



Level of behavior and knowledge concerning human papillomavirus among university students of a nursing college

Nível do comportamento e conhecimento sobre o papilomavírus humano entre universitários do curso de enfermagem

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ABSTRACT

Introduction: Human papillomavirus is one of the most common sexually transmitted diseases, and persistent HPV infection is considered the most important cause of cervical cancer. It is detected in more than 98% of this type of cancer. This study aimed to determine the level of knowledge concerning human papillomavirus among nursing college students of a private educational institution located in the City of Bauru, SP, and correlate their knowledge according to the course year. **Methods:** A descriptive study with a quantitative approach, performed with a questionnaire that permitted the quantification of data and opinions, thus guaranteeing the precision of the results without distortions in analysis or interpretation. The survey was applied to randomly selected 1st, 2nd, 3rd, and 4th-year nursing college students. Twenty students from each level were selected during August 2009, totaling 80 students of both genders. **Results:** Observation revealed that 4th-year students had greater knowledge than 1st-year students, reflecting the greater period of study, the lack of knowledge of 1st-year students was due to the low level of information acquired before entering college. **Conclusions:** The need for complementary studies which determine the profile and knowledge of a larger number of teenagers in relation to HPV was established. The need for educational programs that can overcome this lack of information is undeniable, especially those aimed at making adolescents less susceptible to HPV and other STDs.

Key-words: Nursing students. HPV. Prevention and diagnosis.

RESUMO

Introdução: O papilomavírus humano é uma das doenças sexualmente transmissíveis mais comum e a infecção persistente pelo HPV é considerada como a mais importante causa de câncer de colo de útero e chega a ser encontrado em mais de 98% deste tipo de câncer. O objetivo deste estudo foi determinar o nível de conhecimento sobre o HPV e correlacionar o ano em que está matriculado com os dados obtidos, entre estudantes do curso de enfermagem de uma instituição educacional privada localizada na Cidade de Bauru, SP. **Métodos:** Estudo descritivo com abordagem quantitativa, realizado através de questionário que permitiu quantificar dado e opiniões garantindo a precisão dos resultados sem distorções de análise e interpretações, a pesquisa foi aplicada nos estudantes do 1^o, 2^o, 3^o e 4^o ano do curso de Enfermagem sendo selecionados de forma aleatória 20 alunos de cada ano, totalizando 80 estudantes de ambos os sexos, no mês de agosto de 2009. **Resultados:** Observou-se que os alunos do 4^o ano apresentaram um conhecimento superior aos alunos do 1^o ano, tendo em vista o maior tempo de estudo, a falta de conhecimento dos alunos do 1^o ano, deve-se ao baixo nível de informação adquirida antes de entrar na faculdade. **Conclusões:** Faz-se necessária realização de estudos adicionais que demonstrem qual perfil e conhecimento de um maior número de adolescentes com relação ao HPV. É indiscutível a necessidade de campanhas educativas que possam suprimir a falta de informação, tornando os jovens menos susceptíveis à infecção pelo HPV e outras DST.

Palavras-chaves: Estudantes de enfermagem. HPV. Prevenção e diagnóstico.

INTRODUCTION

Human papillomavirus (HPV) belongs to the family Papovaviridae and is formed by double-stranded, nonenveloped, circular DNA, with approximately 7,200 to 8,000 base pairs¹. It can lead to a variety of benign, premalignant and malignant lesions in the mucosa and cutaneous tissues¹. Genital HPV infection is one of the most frequent sexually transmitted diseases^{2,3}. In a high prevalence context, infectivity and diagnosis are made by examining the clinical, subclinical and asymptomatic lesions; the dissemination of HPV is universal among the sexually active population, where men are an important means for the proliferation of the virus^{1,4}.

It is estimated that 15 to 40% of the world's population is contaminated with HPV^{5,6}; furthermore, more than 500,000 new cases occur worldwide every year. Among these, 70% occur in developing countries and 90% are associated with spinocellular cancer of the anal canal^{7,8}.

Persistent HPV infection is considered the most important cause of cancer of the uterine cervix and its participation in development of other genital neoplasias has been suggested, including the vulva, penis, anus and oral cavity. It is believed that HPV is involved in 10 to 15% of all human neoplasias^{1,9-13}.

Considering the dimensions of the problem, it is necessary to efficiently contain the outbreak of HPV infection and its sequelae and immunization offers one such opportunity^{5,13-19}. Nowadays, the available vaccines against HPV prevent the types of HVP responsible for 90% of the warts, 70% of the high-grade carcinomas and precancerous lesions and 35 to 50% of the low-grade vulvar lesions^{3,5,19}.

