



INTERNATIONAL JOURNAL OF ACADEMIC RESEARCH IN BUSINESS & SOCIAL SCIENCES



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To Link this Article: <http://dx.doi.org/10.6007/IJARBSS/v12-i12/15833> DOI:10.6007/IJARBSS/v12-i12/15833

Received: 12 October 2022, Revised: 14 November 2022, Accepted: 29 November 2022

Published Online: 18 December 2022

In-Text Citation: (Osman et al., 2022)

To Cite this Article: Osman, R., Ridzuan, M. R., Rahman, N. A. S. A., & Yusof, N. M. (2022). Prevalence of Human Papillomavirus (HPV) Vaccine Interest among Female University Students in Kuantan, Pahang. *International Journal of Academic Research in Business and Social Sciences*, 12(12), 2499 – 2508.

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Vol. 12, No. 12, 2022, Pg. 2499 – 2508

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www.hrmars.com

ISSN: 2222-6990

Prevalence of Human Papillomavirus (HPV) Vaccine Interest among Female University Students in Kuantan, Pahang

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Abstract

The government of Malaysia has developed and executed several initiatives, including vaccination, to reduce the number of cervical cancer cases, which is the second most common malignancy among Malaysian women (after breast cancer). Although the Human Papillomavirus (HPV) vaccine has been available for some time, uptake among college-aged women is still dismal. An uptick in HPV awareness among university students is promising since it may play a role in educating the entire population. This study set out to examine factors associated with HPV vaccination intention among female university students in Kuantan, Pahang which simultaneously the respondents in this quantitative study are them. Among female university students in Kuantan, Pahang, this study indicates that all of the independent variables (attitude, subjective norms, perceived behavior control, and anticipated regret) were substantially associated with HPV vaccination intention.

Keywords: Female University Students, Human Papillomavirus (HPV), HPV Vaccination, Theory of Planned Behavior, Vaccination.

Introduction

Infection with the Human Papillomavirus (HPV) is a prerequisite for the progression of cervical cancer, and HPV infection is widespread due to its importance in sexually transmitted diseases (Montgomery & Smith-Glasgow, 2012). In addition, one of the leading killers of women is cervical cancer (Arbyn et al., 2020). In 2020, cervical cancer was projected to become the fourth most often diagnosed cancer and the fourth major cause of cancer-related mortality in women, with an uneven global distribution of its burden (Zhang et al., 2021). Shockingly in 2020, it was expected that there will be 604,000 new instances of cervical cancer worldwide, leading to 342,000 deaths (Sung et al., 2021).

The HPV vaccine is the most widely used immunization against several female cancers, including cervical cancer. Vaccination against human papillomavirus is crucial in stopping the

spread of cancer in women. The HPV vaccine helps prevent genital warts and several forms of cancer. People who did not get the HPV vaccine are at a much higher risk of developing malignancies of the head and neck, genitourinary system, and cervix. The HPV vaccine has been heralded as a potentially game-changing key approach for reducing and eventually eliminating HPV infections (Andre et al., 2008). In fact, the HPV vaccine is more effective when given at a younger age. Yet, cancer has emerged as the most significant threat to women's health, but the HPV vaccine can inoculate the body against any disease (Brewer et al., 2017).

However, Abdul Rahman et al (2019) noted that most female Malaysian university students were never vaccinated against HPV more than five years ago due to a lack of parental encouragement and knowledge. Abdul Rahman et al (2019) conducted a study in Kuantan and discovered that most respondents had not been vaccinated against HPV in the preceding five years. The assessment of HPV knowledge and attitude toward HPV vaccination among female university students, according to Sallam et al (2021), can be useful to enhance teaching programs in the country. Given that university students may play a role in educating the general public, it is encouraging to see an increase in HPV awareness among this demographic. Therefore, the purpose of this study was to identify what influences female university students in Kuantan, Pahang to decide in getting the HPV vaccine.

