

## Short Communication

# The Provision of HIV Post-Exposure Prophylaxis in the Context of Child Sex Trafficking

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**Abstract**

Child sex trafficking (CST) victims are at risk for HIV infection due to a convergence of both social and biological factors. However, sparse recommendations and guidelines exist for providers on the provision of HIV non-occupational post-exposure prophylaxis (nPEP) for CST patients. We evaluated whether pediatricians would provide HIV nPEP in a clinical vignette where a patient disclosed ongoing involvement in CST. Participants were relatively divided regarding whether they would provide HIV nPEP; 58.8% responded yes and 41.2% responded no. This highlights the need for medical guidelines to address the complex and case specific considerations of providing nPEP to these victims.

**ABBREVIATIONS**

CST: Child Sex Trafficking; HIV: Human Immunodeficiency Virus; nPEP: Non-Occupational Post-Exposure Prophylaxis (nPEP)

**INTRODUCTION**

Commercial sex work is widely recognized as a high-risk behavior for the transmission of human immunodeficiency virus (HIV) infection. Those entering sex work via trafficking are thought to face elevated HIV vulnerability due to increased violence and sexual risk exposures [1]. Sex trafficking is the force, fraud, coercion, or deceitful entry into sex work, or entry into such work under age 18 [1]. Child sex trafficking (CST) is a subset of child sexual abuse that involves "crimes of a sexual nature committed against juvenile victims for financial or other economic reasons" [1]. Multiple studies demonstrate that up to 40% of female sex workers entered as minors, with the average age of entry being 12 to 14 years old [2].

Due to the convergence of both social and biological factors, youth involved in CST appear to be at significant risk for HIV infection and subsequent transmission [2-7]. Adolescent victims of CST commonly have multiple high-risk sexual partners and experience violence, unprotected sex, and injection drug use (IDU). Further, these youth engage in risky sexual behaviors (e.g. anal sex, violently abusive sex), creating susceptibility to sexually transmitted infections [2-6]. Prior studies have found that when compared to non-trafficked adult sex workers, CST victims experience greater levels of HIV risk due to compromised

ability to refuse sex or negotiate condom use, limited knowledge of HIV transmission, higher numbers of sexual clients, and violent sexual initiation [6]. In addition, there is greater sex-buyer demand for younger children due to the false belief that there is less risk of HIV transmission with a younger partner [2]. As a result, child victims are being recruited into sex trafficking earlier, which provides a longer period during which they have increased potential exposure and infection [3,4].

Biological factors may also heighten vulnerability to children involved in sex trafficking; larger areas of cervical ectopy pose increased opportunity for infection [6]. Additionally, repeated trauma to the immature genital tract during sexual intercourse increases the likelihood of microabrasions and microtears, consequentially increasing the potential for infection [4,5].

While involvement in CST concurs with risk of HIV infection, sparse recommendations and guidelines exist for medical providers in addressing the provision of HIV non-occupational post-exposure prophylaxis (nPEP) for these youth when they present for medical attention. Our objective was to evaluate whether pediatric attending physicians would either provide HIV nPEP or not when a patient disclosed ongoing involvement in CST. Our goal was to raise awareness of the complex considerations that go into the decision-making process of providing HIV nPEP. This may inform the need to develop training and education specifically on this medical intervention.

**MATERIALS AND METHODS**

We constructed a survey that assessed knowledge, comfort,

barriers, and medical decision making of physicians when caring for a CST population [7]. Pediatric attending physicians practicing in community/hospital based clinics, the pediatric emergency department, and hospital inpatient units were asked to participate from November 2014 through January 2015. Participation in the study was both voluntary and anonymous. The final sampling frame was 267 physicians who were listed in the Rhode Island Hospital staff services and/or the department of pediatrics at Rhode Island Hospital. All research procedures were approved by the Institutional Review Board.

This study focused on one clinical vignette within the survey listed below:

A 17 year old female patient presents to the emergency department. She reports an acute sexual assault by an unknown person the day before. During your interview she discloses that she was not really assaulted, but is an “escort” and wants to be tested for sexually transmitted infections and pregnancy. She plans to continue as an “escort”. You complete the STI and pregnancy testing. What else should be done for this patient?

Response options included yes or no to the following: “Provide STI prophylaxis”, “Provide HIV prophylaxis”, “Provide Plan B”, and “Wait to determine any treatment until test results return”. We focused on whether pediatric physicians chose to provide HIV nPEP to the patient described. All analyses were conducted utilizing SAS Software 9.4 (SAS Inc., Cary, NC). Differences between those who would and would not provide HIV nPEP were examined, including the respondent’s gender, medical specialty, clinical settings, and training on sex trafficking using a Chi Square test with PROC FREQ.

## RESULTS

The survey was sent to 267 pediatric attending physicians in Rhode Island and a total of 109 responded, a response rate of 41% (109/267). In total, over half of the participants (58.8%, 57/97) responded that they would provide HIV nPEP and 41.2% (40/97) responded they would not (p=.8116).

As indicated in Table 1, participants who would provide HIV nPEP had more hours of training than those who would not provide nPEP (p=0.0218); no other significant differences were identified. Physicians with greater knowledge of CST, and particularly their susceptibility to HIV infection, may be more inclined to prescribe prophylaxis for these patients.

## DISCUSSION

Pediatric attending physicians were relatively divided in regard to the provision of HIV nPEP for a sex trafficking patient (59% vs. 41%). These findings are not surprising, as there is no correct evidence-based clinical decision to providing HIV nPEP to these high-risk youth, perhaps reflecting the need for greater education, training, and specific medical guidelines. Thus, there was no correct response to our vignette. Asking the question is an important preliminary step in raising awareness of the clinician’s responsibility to consider the provision, or not, of HIV PEP. There are several important considerations based on the 2015 STD Treatment Guidelines and the 2016 Updated Guidelines for Antiretroviral Post-Exposure Prophylaxis for sexual assault/sexual abuse [9,10].

