Vaccine Perceptions Among College Students

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Background

The purpose of this study is to examine the perceptions and attitudes towards vaccines among college students. This is important because vaccination rates have decreased in today's society, thus leading to disease outbreaks. There are many examples of disease outbreaks caused by lack of vaccination.

For example, five college campuses have reported serogroup B meningococcal cases from 2013 to 2016. There have been 26 cases of serogroup B meningococcal, resulting in one patient having both of their feet amputated and another dying. Others have experienced neurological effects such as memory loss.[1]

Due to the current anti-vaccination movement, pertussis outbreaks are also on the rise. The amount of reported cases of pertussis have increased drastically from the 1990s.[2] In the 1990s, there were about 5,000 cases of pertussis. In 2015, there were about 12,000 cases with a peak in 2013 of about 50,000 cases.[2] These outbreaks were all avoidable due to the preventative measures that could have been provided by vaccines.

Previous studies have concluded that a doctor's recommendation is important for students to decide to accept a vaccine.[3] Additionally, major reasons for lack of vaccination include costs, perceptions of vaccines not being efficacious, and the potential for side effects.[4]

The significance of this study demonstrates that by assessing the perceptions and attitudes of college students, we can examine whether more education about vaccines should be given to the students with the goal of better understanding, and ultimately improved vaccination rates.

Baseline Characteristics

Highest Certificate, Diploma, or Degree that was Completed		College in which Participant's Major Falls Under		Current GPA	
Less than high school diploma or its equivalent	0% (0)	College of Business	9.5% (24)	0.0-1.99	0% (0)
High school diploma or a high school equivalency certificate	68.0% (170)	College of Education	0.4% (1)	2.0-2.49	0.4% (1)
Trade certificate or diploma	0% (0)	College of Health Professions	30.6% (77)	2.5-2.99	6.7% (17)
Associate's degree	2.4% (6)	College of Liberal Arts	0.4% (1)	3.0-3.49	32.9% (83)
Bachelor's degree (e.g. B.A., B.Sc.,LL.B.)	26.4% (66)	College of Pharmacy	51.2% (129)	3.5-4.00	59.9% (151)
University certificate, diploma, degree above the bachelor's level	3.2% (8)	College of Sciences	7.9% (20)		

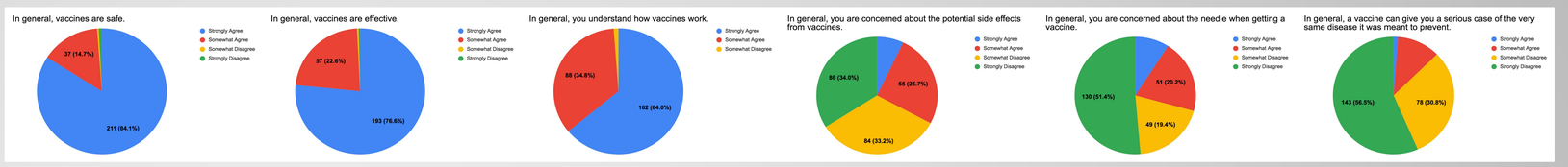
Gender		Age		Current Academic Year	
Female	75.4% (190)	18	3.6% (9)	Freshman	6.0% (15)
Male	24.6% (62)	19	13.4% (34)	Sophomore	13.1% (33)
		20	9.5% (24)	Junior	14.7% (37)
		21	17.0% (43)	Senior	25.4% (64)
		22	16.2% (41)	Graduate	40.9% (103)
		23	14.2% (36)		
		24	9.9% (25)		
		25	2.0% (5)		
		Over 25	14.2% (36)		

Most survey participants were female (75.4%). The age of the participants varied from 18 to over 25 with over 30% of responses being ages 21 or 22. 68% of participants have a high school diploma or the equivalent. Over 60% of participants were senior and graduate students. 51% of students were in the college of pharmacy and 30% were in the college of health professions. Over 80% of students had over a 3.0 GPA. See tables for complete demographics.

Methods

The survey was derived from the 2013 Childhood National Immunization Coverage Survey completed in Canada.[5] The survey questions were adjusted to be applicable to college aged students to gauge their perceptions, knowledge, and attitudes towards vaccination. The survey was distributed to all University of Findlay students via a google form. To ensure the survey reached all students enrolled at the University of Findlay, the participant link was sent to the Deans of the Colleges of Business, Education, Pharmacy, Liberal Arts, and Sciences via email. The Deans then forwarded the email with the link to their faculty who forwarded it to their advisees. For the College of Pharmacy, the link was sent out via email directly to all students. The University of Findlay Institutional Review Board approved this study and no funding was necessary. Inclusion criteria included students aged 18 and older enrolled in the University of Findlay. Exclusion criteria included anyone under the age of 18 or not enrolled in the University of Findlay.

Results



Objectives

- Collect data based on vaccine perceptions among college students.
- Examine the perceptions and attitudes towards vaccines among college students.

Discussion

This survey was used to gauge the perceptions, knowledge, and attitudes towards vaccination among students at the University of Findlay to determine whether more vaccination education was needed. From the results, we found that 12.3% of participants felt they did not know enough information about vaccines, therefore contributing to the need for further education.

Previous studies found "the top three reasons for vaccine hesitancy reported were beliefs, attitudes, and motivation about health and prevention".[6] To further evaluate the beliefs, attitudes, and perceptions of vaccines, our study utilized questions to target this barrier. In our study, 98.8% of respondents agreed or strongly agreed that vaccines were effective. The majority of respondents were pharmacy or healthcare professional students (81.8%), thus, this is not an adequate representation of the population. Previous studies also found that "major issues were fear of side effects of vaccination and distrust in the vaccine, lack of perceived risk of vaccine-preventable diseases, and the influence of anti-vaccination reports in the media".[6] Our results found 32.8% of students surveyed were concerned about the potential side effects from vaccines. Our study also found that 12.7% of students believe that a vaccine can give you a serious case of the very same disease it was meant to prevent. When asked if it is important to vaccinate against an eradicated disease (such as polio), 4% of students responded that they do not feel it is important. These results also refute what previous studies found, which could be due to the majority of respondents who participated in this study (81.8% pharmacy and health professional students).

Strengths of this study included that all University of Findlay students were given the opportunity to complete the survey to evaluate multiple facets of immunization ideals. Limitations of this study included a limited response rate (7.2%), limited responses from UF's College of Education and Liberal Arts programs, and response bias. Additionally, this study demonstrated low external validity, given only one university's responses were analyzed. Further studies could be completed on larger campuses to increase external validity. Another future study could analyze immunization attitudes and beliefs before and after immunization training.

Total Enrolled in the University of Findlay as of Spring 2019: N = 3,522					
College of Business	College of Education	College of Health Professions	College of Pharmacy	College of Liberal Arts	College of Sciences
605	466	890	360	296	949
Total Survey Responses = 253 (Response Rate = 7.2%)					
24	1	77	129	1	20

Conclusion

In conclusion, we believe the results of this study warrants the need to further evaluate immunization education among college students. 12.3% of students responded that they do not feel they know enough information about vaccines and vaccination. 48% of those students were pharmacy majors, and 35% were health professions majors. 58.7% of students responded that they would ask their health care provider for vaccine information, and 13.9% of students would go to their pharmacy for information. Healthcare related majors are most likely to be asked questions about vaccine information, but do not feel that they know enough information about vaccines.

References

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