Literature Review

Attitudes and HPV Vaccination Intention

The term "attitude" is used to describe a person's overall impression of the behavior in question, whether that impression is positive or negative (Ajzen, 1991). Individuals' attitudes are reflected in their most pronounced beliefs regarding the action. Vaccine attitudes are created by a combination of affective and cognitive factors, as stated by Xiao (2019). According to Ogilvie et al (2017), attitudes were the reliable predictor of whether or not college women planned to receive the HPV vaccine (Ogilvie et al., 2007). Feelings (affective) and thoughts (cognitive) about a vaccine's value, as well as one's reaction to becoming vaccinated, can both influence one's decision to get the shot (Xiao, 2019). On a different note, there has been a great concern among the researchers about the public's negative reaction to vaccines due to false beliefs about their safety (Kang & Moneyham, 2010; Xiao, 2019).

H1. There is a relationship between attitude and HPV vaccination intention

Subjective Norms and HPV Vaccination Intention

Subjective norms refer to the perceived social pressure to perform or not perform the behavior (Ajzen, 1991, p. 188). The Theory of Planned Behavior (TPB) is used to examine the influence of significant persons (such as friends, family, health care providers, and community leaders) on the vaccination behavior of members of society. According to a research was done by Johnson & Ogletree (2017), the endorsement of a vaccine by influential members of society (such as parents, doctors, religious leaders, and celebrities) has a beneficial effect on vaccination rates.

How their friends, boyfriends, and roommates conduct themselves in terms of safety is something that most college-aged women learn about (Kahn, 2005). When it comes to their self-worth, most college-aged women place their trust in the opinions of their peers. They anticipate the opinion of their peers on the vaccine they are required to take. In general, college-aged women trust the advice of their peers more than that of their parents, but when it comes to matters of health, the opposite is true (Constantine & Jerman, 2007; Downs, et al., 2008). Furthermore, university students, mothers, and sisters all benefit greatly from the

perspective of a parent or sibling when it comes to decisions about the HPV vaccine. In addition, if they are considering getting the HPV vaccine, they must listen to their doctor's advice.

H2: There is a relationship between subjective norms and HPV vaccination intention

Perceived Behavioral Control and HPV Vaccination Intention

Perceived Behavioral Control (PBC) is the degree to which an individual believes that carrying out the behavior will be easy or challenging, taking into account both their actual past experiences and their expectations of what they would face (Ajzen, 1991). Behavior's perceived difficulty and the presence or absence of potential barriers are explained by PBC (Britt & Englebert, 2018). The availability of resources and opportunities influences an individual's capacity to engage in a behavior. The likelihood of a person's behavioral achievement must be determined, at least in part, by their access to resources and opportunities. For the HPV vaccine, PBC's impact on vaccination uptake will be determined by the ease with which the intended audience can engage in the desired behavior. Thus, support services, communications, and resources were thought to assist market vaccines (Twum et al., 2021).

Behavioral beliefs, often called "perceived behavioral control," are a person's underlying assumptions about which behaviors are most likely to produce the desired consequences. Beliefs about the normative expectations of others, as well as the drive to conform to those standards, have a role in determining whether or not university women in Kuantan plan to obtain the HPV vaccine. Intention to get the HPV vaccine is related to young women's perceptions of their behavioral control, according to a research was done by (Juraskova et al., 2011). This intention is in turn related to doctors' recommendations, which inform the young women of the vaccine's benefits and some obstacles, such as cost and perceived susceptibility.

H3: There is a relationship perceive behavior control and HPV vaccination intention

Anticipated Regret and HPV Vaccination Intention

When people realize or imagine that their current position might have been better if they had made a different decision, they experience regret, an unpleasant cognitive feeling. When a person considers an alternative to a habit or action, they may experience unpleasant emotions, such as regret, if they decide against it. Expectations of regret after making a decision and seeing its consequences change as we gain life experience (Baumeister et al., 2007). The concept of "anticipated regret" proposes that people take measures to mitigate the guilt-related regret they anticipate feeling. It also tells university students that if they did not take the HPV vaccine, they might feel insecure and feel unsafe because they have been exposed to another disease which is cancer.

