

Confidential Screening for Sex Trafficking Among Minors in a Pediatric Emergency Department

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abstract

OBJECTIVES: Child sex trafficking is a global health problem, with a prevalence of 4% to 11% among high-risk adolescents. The objective of this study was to confidentially administer a validated screening tool in a pediatric emergency department by using an electronic tablet to identify minors at risk for sex trafficking. Our hypothesis was that this modality of administration would adequately identify high-risk patients.

METHODS: English- and Spanish-speaking patients from the ages of 12 to 17 years presenting to a large urban pediatric emergency department with high-risk chief complaints were enrolled in a prospective cohort over 13 months. Subjects completed a previously validated 6-item screening tool on an electronic tablet. The screening tool's sensitivity, specificity, and positive and negative predictive values were calculated. Multivariable logistic regression was performed to identify additional risk factors.

RESULTS: A total of 212 subjects were enrolled (72.6% female; median age: 15 years; interquartile range 13–16), of which 26 patients were subjected to child sex trafficking (prevalence: 12.3%). The sensitivity and specificity of the electronic screening tool were 84.6% (95% confidence interval [CI] 70.8%–98.5%) and 53.2% (95% CI 46.1%–60.4%), respectively. The positive predictive value and negative predictive value were 20.2% (95% CI 12.7%–27.7%) and 96.1% (95% CI 92.4%–99.9%), respectively. A previous suicide attempt and history of child abuse increased the odds of trafficking independent of those who screened positive but did not improve sensitivity of the tool.

CONCLUSIONS: A confidentially administered, previously validated, electronic screening tool was used to accurately identify sex trafficking among minors, suggesting that this modality of screening may be useful in busy clinical environments.



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WHAT'S KNOWN ON THIS SUBJECT: Child sex trafficking is a global health problem that evades detection. In previous studies, researchers have used a child sex-trafficking screening tool that relies on in-person, trauma-informed interviewing to perform this screening effectively.

WHAT THIS STUDY ADDS: A previous validated child sex-trafficking screening tool was administered on a confidential, electronic tablet, which reliably identified child sex trafficking with similar sensitivity and specificity as in-person interviewing. Additional local risk factors were also identified.

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Child sex trafficking is a significant public health problem that is often underrecognized in medical settings, largely because of ineffective screening.¹⁻⁴ In 2019, >11 000 cases of human trafficking were reported by the National Human Trafficking Resource Center in the United States, and >5300 of these cases involved minors.⁵ Many of these persons are high-risk youth, including victims of previous abuse; runaways; those forced out of the home; lesbian, gay, bisexual, transgender, and queer community members; those with a history of substance abuse; those with previous legal involvement; and those within the foster care or welfare systems.⁶ Sex trafficking, as defined by the Victims of Trafficking and Violence Protection Act of 2000, is “the recruitment, harboring, transportation, provision, or obtaining of a person for the purpose of a commercial sex act.”⁷ Child sex trafficking differs from child sex abuse in that sex trafficking involves commercial sex acts with others for the benefit of the trafficker, whether they are financial or physical goods exchanged for sex acts.⁸ Most trafficked persons are recruited into trafficking between the ages of 12 and 14 years for girls and 11 and 13 years for boys,⁹⁻¹¹ making this a crucial issue for detection by pediatric medical practitioners. Identification can also be difficult because family members and legal guardians represent more than one-third of traffickers, making it difficult to breach the trusting bond between trafficker and trafficked person.^{5,9,12,13} Although trafficking generally is poorly identified by medical practitioners, trafficked persons often seek medical care in a variety of health care settings.^{1,2,14}

The prevalence of child sex trafficking in high-risk groups in the United States is estimated ~4% to 11%.^{1,3,15-18} To identify these individuals, Greenbaum et al¹⁶ derived a short, 6-question screening

tool administered in multiple health care settings across the nation using trauma-informed, in-person interviewing. Surveys of adolescents and caregivers reveal the acceptance of behavioral and social health screenings in the emergency department,^{15,16} in addition to studies revealing electronic, confidential screening may elicit more honest answers because of their private nature and technological interface.¹⁷ Therefore, the objective of this study was to establish the sensitivity and specificity of Greenbaum et al’s¹⁶ 6-question child sex-trafficking screening tool by administering it on a confidential, electronic tablet to English- and Spanish-speaking minors presenting to a pediatric emergency department (PED). The hypothesis is that confidential electronic screening adequately identifies minors at high risk for sex trafficking in this population by using the previous validated screening tool and that other local risk factors would increase the sensitivity of the tool.

