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OVERVIEW OF KNOWLEDGE LEVELS AMONG THE CLASS OF 2023 MEDICAL STUDENTS AT UDAYANA UNIVERSITY REGARDING CERVICAL CANCER VACCINATION

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ABSTRACT

Cervical cancer remains a significant health issue for Indonesian women due to its high incidence and mortality rates. It is the second most common cancer among women globally, and in Indonesia, it ranks second after breast cancer. In Bali Province, the prevalence of cervical cancer in 2018 was 2.3 per 1000 people, according to the Basic Health Research (Riskesdas). Knowledge about cervical cancer and preventive measures is crucial for reducing the number of cases. The objective of this study is to assess the level of knowledge among the class of 2023 medical students at Udayana University regarding an overview of cervical cancer, the purpose of cervical cancer vaccination, as well as the dosage and method of administration of the cervical cancer vaccine. This study is a descriptive study with a cross-sectional design. Consecutive sampling was used as the sampling technique. Data were collected using a questionnaire distributed via Google Forms to the class of 2023 medical students at Udayana University. The results of the study showed that among 120 student respondents, the majority had good knowledge of the general overview of cervical cancer (79.2%), the majority had good knowledge of the purpose of cervical cancer vaccination (42.5%), and the majority had moderate knowledge of the dosage and administration of the cervical cancer vaccine (41.7%). Good knowledge regarding cervical cancer can improve the attitude toward undergoing cervical cancer vaccination and our finding in this study can serve as a reference in providing education about cervical cancer vaccination to the public.

Keywords : knowledge level, medical student, cervical cancer vaccine

INTRODUCTION

Cervical cancer is still a health problem for Indonesian women due to its high incidence and mortality. Cervical cancer is a malignant tumor that hits the surface layer of the cervix. The abnormal cells that arise can spread around the pelvis or spread as far as the lungs, liver or bones[1]. This type of HPV is transmitted through sexual contact, and most people become infected with HPV as soon as they start sexual activity, but it can take years to become cancer[2]. Cervical cancer is the type of cancer that most affects Indonesian women in middle age (30-50 years old).Education and prevention efforts from cervical cancer with vaccination are very necessary, especially from an early age. However, cervical cancer prevention efforts in Indonesia are still low and screening efforts with pap smears only cover 5%. Screening with pap smear examination has several disadvantages, namely it does not prevent the occurrence of Cervical Intraepithelial Neoplasia (NIS), the therapy of precancerous lesions that are newly detected when pap smear often causes morbidity to the patient's fertility function, and there are obstacles to human resources and inadequate equipment[3]. In addition, in developing countries such as Indonesia, routine check-ups are difficult to do because access to health care centers with appropriate laboratories and medical staff is inadequate, the cost of pap smear tests is relatively high, and frequent visits to health centers make many Indonesian women lazy to screen. Although it cannot prevent HPV infection, screening is important to help detect the development of cervical cancer[4].

Cervical cancer is the second most common cancer suffered by women in the world. Based on GLOBOCAN 2020, Cervical Cancer ranks 4th in the world. Cervical cancer in Indonesia ranks 2nd after breast cancer and ranks 3rd in the cause of death after lung cancer and breast cancer. The prevalence of cervical cancer in Bali Province in 2018 was as much as 2.3 per 1000 population based on Basic Health Research (Riskesdas) by the Health Research and Development Agency of the Ministry of the Republic of Indonesia in 2018. Cervical cancer can be prevented, one of which is HPVvaccination.[5,6]