Vaccination has proven to be more effective when administrated before the onset of sexual activity by the individual and vaccination campaigns are now targeted at teenagers and pre-teenagers. We hope that with wide-scale usage of vaccines, 70% of cervical cancers can be prevented, as well as the same proportion of other anogenital diseases associated with HPV infection. However, vaccination against

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HPV is one of the hopes for the future and the vaccination program proposed by the Brazilian government, when it is available, shall be clear, precise and with an educational message not only for those who remain uninformed, but also for health professionals^{3,5,18}.

HPV remains an infection that is rarely discussed within society. A recent study demonstrated the low level of knowledge and wide spread misconceptions regarding STDs, especially HPV. It also revealed that the level of knowledge is still far below that required²⁰.

Given these facts, we considered it important to evaluate the level of knowledge concerning HPV among nursing students of a private educational institution, located in the City of Bauru, SP, Brazil, and correlate the data obtained through the survey with the year in which the students were enrolled.

METHODS

This is a descriptive study with a quantitative approach, which was conducted in a private educational institution in the City of Bauru, State of Sao Paulo, Brazil. This institution offers a nursing course, where the survey was conducted. The survey was applied to randomly selected 1st, 2nd, 3rd, and 4th-year students, 20 students from each year, of both genders, during August 2009. Criteria for exclusion included those under 18 years-old, those who did not agree to participate in the survey, those who were not enrolled in the institution and those who did not fill out the entire survey.

Statistical analysis

The data was analyzed descriptively. The percentual data analysis technique was used and the results were presented as the mean \pm SD. The graphs were structured using the Microsoft Excel program and the tables were structured using the Microsoft Word program.

Ethical

The research project was submitted to and approved by the Anhanguera College Research Ethics Committee. All the participants of the survey signed a term of free, informed consent regarding their participation in the research.

RESULTS

The participants of this research were basically composed of female students, who represented 90% (72 students) of the total, with men consisting of 10% (8 students). The students' mean age was 27.8 years-old.

With the intention of evaluating the level of knowledge of the students concerning HPV, some questions were asked regarding the definition, consequences, prevention, susceptibility, symptoms and diagnosis of HPV.

Figure 1 presents the students knowledge concerning HPV, where 86% of the interviewees stated knowledge concerning HPV, while 11% had previously heard about HPV and only 3% have never heard about HPV.

The percentage of students with knowledge of HPV was analyzed according to enrollment year: among 2nd and 3rd-year students, 100% of the interviewees stated knowledge of HPV; among 4th-year students, 90% of the interviewees stated such knowledge; and among 1st-year students, it was 55%.

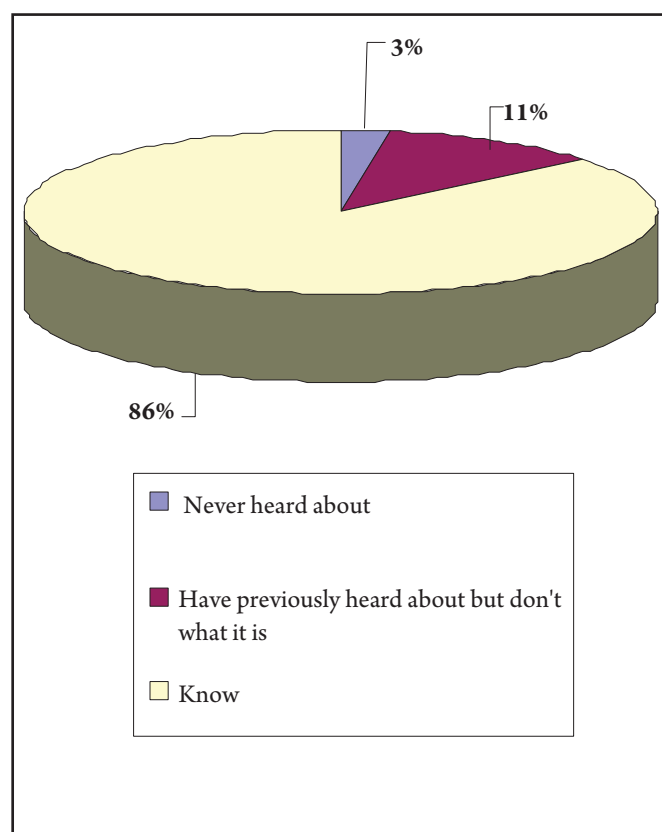


FIGURE 1 - General distribution of knowledge regarding human papilloma virus among the Nursing College students.

