



ADVANCING HEALTH EDUCATION & RESEARCH



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AVA Research Reviews provides AVA members with recent published, peer-reviewed articles in a broad array of violence and abuse topics. The goal is to highlight and disseminate violence and abuse research in a timely fashion, and to enhance healthcare providers' practice by fostering the educational mission of AVA

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AVA Research Review

ADVANCING HEALTH EDUCATION & RESEARCH

Review Title: Varied Testing and Prophylaxis in Pediatric Emergency Departments for Adolescent Sexual Assault Victims

Reviewers: Angie S. Guinn, MPH, School of Public Health, Georgia State University, and Katie A. Ports, PhD, Behavioral Scientist, Division of Violence Prevention, the Centers for Disease Control and Prevention.

The findings and conclusions in this paper are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

Article: Schilling, S., Samuels-Kalow, M., Gerber, J. S., Scribano, P. V., French, B., & Wood, J. N. (2015). Testing and treatment after adolescent sexual assault in pediatric emergency departments. *Pediatrics*, 136(6), e1495-e1503. doi:10.1542/peds.2015-2093

Article Summary:

Introductory Comment: The Centers for Disease Control and Prevention (CDC) and the American Academy of Pediatrics (AAP)

recommend testing and prophylaxis for sexually transmitted infections (STIs) in all sexual assault victims regardless of time since the assault.^{1,2}

This paper evaluates 38 pediatric emergency departments across the United States (with and without specialized sexual assault pathways or teams) on rates of testing and prophylaxis for gonorrhea, chlamydia, and pregnancy in sexually assaulted adolescents.

Background: Sexual violence, particularly exposure during the first 18 years of life, is a public health problem with implications for health and wellness across the life course. According to the 2011 National Intimate Partner and Sexual Violence Survey, an estimated 19% of women and nearly 2% of men in the United States have been raped during their lifetimes, with approximately 40% of female victims and 21% of male victims experiencing rape before 18 years of age.³

Sexual assault victims are vulnerable to contracting STIs. As such, the CDC and AAP recommend testing and prophylaxis for chlamydia and gonorrhea in all adolescent sexual assault victims, ideally within 72 hours of the assault. In addition, the AAP recommends emergency contraception to all post-pubertal female victims within 120 hours of the assault even if the victim is unsure whether penetration actually occurred.

Although previous studies have evaluated sexual assault guidelines and procedures in adult emergency departments, little is known about the uptake of these guidelines in pediatric emergency departments. Of additional interest is the presence of sexual assault clinical pathways and specialized teams that assist with medical and law enforcement evaluations in pediatric emergency departments. The impact that specialized pathways and teams have on testing and prophylaxis in pediatric emergency departments has not been evaluated beyond single-center studies.

Aims/hypotheses of article:

The aim of this study was to examine 38 pediatric emergency departments to describe and compare testing and prophylaxis practices for sexually assaulted adolescents.

The presence of specialized sexual assault teams and pathways was analyzed to see if testing and/or prophylaxis was affected by their presence. An increase in rates of prophylaxis and testing was hypothesized within pediatric emergency departments with clinical care pathways and specialized sexual assault teams.

Methods:

This was a retrospective study of 12 to 18 year old adolescents diagnosed with a sexual assault at 38 emergency departments in the Pediatric Hospital Information System (PHIS) database. Demographic information and clinical data from adolescents discharged between 2004 and 2013 with ICD-9 codes for child sexual assault, rape, or observation after rape were extracted from the PHIS database. Only patients who received care at their first visit after sexual assault were included in the analyses. A survey was constructed for emergency departments and child abuse physicians to determine: the presence of specialized sexual assault pathways or teams; if present, the year that the sexual assault pathway or team was implemented; and specific practices for testing and prophylaxis for adolescent sexual assault victims.

The outcomes of interest were extracted from the PHIS database, and included laboratory testing and pharmacy billing for the following: pregnancy (if female), chlamydia, and gonorrhea. The primary independent variable included the presence of a sexual assault pathway or team. Age, sex, race/ethnicity, insurance and discharge year were included as patient-level covariates, and hospital region was included as a hospital-level covariate. Unadjusted rates of testing and prophylaxis were calculated for each hospital. Adjusted logistic regression models were used to examine the association of pathways and teams with testing and prophylaxis rates.

A validation sub-study was completed on a random sample of medical records, and results indicated a positive predictive value of 92% for hospital ICD-9 codes and high sensitivity and specificity percentages for chlamydia, gonorrhea, and pregnancy testing and prophylaxis.

Relevant Findings:

Among the 12,687 eligible cases, 93% were female, 52% had public insurance; 38% were non-Hispanic black followed by non-Hispanic white (34%). The majority of cases (64%) were examined at hospitals with specialized sexual assault teams, and 30% were examined at hospitals with clinical pathways.

Of these, 27% were examined at hospitals that had both a pathway and sexual assault team, and 33% went to hospitals with neither a pathway nor a team.

Results from the surveys revealed that 76% of pediatric emergency departments report that they conduct STI testing for sexually assaulted adolescents regardless of time from assault. Over two-thirds reported administering prophylaxis and contraception during the initial visit rather than providing a prescription.

