**Supplementary Table 1.** Impact of the comic book on adolescents’ HPV and HPV vaccine knowledge/beliefs, barriers to vaccination, social norms/influences, communication with parents about vaccination, willingness to be vaccinated, and vaccination intentions stratified by gender

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Constructs/  Survey Questions | | Stratification by Gender | | | | | |
| **Female** | | | **Male** | | |
| Pre-intervention survey (n=31) | Post-intervention survey (n=42) | Chi-squared p-valuea | Pre-intervention survey (n=33) | Post-intervention survey (n=30) | Chi-squared p-valuea |
| HPV knowledge/ beliefs (5 questions) | |  |  |  |  |  |  |
| HPV infection is different than HIV infection. | | n (%) | n (%) |  | n (%) | n (%) |  |
| Correct | True | 17 (58.6) | 37 (88.1) | 0.004 | 21 (63.6) | 25 (86.2) | 0.043 |
| Incorrect | False | 1 (3.4) | 2 (4.8) |  | 2 (6.1) | 0 (0.0) |  |
| Not sure | 11 (37.9) | 3 (7.1) |  | 10 (30.3) | 4 (13.8) |  |
| HPV infection is rare.b | |  |  |  |  |  |  |
| Correct | False | 15 (51.7) | 26 (61.9) | 0.393 | 8 (24.2) | 22 (75.9) | <0.001 |
| Incorrect | True | 6 (20.7) | 10 (23.8) |  | 14 (42.4) | 3 (10.3) |  |
| Not sure | 8 (27.6) | 6 (14.3) |  | 11 (33.3) | 4 (13.8) |  |
| HPV is spread through sexual contact. | |  |  |  |  |  |  |
| Correct | True | 13 (43.3) | 38 (92.7) | <0.001 | 12 (36.4) | 24 (85.7) | <0.001 |
| Incorrect | False | 5 (16.7) | 1 (2.4) |  | 3 (9.1) | 1 (3.6) |  |
| Not sure | 12 (40.0) | 2 (4.9) |  | 18 (54.5) | 3 (10.7) |  |
| Most people with HPV infection know they have it. | |  |  |  |  |  |  |
| Correct | False | 13 (43.3) | 28 (68.3) | 0.035 | 12 (36.4) | 21 (75.0) | 0.003 |
| Incorrect | True | 7 (23.3) | 6 (14.6) |  | 1 (3.0) | 4 (14.3) |  |
| Not sure | 10 (33.3) | 7 (17.1) |  | 20 (60.6) | 3 (10.7) |  |
| HPV can cause cancer.c | |  |  |  |  |  |  |
| Correct | True | 11 (37.9) | 39 (92.9) | <0.001 | 11 (35.5) | 28 (93.3) | <0.001 |
| Incorrect | False | 5 (17.2) | 2 (4.8) |  | 4 (12.9) | 0 (0.0) |  |
| Not sure | 13 (44.8) | 1 (2.4) |  | 16 (51.6) | 2 (6.7) |  |
| HPV vaccine knowledge / beliefs (6 questions) | |  |  |  |  |  |  |
| The HPV vaccine prevents serious health problems.d | |  |  |  |  |  |  |
| Correct | True | 25 (83.3) | 31 (73.8) | 0.338 | 17 (51.5) | 21 (70.0) | 0.134 |
| Incorrect | False | 2 (6.7) | 8 (19.0) |  | 9 (27.3) | 4 (13.3) |  |
| Not sure | 3 (10.0) | 3 (7.1) |  | 7 (21.2) | 5 (16.7) |  |
| The HPV vaccine is unsafe. | |  |  |  |  |  |  |
| Correct | False | 16 (53.3) | 30 (71.4) | 0.115 | 11 (33.3) | 23 (76.7) | 0.001 |
| Incorrect | True | 5 (16.7) | 5 (11.9) |  | 15 (45.5) | 4 (13.3) |  |
| Not sure | 9 (30.0) | 7 (16.7) |  | 7 (21.2) | 3 (10.0) |  |
| The HPV vaccine contains pork gelatin. | |  |  |  |  |  |  |
| Correct | False | 14 (46.7) | 35 (83.3) | 0.001 | 13 (39.4) | 26 (86.7) | <0.001 |
| Incorrect | True | 2 (6.7) | 2 (4.8) |  | 3 (9.1) | 0 (0.0) |  |
| Not sure | 14 (46.7) | 5 (11.9) |  | 17 (51.5) | 4 (13.3) |  |
| All adolescent girls should get the HPV vaccine. | |  |  |  |  |  |  |
| Correct | True | 11 (36.7) | 27 (65.9) | 0.015 | 6 (18.2) | 20 (66.7) | <0.001 |
| Incorrect | False | 5 (16.7) | 10 (24.4) |  | 7 (21.2) | 6 (20) |  |
| Not sure | 14 (46.7) | 4 (9.8) |  | 20 (60.6) | 4 (13.3) |  |
| Adolescent boys do not need the HPV vaccine. | |  |  |  |  |  |  |
| Correct | False | 10 (32.3) | 34 (81.0) | <0.001 | 7 (21.2) | 20 (66.7) | <0.001 |
