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Prevalence of potential sexual abuse in adolescents and young adults and feasibility of an assessment and management plan used in three research projects

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Abstract

The aims of this study were to examine the feasibility of a protocol to assess for assessment and response to potential sexual abuse (defined as self-report of sexual initiation before age 13) among adolescent and young adult research participants in human papillomavirus (HPV) vaccination screening; determine the proportion of participants whose survey responses indicated potential sexual abuse and assess whether age, gender, race, and recruitment site were associated with potential abuse. We pooled data from three cross-sectional studies of 13–26 year-old women and men (N = 1541) recruited at a Teen Health Center (THC) and Health Department (HD). Using written and electronic documentation, we demonstrated feasibility by the following outcomes: 100% of participants who indicated early sexual initiation were interviewed by the research staff, 100% of assessments were disclosed to participants' primary care clinicians, and no adverse consequences of the interviews or referrals occurred. Potential sexual abuse was identified in 95 participants (6.2%). In multivariable logistic regression, the following factors were independently associated with potential abuse: race (Black vs. White, odds ratio [OR] = 3.0, 95% confidence interval [CI] = 1.6–5.7; other race vs. White, OR = 2.6, 95%CI = 1.0–6.5); and recruitment site (HD vs. THC, OR = 2.1, 95%CI = 1.4–3.3). The standardized protocol to identify, assess and refer youth who may have been sexually abused was feasible and can enable researchers to ensure the safety of study participants.

Keywords

adolescents; clinical research protocol; risk assessment; sexual abuse; young adults

1 | INTRODUCTION

Human papillomavirus (HPV) infection is a common sexually transmitted infection (STI) in the United States (Dunne et al., 2007). Infection with high-risk HPV types may cause

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CONFLICTS OF INTEREST

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cervical, vaginal, vulvar, and anal cancer in women, and may cause penile and anal cancer in men (Parkin & Bray, 2006). Before widespread HPV vaccination, HPV was very common among adolescents and young adults (AYA) in the United States: 24.5% among females 14–19 years of age, and 44.8% among females 20–24 years of age. Among sexually active AYA, prevalence was even higher: 39.6% for females 14–19 years of age and 49.3% among females 20–24 years of age (Dunne et al., 2007). Since the introduction of HPV vaccines in 2006 (Kim & Kim, 2017), there is growing interest in determining whether rates of HPV are declining after HPV vaccine introduction, as well as risk factors for HPV infection in both vaccinated and unvaccinated AYA (Kahn et al., 2012, 2016).

Because number of sexual partners and age of sexual initiation are consistently associated with HPV infection in AYA (Dunne et al., 2007) and because sexual initiation often occurs during the adolescent years (Centers for Disease Control and Prevention, 2014; Forhan et al., 2009), sexual behaviors are often assessed in HPV research. Investigators may identify potential sexual abuse if study participants report that their age of sexual initiation was younger than the legal age of consent in the state where the research was conducted. Although questionnaires that assess sexual health pose minimal risk to research participants, identification of potential sexual abuse does raise concerns for participant safety.

Legal age of consent to sexual activity varies from state to state; in Ohio, it is age 13. According to the US Centers for Disease Control and Prevention (2014), 5.6% of adolescents nationally (3.1% of females and 8.3% of males), and 3.7% of adolescents in Ohio (3.4% of females and 3.9% of males) report sexual intercourse before 13. In Ohio, if a research participant 13 or older reports that she or he was younger than 13 when she or he had first sexual intercourse (meaning that sexual initiation occurred prior to enrolling in the study), an evaluation to ensure the safety of the participant may be required by mandated reporter laws or by an institutional review board (IRB). Most institutional review boards require that if research activity reveals that a child is in danger of imminent harm, the child must be reported to Child Protective Services (Rojas & Kinder, 2007; Yeater, Miller, Rinehart, & Nason, 2012). Therefore, developing standardized methods for identifying and managing potential sexual abuse that occurred prior to enrollment in research studies is important to ensure the safety of research participants, maintain research standards, and meet compliance regulations.

