

# Perception of Japanese Physicians about Human Papillomavirus Vaccine

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## Introduction

Current vaccination coverage of Human Papillomavirus vaccine (HPV) in Japan is less than 1% because the Japanese government suspended its proactive recommendations for HPV in 2013 after some reports of possible adverse events following immunization. Physician recommendation is presumed to be one of the most important contributors to improved HPV vaccination coverage. We evaluated perceptions about and recommendation behavior for HPV to inform appropriate interventions to improve HPV coverage in Japan.

## Study Population and Methods

We conducted a cross-sectional study among Japanese physicians in Kawasaki city, one of the largest cities located in the suburbs of Tokyo, Japan between October-November 2016 using survey methodology.

- Questionnaire sent by postal mail to 330 physicians in specialties who provide adolescent vaccines (78 pediatricians, 225 internists and 27 obstetricians-gynecologists (OB-GYNs)) and who were registered in the immunization cooperative healthcare facility in Kawasaki city.
- Survey items targeted HPV and diphtheria tetanus toxoid (DT) which are recommended for adolescents as a routine vaccine under National Immunization Programs (NIP) and inactivated influenza vaccine (IIV), a voluntary vaccine.
- Survey domains included education frequency, physicians' perception of adolescent vaccines and frequency of vaccine recommendation.
- Estimated parameters were considered significant if their associated *p* values were  $\leq 0.05$ .

Figure 1. Enrollment

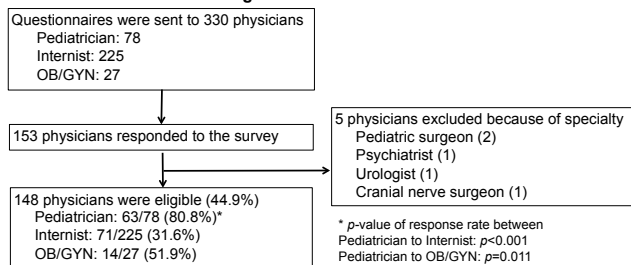


Table 1. Baseline Characteristics

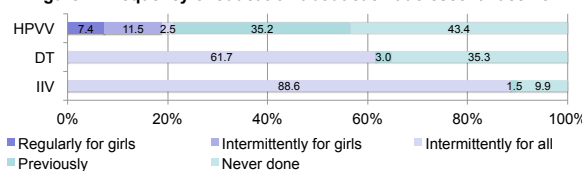
Numbers of eligible physicians	148
Age, median years (IQR)	55 (47-62)
Gender, male, N (%)	116 (78.4)
Specialties, N(%)	
Pediatrician	63 (42.6)
Internist	71 (48.0)
OB/GYN	14 (9.4)
Career as physician, median years (IQR)	30 (20-36)
Affiliation, N(%)	
Clinic	123 (83.1)
Hospital	25 (16.9)

## Results

- Only 21.4% of physicians educated aggressively about HPV, which was significantly less frequently than DT (61.7%) and IIV (88.6%). (Figure 2)
- Similarly, 53.0% of physicians recommended HPV aggressively, which was significantly less frequently than DT (83.1%) and IIV (80.3%). (Figure 3)
- Regardless of specialty, very few (8.0%) physicians provided HPV during the past month. (Figure 4)
- We found no significant differences in the frequency of HPV education or recommendation by pediatricians, internists and OB/GYNs (22.4% vs 17.0% vs 35.7% and 54.8% vs 47.9% vs 71.4%, respectively). (Figure 5, 6)
- However, 90.0% of physicians answered that if Japanese government were to reinstate its HPV recommendation, they would more aggressively recommend HPV for adolescents. (Figure 7)

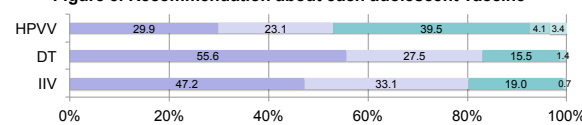
### Analysis by vaccine type

Figure 2. Frequency of education about each adolescent vaccine



Comparison of education frequency (regularly and intermittently)  
Between HPV to DT:  $p < 0.001$ , HPV to IIV:  $p < 0.001$ , DT to IIV:  $p < 0.001$

Figure 3. Recommendation about each adolescent vaccine



Comparison of positive attitude (strongly and somewhat agree)  
Between HPV to DT:  $p < 0.001$ , HPV to IIV:  $p < 0.001$

### Analysis by physicians' specialty

Figure 4. Total number of HPV inoculations for patients during the last month by each physician

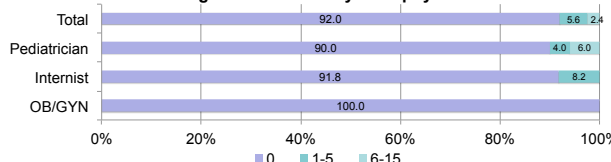


Figure 5. Frequency of education about HPV

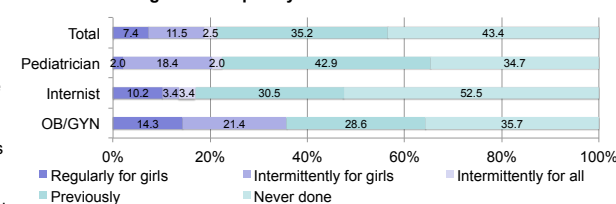


Figure 6. Recommendation about HPV

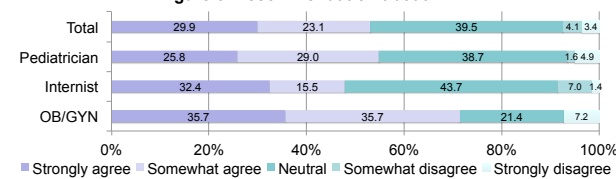
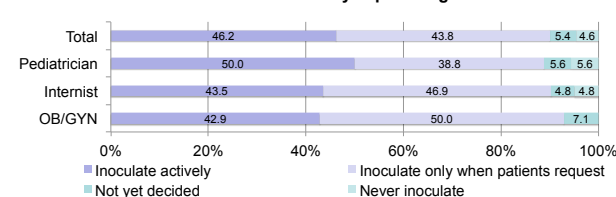


Figure 7. Intended vaccination behavior if resumption of proactive recommendations for HPV by Japanese government



## Conclusions

- Japanese physicians, regardless of specialty, infrequently provided education or made a recommendation for HPV compared with other adolescent vaccines.
- The reason that few HPV inoculations were provided by Japanese physicians even though the majority have a positive attitude toward HPV is presumed to be due to lack of clear government policy.
- Our study results suggest HPV coverage could be improved by the government resuming its proactive recommendation in Japan.