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Understanding priorities: cervical cancer prevention in senior high school

Dhaifina Putri Windini[1], Abror Irsan[1], Mardhia Mardhia[1]

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[1] Faculty of Medicine, Tanjungpura University, Indonesia

***Correspondence:**
dhaifinaputriw@gmail.com

Abstract

Purpose: The study aims to determine the knowledge and priority of prevention issues of health education on senior high school student's knowledge about HPV and cervical cancer. **Methods:** The research method was quasi-experimental with a one-group pretest-posttest design. The respondents were 42 students from class XI at SMAN 3, Pontianak, Kalimantan Barat. Data analysis used a paired T-test. One of the methods to increase community knowledge, especially adolescents, about HPV and cervical cancer is through health education. **Results:** Before health education, respondents who had good knowledge were 37 people. After health education, all respondents had good knowledge. The paired T-test showed a significance of p 0,00 (p <0.05). There was an effect of health education on the level of knowledge about cervical cancer before and after intervention. **Conclusion:** HPV and cervical cancer health education showed effectiveness in increasing knowledge about HPV and cervical cancer in SMAN 3, Pontianak.

Keywords: cervical cancer; health education; knowledge

INTRODUCTION

Cervical cancer is one of the leading causes of cancer death for women worldwide. GLOBOCAN in 2018 showed cervical cancer cases in the world reached 569,847 cases, and in Indonesia, 32,469 cases [1]. Cervical cancer is the first cause of death in women in Indonesia, the second largest number of cervical cancer sufferers after China. Basic Health Research (Riskesdas) in 2013 showed the prevalence of cervical cancer in West Kalimantan was 0.8%, which was 882 people [2,3]. In 2015, the West Kalimantan Provincial Health Office showed that Pontianak had the highest number of cases of cervical cancer. If proper prevention and management are not taken, deaths from cervical cancer will increase by 25% in the next ten years [3].

Cervical cancer's etiology is human papillomavirus (HPV). HPV is classified into high-risk and low-risk types [4]. According to the HPV Information Center, HPV-16 (55.4%) and HPV-18 (14.6%) are the two leading causes of cervical cancer [5]. Cervical cancer risk factors include socio-demographic factors and social activities, infections, and personal hygiene [6, 7, 8]. HPV vaccination prevents cervical cancer. The HPV vaccination is effective at nine years old, both for men and women [9]. Another prevention method is the early detection of cervical cancer by screening tests, visual inspection of acetic acid (IVA), and a pap smear. This early detection method can be performed on women who have had sexual intercourse [10].

One of the factors causing the high incidence of cervical cancer is the low coverage of early detection due to a lack of knowledge, doubts about the importance of examination, low awareness, fear, and reluctance due to embarrassment during the examination [11]. Considering that adolescence is a crucial period in preventing cervical cancer by vaccination. It is vulnerable to sexual behavior, and knowledge of HPV and cervical cancer risk must be known since adolescence [12]. Some studies show that there is still insufficient knowledge and awareness about cervical cancer, both in women and men [9, 13]. There is no data about HPV and cervical cancer

knowledge among adolescents in Pontianak; hence, we conducted a study about adolescent knowledge about HPV and cervical cancer before and after health education in SMAN 3, Pontianak, West Kalimantan.

METHODS

The research was conducted at Senior High School 3 (SMAN 3), Pontianak, West Kalimantan, with a quasi-experimental one-group pretest and post-test design. This location was chosen because SMAN 3 Pontianak is Pontianak's second-best state high school. This school is one of the favorite schools in Pontianak, so the students who enter are selected students with good average knowledge. This school is quite famous, and it is located in the middle of the city.

A total of 42 study participants who met the study's inclusion criteria were aged 15–18 years and were willing to become respondents. Data collection was carried out using questionnaires tested for validity and reliability. On Day 1, respondents were given pretest questionnaires. HPV and cervical cancer health education by doctors was performed after the pretest questionnaires. Health education was about HPV, cervical cancer, screening, and prevention. Posttest questionnaires were given at noon on Day 1. The data that has been obtained was analyzed using the paired t-test. Interviews or questionnaires that inquire about the content of the study subjects' reading material serve to measure knowledge.

There are three categories of knowledge levels based on percentage values: 1) The level of knowledge is in the good category if the value is ≥ 75%; 2) The level of knowledge is in the fair category if the value is 56–74%; 3) The level of knowledge is in the poor category if the value is < 55%. Meanwhile, according to Budiman and Riyanto (2013), the level of knowledge is grouped into two groups if the respondents are the general public, namely: 1) There is more than 50% knowledge in the excellent category; 2) There is less than 50% knowledge in the poor category. The measurement categories used in this study were based on the source listed [14].