METHODS

Study Setting and Design

This study was conducted in an urban, regional, freestanding children’s hospital that serves as a tertiary care level 1 American College of Surgeons–verified trauma center, with a PED census of ~80 000 patients per year. Licensed psychiatric clinicians, including psychiatrists, are on-site daily, in addition to 24-hour sexual assault nurse examiners, clinical social workers (CSWs), and 17-hours-per-day professional research assistants (PRAs). This study was reviewed and approved by the local institutional review board.

A convenience sample of 12- to 17-year-old English- and Spanish-speaking subjects were enrolled in a prospective cohort between February 2019 and March 2020.

Patients were eligible for inclusion if they presented alone, for psychiatric or genitourinary complaints, sexual abuse, sexual assault, or law enforcement concern for trafficking. Patients were excluded if they had altered mental status, hallucinations, developmental or cognitive delays, or minor trauma. PRAs were trained on all study procedures, screened patients, and confirmed eligibility with the treating practitioner. The PRAs approached eligible subjects for enrollment and obtained consent. Accompanying persons were asked to leave the room while the patient filled out the survey to ensure confidentiality and avoid potential traffickers from influencing subject responses. For potential subjects not enrolled because accompanying persons refused to leave the patient room, any clinical concerns for child sex trafficking were addressed through standard evaluation and reporting (CSW consultation, law enforcement [local police department or Federal Bureau of Investigation (FBI)] notification, or Department of Human Services [DHS]). There were no incentives for participation.

Data Collection and Instrument

Study subjects completed a 6-item confidential screening tool on an electronic tablet in Research Electronic Data Capture.¹⁹ The screening tool includes questions related to physical violence, running away, substance use, sexual history, and previous police involvement (see Supplemental Information). Each question was answered either “yes” or “no,” with the exception of the number of sexual partners, which was categorical (0, 1–5, 6–10, or >10). An answer indicating >5 sexual partners is considered a “yes” response. Subjects who answered “yes” to ≥2 questions on the overall tool were categorized as having a positive screen result.¹⁶ Subjects with a positive screen result completed 4 additional questions exploring

behaviors more specific to sex trafficking.

Once the study subject completed the 6-question screening tool, the treating practitioner was informed of the results of the screen (positive or negative) and which questions had positive responses. For subjects who screened positive, the treating practitioner was instructed to consult a CSW or notify the psychiatric CSW to facilitate a psychosocial evaluation for child sex trafficking and report to the appropriate authorities (Fig 1). Treating practitioners completed a separate checklist to collect data on additional risk factors for trafficking (see Supplemental Information); these questions were used in the initial psychometric testing and validation by Greenbaum et al.¹⁶ Once a patient completed the 6-question screening tool, standard care was resumed. The CSW referral to DHS

served as the gold standard, establishing the patient as a case of child sex trafficking, although cases were not managed longitudinally through DHS to confirm. If the patient was low risk (<2 questions answered “yes”), then no automatic CSW evaluation was initiated. However, the treating practitioner could request a CSW evaluation at their discretion. For all patients who completed the screening, the treating practitioner indicated the likelihood of trafficking on a Likert scale in the practitioner checklist on the basis of the findings of the CSW evaluation, similar to previous studies^{16–18} (Fig 1). Patients were deemed to be positive for risk of trafficking if the CSW determined they were “highly likely” or “likely” to be trafficked. The treating practitioner gave their data collection form directly to a PRA or placed it in a locked box. The PRAs transcribed the information into an online data

collection instrument through Research Electronic Data Capture. PRAs notified the primary investigator for all positive screen results to ensure that patient safety assessments were completed by a CSW. If patients had a positive screen result on the tool but denied trafficking behaviors in person, reports were still made if there was reasonable clinical suspicion of trafficking.

For final determination of a study subject’s status, the study primary investigator conducted a retrospective chart review on all true-positives (“highly likely” or “likely” with a positive screen result), false-negatives (“highly likely” or “likely” with a negative screen result), and subjects classified as “unknown.” Two other investigators performed a secondary independent review to reach a final determination.