Vaccination is the process of introducing a vaccine (antigen) that stimulates the immune system to form immunity (antibodies) in the body[7]. There are various types of vaccines, one of which is

the HPV vaccine. The discovery of the HPV vaccine is a significant breakthrough in medical science, particularly in gynecologic oncology. The HPV vaccine is highly effective in preventing HPV-related infections in women who have never been infected with HPV before. In the 10 years following the recommendation of the vaccine in 2006 in the United States, quadrivalent HPV infections decreased by 86% among adolescent girls aged 14 to 19 and by 71% among women in their early 20s. In other countries with HPV vaccination programs, there has been a decline in the prevalence of genital warts and cervical precancer.[8] Currently, three HPV vaccines (bivalent, quadrivalent, and nonavalent) are marketed in many countries worldwide.[9] These three vaccines are highly effective in preventing infections caused by HPV types 16 and 18, which together account for about 70% of cervical cancer cases globally.[10] The vaccines are also very effective in preventing precancerous cervical lesions caused by these virus types. The quadrivalent vaccine is also highly effective in preventing anogenital warts, a common sexually transmitted disease almost always caused by HPV types 6 and 11.[11] The nonavalent vaccine provides additional protection against HPV types 31, 33, 45, 52, and 58. Clinical trial data and early post-implementation monitoring across several continents show that all three vaccines are safe.[12]Knowledge about cervical cancer and efforts to prevent cervical cancer are also important to reduce the number of sufferers. Medical students who will later become doctors, must have qualified knowledge obtained in medical education because competent doctors can later become promoters in spreading their knowledge to the community. The choice of the research site at Udayana University is because Udayana University is the largest university in Bali with a diverse number and distribution of medical students, which is expected to be able to provide an overview of the level of student knowledge. Therefore, based on this background, the author is interested in discussing "Overview of Knowledge Level Among The Class of 2023 Medical Students At Udayana University Regarding Cervical Cancer Vaccination".

MATERIALS AND METHODS

This research is a descriptive research with a cross-sectional type. Consecutive sampling is used as a sampling technique. Data collection uses a questionnaire in the form of a google form distributed to students of the Faculty of Medicine, Udayana University class of 2023. The research will be carried out in the Bachelor of Medicine Study Program, Faculty of Medicine, Udayana University in the class of 2023 through the distribution of online google form questionnaires for 2 months, from April to May 2024.

In this study, the instrument used to collect data was in the form of an online questionnaire consisting of a questionnaire on the characteristics of the respondents containing name, gender, age, class, vaccination status, and a questionnaire to measure the level of student knowledge about cervical cancer vaccination consisting of 16 questions with details of 6 questions about the general overview of cervical cancer, 5 questions about the purpose of cervical cancer vaccination, and 5 questions about the dosage and how to administer the cervical cancer vaccine. This questionnaire has been tested for validity and reliability before.

RESULTS

In the study on the Overview of the Knowledge Level of Students of the Faculty of Medicine, Udayana University Class of 2023 Regarding Cervical Cancer Vaccination which was carried out from March 7, 2024 – March 15, 2024, a sample of 120 people was obtained. Sampling data was processed using the SPSS (*Statistical Package for the Social Sciences*) program to obtain the characteristics of respondents according to gender, age, class, and cervical cancer vaccination status. The distribution of respondents was also obtained based on knowledge of the general overview of cervical cancer, the purpose of cervical cancer vaccination, and the dose and method of cervical cancer vaccination presented in the form of a table.

Table 1. Student Frequency Distribution by Gender

Gender	Frequency	Percentage(%)
Woman	80	66,7
Man	40	33,3
Sum	**120**	**100**

The results of the study showed that of the 120 respondents studied, 80 respondents (66.7%) were female and 40 respondents (33.3%) were male.

Table 2. Student Frequency Distribution by Age

Age (in years)	Frequency	Percentage(%)
17	2	1,7
18	76	63,3
19	36	30
20	6	5
Sum	**120**	**100**

The results showed that of the 120 respondents studied, 2 respondents (1.7%) were 17 years old, 76 respondents (63.3%) were 18 years old, 36 respondents (30%) were 19 years old, and 6 respondents (5%) were 20 years old.

Table 3. Student Frequency Distribution by Class

Class	Frequency	Percentage (%)
A	71	59,2
B	49	40,8
Sum	**120**	**100**

The results of the study showed that of the 120 respondents studied, 71 respondents (59.2%) were from class A, and 49 respondents (40.8%) were from class B.

