

2014 POSTER AWARD WINNERS AND PRESENTATION ABSTRACTS

NAPNAP 2014 ANNUAL CONFERENCE POSTER AWARD WINNERS AND PRESENTATION ABSTRACTS

Increasing Human Papillomavirus (HPV) Vaccination in Boys: Reducing Health Disparities through Advanced Pediatric Nursing Practice

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Clinical Research Project Poster presented at the 35th Annual NAPNAP Conference, March, 2014, Boston, MA

Purpose: The purpose of this study was to examine parents' knowledge of HPV and predictors of Human Papillomavirus (HPV) vaccination for their sons' ages 9 to 13 years of age.

The prevalence of Human Papillomavirus (HPV) infection is increasing in the United States in both low risk and high risk groups of men, so it is imperative that pediatric nurse practitioners (PNP)s are educated and encourage HPV vaccination for boys (Smith, Gilbert, Melendy, Rana, & Pimenta, 2011). Vaccinating boys and men age 9-26 years, can prevent 5,416,000 cases of genital warts and 40,000 cancer-related deaths over the next century while saving \$25,700 per quality adjusted life year (Elbasha & Dasbach, 2010). Raising awareness of the new HPV immunization guidelines from the Advisory Committee on Immunization Practice (ACIP) at the Centers for Disease Control and Prevention (CDC) is important to prevent HPV related cancer in men. Unfortunately use of the HPV vaccine in boys and young men continues to be low, only 8%-10% nationally, despite recommendations from the CDC.

Hypothesis: Using theoretical concepts articulated in the Health Belief Model, we anticipate differences in HPV vaccination across parent gender and community groups or counties.

Methods: This community based descriptive cross sectional research was theoretically framed on the Health Belief Model. After IRB approval, data collection was conducted in collaboration with rural communities.

Parents with sons ages 9 to 13 completed an anonymous survey with acceptable validity/reliability, CA.of 0.96. Using SPSS and SAS software, quantitative statistical analysis was conducted using logistic regression. Findings: Four hundred seventeen (417) parents responded to the statement, "The HPV vaccine is now available for boys, so I will vaccinate my son". On average, the parents or caregivers who responded YES were 41 years old, mothers, African American, self-identified their religion as Baptist, had a high school education, and had a household income of \$30,000 a year or less. No significant differences in scores on perceived vulnerability (43.72%), perceived severity (45.88%), and perceived benefits (44.54%) between parents who would and would not vaccinate their son. Mothers were found to be 1.68 times more likely than fathers to vaccinate their sons, and African Americans were 1.78 times more likely than Caucasians to vaccinate their sons.

Clinical Implications: Male focused nursing interventions focused on the HPV vaccine should start with increasing parents' knowledge about HPV infection and the link between HPV infection and cancer. When PNPs are discussing HPV vaccination of boys' with parents, three key points are: 1) HPV is spread by skin to skin contact; 2) HPV vaccination prevents cancer and 3) Studies show that HPV vaccination does not promote sexual promiscuity.

A Comparison of Antibiotic Serum Concentrations Drawn from Peripherally Inserted Central Catheter versus Peripheral Vein in Children with Respiratory Infection

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Practice Innovation Poster presented at the 35th Annual NAPNAP Conference, March 2014, Boston, MA

Objective: To evaluate serum concentration of antibiotics drawn from a peripherally inserted central catheter (PICC) compared to serum concentration of antibiotic levels drawn from a venipuncture.

Background: A large number of hospitalized patients require PICC line insertion for intravenous (IV) antibiotic treatment targeting respiratory infections, such as cystic fibrosis (CF), pneumonia, and pleural effusions. Often, the antibiotic medications of choice require biweekly surveillance levels before and/or after infusions to assess therapeutic delivery of the drug and renal clearance for the duration of therapy. Our institutional policy for obtaining antibiotic levels does not specify if the specimen should be drawn from a PICC line or venipuncture. Thus, there is varying practice among clinical providers as to the site of specimen collection.

Methods: We conducted a prospective study on two inpatient medical units. We screened all subjects ages 1 month to 21 years admitted with a respiratory infection requiring IV vancomycin or tobramycin, and who received a new PICC line insertion for antibiotic treatment. The sample size was comprised of 90 subjects; each subject was eligible for enrollment if he/she required levels within the first 16 days from the date of hospital admission. Subjects required antibiotic levels multiple times throughout their hospital stay. A maximum of two serum antibiotic levels were included for each subject during hospitalization.

Results: Of the 88 subjects enrolled, 80 were patients with CF, admitted for a pulmonary exacerbation and a course of IV antibiotic treatment. Peak tobramycin levels were consistently higher in the peripheral sample

than in the same patient's PICC sample. The mean difference was 1.35 ug/ml with standard error 0.29 ug/ml, statistically significant by Student's paired t-test at $p < 0.0001$. Against the mean peak level of approximately 25 ug/ml, this represented a 5% difference. Trough vancomycin levels were likewise consistently higher in the periphery than in the PICC sample, by 0.84 ± 0.15 ug/ml (mean \pm standard error), significant at $p < 0.0001$. Against the mean trough level of approximately 11 ug/ml, this was an 8% difference. Trough tobramycin levels were very low (mean 0.15 ug/ml) and did not differ between the peripheral and PICC samples.

Conclusion: The difference between the antibiotic levels from the peripheral and PICC samples was statistically significant for both the peak and trough levels. However, the difference in values was small enough that there was no clinical significance. The evidence would suggest that using our study methods to draw vancomycin and tobramycin levels from PICC lines yields equivalent values for samples drawn from either site. Using PICC lines to draw antibiotic levels would minimize invasive interventions and discomfort for patients. The blood drawing methods and findings from this study may be useful in establishing a formal hospital policy and procedure for drawing tobramycin and vancomycin levels from PICC lines. Thus, decreasing the number of venipunctures and improving the quality of life for those that receive treatment with antibiotics requiring close monitoring of levels.