Analysis of the results for the question regarding the route of HPV contamination showed that 90% the students answered that it occurred through sexual intercourse, 6% answered through blood transfusion, 2% answered others and 2% did not have an opinion. Moreover, analysis revealed that sexual intercourse was the response of 100% of the 2nd, 3rd, and 4th-year students, while only 78% of 1st-year students responded correctly.

The question regarding situations which could increase the chances of contagious disease revealed that 34% answered sexual intercourse without a condom, 33% answered having multiple sex partners and 10% answered having sexual intercourse at a too young an age. This question permitted more than one answer. Analysis verified that, in relation to the susceptibility of contracting HPV, 37% of 2nd- and 4th-year students considered having multiple sex partners the predominant risk factor, while 33% of 3rd-year students considered early sexual initiation and the lack of using a condom and 34% of 1st-year students considered the lack of using a condom as the predominant risks.

In relation to the question regarding predominance of a sex, 60% of the students considered that both sexes are targeted in the same proportion, 36% stated that only or mainly women are capable of acquiring HPV, 2% answered that only or mainly men are capable of acquiring HPV and 2% had no opinion.

In relation to knowledge regarding the frequency of HPV symptoms, 72% stated that HPV infection is often symptomatic, while 14% stated that it is always symptomatic, 9% stated that it is never symptomatic and 5% had no opinion. Further analysis revealed that 55% of 1st-year students, 85% of 2nd-year and 75% of 3rd- and 4th-year students stated that the HPV infection is sometimes symptomatic.

Figure 2 presents student knowledge concerning the long term effects of HPV, where 86% believe that HPV can cause cervical cancer. One interesting piece of information was that 10% of the students stated that HPV does not have any long term effect.

In relation to the year of enrollment, 80% of 1st-year students, 77% of 2nd-year, 90% of 3rd-year and 95% of 4th-year students believe that HPV can cause cervical cancer.

Figure 3 presents the students' level of knowledge regarding prevention, where 56% stated that the usage of condoms can prevent HPV, another 36% of the interviewees believe that vaccination is the main preventive agent, while 5% of the interviewees believed in other prevention methods, such as the Papanicolaou exam coupled with avoiding more than one sex partner.

The distribution per enrollment year revealed that 68% of 1st-year students, 56% of 2nd-year, 48% of 3rd-year and 61% of 4th-year students mentioned condoms as a preventive agent. Another 24% of 1st-year students, 41% of 2nd year, 41% of 3rd-year and 36% of 4th-year students mentioned vaccination as the main preventive agent.

In relation to HPV diagnosis, 48% of the interviewees stated knowledge of the diagnosis, 44% had previously heard about it, but could not determine diagnosis, while 8% had never heard about it. Among those who stated they had some knowledge of HPV diagnosis, 56% cited the Papanicolaou exam as the main form of diagnosis.

Figure 4 shows that 11% of 1st-year students, 65% of 2nd-year, 52% of 3rd-year and 65% of 4th-year students claimed to know the diagnosis. Those who had previously heard of, but could not describe it included 73% of 1st-year students, 20% of 2nd-year, 48% of 3rd-year and 35% of 4th-year students.

The question regarding predisposition for cervical cancer due to HPV revealed that 92% of the students knew that HPV can cause cervical cancer, while only 8% did not know; 85% of 1st-year students,

95% of 2nd-year, 100% of 3rd-year and 90% of 4th-year answered that the HPV can cause cancer of the uterine cervix.

In relation to the vaccination as a form of HPV prevention, 51% stated they knew of the existence of the vaccine, another 27% of the interviewees stated that they had previously heard about it, but they did not know which vaccine was the correct one, while 22% had never heard about a vaccine. **Figure 5** reveals that 10% of 1st-year students, 69% of 2nd-year, 70% of 3rd-year and 60% of 4th-year students stated that they already knew about the vaccine as a preventive agent.

The interviewees were questioned regarding the number of partners they had had since the onset of their sex lives and 65% stated they had had between 1 and 3 partners since their sexual initiation, 16% between 4 and 6, 11% more than 6 partners and 8% stated they were virgins.