Table 4. Distribution of Student Frequency Based on Cervical Cancer Vaccination Status

Vaccination Status	Frequency	Percentage(%)
Already	14	11,7
Unsure	49	40,8
Not yet	57	47,5
Sum	**120**	**100**

The results showed that of the 120 respondents studied, 14 respondents (11.7%) had been vaccinated against cervical cancer, 49 respondents (40.8%) were unsure to have been vaccinated against cervical cancer, and 57 respondents (47.5%) had not been vaccinated against cervical cancer.

Table 5. Distribution of Respondents' Answers to the Cervical Cancer Overview

No	Question	True	
		n	%
1	High-risk HPV, namely types 16 and 18, is the main cause of cervical cancer	117	97,5%
2	Using long-term oral contraceptives (5 years or more) cannot increase the risk of cervical cancer in women infected with HPV	84	70%
3	Any woman who is married or has sexual intercourse is at risk of cervical cancer	98	81,7%
4	Women infected with the Human Immunodeficiency Virus (HIV) are at risk of cervical cancer	108	90%
5	The HPV (Human Papilloma Virus) virus is transmitted during sexual intercourse	109	90,8%
6	Having sexual intercourse using protective equipment such as condoms can prevent a person from getting cervical cancer	96	80%

The results of the study showed that of the six statements, the most correctly answered by students was question number 1 as many as 117 people (97.5%).

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Table 6. Knowledge Distribution of Students of Medicine, Udayana University Class of 2023 on Cervical Cancer Overview

Level of Knowledge	Frequency	Percentage(%)
Good	95	79,2
Enough	16	13,3
Less	9	7,5
Sum	**120**	**100**

The results showed that of the 120 respondents studied, 95 respondents (79.2%) had a good level of knowledge about the general picture of cervical cancer, 16 respondents (13.3%) had a sufficient level of knowledge, and 9 respondents (7.5%) had a low level of knowledge.

Table 7. Distribution of Respondents' Answers on Cervical Cancer Vaccination Goals

No	Question	True	
		n	%
1	HPV vaccination can cure cervical cancer if it has been infected first	106	88,3%
2	Cervical cancer vaccine can be given to pregnant women	102	85%
3	Cervical cancer vaccine provides less than 10 years of protection	59	49,2%
4	Pain, redness, and swelling in the arms are side effects of the cervical cancer vaccine	94	78,3%
5	The cervarix vaccine prevents HPV type 6/11/16/18 and the gardasil type prevents HPV type 16/18	35	29,2%

The results of the study showed that of the five statements, the most correctly answered by students was question number 1 as many as 106 people (88.3%).

Table 8. Knowledge Distribution of Students of the Faculty of Medicine, Udayana University Class of 2023 on the Purpose of Cervical Cancer Vaccination

Level of Knowledge	Frequency	Percentage (%)
Good	51	42,5
Enough	45	37,5
Less	24	20
Sum	**120**	**100**

The results showed that of the 120 respondents studied, 51 respondents (42.5%) had a good level of knowledge about the general picture of cervical cancer, 45 respondents (37.5%) had a sufficient level of knowledge, and 24 respondents (20%) had a low level of knowledge.

Table 9. Distribution of Respondents' Answers on the Dosage and Method of Cervical Cancer Vaccine

No	Question	True	
		n	%
1	Third dose at the age of first administration 9-14 years is required	56	46,7%
2	Vaccination at the age of 15 years and over as many as 2 doses	34	28,3%
3	The HPV vaccine cannot be given at the age of over 26 years	96	80%
4	If 1 dose of cervical cancer vaccine is missed, then the dose must be repeated from the beginning	61	50,8%
5	We can combine the administration of cervarix and gardasil vaccines	58	48,3%

The results of the study showed that of the five statements, the most correctly answered by students was question number 3 as many as 96 people (80%).

Table 10. Knowledge Distribution of Students of the Faculty of Medicine, Udayana University Class of 2023 on Dosage and Method of Cervical Cancer Vaccination

Level of Knowledge	Frequency	Percentage (%)
Good	22	18,3
Enough	50	41,7
Less	48	40
Sum	**120**	**100**

The results showed that of the 120 respondents studied, 22 respondents (18.3%) had a good level of knowledge about the general picture of cervical cancer, 50 respondents (41.7%) had a sufficient level of knowledge, and 48 respondents (40%) had a low level of knowledge.

