HPV Knowledge and Attitude Retention with Concurrent Increase in Vaccine Administration: 1.5 Year Follow-up After a Novel HPV Workshop in Medical School

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Background

- Comprehensive education regarding Human Papillomavirus (HPV) pathogenesis, vaccination, associated malignancies, and patient counseling are not routinely included in medical school curriculum.
- Knowledge of the role HPV in the development of head & neck neoplasms remains low among students and physicians.
- A previous study by our team demonstrated immediate improvement in medical student HPV knowledge and attitudes after a novel educational workshop.
- Long-term sustainability and clinical implications of this intervention has not been studied.

Methods

- A follow-up survey was administered to 130 medical students 1.5 years after initial completion of a novel interactive workshop.
- The survey consisted of both knowledge and attitude questions related to HPV associated diseases and neoplasms and the HPV vaccine.
- The state vaccine database was queried to assess the number of HPV vaccinations provided at the medical school's student-run clinic, where students recommend and administer vaccinations.

Results

- Awareness that HPV causes oropharyngeal cancer was present in 33% of students pre-curriculum; immediate and long-term (1.5 year) post-curricular awareness of this association remained at 90% or higher ($p<0.0001$).
- Hoarseness due to laryngeal papillomatosis was identified by 33% of students pre-curriculum, and 85% of students 1.5 years post-curriculum ($p<0.0001$).
- Post-curriculum scores involving comfort with HPV counseling, knowledge of HPV malignancies, symptoms, and transmission, remained significantly elevated over pre-curriculum scores ($p<0.05$).
- Long-term knowledge of the relationship between HPV and oropharyngeal cancer was higher than a control group of medical students who did not participate in the workshop ($p<0.0001$).

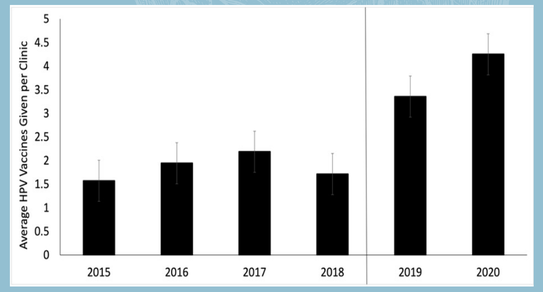

Figure 1. Average number of HPV vaccines administered per clinic at the medical school's student-run clinic per year. The vertical line separates clinics that took place before and after the HPV workshop.

Table 1. Medical student responses before (Survey #1), 1 week after (Survey #2), and 1.5 years after (Survey #3) attending a novel HPV vaccine curriculum. "Select all" knowledge questions were assigned 1 point per correct answer; max score indicates the maximum score possible on each "Select all" question.

Question Type	Question	Survey #1	Survey #2	Survey #3
Knowledge ("Select all," 1 point per correct answer)	What cancers can be caused by HPV? Max score: 5	3.53	4.67*	4.72*
	Oropharyngeal cancer recognized	33% (39/120)	95%* (116/122)	90%* (60/67)
	Which symptoms can HPV cause? Max score: 3	1.76	2.63*	2.69*
	Hoarseness recognized	33% (39/120)	70%* (86/122)	85%* (57/67)
	In which ways can HPV be transmitted? Max score: 4	3.05	3.87*	3.55*
	What is the current recommended vaccination schedule for HPV? Max score: 3	1.21	1.68*	1.96*

* indicates significance at the alpha of 0.05 level when compared to survey #1

Conclusions

This study demonstrates that HPV knowledge and positive attitudes were retained 1.5 years after participating in our novel HPV curriculum during the preclinical years of medical school. Additionally, an increase in patient HPV vaccination rates occurred at a clinic led by students who attended the workshop, indicating a positive clinical impact of the curriculum.

References

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