Previous research concerning identification of sexual abuse in research studies has focused primarily on the methods, consequences, and ethics of reporting child sexual abuse that was assessed directly, in the context of child maltreatment studies (Kotch, 2000). However, to our knowledge, there are no reports of the prevalence and characteristics of AYA who indicate potential abuse when surveyed for HPV or other sexual health research. These are important to identify so that researchers have a better understanding of the frequency with which they can expect to encounter potential abuse, and so that they can better identify those who might report potential abuse. Nor, to our knowledge, have researchers examined the optimal management of potential sexual abuse once identified; this information is essential for the design of effective protocols to manage research participants who identify potential sexual abuse.

Therefore, we designed a study with the following aims: 1) to examine the feasibility of a protocol designed to manage potential sexual abuse (defined as a self-report of sexual initiation prior to 13 years of age in research participants 13–26 years of age) identified in survey responses of adolescent and young adult research participants; 2) to determine the proportion of participants whose survey responses indicated potential sexual abuse; and 3) to assess whether age, gender, race, and recruitment site were associated with potential sexual abuse.

2 | METHODS

2.1 | Sample and recruitment

We conducted a secondary data analysis using data pooled from three cross-sectional epidemiologic studies of HPV prevalence among AYA who were 13–26 years of age at the time of enrollment (Kahn et al., 2016; Widdice et al., 2012). We recruited participants for all three studies from an urban Teen Health Center (THC) and two Health Department (HD) clinics in Cincinnati, OH, between 2008 and 2015. The protocols for evaluating potential abuse were identical for all three studies. Pooling the data resulted in a larger sample size and a more diverse sample in terms of gender, age, race, and recruitment site. Of the 1,548 participants who completed surveys, seven participants were excluded due to missing data, resulting in a total sample of 1,541.

The hospital IRB and the health department IRB approved protocols for the original studies and all analyses, including this secondary data analysis. Written informed consent was obtained from all participants prior to enrollment in the original studies. Because participants were recruited from clinical settings, if there were any immediate medical issues such as a diagnosis of an STI, these were managed by clinicians prior to the participant's enrollment.

2.2 | Measures

Each participant completed a survey of sexual behaviors. The research team developed the survey items and scales over 20 years and validated them in several studies (Conroy, Rosenthal, & Zimet, 2009; Kahn et al., 2008; Kahn, Lan, & Kahn, 2007; Kahn, Rosenthal, Hamann, & Bernstein, 2003). In the present analysis, the only items used were single items assessing demographic characteristics and age of sexual initiation.

We measured age of sexual initiation in a question asking how old the participant was when he or she had sexual intercourse for the first time with either a male or a female partner. Age of sexual initiation is a risk factor for HPV, and these studies were designed in part to determine risk factors for HPV. We defined potential sexual abuse as a response indicating first sexual intercourse before 13 years, the age of consent in Ohio where the studies were conducted. If a participant reported on the survey that she or he had sexual intercourse prior to age 13 (i.e., prior to enrolling in the study, as participants were 13–26 years of age), the participant was considered at risk for potential sexual abuse.

2.3 | Protocol for responding to potential sexual abuse

Before recruitment for the first study began in 2008, the investigators and research staff developed a standardized written protocol for assessing and managing potential sexual abuse, in consultation with the hospital's IRB. For each subsequent study, the research staff followed the same protocol. All protocols and questionnaires are available upon request from the corresponding author.

The protocol included notification of all participants during the informed consent process of the protocol for identifying potential sexual abuse; and for those identified as at risk for sexual abuse, a confidential interview by the research coordinator, referral to the primary care clinician, and standardized documentation (both written and electronic) of the assessment, referral process, and any adverse consequences of the process. Adverse consequences were defined as participant distress, refusal to participate, or withdrawal from the study.

2.3.1 | Staff training—Before study recruitment began, the research staff provided training for the clinic staff about this protocol. Research staff sent an email to the entire teen clinic staff to give an overview of the research study and protocol and then held in-person meetings with groups of staff members.