DISCUSSION

From this study, the largest number of respondents was women, which was 80 people (66.7%), while male respondents were 40 people (33.3%). This is because the number of female students pursuing higher education at the Faculty of Medicine, Udayana University in the class of 2023 is more than the number of male students. From the age distribution, the most were 18 years (63.3%), then 19 years (30%), then 20 years (5%), and 17 years (1.7%). From the class distribution, general class A was 71 respondents (59.2%) and general class B was 49 respondents (40.8%). From the distribution of vaccination status, the number of respondents who have not been vaccinated is 57 people (47.5%), 49 people are unsure (40.8%), and 14 people (11.7%) have been vaccinated.

The results in this study show the knowledge of students of the Faculty of Medicine, Udayana University class of 2023 regarding the general overview of cervical cancer, most of the respondents already have a good level of knowledge with a percentage of 79.2%. Lower results were obtained other study in Indonesia by Putri and Harahap, with the results showing the level of knowledge in the good category of medical students at the University of North Sumatra with a percentage of 47.3%[13]. Jirwanto and Purba study on female students of the Faculty of Medicine, HKBP Nommensen University Medan in 2021 with the results of the knowledge level of the good category with a percentage of 54.1%[14]. Chandra and Hidayat study in 2023 results in medical students at Tarumanegara University with a percentage of 57.1% [15]. Good level of knowledge is because the level of education of the student is in the scope of health so that they have learned about cervical cancer. The difference in results obtained can be caused by slight differences in medical education lecture materials at several universities.

The results of this study show that the knowledge of 2023 students from the Faculty of Medicine at Udayana University regarding the purpose of cervical cancer vaccination is generally good, with 42.5% of respondents demonstrating a high level of knowledge. These findings were lower than the 2023 study by Nurul Ardiani on female medical students at the Christian University of Indonesia, which revealed that out of 202 respondents, 78.2% had a good level of knowledge about cervical cancer vaccination[16]. This study is also consistent with similar research conducted by Adejuyigbe in 2015 on medical students at the University of Lagos, Nigeria. Among 280 respondents, 69.3% demonstrated a good level of knowledge about cervical cancer vaccination[17]. Factors influencing knowledge include higher education levels and personal experiences, as well as access to

facilities such as information sources like the internet, books, television, newspapers, magazines, and others[18]. The respondents' good level of knowledge can be attributed to their educational background in health-related fields, where they have been exposed to learning about cervical cancer vaccination. Specific coverage of cervical cancer and its vaccination in the medical curriculum contributes to the majority of respondents having a good understanding of the purpose of cervical cancer vaccination.

The results in this study show the knowledge of students of the Faculty of Medicine, Udayana University class of 2023 regarding the dosage and method of cervical cancer vaccination, most of the respondents have a sufficient level of knowledge with a percentage of 41.7%. Higher results were obtained by Fuadah in 2019 in female students of the Faculty of Medicine in the Special Region of Yogyakarta with the result of a lack of knowledge level with a percentage of 55.8%[19]. Similar results were obtained by Dany in 2015 on female students of the Faculty of Medicine at the American University of Beirut, Lebanon with the result of a sufficient level of knowledge with a percentage of 44.3%[20]. In the results of the study, the majority of respondents had a sufficient level of knowledge. This result could be due to the fact that most respondents have never or are unsure to get vaccinated against cervical cancer so they do not know specifically how many doses to give and how many times the vaccine must be given.

5. CONCLUSIONS AND SUGGESTIONS

Based on the results of the study, it can be concluded that knowledge about the general overview of cervical cancer is the majority in the good category (79.2%), higher compare with knowledge about the purpose of cervical cancer vaccination even is mostly in the good category (42.5%). Knowledge about the dosage and method of cervical cancer vaccination is in the enough category (41.7%). Knowledge can increase attitudes towards cervical cancer vaccination and can be a reference in providing counseling about cervical cancer vaccination to the public.

Our research can provide suggestions, to increase knowledge about the dosage and method of cervical cancer vaccination in medical students of Udayana University.

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