Williams et al (2010) discovered that for young college women, regret had a significant factor in their decision to get the HPV vaccine. In addition, other studies showed that people can feel regret either before or after making choices associated with cancer. Not only that, but regretful people tend to use coping mechanisms. One system for organizing these approaches suggests splitting them into three groups: cognitive, action-oriented, and social. Regret-related thoughts can be suppressed as part of a cognitive strategy. Strategies with a focus on taking action try to head off potential problems. One social tactic is to look to others for a sympathetic ear or helpful assistance.

H4: There is a relationship between anticipated regret and HPV vaccination intention

Research Methodology

In this descriptive cross-sectional study, perspectives on HPV vaccination were surveyed among female university students in Kuantan, Pahang. The respondents in this study are 154 women whom attending university in Kuantan, Pahang, Malaysia. Google Documents were used to disseminate the questions to the respondents. There are six distinct parts to the questionnaire, labeled A, B, C, D, E, and F, respectively. All of these questions are intended to be answered on a scale from 1 (strongly disagree) to 5 (Strongly agree). The sections are labeled A (a respondent demographic profile), B (a respondent's HPV vaccination intentions), C (attitudes), D (subjective norms), E (perceived behavioral control), and F (anticipated regret). SPSS version 26 was used to analyze all of the data. Descriptive research was used to examine the demographic profile of the respondents, and Pearson correlation analysis was used to examine whether to accept the hypothesis of the study.

Findings

Demographic Profile of the Respondents

Detailed respondent information is provided in Table 1. Female university students in Kuantan, aged 20 and above, were selected at random to ensure the data was representative of the population. A total of 154 women took the time to fill out the questionnaire. Twenty-six people between the ages of 26 and 30 make up the largest demographic (36.7 percent). In contrast, only 19 people between the ages of 36 and 40 offered their input (12.3 percent).

The table also reveals that Malays make up the vast majority of survey respondents (91.6%), with the next largest groups are Chinese (9 respondents) and Indians (4 respondents). There are three tiers of schooling: the SPM level, the STPM level, and the Certificate or Diploma level. Among the 78 participants who filled out the survey, 50.6% came from respondents who have certificate or diploma level of education; 31.2% came from those with STPM level of education, and the remaining 8.4% came from those with SPM level of education (18.2 percent).

Table 1

Profile of Respondents

Items	N: 154 Frequency	Percentage
Age		
20 - 25 Years Old	53	34.4
26 - 30 Years Old	56	36.4
31 - 35 Years Old	26	16.9
36 – 40 Years Old	19	12.3
Races		
Malays	141	91.6
Chinese	9	5.8
Indian	4	2.6
Educational Background		
SPM	28	18.2
STPM	48	31.2
Certificate / Diploma	78	50.6

Pearson Correlational Analysis

In this investigation, Pearson's r for the correlation between intention and attitude is 0.707. Because Pearson's r is between 0.70 and 0.90, the link between attitude and intention to acquire the HPV vaccine is regarded as high or strong. Furthermore, subjective norms perceived behavior control, and anticipated regrets were shown to be modestly associated, with r values ranging from 0.41 to 0.70. As a result, all of the study's independent factors (attitude, subjective norms, perceived behavior control, and anticipated regrets) were found to be connected with female university students in Kuantan, Pahang's intention to receive HPV vaccines.

- a) [r = 0.707, n = 154, p = 0.000]
- b) [r = 0.589, n = 154, p = 0.000]
- c) [r = 0.581, n = 154, p = 0.000]
- d) [r = 0.525, n = 154, p = 0.000]

Table 2
Correlation Results

		Intention to get an HPV vaccine
Attitude	Pearson Correlation	.707**
	Sig.	.000
	N	154
Subjective Norms	Pearson Correlation	.589**
	Sig.	.000
	N	154
Perceive Behavior Control	Pearson Correlation	.581**
	Sig.	.000
	N	154
Anticipated regret	Pearson Correlation	.525**
	Sig.	.000
	N	.525**

Discussion

This study discovered a significant association between attitude and intention to receive the HPV vaccine among female university students in Kuantan, Pahang which it is consistent with the findings of (Ogilvie et al., 2007). Their research discovered that attitudes were the most powerful factor influencing mothers' intentions to ask their daughters to vaccinate, particularly moms in rural areas. They believe that the HPV vaccine is very useful to their daughters and that vaccinating their children is vital.