The clinic staff consisted of medical doctors, fellows, social workers, advanced practice registered nurses, registered nurses, licensed practical nurses, medical assistants, research coordinators, and scheduling/registration agents. The research staff held scheduled meetings with the teen clinic staff, when all were in attendance, to discuss the study and protocol, provide orientation to roles, and give an opportunity to share feedback. The research staff also held scheduled meetings in the health department clinics with physicians, advanced practice registered nurses, registered nurses, and medical assistants.The research staff informed clinicians that referral for potential sexual abuse would occur during the study visit on the same day that early age of sexual initiation was identified, and clinicians would receive a reminder of the protocol the same day. The research staff had the responsibility to document all information regarding the encounter, with the following exception: if the clinician determined the encounter to be reportable to social services, the clinician, or the social worker would be responsible for documenting this in the patient's medical record. All clinicians verbally agreed to participate in the protocol.

2.3.2 | Protocol procedures used to assess and manage potential abuse—During the research study visit, participants completed a survey containing questions about sexual behaviors, including sexual history, and age of first sexual intercourse. Once completed, the research coordinator immediately reviewed the survey for completeness and for responses that might indicate concern for participant safety.

All participants who responded that the age of first sexual intercourse was younger than 13 years of age were identified as reporting potential sexual abuse, and were immediately interviewed by the research coordinator in a private space. In that interview, the research coordinator confirmed the age of first sexual intercourse with the participant, discussed the necessity to assess for potential sexual abuse as identified in the informed consent process,

explained that she would inform the participant's clinician, and described the process of reporting to occur during the visit, which included asking the participant four questions and providing these details to the clinician. The clinician would determine if reporting to social services was warranted. The research coordinator then asked these participants: 1) age of their sexual partner; 2) whether the participant's parents (mother/father) or guardian were aware of the incident; 3) whether the police or social services had been notified; and 4) whether the participant had any current concerns for their safety.

The research coordinator then provided the participant's clinician with the responses from the four questions. The clinician determined the need for further reporting by assessing the situation. The clinician or the social worker then interviewed the participant confidentially, if they determined an interview was necessary, to obtain additional details. Based on the information obtained, the clinician determined whether a report to social services was warranted and whether the clinician or research coordinator would notify the parent/guardian. If determined to be reportable, the clinician or the social worker notified the research coordinator and proceeded to report the circumstances of potential sexual abuse to social services.

All information about the encounter, including the assessment, clinician notification and action taken, and any adverse consequences, were documented on a participant case report form and placed in the participant's research file. The research coordinator also documented this information in a password-protected electronic database of all participants having sexual intercourse before the age of 13, containing identification number, age of first sexual intercourse, and the circumstances of the encounter. The research coordinator notified the principal investigator of the encounter and received confirmation that the principal investigator agreed with the plans and procedures.

2.4 | Statistical analysis

Data from the three studies were analyzed separately and also combined for analysis. First, we determined the protocol's feasibility by analyzing the written and electronic assessments described previously (aim 1), consisting of 285 paper documents. The research nurse and the principal investigator conducted a count of the number of participants with potential sexual abuse who were interviewed by research staff. The research nurse reviewed each case report form and electronic file systematically for age of first sexual intercourse, age at the time of enrollment, and all documented assessments. Feasibility outcomes were as follows: proportion of participants with potential sexual abuse who were interviewed by the research staff, proportion of cases with complete documentation of the assessment process, proportion of successful referrals to the clinician (i.e., the participant understood and agreed to the referral), and number of adverse consequences that occurred as a result of the disclosure to clinicians or social services.

Second, we determined prevalence rates of potential abuse, defined as the number of participants who reported potential abuse divided by the total number of participants, stratified by study, and by gender (aim 2). Third, we examined associations of potential sexual abuse with age, gender, race, and recruitment site (aim 3), using chi-square tests because the independent and dependent variables were categorical. Finally, variables

associated with potential sexual abuse in univariable analyses at $p < .10$ were entered into a multivariable logistic regression model to identify variables independently associated with the outcome. Variables associated with the outcome at $p < .05$ were retained in the final model. Statistical analyses were conducted using SAS version 9.4 software.

3 | RESULTS

A description of the participants' demographic characteristics, and prevalence of potential sexual abuse in the three study samples are shown in Table 1. Across the three studies, the age range of participants was 13–26 years, and mean age was 19.1 (SD 3.3) years. The majority reported being insured (Kahn et al., 2012, 2016; Mayhew et al., 2014).

