Poster 10: Understanding HPV knowledge level and barriers to postpartum HPV vaccination in patients aged 18-26 years

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Topic

Cervical

Objectives

Young people have more frequent interactions with healthcare providers during the pregnancy and the postpartum, creating an opportunity for catch up vaccination against HPV. This study simulated the health outcomes that would be expected from a postpartum HPV vaccination program and estimated its cost-effectiveness.

Methods

Using TreeAge software, we constructed a Markov model to evaluate the outcomes and cost-effectiveness of a postpartum HPV vaccination program. We simulated the outcomes of 400,000 individuals – the estimated number of vaccine-eligible persons giving birth per year in the United States. The cost of the vaccination program was estimated based on a low-resource model that was implemented at our institution. The cost included the cost of the HPV vaccine series and hours of staff time needed for administration. Outcomes included CIN1, CIN2+, and early-stage cervix cancer. We used model parameters derived from the literature and our institution's published data. Effectiveness was defined in quality adjusted life years (QALY). We defined cost-effectiveness at a willingness-to-pay threshold of $100,000 per QALY gained. A key sensitivity analysis was performed to assess the robustness of the results.

Results

We estimated that a postpartum HPV vaccination program prevented CIN1 in 2,575 individuals, CIN2+ in 2,809 individuals, and early-stage cervix cancer in 27 individuals (Table 1). The vaccination program led to $64 million higher healthcare costs and 3,474 more QALYs relative to no vaccination program. The incremental cost-effectiveness ratio (ICER) was $18,628 per additional QALY, demonstrating the postpartum HPV vaccination program was cost-effective. The postpartum HPV vaccination program was no longer cost-effective if the program's cost for each individual offered vaccination exceeded $1,586.

Conclusions

A postpartum HPV vaccination program is a cost-effective way to prevent cervical dysplasia and cancer. Our findings may inform future interventions for HPV vaccination in perinatal care to potentially improve outcomes and enhance resource allocation.

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