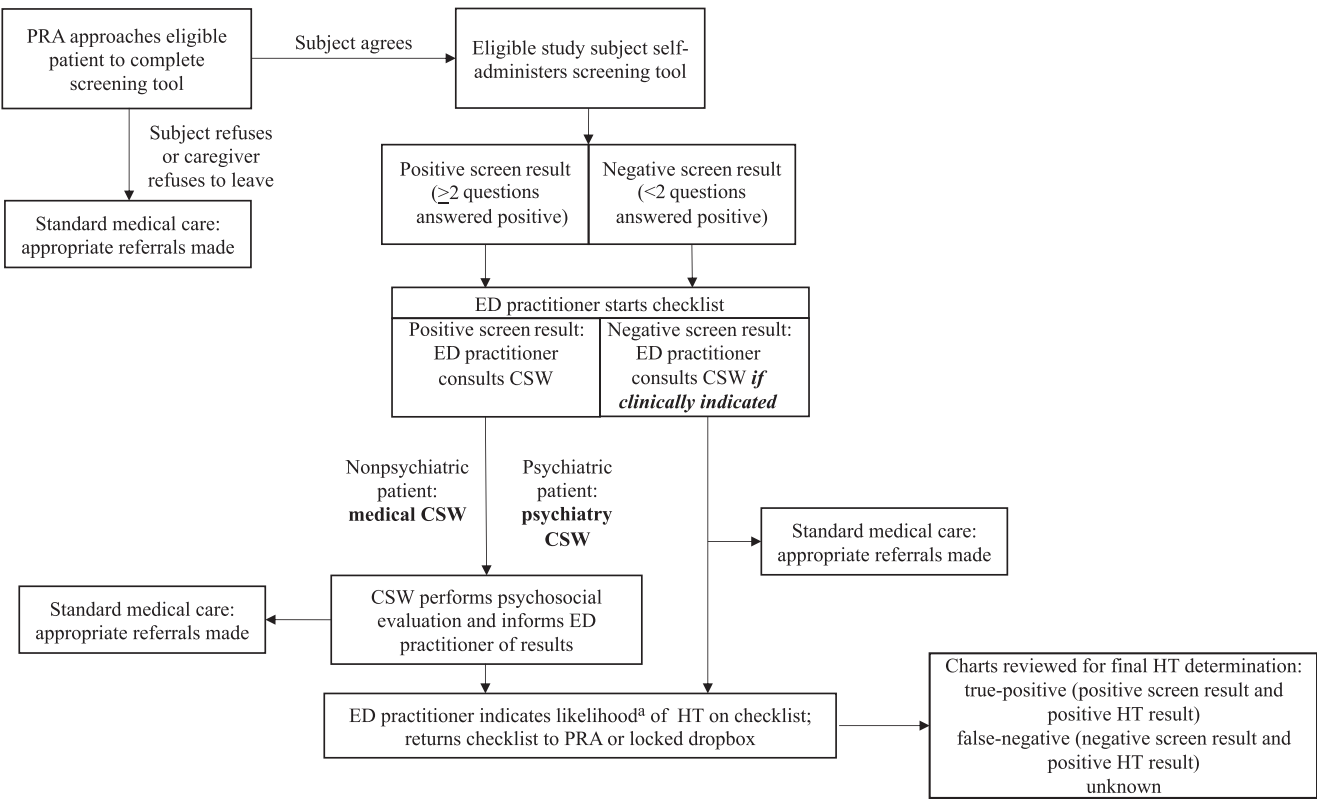


FIGURE 1 Study subject enrollment emergency department (ED) flow. ^a Options of “highly likely,” “likely,” “unlikely,” “highly unlikely,” “unknown,” or “not applicable” (if screen result is negative). HT, human trafficking.

Analysis

The data were summarized by using standard descriptive statistics: frequencies and proportions for categorical variables and median and interquartile range (IQR) for non-normally distributed continuous variables. Demographics, screening tool responses, and additional risk factors obtained from the practitioner checklist were compared between patients with a positive and negative trafficking status by using Pearson's χ^2 test, Fisher's exact test, and the Wilcoxon-Mann-Whitney U test. The screening tool's sensitivity, specificity, positive predictive values (PPVs), and negative predictive values (NPVs) were calculated. Multivariable logistic regression was performed to identify risk factors, in addition to positive screening results on the 6-question screening tool, that were independently associated with child sex trafficking. Significant covariates ($P < .05$) from the practitioner data collection form were entered into the multivariable logistic regression and remained in the model ($P < .1$) by using backward selection. All analyses were performed by using SAS version 9.4 (SAS Institute, Inc, Cary, NC).

Sample Size Calculation

Power analyses indicated that 575 subjects would need to be enrolled by using an α value of .05 for a trafficking prevalence of 4% or 422 subjects for a prevalence of 11%.