Among females, between 54.4% and 76.5% of participants were positive for any HPV type, and between 6.6% and 16.2% were positive for HPV16 and/or HPV18 (the most common types associated with cervical cancer). Among males, 59.4% were positive for any HPV type, and 23.2% were positive for HPV16 and/or HPV18.

3.1 | Assessment of feasibility

Based on all case report forms and electronic documentation, 100% of the 95 participants who self-reported sexual initiation at <13 years of age were interviewed by the research staff, documentation for 100% of these participants was complete, and 100% of assessments were disclosed to participants' primary care clinicians. Outcomes of the clinician assessments were as follows: two participants were referred to social services, 10 participants were not referred to social services because the concern had been previously reported, and 83 participants were not referred to social services because the clinician determined that no further action was warranted, as the participant was not considered to be at risk of abuse. No adverse consequences occurred as a result of the disclosure to clinicians or social services.

3.2 | Prevalence of potential sexual abuse

3.2.1 | Factors associated with potential sexual abuse—Potential sexual abuse occurred in 95 study participants (6.2%). As shown in Table 2, rate of reported potential abuse differed significantly by race, gender and recruitment site. The 18–21-year olds had the highest rates overall, but differences in rate by age were not statistically significant. Potential abuse was more likely to be reported by males versus females (9.3% vs. 5.1%, $p = .003$), Black versus White participants (7.1% vs. 3.3%, $p = .03$), and those recruited from the HD versus THC (8.1% vs. 5.1%, $p = .02$).

In multivariable logistic regression analysis, race and recruitment site were associated with potential sexual abuse. Black participants had three times the odds of potential abuse compared to White participants, and participants recruited from the health department had 2.1 times the odds of potential abuse of those from the teen health center (Table 3).

4 | DISCUSSION

The primary purpose of this study was to assess the feasibility of a protocol to identify, assess, and manage potential sexual abuse in AYA participating in HPV research. Feasibility was demonstrated in three separate research studies which were conducted over a 7-year period. For all participants, the assessment process was adequately documented, referral to clinicians was made successfully, and no adverse consequences occurred during the assessment or referral process.

Creating feasible protocols to identify and manage potential sexual abuse in research studies is important. As noted by the US Preventive Services Task Force, all professionals who have contact with children, including health care workers, have a responsibility to report suspected sexual abuse. Additional research is needed to help identify those at risk for maltreatment (Moyer & US Preventive Services Task Force, 2013). Standardized protocols to identify those at risk for abuse and to refer them to their clinicians and then the appropriate social service agency, if indicated, will help to ensure the safety of research participants, and will ensure that federal regulations regarding protection of children participating in research studies are met (Knight et al., 2006).

This protocol could be readily duplicated in other research settings, if certain lessons are taken into account. For example, we learned that it was essential to design a training process for clinicians and social workers to explain the protocol, to create case report forms for appropriate documentation of all assessments and adverse consequences of the process, and to ensure oversight of the process by the principal investigator.

In this study, 6.2% of the participants had potential sexual abuse. These results are comparable to national data in which 5.6% of youth reported first sexual intercourse before 13 years of age (Centers for Disease Control and Prevention, 2014). Of note, in our study, 9.3% of male participants reported that they had initiated sexual intercourse before the age of 13 years, slightly higher than the national rate of 8.3% among males (Centers for Disease Control and Prevention, 2014), and males were significantly more likely than females to report sexual initiation before 13. Nationally, 7.3% of adolescents report being forced to have sexual intercourse when they did not want to (10.5% females and 4.2% males), according to the Centers for Disease Control and Prevention (2014). In Ohio, 7.5% of adolescents report being forced to have sexual intercourse; 11.2% of females and 4.3% of males (Centers for Disease Control and Prevention, 2014). Previous research on rates of sexual abuse has tended to focus on females, and therefore rates of abuse in males may be underreported (Newcomb, Munoz, & Vargas, 2009). Our results suggest that a substantial proportion of male adolescents report sexual initiation at a young age, underscoring the importance of identifying potential sexual abuse in both female and male research participants.