| Incorrect | True | 6 (19.4) | 2 (4.8) |  | 6 (18.2) | 7 (23.3) |  |
| Not sure | 15 (48.4) | 6 (14.3) |  | 20 (60.6) | 3 (10.0) |  |
| HPV vaccination involves more than one shot. | |  |  |  |  |  |  |
| Correct | True | 14 (45.2) | 33 (78.6) | 0.003 | 14 (43.8) | 24 (80.0) | 0.003 |
| Incorrect | False | 3 (9.7) | 5 (11.9) |  | 5 (15.6) | 5 (16.7) |  |
| Not sure | 14 (45.2) | 4 (9.5) |  | 13 (40.6) | 1 (3.3) |  |
| Social Norms/Influences (2 questions) | |  |  |  |  |  |  |
| Other boys and girls would not think it is a good idea to get the HPV vaccine. | |  |  |  |  |  |  |
| Correct | False | 6 (20.7) | 25 (59.5) | 0.001 | 5 (15.2) | 13 (43.3) | 0.013 |
| Incorrect | True | 5 (17.2) | 11 (26.2) |  | 9 (27.3) | 11 (36.7) |  |
| Not sure | 18 (62.1) | 6 (14.3) |  | 19 (57.6) | 6 (20.0) |  |
| Doctors think it is very important that boys and girls get the HPV vaccine. | |  |  |  |  |  |  |
| Correct | True | 19 (61.3) | 37 (88.1) | 0.007 | 16 (48.5) | 26 (86.7) | 0.001 |
| Incorrect | False | 4 (12.9) | 3 (7.1) |  | 5 (15.2) | 2 (6.7) |  |
| Not sure | 8 (25.8) | 2 (4.8) |  | 12 (36.4) | 2 (6.7) |  |
| Barriers (2 questions) | |  |  |  |  |  |  |
| When thinking about getting the HPV vaccine, how concerned are you about side effects? | |  |  |  |  |  |  |
| Positive | Not concerned | 2 (6.5) | 11 (26.2) | 0.029 | 7 (21.2) | 10 (33.3) | 0.279 |
| Negative | Not sure | 10 (32.3) | 5 (11.9) |  | 6 (18.2) | 3 (10.0) |  |
| Very concerned | 8 (25.8) | 10 (23.8) |  | 6 (18.2) | 9 (30.0) |  |
| Somewhat concerned | 11 (35.5) | 16 (38.1) |  | 14 (42.4) | 8 (26.7) |  |
| When thinking about getting the HPV vaccine, how concerned are you about the shot being painful? | |  |  |  |  |  |  |
| Positive | Not concerned | 10 (32.3) | 11 (26.2) | 0.571 | 15 (45.5) | 18 (60.0) | 0.248 |
| Negative | Not sure | 6 (19.4) | 4 (9.5) |  | 6 (18.2) | 2 (6.7) |  |
| Very concerned | 7 (22.6) | 14 (33.3) |  | 4 (12.1) | 2 (6.7) |  |
| Somewhat concerned | 8 (25.8) | 13 (31.0) |  | 8 (24.2) | 8 (26.7) |  |
| Communication (1 question) | |  |  |  |  |  |  |
| How comfortable would you be talking with a parent about the HPV vaccine? | |  |  |  |  |  |  |
| Positive | Very comfortable | 7 (22.6) | 26 (61.9) | 0.003 | 7 (21.2) | 16 (53.3) | 0.002 |
| Somewhat comfortable | 12 (38.7) | 12 (28.6) |  | 11 (33.3) | 11 (36.7) |  |
| Negative | Not sure | 8 (25.8) | 1 (2.4) |  | 7 (21.2) | 1 (3.3) |  |
| Not comfortable | 4 (12.9) | 3 (7.1) |  | 8 (24.2) | 2 (6.7) |  |
| Willingness (1 question) | |  |  |  |  |  |  |
| How willing would you be to get the HPV vaccine? | |  |  |  |  |  |  |
| Positive | Definitely willing | 9 (29) | 15 (35.7) | 0.001 | 1 (3.0) | 13 (43.3) | <0.001 |
| Probably willing | 6 (19.4) | 20 (47.6) |  | 8 (24.2) | 12 (40.0) |  |
| Negative | Not sure | 13 (41.9) | 5 (11.9) |  | 12 (36.4) | 1 (3.3) |  |
| Not willing | 3 (9.7) | 2 (4.8) |  | 12 (36.4) | 4 (13.3) |  |
| Intention (1 question) | |  |  |  |  |  |  |
| In the next 6 months, how likely is it that you will talk to a parent about getting the HPV vaccine? | |  |  |  |  |  |  |
| Positive | Very likely | 4 (12.9) | 21 (50) | <0.001 | 3 (9.1) | 8 (26.7) | <0.001 |
|  | Somewhat likely | 10 (32.3) | 18 (42.9) |  | 5 (15.2) | 15 (50.0) |  |
| Negative | Not sure | 14 (45.2) | 3 (7.1) |  | 15 (45.5) | 2 (6.7) |  |
| Not likely | 3 (9.7) | 0 (0.0) |  | 10 (30.3) | 5 (16.7) |  |

