcare professions. The similar number of correct knowledge questions post-education-session between different residency groups demonstrates the utility of the education session for different specialties, specifically obstetrics and gynecology, emergency medicine, and family medicine.

The session was developed to fit well into an established 45-minute didactic session. Although limited by a small sample size, the lack of difference in correct number of knowledge questions post-session between individuals who attended the virtual versus in-person session supports that the session can be facilitated either way. The research team also created an algorithm for the identification and care of suspected trafficked individuals and survivors which can be adapted by other institutions.

Like prior studies, our findings suggest an education program is associated with an improvement in residents' knowledge and confidence related to caring for sex trafficked individuals and survivors. Our study findings were parallel to Lee et al., demonstrating retention of knowledge months after the education session.²⁰ Furthermore, the focus group supported the positive impact on residents' perceived knowledge. Our study also showed that residents' confidence level remained higher 5 months post-education session compared to pre-session. However, the

difference between pre- and 5-month-post-session confidence level was not statistically significant.

Our study expanded similar education session evaluation performed by other research teams by including a focus group and categorical questions investigating residents' perspectives and opinions. The focus group and survey responses suggest that the residents valued the education session. Focus group participants reported the session was useful. A majority post-session survey respondents reported being satisfied with their training and strongly agreed sex trafficking education should be a standard part of medical education. Furthermore, residents provided feedback on how to improve the education session which is useful for future education session development.

Limitations

The development and facilitation of the education session was limited by a lack of involvement of a sex trafficking survivor. Similar studies have demonstrated a positive impact of involving survivors and this education session would likely also benefit from such involvement. Our research team involved a local expert in sex trafficking when developing the education session and evaluation surveys. The focus on sex trafficking rather than the larger topic of human trafficking also limited the scope of the education session and ability to compare the education session to similar studies.

Furthermore, the pre-, post-survey design utilizing the same knowledge and confidence questions could limit the ability to truly evaluate the participants' change in knowledge as participants could remember the questions. The evaluation of change in knowledge and confidence could also

be limited by incomplete responses or the lack of provision of a code that would allow the surveys to be linked for evaluation.

In addition, the small sample size and high rate of loss to follow-up in paired/matched surveys are important limitations of the study. Our sample size is smaller than sample sizes of other studies focusing on human trafficking. This small sample size could be explained by the study being performed at one location and the onset of the COVID-19 global pandemic. Also, the education sessions were delivered over only one year which limits the number of residents available to participate. The study had a large decrease in survey completion from pre- to post-education session. Possible reasons for this decline could be survey fatigue, lack of interest, or lack of time. Possible strategies to improve the sample size include increasing the study population to additional training programs/locations and increasing the number of years of data. Possible strategies to improve the response rate would be providing time directly after the education session to complete the survey, making the survey shorter, and providing incentives to complete the survey.

Lastly, differences in participants' specialties and levels of training may alter the results but also facilitate a broad distribution of the education session.

Conclusion

Although the small sample size limits the ability of the study to truly evaluate the effectiveness of the education program, the study provides promising preliminary data to support the utility of the education session for resident physicians. The study provides an example of an education program that can be performed in a structured residency curriculum and be well-received by the

residents. The study also demonstrates the utility of focus groups in evaluating the impact of an education session. Additional data and studies are needed to further evaluate the effectiveness of this program.

Other studies have demonstrated the utility of similar education programs in improving health care professionals' knowledge and confidence when caring for trafficked individuals. A joint effort to provide open access to pooled education resources would likely be beneficial for resident education regarding sex and human trafficking. These education efforts would hopefully lead to improved health outcomes for trafficked individuals and survivors.

Author Contributions:

Kristina Kaljo: Conceptualization, Methodology, Formal Analysis, Writing – Review and Editing, Visualization, Supervision. Morgan Briggs: Conceptualization, Methodology, Investigation, Formal Analysis, Writing – Original Draft, Writing – Review and Editing, Visualization.