In multivariable models, race, and recruitment site were associated with potential sexual abuse. Black and those of other races were significantly more likely than were Whites to report an age of sexual initiation of <13 years, consistent with previous studies (Browning, Leventhal, & Brooks-Gunn, 2004; Ompad et al., 2006). Participants recruited from the

health department, compared to those recruited from the Teen Health Center, were not presenting for care to a medical home and were more likely to be uninsured; these factors may be markers for risk of sexual abuse. Across all subgroups, rates of sexual initiation at <13 years of age were relatively high in this study, implying that careful identification and referral of those at risk is important regardless of the characteristics of the research participant.

4.1 | LIMITATIONS

There were several potential limitations to this study. First, while there was considerable diversity in the sample of AYA males and females, we recruited all participants from an urban, predominantly low-income population. Therefore, the findings cannot be generalized to other populations. Second, the definition of potential sexual abuse for the purpose of this study was limited to age of sexual initiation. There are many other types of sexual abuse, and therefore we likely underestimated rates of potential sexual abuse. Third, we assessed potential sexual abuse at only one time point. Aalsma et al. (2002) have suggested that the accuracy of self-reported sexual abuse may improve if it is assessed over several time points (Aalsma, Zimet, Fortenberry, Blythe, & Orr, 2002). We did not find an association between age and potential sexual abuse; it is possible that we did not have the power to detect this difference because of a limited number of participants in each age group. Finally, we were unable to find reports of the proportion of individuals who initiated sexual intercourse younger than 13 years of age who were ultimately found to be abused. Nonetheless, we believe that the regulatory and legal requirements for responding to reported sexual initiation at this age support the development of protocols to assess for abuse.

5 | CONCLUSION

A standardized protocol to identify, assess and refer research participants who may have been sexually abused was found to be feasible. Both clinicians and AYA demonstrated a willingness to participate. Despite having been informed about possible reporting to social services before enrollment, there were no requests to be withdrawn from the study. The protocol was adhered to for 7 years in three studies, indicating that the method was sustainable.

Approximately 6% of participants reported sexual initiation before the age of 13, similar to national rates reported by the Centers for Disease, Control, and Prevention. Black race and recruitment from the health department were associated with reports of potential abuse. When the potential for sexual abuse is not assessed or reported in research with AYA, adolescents and young adults are not referred to resources. Having a standardized protocol in place to identify and manage potential for sexual abuse reported by research participants is important to ensure the safety and well-being of adolescent research participants.

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TABLE 1

Studies included in the analyses, participant characteristics, and prevalence of potential sexual abuse (total $N = 1{,}541$)[a]

										Reported potential abuse	
Study	**Sites**	**Enrollment year(s)**	***N***	**Race**	***n***	**Age (years)**	**Gender**	***n* by gender**	**Has insurance (%)**	***n***	**(%)**
1	Teen health clinic	2008–2010	338	Black	258	13–21	Female	338	84.4	18	5.3
				White	56						
				Other	24						
2	Teen health clinic	2010	404	Black	262	13–26	Female	404	80.4	19	4.7
	Health department			White	113						
				Other	29						
3	Teen health clinic	2013–2015	799	Black	538	13–26	Female	400	68.5	21	5.3
	Health department			White	197		Male	399	64.8	37	9.3
				Other	64						

[a]Seven out of the 1,548 participants were excluded from the analysis due to missing data.

TABLE 2

Associations between independent variables (age, race, gender, and recruitment site) and potential sexual abuse in univariable analyses

	Reported age of sexual initiation <13 years		
Characteristic	***n***	**%**	***p*** [a]
Age			.39
13–14 years	7	5.9	
15–17 years	25	5.7	
18–21 years	47	7.3	
22–26 years	16	4.7	
Race			.03
Black	75	7.1	
White	12	3.3	
Other	8	6.8	
Gender			.003
Females	58	5.1	
Males	37	9.3	
Recruitment site			.02
Teen health clinic	50	5.1	
Health department	45	8.1	

[a] In Chi-square testa.

TABLE 3

Variables independently associated with potential sexual abuse in multivariable logistic regression (N = 1,541)

	Odds ratio	95% Confidence Interval
Race		
Black versus White (ref.)	3.0	1.6–5.7
Other versus White (ref.)	2.6	1.0–6.5
Site		
Health department versus Teen health center (ref.)	2.1	1.4–3.3

Ref. refers to the reference group.