A Shot at Prevention: Pharmacist Role in HPV Vaccinations

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Case Study

PJ is a 14 yo male who presents to the pharmacy with his mother. The mother wants to inquire about the HPV shot for her son but appears hesitant. What do you do?

Objectives

- Understand epidemiology, etiology, and consequences associated with Human papillomavirus (HPV)
- Recognize barriers of receiving an HPV vaccination
- Review HPV vaccinations and guidelines
- Evaluate pharmacist impact on HPV vaccination rates
Background on HPV

Epidemiology

- 14 million new infections in the U.S. every year
- 79 million individuals currently infected
- Most common STI in the U.S.
- 90% of infections are asymptomatic
- Highest rates of infection: sexually active females < 25 years old

TOTAL: 19,738,800
Transmission

Human papillomavirus
- ds DNA virus
- Infects epithelium
- More than 120 HPV types

Transmission
- Sexual contact
- Communicable during acute infection & persistent infection
- Symptoms can develop years after encounter

Health Consequences

- Genital Warts
- Abnormal Pap test
- Low-grade or high-grade squamous intraepithelial lesions
- Cervical cancer
- Psychosocial distress
Barriers:
- Stigma
- Cost
- Adherence

Patient Knowledge
Healthcare Providers

Legislation
- Should it be mandatory?
- Who should pay for it?
- Rick Perry’s vaccination mandate
Vaccination Information & Guidelines

Vaccination Comparison

<table>
<thead>
<tr>
<th></th>
<th>Cervarix (2vHPV)</th>
<th>Gardasil (4vHPV)</th>
<th>Gardasil 9 (9vHPV)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approval</td>
<td>2009</td>
<td>2006</td>
<td>2014</td>
</tr>
<tr>
<td>HPV strains covered</td>
<td>16, 18</td>
<td>6, 11, 16, 18</td>
<td>6, 11, 16, 18, 31, 33, 45, 52, 58</td>
</tr>
<tr>
<td>Dosing Schedule</td>
<td>0, 1, 6 months</td>
<td>0, 2, 6 months</td>
<td>0, 2, 6 months</td>
</tr>
<tr>
<td>Indications</td>
<td>Females aged 9-25</td>
<td>Females &amp; males aged 9-26</td>
<td>Females &amp; males aged 9-26</td>
</tr>
</tbody>
</table>
CDC Immunization Schedule (Adolescence)\textsuperscript{10}

- Routine vaccination
  - Administer starting age 11-12
  - May be started at age 9

  \begin{itemize}
    \item 1\textsuperscript{st} dose
      - Month 0
    \item 2\textsuperscript{nd} dose
      - Month 1-2
    \item 3\textsuperscript{rd} dose
      - Month 6
  \end{itemize}

- Catch-up vaccination
  - Administer vaccine series at ages 13-18 years if not previously vaccinated
  - Use recommended routine dosing intervals for vaccine series catch-up

CDC Immunization Schedule (Adult)\textsuperscript{11}

- Females & males
  - 3-dose series for ages 13-26 years if not previously vaccinated
  - Also recommended for
    - Men who have sex with men and immunocompromised persons through age 26 years

\begin{center}

\begin{tabular}{|c|c|c|c|}
\hline
Vaccine & Age Group & 19-26 years & 27-64 years \\
\hline
Human papillomavirus (HPV) & 2 doses & & \\
Tdap & & & \\

\end{tabular}

\end{center}
Where do we fit in?

National Survey (2014)\textsuperscript{13}

- Data collected regarding 20,827 adolescents through the 2014 National Immunization Survey-Teen (NIS-Teen)
- 10,084 females and 10,743 males included in survey
- Vaccination rate results
  - 60% females aged 13-17 years received at least 1 dose of HPV
  - 40% females received all 3 doses in the series
  - 42% males aged 13-17 years at least 1 dose
  - 22% males received all 3 doses

Development of a Community Pharmacy HPV Program\textsuperscript{14}

- Objectives
  - Describe the development and implementation of HPV patient assistance program (PAP)
  - Acquire information about who accessed the program and completed the series
- Primary measures
  - Results from a needs-assessment questionnaire that were used to implement HPV PAP
  - Number of students who qualified and enrolled in the HPV PAP
  - Number of students who completed the series
Development of a Community Pharmacy HPV Program

Outcomes:
- 71.1% did not understand how HPV is transmitted
- 87.3% were unaware of when to get vaccinated for HPV
- 26.1% indicated that they had not been offered the vaccine
- 89 qualified for HPV Pap
- 71 received their second dose & 43 completed the series

Factors Related to HPV Vaccination

Objective
- Assess demographic and attitudinal factors associated with HPV vaccine initiation and completion among 18-26 year old women

Method
- Survey 325 women about HPV vaccine related beliefs and behaviors (01/2013-12/2013)

Results
- 62.8% had initiated the vaccine
- 48.9% had completed the 3-dose series
- Variables associated with HPV vaccine initiation
  - Unmarried
  - Not practicing organized religion
  - Knowing how HPV spreads
  - Knowing the connection between HPV and cervical cancer
  - Belief in the importance of preventive vaccination
Factors Related to HPV Vaccination

Conclusion

- Findings may help inform policies and interventions focused on increasing HPV vaccination rates among young women
- Examples: programs might focus on HPV awareness
- Findings indicate the need for discussions of risk assessment be tailored to the young adult population

The Knowledge Levels, Opinions, and Behavior of Parents

Objective

- To measure parent knowledge levels and opinions related to the HPV and the two vaccines used to prevent it
- To measure parent behavior in terms of whether or not to have their children vaccinated

Measures

- Questionnaires distributed to parents while waiting for their child to see their pediatrician at a local group practice (06/2012 - 08/2012)

Results (129 surveys collected)

- 48.1% learned about the HPV vaccines from the media
- 47.3% identified health care practitioner(s) as a source of knowledge
- 22.4% agreed that schools should require that students be vaccinated before enrolling
- 3.2% agreed that vaccination causes patients to become sexually active
Case Study Revisited

PJ is a 14 yo male who presents to the pharmacy with his mother. The mother wants to inquire about the HPV shot for her son but appears hesitant.

What can we do?

Be an Advocate

• Screen for patients
• Educate & empower parents and/or patients
• Go above & beyond
• Make connections with providers

Resources for Pharmacists

• ImmTrac (Texas Immunization Registry)
  ▶ https://www.dshs.texas.gov/immunize/ImmTrac/
• Centers for Disease Control
  ▶ HPV Information
    ▶ https://www.cdc.gov/hpv/
    ▶ Vaccine schedule ages 0-18
    ▶ Vaccine schedule ages 19+
• HPV Immunization - Pharmacist Resource Center
  ▶ http://hpv.pharmacist.com/
Aknowledgements

- Dr. Nathan Pope
- Dr. Upasana Sekhar
- Prof. Marcia Kiger

Bibliography

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