RESULTS

Over the enrollment period, PRAs screened 377 subjects, of which 301 patients were eligible and 214 subjects were enrolled (Fig 2). Two patients had missing data in their practitioner checklist answers regarding the trafficking analysis by the CSW, so 212 subjects were ultimately analyzed. A total of 72.6% of subjects were female, with a median age of 15 years (IQR 13–16; Table 1). Only 4 subjects filled out the

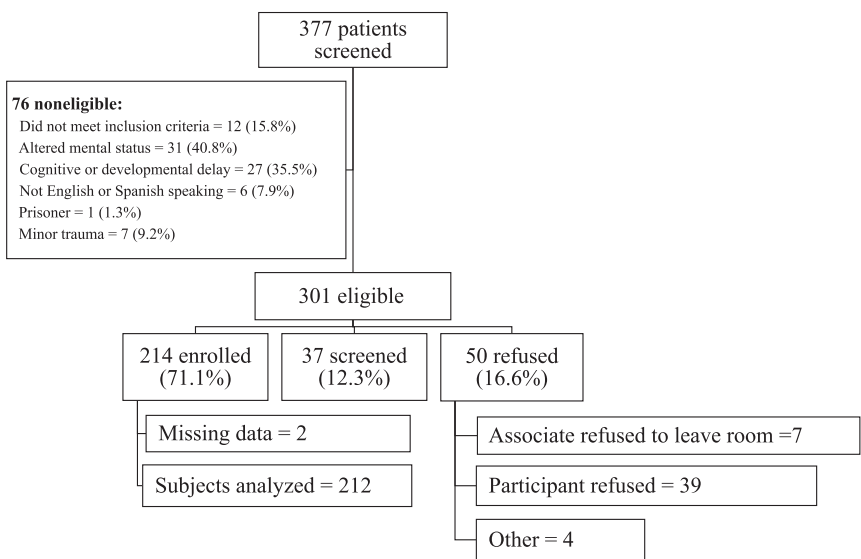


FIGURE 2
Patient screening eligibility and enrollment.

survey in Spanish. The most frequent presenting chief complaints were psychiatric (Fig 3).

Out of the 212 patients analyzed, 26 patients were found to be sex trafficked (prevalence 12.3%). A total of 22 of those patients screened positive for trafficking (84.6%), whereas 4 had a negative screen result but were deemed to be trafficked by a CSW (15.4%). A total of 99 patients had true-negative screen results (46.7%), whereas 87 had false-positive screen results (41.0%). All 4 subjects with false-negative results presented with high-risk conditions independently

warranting CSW evaluation, whereas most subjects with false-positive results presented with psychiatric complaints or sexual assault, abuse, or violence. The 4 patients with false-negative results are described in Table 2.

The sensitivity and specificity of answering ≥ 2 questions “yes” on the electronic screening tool were 84.6% and 53.2%, respectively, whereas the PPV was 20.2% (95% confidence interval [CI] 12.7%–27.7%) and NPV 96.1% (95% CI 92.4%–99.9%). An analysis was also completed regarding the sensitivity and specificity of the tool on the basis of

TABLE 1 Demographics of Participants by True-Positive Trafficking Assessment

	Overall, N = 212	Trafficked, n = 26	Not Trafficked, n = 186	P
Sex, n (%)				.14
Female	154 (72.6)	23 (88.5)	131 (70.4)	
Male	51 (24.1)	3 (11.5)	48 (25.8)	
Other	7 (3.3)	0 (0)	7 (3.8)	
Age, y, median (IQR) ^a	15 (13–16)	15 (14–17)	15 (13–16)	.02 ^b
Race and/or ethnicity, n (%)				.03 ^b
White and non-Hispanic	84 (39.6)	6 (23.1)	78 (41.9)	
White and Hispanic or Latino	71 (33.5)	11 (42.3)	60 (32.3)	
Black	29 (13.7)	4 (15.4)	25 (13.4)	
Asian	3 (1.4)	0 (0)	3 (1.6)	
Prefer not to answer or unknown	8 (3.8)	4 (15.4)	4 (2.2)	
Other	17 (8.0)	1 (3.9)	16 (8.6)	

^a Missing age for 2 patients.