General recommendations include providing HIV nPEP within an acute time frame of a sexual exposure ( $\leq$  72 hours).

**Table 1:** Respondent Demographics and Response to Clinical Vignette.

Variables	Provide HIV Prophylaxis		P value	Missing
	Yes	No		
Total	58.8 (57/97)	41.2 (40/97)	0.8116	12
Gender			0.2032	14
Female	65.5 (36/55)	52.5 (21/40)		
Male	34.6 (19/55)	47.5 (19/40)		
Medical specialty			0.1927	12
General Pediatrics	73.7 (42/57)	82.5 (33/40)		
Pediatric Subspecialists	17.5 (10/57)	17.5 (7/40)		
Internal Medicine Pediatrics	8.8 (5/57)	0 (0/40)		
Clinical setting			0.3844	14
Private/Community	32.7 (18/55)	47.5 (19/40)		
Hospital based clinic	27.3 (15/55)	25.0 (10/40)		
Emergency Department	16.4 (9/55)	17.54 (7/40)		
Hospital Inpatient	18.2 (10/55)	10 (4/40)		
Other	5.5 (3/55)	0 (0/40)		
Training on sex trafficking				
With training	58.8 (8/57)	22.5 (9/40)	0.2804	12
Without training	86.0 (49/57)	77.5 (31/40)		
If training, how many hours: Mean, median, mode, [min-max]	3.5, 1.5, 1.0, [1-10]	1.1, 1.0, 1.0, [1-2]	0.0218 <sup>a</sup>	
Years as an attending, Mean, [95% CI], median	13.2 [10.8, 15.6], 13.5	16.8 [13.3, 20.3], 16	0.1258	11
Past 12 months, how many patients concerned for sex trafficking? Median, mode, [min,max]	0, 0, [0-15]	0, 0 [0-10]	0.79	11
Past 12 months, how many patients screened for sex trafficking? Median, mode, [min,max]	0, 0, [0-20]	0, 0, [0-25]	0.9656	11
You don't feel you have sufficient training			0.9742	12
Yes	87.7 (50/57)	87.5 (35/40)		
No	12.3 (7/57)	12.5 (5/40)		
You are uncertain about the medical treatment necessary for patients who have a positive screen			0.8836	13
Yes	66.1 (37/56)	67.5 (27/40)		
No	33.9 (19/56)	32.5 (13/40)		

Decisions should be based on potential risk of transmission, the assessed potential compliance of patients with the 28-day course of medication(s) and appropriate follow up [9]. In the clinical vignette, the patient presented within 72 hours of sexual contact. However, the patient disclosed multiple and continued sexual contact. Victims of CST have ongoing vulnerability to infections and pregnancy as opposed to an acute sexual assault victim with risk limited to one incident [1]. Compliance to the course of medication and necessary follow up must be evaluated due to the concern of introducing resistance to these medications. Youth victims involved in sex trafficking may be homeless, transient, or on the run<sup>1,2</sup>; this makes follow-up and adherence to medications more unlikely. Further, these patients are commonly associated with additional high-risk behaviors (e.g. substance abuse) and dysfunctional environments [1,2], thus decreasing the likelihood of adherence to the medication. The issue of adherence should be accessed through a discussion with the patient, along with the development of a feasible plan for taking the medications, and completing necessary follow-up.

The 2015 CDC guidelines recommend that in the special case of children with evidence of sexual abuse who present to a health care provider  $\leq$  72 hours after their most recent exposure, nPEP can be considered on a case-by-case basis [10]. Providers should ask CST patients what type of sexual contact occurred (e.g. penile-oral, penile-anal), their history of genital bleeding (trauma), and whether there was ejaculation and condom use to clarify the level of potential risk [9,10]. A genital exam should be completed in order to determine the presence of genital mucosa trauma or genital ulcer disease, other STIs, or an oral mucosa that is compromised (e.g., oral lesions, gingivitis, wounds); all of which increase risk exposure [4]. Health care providers should weigh the risks and benefits of the medications (i.e. effectiveness, introducing resistance and side effects) based on the information acquired during medical encounters [10]. Due to the specific nuances of each CST case, it is appropriate to consult an infectious disease specialist to help make the determination of providing HIV nPEP and to collaborate with child protection pediatricians, who often have expert information on local CST populations.

The results of this study should be considered within the context of limitations. Our sample was collected from a single medical institution, and therefore responses may not be representative of providers in other geographic locations. In addition, we did not ask participants to provide their reasoning behind why they would or would not provide HIV nPEP in this clinical vignette. Prospective studies examining the provision of HIV pre-exposure prophylaxis (PrEP) for CST patients would be a valuable contribution to research on potential harm reduction strategies in high risk and repeated exposure populations.

Critical to investigations concerning the medical management of sex trafficked youth is the consideration of a broad range of negative health risks, appropriate interventions and preventative harm reduction strategies. CST victims are at high risk of HIV infection, and general recommendations on the provision of HIV nPEP do not adequately educate providers on the unique

considerations necessary for this population; some do not present acutely, have ongoing exposure risk, and are associated with features that may decrease compliance with medications. Therefore, pediatricians of various specialties and levels of training and experience on CST are understandably divided in regard to providing nPEP. Medical guidance, along with education and training, is integral for a greater conceptualization of the interventions necessary to address HIV risk in a CST patient population.

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