In the unadjusted analysis using data extracted from the PHIS database, 44% of adolescents received recommended testing, and 35% of adolescents received recommended prophylaxis. Overall, STI prophylaxes were two times higher in female patients compared to male patients (OR = 2.01, 95% CI [1.56 - 2.60]). Younger patients were less likely to receive testing and prophylaxis, potentially due to the likelihood of being pre-pubertal. Testing and prophylaxis ranged widely across sites. In the adjusted model there were no significant associations between the presence of a specialized pathway or team and testing. However, the adjusted model for prophylaxis demonstrated that hospitals with specialized

pathways were approximately 50% more likely to provide prophylaxis compared to hospitals without specialized pathways (OR = 1.46, 95% CI [1.15 - 1.86]), but specialized teams were not associated with treatment rates (OR = 0.83, 95% CI [0.61 - 1.12]). An additional model adjusting for hospital- and patient-level characteristics demonstrated that 40% (95% CI [36% - 45%]) of patients received prophylaxis when a sexual assault pathway was present compared to 32% (95% CI [27% to 37%]) of patients with no sexual assault pathway available ($p < .011$).

Authors' Conclusions:

Results from this large multi-region study revealed considerable variation across hospitals in rates of testing and prophylaxis among adolescent sexual assault victims. The survey revealed that most pediatric emergency departments report not having a time cutoff for chlamydia and gonorrhea testing in adolescence, but only 44% of the study sample received recommended testing according to the PHIS database. Approximately 70% of pediatric emergency departments reported that they administer prophylaxis during the initial visit, however data from the PHIS database revealed an overall prophylaxis rate of 35%

demonstrating a possible knowledge-to-practice gap. Sexual assault pathways were associated with higher rates of prophylaxis, but not testing.

The variation among testing and prophylaxis increases concern over the quality of care for sexually assaulted adolescents and emphasizes the importance of guideline dissemination and resources that promote standardized care for this vulnerable population. The authors conclude that their findings show promise for sexual assault pathways in encouraging adherence to recommended guidelines, but research is needed to better understand the role of pathways.

Limitations: Data collected for this study may not be generalizable, because it only included patients within pediatric emergency department settings, which limits information on testing or prophylaxis before or after the hospital visit, as well as patients seeking treatment from other service providers. Patients were also excluded due to missing discharge status. Patients could have been discharged to child advocacy centers to complete their evaluations, which may have included testing or prophylaxis at outpatient follow-up visits.

Additionally, differences in history and physical exam findings could have existed that affected testing and prophylaxis.

Misclassifications in administrative data are also possible, but the validation sub-study determined exceptional sensitivity and specificity for the variables. The possibility of the analysis being underpowered to detect differences in prophylaxis and testing by pathways or teams may have been an additional limitation.

Reviewer's Comments:

This study is one of the first to evaluate national guidelines for adolescent sexual assault testing and prophylaxis in pediatric emergency departments. The variation of guideline adherence of testing and prophylaxis in pediatric emergency departments is concerning,

particularly the difference between reported prophylaxis at initial visit by emergency departments (70%) and prophylaxis documented in the PHIS database (35%). The results of this study suggest that barriers may exist in the implementation of sexual assault guidelines such that there appears to be a knowledge-to-practice gap. Although adolescent sexual assault victims were more likely to receive recommended prophylaxis in emergency departments with sexual assault pathways, more research is needed to understand how sexual assault pathways are implemented and how different implementation strategies impact recommended prophylaxis and testing for adolescent victims. Future research is imperative to improve outcomes and to standardize sexual assault care for adolescents across settings.

Sexual assault during adolescence is an important public health issue. The provision of comprehensive medical care after an assault is important to mitigate the impact of sexual violence on future health and well-being outcomes. Pediatric emergency departments are in a good position to provide recommended testing and care to assault victims, but improvements to this process are warranted. While trauma-informed care has improved outcomes for those exposed to sexual violence, it is important to recognize as well, the need to focus on primary prevention strategies that prevent sexual violence from occurring in the first place.⁴

References:

1. Centers for Disease Control and Prevention. (2010). Sexually transmitted disease treatment guidelines. *MMWR*, 59, 90-93
2. American Academy of Pediatrics (2012). *Red Book: 2012 Report of the Committee of Infectious Diseases* (pp. 157-167). Elk Grove Village, IL: American Academy of Pediatrics.
3. Breiding, M. J., Smith, S. G., Basile, K. C., Walters, M. L., Chen, J., & Merrick, M. T. (2014). Prevalence and characteristics of sexual violence, stalking, and intimate partner violence victimization—National intimate partner and sexual violence survey, United States, 2011. *MMWR*, 63(SS-8), 1-18.
4. DeGue, S., Valle, L. A., Holt, M. K., Massetti, G. M., Matjasko, J. L., & Tharp, A. T. (2014). A systematic review of primary prevention strategies for sexual violence perpetration. *Aggression and Violent Behavior*, 19, 346-62.