^b Statistically significant

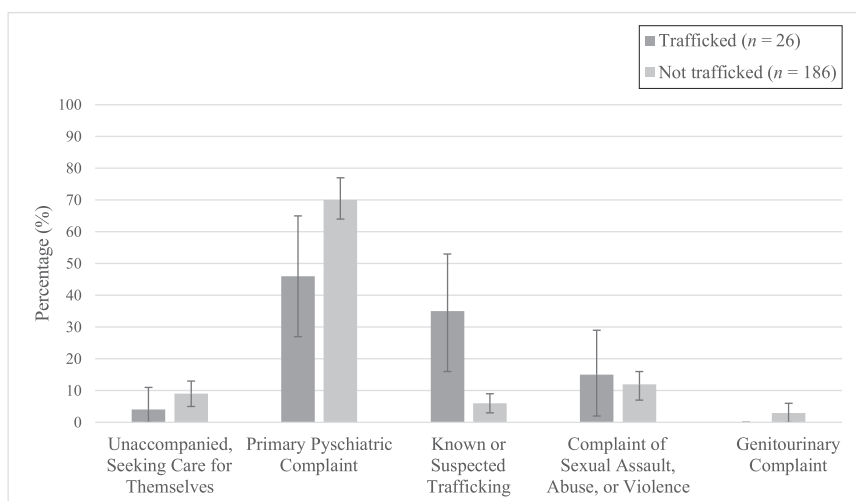


FIGURE 3
Chief complaints of enrolled patients, comparing trafficked with nontrafficked minors.

the number of questions answered positively (Table 3). ROC (Receiver operating characteristic) curves for the number of questions answered positively on the screening tool are demonstrated in Fig 4. Although the area under the curve was higher for answering 3 questions “yes,” the sensitivity decreased from 84.6% to 80.8%. Positive screening tool responses are shown in Table 4.

Table 5 reveals the additional features of patients who were trafficked versus not trafficked on the

basis of the practitioner checklist. Trafficked persons were more likely to be found in a location known for sex trafficking (18.2% vs 0%; $P = .01$) and more likely to undergo testing for pregnancy, substance abuse, and/or sexually transmitted infections (STIs) compared with nontrafficked subjects. Univariate analyses of the practitioner checklist revealed that sex trafficked minors were more likely to have a history of a previous suicide attempt (38.5% vs 14.0%; $P = .004$) and have a previous history of abuse or neglect (15.4% vs 2.2%; $P =$

.01) compared with nontrafficked individuals (Table 5). When adding these factors and a positive screen result into a multivariable logistic regression model, only a history of previous suicide attempt was statistically significant (adjusted odds ratio of 3.1; 95% CI 1.2–8.2). However, adding suicide attempt to the screening tool did not significantly alter the test characteristics; after model fitting, the sensitivity remained 84.6% (95% CI 70.8%–98.5%), specificity was 46.8% (95% CI 39.6%–53.9%), PPV was 18.2% (95% CI 11.3%–25.1%), and NPV was 95.6% (95% CI 91.4%–99.8%).

DISCUSSION

Accurate and timely identification of child sex trafficking in clinical settings has many barriers.² Standardized screening tools provide an opportunity to identify those at risk for child sex trafficking, although, to date, they have only employed in-person interviewing.^{16–18} In this study, we examined the test characteristics of a previously validated 6-question sex-trafficking screening tool administered confidentially via an electronic tablet in English and Spanish. Ultimately, with this method, we accurately identified minors at high risk for child sex trafficking who are in need of additional evaluation and services, congruent with the hypothesis of this study. No additional local risk factors significantly improved the sensitivity of the screen when retroactively fit in a logistic regression model.

With this screening tool administered in a confidential manner, we detected a prevalence of child sex trafficking among high-risk minors of 12.3%, higher than found in previous studies by using in-person interviewing.^{16–18} The higher prevalence may be a result of improved reporting by subjects because the disclosure was via self-reporting through an electronic

TABLE 2 Description of Patients With False-Negative Results Determined to Be Trafficked

Age	Sex	Race and/or Ethnicity	Inclusion Presentation	Why Did They Screen Negative for Trafficking?	Details
15	Female	Prefer not to answer or unknown	Sexual assault, abuse, and violence	All questions answered negative	Presented with high-risk sexual behavior, running away, and brought from a juvenile assessment center
14	Female	Black	Known or suspected trafficking	Answered “yes” to problems with law enforcement only	Runaway, open trafficking investigation, and jumped out of window while staying at friend’s house
16	Female	Prefer not to answer or unknown	Psychiatric complaint	Answered “yes” to drug and/or alcohol use in 12 mo only	Had sex with an unknown male partner after leaving home without permission
16	Female	White and Hispanic or Latino/a	Known or suspected trafficking	Answered “yes” to running away from home only	Brought in by police for public intoxication, running away multiple times, and on parole

TABLE 3 Sensitivity and Specificity of the 6-Question Tool Based on of the Number of Positively Answered Questions