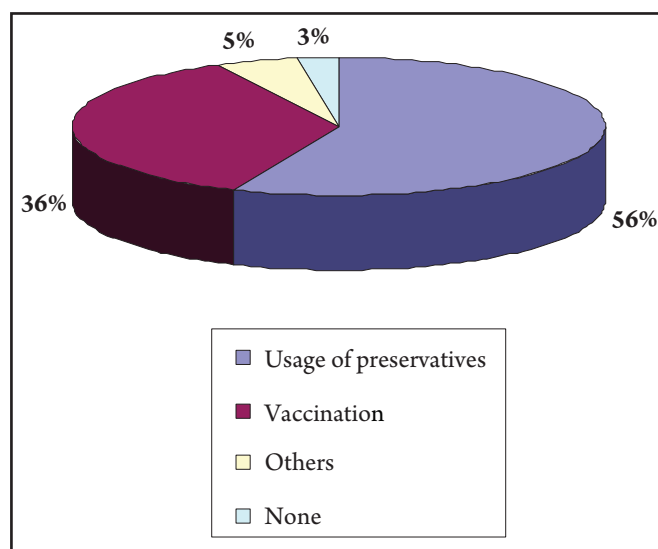


FIGURE 3 - General distribution of knowledge concerning preventive methods for human papilloma virus among the Nursing College students.

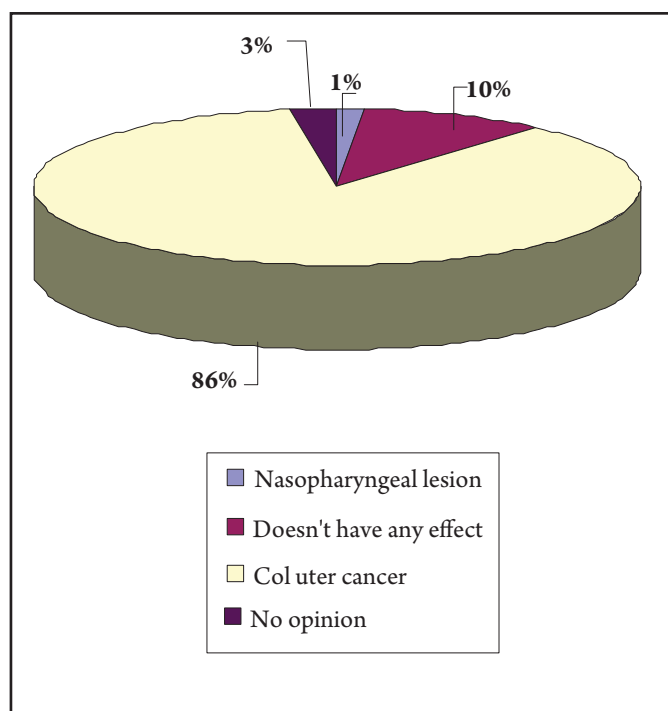


FIGURE 2 - General distribution of knowledge concerning the long term effects of human papilloma virus among the Nursing College students.

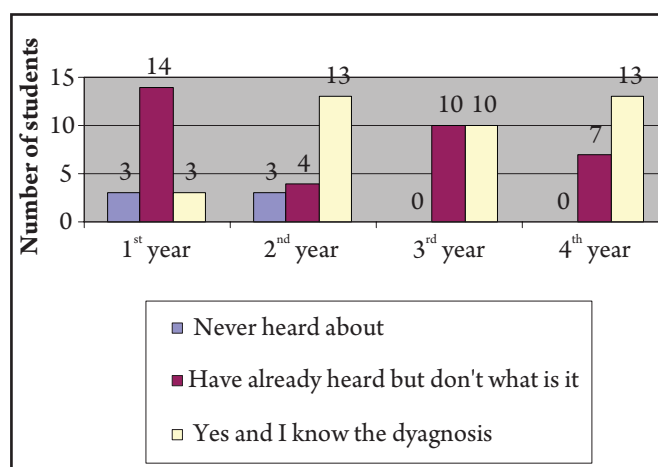


FIGURE 4 - Distribution of knowledge concerning the diagnosis of human papilloma virus among the Nursing College students, according to enrollment year.

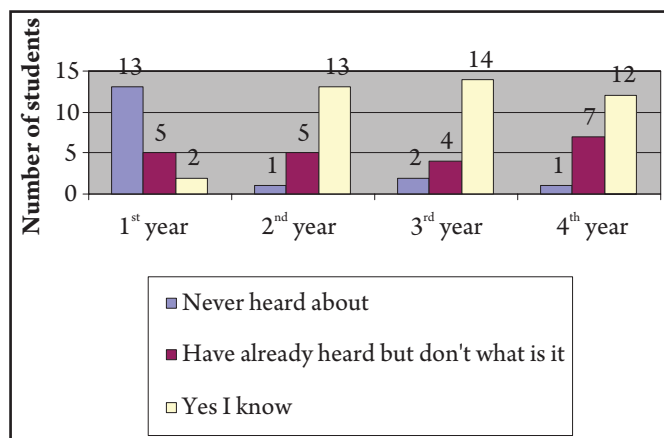


FIGURE 5 - Distribution of knowledge concerning the vaccine as a preventing agent against infection by human papilloma virus (HPV) among the Nursing College students, according to enrollment year.