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Figure Titles

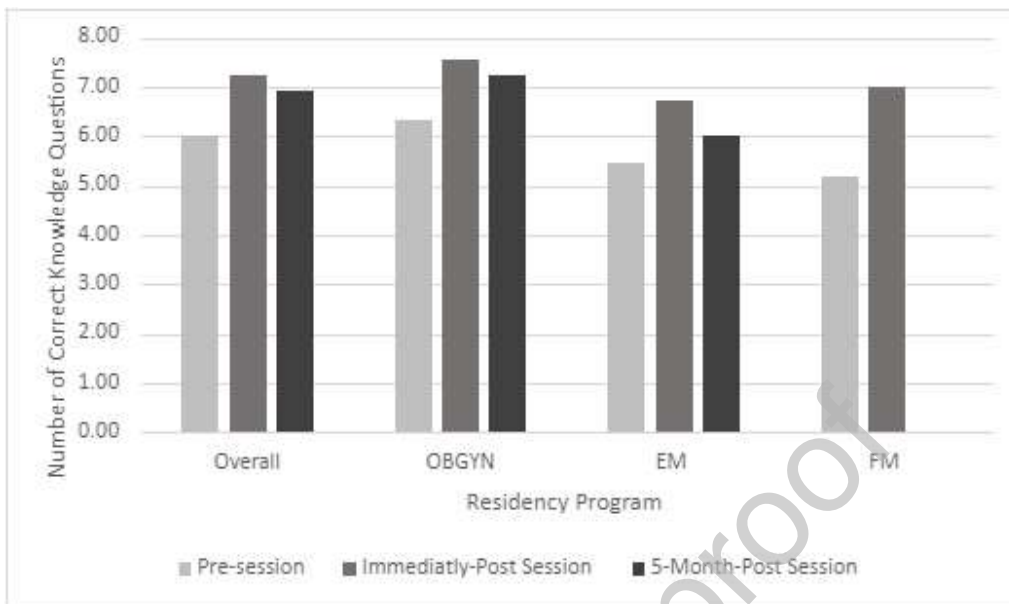


Figure 1. Change in mean number of correct knowledge questions answered by residents from pre-session to immediate-post-session to five-months-post-session.

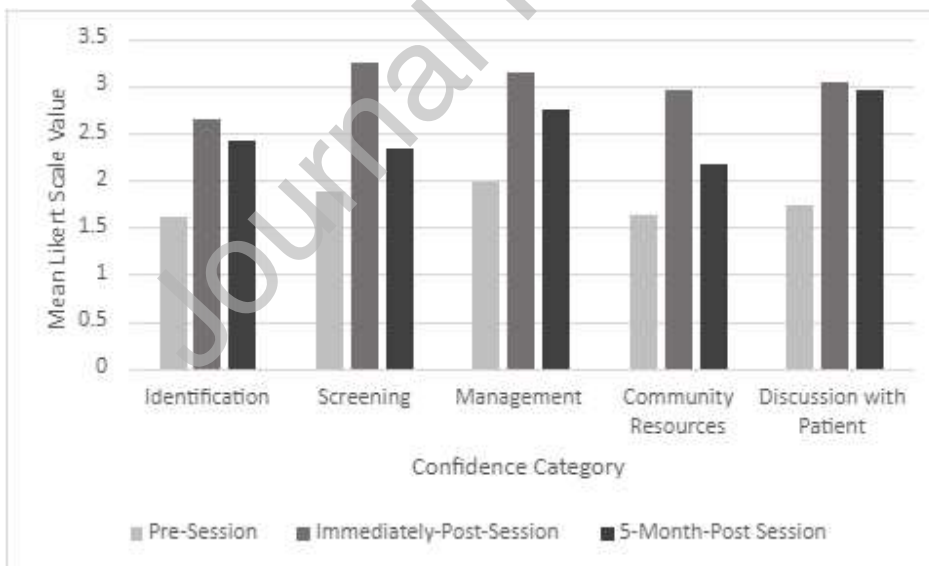


Figure 2. Change in mean Likert scale confidence level reported by residents from pre-session to immediate-post-session, to five-months-post-session.

Table 1. Gender and residency year of residents who completed the pre-session survey.

	OBGYN	Emergency Medicine	Family Medicine
Gender			
Male	6	8	2
Female	26	3	2
Other	0	0	1
Year in Residency			
First	12	6	1
Second	7	1	3
Third	6	4	1
Fourth	5	0	0
Prefer Not to Respond	2	0	0

Table 2. Paired-sample t-tests comparing correct number of knowledge questions and confidence levels from pre- to immediate post session for the 14 individuals whose surveys could be linked.

DF 13. Critical T, one-tailed $p 0.01 = 2.65$, $p 0.05 = 1.77$

	Pre-Education Session		Immediately-Post Education Session		Difference		T Observed
	Mean	SD	Mean	SD	Mean	SD	
Number of Correct Knowledge Questions	5.92	1.63	7.71	0.91	1.78	1.71	3.88
Identification	1.42	0.51	3.07	0.82	1.64	0.63	9.7
Screening	1.71	0.82	3.78	0.89	2.07	0.82	9.35
Management	1.85	1.16	3.5	0.85	1.64	1.21	5.05
Community Resources	1.42	0.85	3.38	1.06	1.85	1.23	5.64
Patient Discussion	1.42	0.75	3.28	1.06	1.85	1.16	5.95

Table 3. Paired-sample t-tests comparing correct number of knowledge questions and confidence levels from pre- to 5-months-post session for the 4 participants whose pre and 5-month surveys could be linked. DF 3. Critical T Right Single $0.05 = 2.353$. Critical Two Tailed $0.05 = 3.182$.

	Pre-Education Session		5-Months-Post Education Session		Difference		T Observed
	Mean	SD	Mean	SD	Mean	SD	
Number of Correct Knowledge Questions	5.75	1.25	7.25	0.95	1.5	1	3
Identification	1.25	0.5	2.25	0.5	1	0	Could not be calculated
Screening	1.75	0.5	2.25	0.5	0.5	0.57	1.73
Management	2.25	1.5	3.25	0.95	1	1.63	1.22
Community Resources	1.25	0.5	1.75	0.5	0.5	0.57	1.73
Patient Discussion	1.25	0.5	2	0	0.75	0.5	3