Items ^a Answered "Yes"	Sensitivity % (95% CI)	Specificity % (95% CI)
2 items+	84.6 (70.8–98.5)	53.2 (46.1–60.4)
3 items+	80.8 (65.6–95.9)	74.7 (68.5–81.0)
4 items+	42.3 (23.3–61.3)	91.4 (87.4–95.4)
5 items+	11.5 (0–23.8)	98.4 (96.6–100)

^a Knocked unconscious, runaway, use of drugs and/or alcohol in the last 12 mo, problems with police, >5 sexual partners, and STIs.

survey. Adolescents and parents agree that screening for risky behaviors during health care visits is important and well accepted,^{20–23} including in the PED, whereas electronic formatting of many screening tools integrates a comfortable modality for adolescents to admit risky behaviors.^{20,24–29} Winning over the trust of young adolescents is often difficult and may become nearly

impossible when a trafficker presents with them to medical care; this confidential screening modality may, therefore, make it easier for minors to answer sensitive questions if their trafficker is present.

Our high prevalence of cases may also be related to the geographic region where the study was conducted: an urban environment with multiple transit points, including a large

international airport, quad-directional interstates, cross-country railway systems, large conference centers, and multiple major sports teams. In other studies, researchers examining the geographic distribution of child sex trafficking have found clusters in areas of tourism and transportation hubs as well as in large metropolitan areas where there are high numbers of homeless youth.^{13,30,31}

Despite a higher prevalence of child sex trafficking in this study, the sensitivity and NPV of this tool are similar to previous reports,^{16–18} suggesting that this is an effective way to screen for child sex trafficking in busy, clinical environments. The survey cutoff points in this study also reflect those in the validation performed by Greenbaum et al,¹⁶ with a similar change in sensitivity and specificity based on the number of questions answered positively. The cases with false-negative results in this population were low. However, those that did have a false-negative screen result still had appropriate evaluations prompted by high-risk behaviors, and, thus, trafficking was still identified.

This screening tool favors sensitivity at the expense of specificity, resulting in the identification of a high number of false-positive results, consistent with other studies.^{16,17} This trade-off is acceptable, considering that a failure to identify trafficked persons could result in continued abuse, trafficking, drug abuse, STIs, and possibly even death.⁵ Subjects with false-positive results, ultimately, underwent more testing, however, which is likely warranted, given the high-risk behaviors the subjects endorsed on their positive screen results. Documentation in the medical record should specifically reflect the endorsed high-risk behaviors instead of sex trafficking to decrease any associated stigma. However, because sex trafficking of children <18 years old is child abuse, it is still important

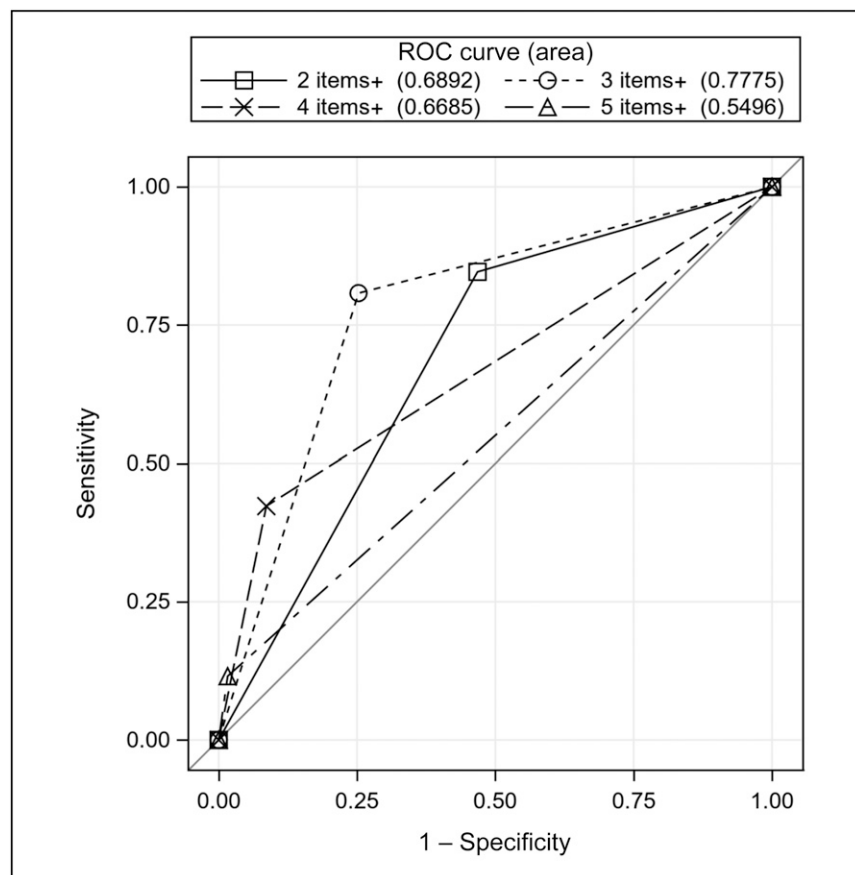


FIGURE 4 Receiver operating characteristic (ROC) curve and c-statistic of subject survey responses.