DISCUSSION

The majority of participants in this study (90%) were women, against 10% of men. This can be explained by the fact that the participants were all from a nursing college, a course in which women are predominant, according to Wetterich *et al*²¹.

This fact is related to the prejudicial image of this profession, prejudice which historically defines Nursing as being a women's profession. According to the authors, the interest among men for this profession apparently shows that conceptions concerning Nursing are going through a series of transformations, leaving behind the idea of a predominantly female profession, although they are still the majority in this area.

The ages of the interviewees ranged from 18 to 51 years-old, with a mean of 27.8 years-old. Since they are students from a private institution and attend the night course, the average age results differ from the data of Peres *et al*²², who highlighted that the majority of university students in Brazil who enroll in higher education are, on average, 20 years-old.

In relation to the level of knowledge of the students concerning HPV, a good overall average of 86% of the students was obtained; however, only 55% of the students in their first year of college stated that they were aware of HPV, 35% said they had heard about it, but did not know what it was, while 10% had never heard about it. The same results were observed concerning the level of knowledge of the contagious characteristics of HPV. 100% of the students enrolled in the college in the 2nd, 3rd and 4th years knew that this disease is acquired through sexual intercourse, against 78% of 1st-year students, leading to the conclusion that part of the students have some knowledge regarding HPV, that this knowledge was probably acquired through other means before college life and that their knowledge tends to increase during the nursing course. Similar data was also verified by Conti *et al*²⁰.

The answers to the question concerning the situations which increase the risk of contracting HPV and which permitted more than one answer, showed a high level of knowledge among the students, since only some of the 1st-year students responded with no opinion, while the other students indicated more than one situation which increases the risk, a fact also considered by Sousa *et al*²³.

Among the interviewees, 60% believed that both sexes are targeted by HPV in the same proportion. Sousa *et al*²³ and Conti *et al*²⁰ reported similar data in their research.

In relation to the symptoms, Conti *et al*²⁰ showed that the majority of the students did not know much about the subject. In this study, 72% stated that the HPV infection is sometimes symptomatic and 85% believe that the HPV can cause cancer of the uterine cervix.

According to Conti *et al*²⁰, in their study the students were not aware of the real function of the preventive exam and further reported that it is fundamental that health institutions alert the population concerning the importance of the preventive exam, because the exam permits a reduction of up to 70% in mortality due to cervical cancer among the risk population. In this study, 57% stated that the use of condoms can prevent HPV, 37% of the interviewees believed that vaccination is the main preventive agent, while 4% believed in other preventive methods, for example, the Papanicolaou exam and not having multiple sex partners.

Thus, although the current prophylactic vaccines protect noninfected women, those infected prior to vaccination still require diagnosis and treatment for preneoplastic lesions. Even if it were extremely efficient and involved a great coverage rate, a large scale vaccination program against HPV would take years to show noticeable epidemiological effects. It is important to highlight that vaccination does not eliminate the necessity for routine examinations for cervical cancer^{3,5,18}.

In relation to diagnosis, 48% of the interviewees stated that they knew the diagnosis, 44% had previously heard about it but did not know what it was, while 8% had never heard about it. This data corroborates findings from other studies²⁰⁻²³.

Regarding the onset of their sex lives and the number of partners, the majority of the students, 92%, had already initiated their sex lives and 65% had already had an average 1 to 3 sex partners. This group can be classified as a sexual active population, which justifies the interest in studies on the level of knowledge concerning HPV among nursing students²⁰⁻²³.

The present study was performed on students of the nursing college and revealed a lack of information and misconceptions among 1st-year students regarding HPV. The level of information among these students was less than desirable. This fact is due to the low level of information acquired prior to their enrollment in college and that in their first year they still have not studied STDs or HPV.

In this very complex context, nurses are valuable members of the health staff who have a fundamental role in the educational process for the health of the population; however, for them to participate in the educational process, it is crucial that sex has been widely discussed using all means of communication, in order to enhance the level of knowledge of these professionals.

The goals proposed for this study were fulfilled, since, in general, analysis of the knowledge of HPV among the students was adequate; moreover, the 4th-year students showed a greater level of knowledge in relation to the 1st-year students due to the longer period of study.

The need for further studies which determine the profile and knowledge of a larger number of teenagers in relation to HPV was clearly established. The need to implement educational programs that can provide the information they lack is also undeniable, so that adolescents become less susceptible to HPV infection and other sexually transmitted diseases.

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CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

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