Subjective norms were also found to be connected to the intention to acquire the HPV vaccine. Female university students are typically impacted by their colleagues or housemates, according to (Rouner & Lindsey, 2006). This is due to they stay and sit with them 24 hours a day in the hostel, thus, these people are close to them. As a result, they are more likely to inform their roommates or friends about the benefits of getting the HPV vaccine. By acting as validity signals, these personal as well as peer descriptive and injunctive norms impact college women's HPV vaccine attitudes and practices (Allen et al., 2009; Kahn et al., 2003; Kahn et al., 2008; Ogilvie et al., 2007). Furthermore, a medical practitioner with medical experience can persuade female university students to get vaccinated. Most women visit their doctor before registering for university because most university women need to get a comprehensive medical check-up before attending the learning institution. Hence, it is critical for friends, parents, doctors, and medical experts to participate in raising awareness of the HPV vaccine among female university students.

Furthermore, this study discovered a substantial association between perceived behavior control and intention to receive the HPV vaccine. Damiano et al. (2007) discovered in their study that mothers reported having a high level of perceived behavioral control when it came to vaccinating their daughters. They believed that vaccinating their daughters is simple and that they can influence whether or not their daughters receive the vaccine. Vaccinating their girls may be simple and feasible for them because most healthcare centers or clinics have prepared this vaccine to be administered at their location. Furthermore, the

expense of receiving the HPV vaccine was not viewed as a barrier because the government offered it for free.

This study also found that there is a significant relationship between anticipated regret and the intention to receive the HPV vaccine. Referring to a previous study risk perception could be one of the factors that encourage women to feel regret if they did not take the HPV vaccine as one of the treatments to avoid cervical cancer or genital warts (Natoshia et al., 2010). The role of emotions, specifically anticipated regret, also has been considered concerning adults' willingness to receive the HPV vaccine (Gilbert et al., 2011).

Conclusion

The HPV vaccine should be made more widely known to reach more women. The Ministry of Health should be concerned about this vaccine and provide people with a lot of information about the adverse effects and the necessity of having the HPV vaccine in their lives, especially women. Future studies should uncover not just psychological but also social and community hurdles to receive the HPV vaccine. Furthermore, future researchers could access other characteristics such as the health locus of control and paranormal health beliefs, as well as the women's attitude, involvement, and intention in seeking traditional and other alternative medicine. Looking ahead to another independent variable, future researches could provide more correct responses for the next study on the intention of university women in Kuantan, Pahang to receive the HPV vaccine.

Furthermore, future researchers should target a larger population to answer the questionnaire, as well as individuals who are knowledgeable about the HPV vaccine or have had prior vaccination experience. This ensures that the data and answers are correct. Future researchers should also focus on married women because the majority of them have prior experience receiving the HPV vaccine, which may ensure that the study is more successful and accurate than others. It is because for the current study, the majority of respondents are single and have not been exposed to HPV vaccine knowledge. Furthermore, the researchers should give a greater attention to the respondents who are familiar with HPV in order to gain a better understanding of the vaccination.

The study's conclusions should be interpreted in light of its limitations. For starters, since this was a cross-sectional study, causality cannot be deduced. Second, because the study relied on self-reported data, personal impressions may have been exaggerated, even though self-reporting is a cost-effective and practical approach to acquiring data from large population samples. Third, the survey sample consisted solely of university students. Since these students have a higher degree of education and are more knowledgeable, the findings cannot be generalized to the entire female population. The outcomes of this study have immediate policy and practice consequences. Policymakers and practitioners must figure out the best strategy to encourage female university students to get the HPV shot.

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