TABLE 4 Positive Trafficking Screening Tool Responses Stratified by True-Positive Trafficking Assessment

	Overall, N = 212	Trafficked, n = 26	Not Trafficked, n = 186	P
Knocked unconscious, ^a n (%)	40 (19.0)	10 (40.0)	30 (16.1)	.01 ^b
Run away, n (%)	102 (48.1)	23 (88.5)	79 (42.5)	<.001
Use of drugs and/or alcohol in last 12 mo, ^a n (%)	103 (48.8)	20 (76.9)	83 (44.9)	.002 ^b
Problems with police, n (%)	95 (44.8)	21 (80.8)	74 (39.8)	<.001 ^b
Any sex, ^c n (%)	110 (52.6)	21 (80.8)	89 (48.6)	.002 ^b
No. sexual partners, ^d n (%)				.001 ^b
0 partners	92 (45.3)	2 (9.1)	90 (49.7)	
1–5 partners	94 (46.3)	17 (77.3)	77 (42.5)	
6–10 partners	7 (3.5)	1 (4.6)	6 (3.3)	
>10 partners	10 (4.9)	2 (9.1)	8 (4.4)	
STIs	19 (9.0)	6 (23.1)	13 (7.0)	.02 ^b
Additional questions, n (%)	n = 109	n = 22	n = 87	
Forced sex	23 (21.1)	5 (22.7)	18 (20.7)	.78
Forced public sex	8 (7.3)	1 (4.5)	7 (8.1)	>.99
Traded sex ^e	16 (15.0)	9 (40.9)	7 (8.2)	.001 ^b
Pose in sexy way for photograph and/or video ^a	28 (25.9)	7 (31.8)	21 (24.4)	.48

^a One missing response.

^b Statistically significant.

^c Three missing responses.

^d Nine missing responses.

^e Two missing responses.

to document the full psychosocial evaluation to ensure that other practitioners can be aware of potential trafficking and the minor's high risk for abuse.

In this population, history of suicide attempt and child abuse increased the odds of screening positive for trafficking. The test characteristics of this screen did not improve when added to a logistic regression model. Similar to other studies, many of the patients presenting with previous trafficking concerns, runaway status, and out-of-control behaviors are triaged as primary psychiatric complaints, resulting in a high proportion of these patients in this study population.^{1,6,12,15,18,32} Therefore, a history of suicide attempt may not have improved the screening tool because of the high proportion of psychiatric complaint enrollment because patients may have been suicidal for reasons not related to trafficking. Similarly, a history of child abuse can be associated with running away from home, a screening question on the

tool, which may have increased the odds of trafficking seen here also.

Over the course of this study, some patients contradicted their screening responses when practitioners or CSW asked additional questions in person. Although the confidential tablet survey was one of the strengths of this screening method,^{20,24} it became unclear how to report findings to DHS when the patient verbally denied their behaviors. Subjects, often, do not identify themselves as victims, a well-described phenomenon of exploited persons described in other studies³² and, therefore, may be less likely to admit to victimization in person. Therefore, in this study, investigators adapted the research procedures to use the tablet survey responses as the patient's admission of their behaviors. Although this was a small number of patients, these cases were reported to DHS.

The true prevalence of trafficked persons is largely unknown.⁵ Generally, it is difficult to obtain the true prevalence and incidence of trafficking because of the secretive

nature of the process: trafficked individuals are trained to not disclose information to protect their traffickers from arrest and litigation, and trafficked persons are led to believe that they may also be arrested or prosecuted for their behaviors. "Trauma bonding" may also facilitate the protection of the trafficker by the trafficked person because the trafficked person sees the attentions paid to them by their trafficker as affection, despite actual physical, psychological, and sexual abuse.³³ Finally, because suicide screening in PEDs is becoming more prevalent in the general adolescent population,^{20,23,34} which is well tolerated by patients and practitioners while improving suicide detection, it would be prudent to also begin screening the general adolescent population for trafficking to determine the true prevalence.

