"Bug your doc – Get 3 shots!": A culturally-appropriate social marketing intervention to increase HPV vaccination

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Purpose

This study tested the efficacy of a culturally-appropriate social marketing intervention targeting parents of pre-adolescents aimed to increase HPV vaccine uptake, using a community-engaged approach.

Background

- HPV vaccination is recommended for all children ages 11-12, with catch up through age 26, for prevention of six HPV-associated cancers.
- HPV vaccine uptake has lagged behind that of other adolescent vaccines (meningococcal and Tdap).
- Few interventions have tested the effect of patient education materials on HPV vaccine uptake.

Intervention

- The intervention was developed using a participatory social marketing process based on audience (formative) research and input from the Community Advisory Board, Teen and Parent Committee, and a Hispanic Community Center.
- The messages were initially developed to be culturally-appropriate for African Americans and for use with families of diverse backgrounds. Then the materials were translated and tested for appropriateness with Hispanic parents.
- The goal of the "Bug Your Doc - Get 3 Shots!" social marketing intervention was to encourage parents to ask their child’s doctor for all three pre-teen vaccines, including HPV vaccine, when they update their immunization record for 7th grade entry.
- This strategy aimed to “normalize” the HPV vaccine as a routine vaccination for both boys and girls, rather than treating HPV vaccine as different.
- The messages focused on parents’ desire to protect their children from harm (i.e., serious illnesses).

Social Marketing Intervention Materials

- Spanish & English Informational Flyer (front and back)
- Refrigerator Magnet
- Website and Video

Table 1: Sample Characteristics by Study Arm

<table>
<thead>
<tr>
<th>Variable</th>
<th>Intervention N=33</th>
<th>Control N=22</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender of Child</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>14 (42.4%)</td>
<td>12 (54.5%)</td>
<td>0.378</td>
</tr>
<tr>
<td>Female</td>
<td>19 (57.6%)</td>
<td>10 (45.5%)</td>
<td></td>
</tr>
<tr>
<td>Child’s Age (years)</td>
<td>11.5 (0.84)</td>
<td>11.1 (0.72)</td>
<td>0.071</td>
</tr>
<tr>
<td>Parent Ethnicity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White Non-Hispanic</td>
<td>8 (24.2%)</td>
<td>7 (33.3%)</td>
<td>0.448</td>
</tr>
<tr>
<td>Black Non-Hispanic</td>
<td>10 (30.3%)</td>
<td>7 (33.3%)</td>
<td></td>
</tr>
<tr>
<td>Hispanic</td>
<td>14 (42.4%)</td>
<td>5 (23.8%)</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>1 (3.0%)</td>
<td>2 (9.5%)</td>
<td></td>
</tr>
<tr>
<td>Follow-up Time (weeks)</td>
<td>11.8 (2.17)</td>
<td>10.5 (3.07)</td>
<td>0.058</td>
</tr>
</tbody>
</table>

Primary Outcome

Hypothesis 1: At follow-up, the proportion of children having initiated the HPV vaccine will be higher for the Intervention Arm compared to Control Arm.

Graph: HPV Vaccine Initiation by Follow-up

RR = 7.33 (CI = 1.02 – 52.84)

Secondary Outcome

Hypothesis 2: Immediately after Workshop 1, parents in the Intervention Arm will be more likely to report that they plan to talk with their child’s doctor about HPV vaccine compared to Control Arm.

Graph: Plans to Talk to Doctor Post-Workshop

RR = 1.50 (CI = 1.03 – 2.19)

Methods

- We used a two-group, delayed crossover design to pilot test the intervention materials with groups of parents in a workshop format, compared to a workshop on an unrelated topic.
- Participants were recruited through community-based organizations and university email listserv, and were able to attend the two different workshops at the same location.
- Parents completed a questionnaire at baseline, immediately after the workshop, and 2-4 months after baseline (before cross-over).

Results

- We recruited a convenience sample of parents of 5th and 6th grade children, of whom 71 had not yet initiated the HPV vaccine.
- Follow up data were collected from 55 of these parents 2-4 months later (27% White, 32% Black, 35% Hispanic).
- Hypothesis 1: Based on parent reports, at follow up, more children in the Intervention Arm had initiated HPV vaccine (33.3% vs 4.5%, RR=7.33, p<.05).
- Hypothesis 2: At the end of the workshop, more parents in the Intervention Arm planned to talk to their pediatrician about the HPV vaccine (90.3% vs 60.0%, RR=1.50, p<.05).
- Workshop evaluation feedback from parents indicated that the parents liked the materials and found the information to be useful.

Conclusion

These intervention materials could be used in a variety of contexts, such as primary care, schools, community organizations, and social media to improve parent acceptability of the HPV vaccine within the adolescent vaccine platform and increase vaccination.