RESULTS

Our data shows that 66.7% and 33.3% of participants students received the questionnaire and the knowledge about the priority and prevention issues toward health education about cervical cancer, respectively.

The research results before and after counseling about cervical cancer were obtained as follows:

HPV is a disease that can be prevented, so prevention is an important point that needs to be conveyed, especially in health promotion in the community. The results are presented in **Table 1**, which shows that the majority of respondents (>50%) were "wrong" on questions regarding etiology and prevention.

Table 1 shows the difference between the after and before values of the questionnaire, which was given the highest in question number 14, "When can a pap smear be given?" The provided health education contributed to the percentage increase, with a difference of 66.7%. Questions no. 15, no. 2, and no. 4 followed, with a percentage difference of 62.5% and 61.9%, respectively, in the difference between the after and before scores. Last, statements no. 12 and 13 followed with a percentage difference of 59.5%. Statements 28 and 30 have the lowest percentage difference between before and after, 14.2%.

The error that occurred to the respondent before being given health education on question number 2 regarding "one of the symptoms of cervical cancer" generally answered pain in the vagina. Still, the correct answer was vaginal discharge and bleeding. For statement number 12 regarding "The HPV vaccine starts at age?" most respondents selected "after marriage," whereas the vaccination age starts at nine years. This study was conducted to determine the level of knowledge high school students have about cervical cancer. Introduction to the vaccination of HPV is one of the goals of preventing cervical cancer itself, as is conducting question and answer sessions with students to help manage their mindset toward knowledge and understanding.

In its application, this health education activity can support school teaching and learning activities. It can even be developed as part of the senior high school curriculum. A preliminary question assesses the respondent's familiarity with the term and knowledge about cervical cancer. From the respondents' answers before health education, it was determined that respondents answered several questions correctly. Therefore, the researcher provides a space to provide knowledge with lecture methods and presentations on matters related to cervical cancer so that it becomes an essential provision of knowledge for the future. It was reiterated apart from knowing the causes and ways of transmitting HPV. Prevention is also important in health promotion. The focus of cervical cancer education programs can be education at community health centers or schools. Education can be done through live presentations or videos.

Table 1. Percentage of student knowledge increase after education intervention

Statements	%
1. When can a pap smear be performed?	66,7
2. The type of HPV that causes cervical cancer is	62,5
3. One of the symptoms of cervical cancer	61,9
4. Cervical cancer mostly occurs at a young age.	61,9
5. Does the HPV vaccine start at age?	59,5
6. How many HPV vaccines are given?	59,5
7. What are the symptoms of cervical cancer at advanced stadiums?	45,3
8. Poor nutrition influences the occurrence of cervical cancer	42,9
9. Changing sexual partners is not a risk factor for cervical cancer	40,5
10. What is not a risk factor for cervical cancer?	38,1
11. What is one of the prevention strategies for cervical cancer?	38,1
12. Choose one of the truths about Pap smear.	35,7
13. Having sex before the age of 17 doubles the risk of cervical cancer	33,4
14. Smoking is one of the risk factors for cervical cancer	33,3
15. Are there ingredients in cigarettes that play a role as a risk factor for cervical cancer?	31
16. Microorganisms cause cervical cancer	28,6
17. What is the transmission mechanism of microorganisms in the cervical	28,6
18. The HPV vaccine only protects against the transmission risk of HPV	28,6
19. The definition of Cervical cancer is	28,5
20. Vaginal bleeding out during the menstrual period is one of the symptoms of cervical cancer	28,3
21. A pap smear is one of the early detection methods for cervical cancer	24,2
22. What is the purpose of HPV?	23,8
23. Cervical cancer is a hereditary disease that is passed down from a mother to her daughter	23,8
24. IVA screening is one of the early detection of cervical cancer	23,8
25. High-risk HPV is the primary etiology of cervical cancer	21,4
26. Avoiding risk factors for cervical cancer is one of the prevention methods for cervical cancer	19
27. Respiratory disorders are one of the symptoms of cervical cancer	16,7
28. HPV is classified as low-risk or high-risk	16,7
29. The vaccine is one of the prevention methods for cervical cancer	14,2
30. When getting vaccinated, women are advised not to be pregnant	14,2

Connect with the HPV vaccine program for teenagers, implemented throughout Indonesia. The higher the vaccination coverage, the higher the success of prevention. Then, following the research objective, support from the family of a brother or husband can be achieved. With the high increase in the difference between after and before, it is recommended that similar health education be given periodically or produced in the form of videos to find out about cervical cancer so that it is easy for teenagers to understand and comprehend the study.