This study has certain limitations. Overall, only 4 Spanish-speaking patients were enrolled, although a large percentage of the local population is Spanish-speaking only. Although this was not the object of study, we acknowledge that there may be unknown cultural factors that may decrease detection of these high-risk individuals. In addition, bilingual subjects may have selected English surveys despite the available Spanish version. Further study is required to explore additional cultural barriers.

Given that CSW assessments are often lengthy, a final determination of the patient's trafficking status was not always available. This may be, in part, due to the transfer of psychiatric patients to other inpatient hospitals; therefore, follow-up CSW notes were not available for investigator review. Thus, using the referral to DHS via CSW as the gold standard, in this study, we may have overestimated the prevalence of trafficking in this population. However, the prevalence, although higher, is within the range of that found in other studies conducted in large urban environments and,

TABLE 5 Practitioner Checklist History, Examination, and Testing in Trafficked Versus Nontrafficked Minors

	Overall, N = 212	Trafficked, n = 26	Not Trafficked, n = 186	P
Past medical history, ^a n (%)				
Depression	103 (48.6)	16 (61.5)	87 (46.8)	.16
Suicide attempt	36 (17.0)	10 (38.5)	26 (14.0)	.004 ^b
Substance abuse	29 (13.7)	10 (38.5)	19 (10.2)	.001 ^b
STIs	15 (7.1)	5 (19.2)	10 (5.4)	.02 ^b
None	43 (20.3)	0 (0)	43 (23.1)	.01 ^b
History of physical abuse, sexual abuse, or neglect, ^c n (%)				<.001 ^b
Yes	52 (25.5)	14 (58.3)	38 (21.1)	
No	100 (49.0)	4 (16.7)	96 (53.3)	
Unknown	52 (25.5)	6 (25.0)	46 (25.6)	
If no adult, was the child found in a motel, hotel, or area known for commercial sex? (n = 68), ^d n (%)				.01 ^b
Yes	2 (3.0)	2 (18.2)	0 (0)	
No	43 (64.2)	4 (36.4)	39 (69.6)	
Not reported	22 (32.8)	5 (45.4)	17 (30.4)	
Using birth control, ^e n (%)				.03 ^b
Yes	53 (25.9)	11 (42.3)	42 (23.5)	
No	86 (42.0)	5 (19.2)	81 (45.3)	
Unknown	66 (32.2)	10 (38.5)	56 (31.3)	
If signs of injuries (n = 75), ^a n (%)				
Burns	3 (4.0)	1 (7.7)	2 (3.2)	.44
Cutting	44 (58.7)	4 (30.8)	40 (64.5)	.02 ^b
Bruising	18 (24.0)	5 (38.5)	13 (21.0)	.28
Broken bones	2 (2.7)	1 (7.7)	1 (1.6)	.32
Other	20 (26.7)	7 (53.9)	13 (21.0)	.03 ^b
Testing done, ^a n (%)				
Urine tox	96 (45.3)	20 (76.9)	76 (40.9)	.001 ^b
Pregnancy	102 (48.1)	19 (73.1)	83 (44.6)	.01 ^b
STI testing	51 (24.1)	13 (50.0)	38 (20.4)	.001 ^b
Other	53 (25.0)	16 (61.5)	37 (19.9)	<.001 ^b
None	85 (40.1)	5 (19.2)	80 (43.0)	.02 ^b

^a Could choose >1 response.

^b Statistically significant.

^c Eight missing responses.

^d One missing response.

^e Seven missing responses.

therefore, reflective of the population.¹⁷

Finally, the severe acute respiratory syndrome coronavirus 2 pandemic interrupted all study protocols at the study site, limiting enrollment. However, the study sample size is similar to previous reports^{16–18} and achieved comparable test

characteristics, suggesting that the sample enrolled adequately represents the local high-risk population.

CONCLUSIONS

Screening for child sex trafficking in high-risk minors on a confidential

tablet is an accurate and sensitive method of identifying patients at high risk for child sex trafficking in a busy PED. This modality of screening may be helpful in other clinical environments to decrease the burden of requiring in-person, trauma-informed interviews to screen for trafficking and improve appropriate care for this population.

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ABBREVIATIONS

CI: confidence interval

CSW: clinical social worker

DHS: Department of Human Services

FBI: Federal Bureau of Investigation

IQR: interquartile range

NPV: negative predictive value

PED: pediatric emergency department

PPV: positive predictive value

PRA: professional research assistant

STI: sexually transmitted infection

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