

Risk Perceptions and Human Papillomavirus (HPV) Vaccine Uptake Among a Clinic-Based Sample of Young Rural Women

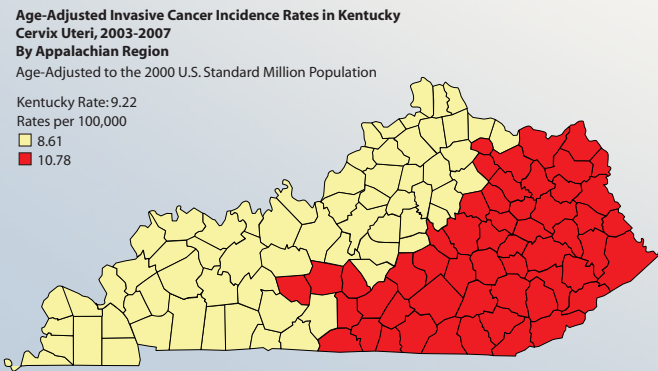
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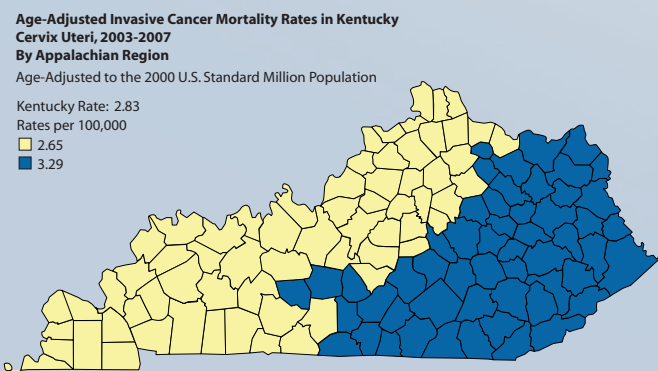


Background

Appalachia Kentucky is recognized for increased cervical cancer incidence, morbidity and mortality and lower rates of Pap testing. The region is also noted for a physical and socio-cultural environment (e.g., geographic isolation, lower socioeconomic status) which may preclude positive health outcomes. Understanding the predictors of Human Papillomavirus (HPV) vaccine uptake is warranted among this population.



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Based on data released September 24, 2010.
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Purpose

To determine associations between HPV-related risk perceptions and uptake of free Gardasil offered to rural Appalachian women ages 18-26 attending regional health clinics. Many women over the age of 18 are no longer eligible for childhood vaccine programs, are often uninsured, and have not been the primary focus of HPV-related pharmaceutical marketing campaigns.

Methods

Young women, ages 18-26, were recruited from health clinics in Southeastern, Kentucky from March 2008 through September 2009 (N=247). After completing a brief interview assessing seven HPV-related risk perceptions, women received a HPV vaccine voucher which provided the entire three-dose vaccine series free of charge. Whether women redeemed the voucher for dose one of Gardasil served as the study outcome variable. Hierarchical logistic regression was used to estimate the independent effects of each predictor variable on vaccine uptake.

Results

Less than 50% (n=111) redeemed the voucher to receive dose one of the HPV vaccine. Average age was 21.7 years (SD = 2.5). Table 1 displays descriptive characteristics of the sample. Five of the seven variables significantly predicted uptake (Table 2).

Table 1. Descriptive Characteristics of the Study Sample (N = 247). March 2008 through September 2009, Southeastern, Kentucky

Variable	n	%
Race		
Caucasian/White	243	98.4
Asian	1	.4
Native American	1	.4
Other	2	.8
Hispanic Ethnicity	1	.4
Had penile-vaginal sex (past 12 months)	203	82.8
Had 2 or more penile-vaginal sex partners (past 12 mos.)	40	16.2
Ever had an abnormal result on a Pap test	67	27.1

Table 2. Bivariate Associations Between HPV-Related Risk Perceptions and HPV Vaccine Uptake (Dose 1) (N = 247). March 2008 through September 2009, Southeastern, Kentucky

Predictor	Mean (vaccine) ¹	Mean (no vaccine) ²	t ³	P value
Worry about having HPV ⁴	1.83	1.53	2.52	.013
Likely to be infected by HPV ⁵	3.74	3.86	2.88	.38
HPV serious enough for vaccine ⁶	4.36	4.17	2.01	.046
Vaccine may cause side effects ⁷	2.81	2.77	.39	.69
Not sure vaccine is safe ⁸	3.39	3.14	2.22	.027
Vaccines are a good thing ⁹	4.30	4.06	2.57	.01
The vaccine will be painful ¹⁰	3.52	3.20	2.73	.007

1. Among 111 young women receiving dose 1 of Gardasil
2. Among 136 young women not receiving dose 1 of Gardasil
3. All t-values have 245 degrees of freedom
4. Assessed on a 4-point scale with "4" representing the most worry
5. Assessed on a 5-point scale with "5" representing greatest perceived likelihood
6. Assessed on a 5-point scale with "5" representing greatest agreement
7. Assessed on a 5-point scale with "5" representing least agreement
8. Assessed on a 5-point scale with "5" representing least agreement
9. Assessed on a 5-point scale with "5" representing greatest agreement
10. Assessed on a 5-point scale with "5" representing least agreement

In a controlled analysis, only two predictors remained significant: "in general, vaccines are a good thing" (P=.02) and "I believe that getting the vaccine will be painful" (P=.03). The remaining three predictor variables (worry about having HPV [P=.07], HPV serious enough for vaccination [P=.43], and not sure vaccine is safe [P=.22]) were not significant in the model.

Conclusions

Health promotion programs designed for this rural, medically underserved population may enhance HPV vaccine uptake by creating more realistic perceptions about the inherent value of vaccines to personal and public health and by improving perceptions relative to injection pain. Identification and intervention on risk-related perceptions may help to increase uptake of this important public health achievement to decrease cervical cancer incidence, mortality, and morbidity in rural communities.

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