Vaccination Coverage Uptake and Awareness Among Public Health Students in a University in Ontario

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Introduction

Within the field of public health vaccinations are one of the greatest achievements in contributing to the decline of mortality and morbidity of some infectious disease [1]. Currently there is growing concern over the spread of vaccine preventable disease (VPD) due to vaccine hesitancy[2]. In the past few years, several outbreaks of VPD have been reported across North America[3]. Toronto Public Health has reported an increase in VPDs and a need to better understand and combat vaccine hesitancy, and increase vaccine uptake[4]. Under-immunization for VPDs has been reported as common for Canadian adults[4].

Objective

The objective of the pilot study was to determine vaccine coverage for publicly available vaccines among adult respondents currently enrolled in an occupational and public health University degree and to determine reasons for receiving or not receiving the most recent 2018/2019 influenza vaccine.

Methods

Study Design

Cross-sectional using a web-based survey. Questions were designed using the Public Health Agency of Canada's Adult National Immunization Coverage Survey (2016)[5] and the Seasonal Influenza Vaccine Coverage in Canada (2016)[6] as a guide.

Sampling Population

Students currently enrolled in the School of Occupational and Public Health in either the Occupational or Public Health stream.

Analysis

Descriptive analysis was conducted with Microsoft Excel version 16.23.

Results

Study Population

The total number of completed surveys was (N=52).
The response rate was 6.6% (785 students).

- 79.0% were female
- 19.0% were male
- 2.0% reported as other
- median age range of 20 – 22.
- 60% were born in Canada.

The breakdown of the students within the program

- 11.5% in the four year occupational health stream
- 48.0% in the four year public health stream
- 5.7% in the two year occupational fast track stream
- 34.6% in the two year public health fast track stream

Figure 1. Self Reported Vaccination Coverage, (N=52)

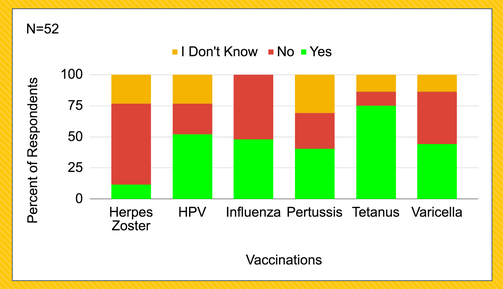

Figure 2. Where the Influenza Vaccine was Received (N=25)

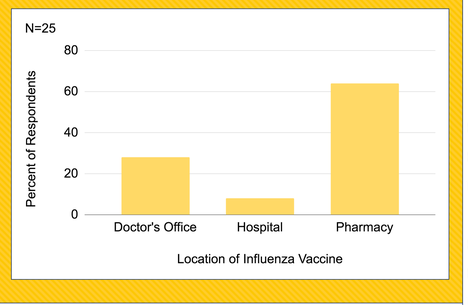

Table 1. Reasons Why Respondents Received Influenza Vaccination (N=25) *Respondents Could Answer Multiple Reasons

Reasons Why	Total (N=25%)
Receive the Vaccine Yearly	14 (56)
Recommended by a Health Care Professional	3 (12)
To Prevent Infection/Didn't Want to get Sick	15 (60)
Required by Workplace	5 (20)
To Protect Others from Getting Sick	13 (52)
At Risk Because of Health Condition	3 (12)

Table 2. Reasons Why Respondents Did Not Received Influenza Vaccination (N=27) *Respondents Could Answer Multiple Reasons

Reasons Why	Total (N=27%)
I Don't Think I Need It	10 (37.04)
I Am Not At High Risk	3 (11.11)
I Do Not Believe in the Vaccines Effectiveness	5 (18.52)
I Do Not Believe in the Vaccine's Safety	3 (11.11)
I Do Not Have the Time	9 (33.33)
Other	10 (37.04)

Table 3. Self Reported Vaccine Coverage Versus Up To Date Coverage Including Influenza

Up to Date *	Yes (N=%)	No (N=%)	Total (%)
Self Reported Yes	7 (13)	26 (50)	33 (63)
Self Reported No	0 (0)	19 (37)	19 (37)
Total	7 (13)	45 (87)	52 (100)

Table 4. Self Reported Vaccine Coverage Versus Up To Date Coverage Excluding Influenza

Up to Date *	Yes (N=%)	No (N=%)	Total (%)
Self Reported Yes	9 (17)	24 (46)	33 (63)
Self Reported No	4 (8)	15 (29)	19 (37)
Total	13 (25)	39 (75)	52 (100)

Discussion

The results show the majority of respondents are not up to date for Pertussis and Varicella vaccines. Herpes Zoster is not generally recommended for this target population (>50).

In comparison with the Public Health Agency of Canada's Adult National Immunization Coverage Survey (2016) (N=10%), the Seasonal Influenza Vaccine Coverage in Canada (2016) (N=23.7%) and the pilot study (N=6.6%) all response rates are low[5,6]. Tetanus (N=75.0%) and Varicella (N=44.2%) were similar to or above the reported received rate (N=50.0%) in the Adult National Immunization Coverage Survey (2016)[5].

However, Pertussis had a higher received response rate in the pilot study (N=40.4%) than the Adult National Immunization Coverage Survey (2016) (N=9.7%)[5].The Human Papillomavirus vaccination in the pilot study received response (N=51.9%) while the Adult National Immunization Coverage Survey's (2016) received response (N=75.0%)[5].

For those who received the influenza vaccines, the majority received the vaccine at the pharmacy (N=64.0%) followed by a doctor's office (N=28.0%). The main reasons for receiving the influenza vaccine were to prevent infection/didn't want to get sick (N=60.0%) and they receive the vaccine yearly (N=56.0%). The main reasons respondents did not receive the influenza vaccine was because they didn't think they needed it (N=37.0%) and other (N=37.0%) with comments on laziness, already having caught the flu for the season or having perfect hygiene.

Although 94% of respondents reported their belief in the benefits of vaccines the majority of respondents are not actually up to date on their recommendation vaccination schedule. The belief of being fully vaccinated when respondents are not occurred in a sample population where awareness on vaccination coverage would be expected.

Recommendations

The results of the pilot study show under-coverage yet respondents believe being full immunized. Development of education materials and campaigns including the use of social media on the Ontario vaccination schedule for adults to have a better understanding of immunization coverage is necessary.

For the influenza vaccine time was a part of the reason adults do not receive the vaccine, clinics on campus and at work may make the vaccine more easily accessible.

As there is no adult vaccine registry public health officials need to ensure that adults are more aware of recommended vaccine schedule and keep accurate documentation[4].

In terms of further research a study involving more respondents university wide and over two influenza seasons would be of interest.

References

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