Forty-two individuals participated in the study, with 66.7% (28 of 42) female and 33.3% (14 of 42) male. Before health education, the average knowledge of cervical cancer was 17, but after health education, it increased to 23.38. The data showed an increase in students' knowledge about cervical cancer of 6.38 points. The paired t-test result showed a significance value of p 0.00 (p 0.05); statistically, health education effectively increased students' knowledge about HPV and cervical cancer.

DISCUSSION

The study included both female and male respondents. As is known, HPV can infect both women and men. In men, HPV infection can lead to 92% anal cancer, 63% penile cancer, and 89% oral cavity or oropharyngeal cancer. All cases are associated with HPV-16 and HPV-18 [15]. HPV-6 and HPV-11 are the two viruses that cause more than 90% of genital warts [16]. Men also play a role as a support system in preventing cervical cancer. Some studies show that men do not have proper knowledge about HPV and cervical cancer, which leads to poor men's awareness of cervical cancer [17,18]. One of the social issues regarding cervical cancer is sexual behavior, indicating that women who have sexual relations at an early age and who have many sexual partners are at risk of developing cervical cancer [19]. This phenomenon is consistent with the study's results: men with poor knowledge before health education were higher at 14.28% (2/14) than female respondents at 10.71% (3/28). Therefore, men also need proper knowledge about HPV and cervical cancer to become

a support system for cervical cancer prevention. Men can play a role as supporters in terms of health, from an emotional to a financial perspective, in cervical cancer prevention [20].

Statistically, health education had a significant effect on increasing students' knowledge about cervical cancer. The priority of public health measures for cancer prevention and control reflects the government and society's attention to public health, especially in resource-limited areas. Also, it demonstrates the civilization and progress of a country and society. A large number of studies around the world have confirmed that cervical cancer could be prevented and controlled well by screening and early treatment [21].

At the percentage level, the increase in the percentage of knowledge after being given priority intervention issues in education is an important point where the student's weak point is understanding whether or not a screening intervention, prevention, or risk factors regarding cervical cancer itself. In most high-income countries, there are immunization programs to vaccinate girls against cancer-causing strains of HPV. In addition to this, there are well-established screening programs that identify and treat pre-cancerous lesions. These interventions have proven to work and are cost-effective, preventing up to 80% of cervical cancers in these countries. We have the knowledge and technology to eliminate cervical cancer as a public health problem.

Despite this, preventative measures are not yet widely available. Whether a woman has access to these services largely depends on where she is born, lives and her socio-economic status. On top of this, a woman's risk of developing cervical cancer increases in countries with higher levels of gender inequality [22]. It is, therefore, not surprising that in low-resource settings, diagnosis often occurs once symptoms have developed, generally at an advanced stage. Additionally, in these areas, there is usually limited access to interventions to treat late-stage disease, such as surgical options and chemotherapy, increasing mortality rates [22].

If no action is taken, it is estimated that deaths from cervical cancer will increase by almost 50% in the next two decades. The importance of education through mass media, carrying out health education, and learning about early prevention of sexual diseases that can lead to malignancy. The results are consistent with other studies showing a significant difference in knowledge after receiving health education [16]. Health education is an activity that can influence knowledge and change respondents' behavior. Knowledge impacts vaccination, behavior, and attitudes toward cervical cancer prevention [23]. Meta-analysis studies show an increase in cervical cancer screening after receiving health education about HPV and cervical cancer [24]. Other Studies also showed an increase in respondents' knowledge about cervical cancer after getting information from health education [25,26]. Health education from health workers is suggested to have a role in improving public health behavior, which is expected to reduce the incidence of cervical cancer. Sources of HPV and cervical cancer information could be obtained from health education, education in schools, and information from the mass media.

In the research questionnaire, the question with the highest percentage of incorrect answers (83%) is Should HPV vaccination be done at age?". The majority of respondents answered that the vaccine could be given after marriage. The Advisory Committee on Immunization Practices (ACIP) recommends that two doses of HPV vaccination be given to boys and girls aged 9–14 and three doses at ages 15–26 [27]. The results of this study show that respondents did not know about HPV vaccination. A lack of information could cause respondents' ignorance about HPV and cervical cancer. Health education is one of the efforts to convey health messages to individuals, groups, and communities to obtain better health knowledge and impact the health status of the community later. The earlier teenagers get information about HPV and cervical cancer, the greater the hope that cervical cancer prevention behaviors such as vaccination and early detection can be carried out properly.

CONCLUSION

Health education given to students of SMAN 3 in the city of Pontianak showed effectiveness in increasing respondents' knowledge ($p = 0.00$). With an increase in adolescent knowledge about HPV and cervical cancer, it is hoped that it can be a starting point for changing behavior and attitudes towards cervical cancer prevention, which can decrease the incidence of cervical cancer.

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