aAll responses were dichotomized prior to conducting the chi-squared test; bPerceived susceptibility measure; cPerceived severity measure; dPerceived benefit measure

**Supplementary Table 2.** Sensitivity analysis excluding 15 children vaccinated prior to the intervention,a generalized estimating equations (GEE) models for evaluating the impact of the comic book on adolescents’ HPV and HPV vaccine knowledge/beliefs, barriers to HPV vaccination, relevant social norms/influences, communication with parents about vaccination, willingness to be vaccinated, and vaccination intentions (N=121).

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Construct | Mean (%) and the standard deviation of the proportion of correct/positive answers | | Unadjusted RR (95% CI) | P-value | Adjusted RRb (95% CI) | P-value |
| **Pre-survey** | **Post-survey** |
| HPV knowledge / beliefs (5 questions) | 44.1 (4.4) | 83.4 (3.0) | 1.89 (1.54- 2.32) | <0.001 | 1.87 (1.53-2.29) | < 0.001 |
| HPV vaccine knowledge / beliefs (6 questions) | 41.7 (3.7) | 73.9 (2.9) | 1.77 (1.47-2.14) | <0.001 | 1.75 (1.45-2.10) | <0.001 |
| Social norms / influence (2 questions) | 35.7 (4.4) | 69.8 (4.2) | 1.96 (1.50-2.55) | <0.001 | 1.90 (1.45-2.48) | <0.001 |
| Barriers (2 question) | 27.6 (4.5) | 34.9 (4.5) | 1.27 (0.85-1.89) | 0.251 | 1.30 (0.89-1.91) | 0.173 |
| Communication (1 question) | 56.9 (6.6) | 88.9 (4.0) | 1.56 (1.23-1.99) | <0.001 | 1.55 (1.22-1.97) | <0.001 |
| Willingness (1 question) | 39.7 (6.5) | 81.0 (5.0) | 2.04 (1.45-2.87) | <0.001 | 1.98 (1.41-2.78) | <0.001 |
| Intention (1 question) | 32.8 (6.2) | 84.1 (4.6) | 2.57 (1.75-3.78) | <0.001 | 2.42 (1.66-3.52) | <0.001 |

a This was defined as ≥1 dose recorded in the Washington State Immunization Information System with a date prior to the dinner date.

b Adjusted for age, gender, mother’s primary language