

## Relationship between parent's knowledge level and decision to participate in HPV vaccination among V and VI Graders

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### Abstract

**Background:** The prevalence of cervical cancer in Indonesia is 9.2%. HPV or Human Papilloma Virus is the main cause of cervical cancer. Efforts to accelerate the elimination of cervical cancer nationally began by the Indonesian government through the BIAS program in 2023.

**Method:** This study used an analytic observational method using a cross sectional approach. Sampling using the total sampling method on 60 respondents. The independent variable is the level of parental knowledge. The dependent variable is the decision to participate in HPV vaccination in female students. Data were obtained through filling out questionnaires in July-August 2024.

**Results:** The results showed that most respondents had sufficient knowledge of 27 (45%) had positive actions of 20 (33.3%) respondents. The results of statistical analysis using the Fisher Exact Test, found that there is a relationship between the level of parental knowledge and the decision to participate in vaccination with a P value = 0.038. The results of the contingency coefficient obtained  $r = 0.295$  so it can be concluded that it has a weak relationship.

**Conclusion:** There is a relationship between parents knowledge level and the decision to participate in HPV vaccination among students in grades V and VI of SDN Kertajaya Surabaya.

**Keywords:** Knowledge; Parents; Cervical Cancer; HPV Vaccine

### 1. Introduction

Cancer is a disease characterized by the uncontrolled growth of abnormal cells. The fourth most common type of cancer affecting women worldwide is cervical cancer, with 604.000 new cases and 342.000 deaths in 2020 [1]. Due to the prevalence of 9.2% in Indonesia, cervical cancer ranks second after breast cancer [2]. Data from the Surabaya Health Office Annual Report 2020 shows that there were 3.110 cases of cervical cancer in East Java, with 1.708 cases in Surabaya.

Human Papiloma Virus also known as HPV is the leading cause of cervical cancer, especially HR-HPV type 16 and 18 infections [3] HPV infection is generally transmitted through sexual intercourse, but can also infect the area around the genitalia and anus. Studies [4] state that the immune system can control the HPV virus, but it can cause cervical cancer in young women. To prevent HPV infection in the cervical organ, early detection of HPV and HPV vaccination can be done regularly. In 2020, the World Health Assembly (WHA) Forum suggested controlling or preventing cervical cancer

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through primary, secondary and tertiary prevention. Girls aged 9-14 years are vaccinated against HPV as a form of primary prevention. The HPV vaccine has been initiated since 2016 and was formalized by WHO in 2019. Almost all developed countries have implemented HPV vaccination programs for girls aged 9-14 years. The Ministry of Health of the Republic of Indonesia is also doing the same thing by vaccinating HPV in girls aged 9-14 years through the BIAS (School Children Immunization Month) program.

The HPV vaccine is given free of charge [5] However, the administration of the HPV vaccine has drawn many pros and cons from the general public. In this case, the role of parents in making decisions regarding vaccination of their children is very important. In the implementation of HPV vaccination, there are several factors that hinder the level of knowledge, public awareness, and high costs [6]. Therefore, researchers are interested in conducting research related to the relationship between the level of parental knowledge and the decision to participate in HPV vaccination for female students in grades V and VI of SDN Kertajaya Surabaya.

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## 2. Material and methods

This study used an analytic observational method using a cross sectional approach. The sample was 60 parents of fifth and sixth grade female students of SDN Kertajaya Surabaya. The research was conducted in July-August 2024. Data collection using an instrument in the form of a questionnaire filled in by parents. Data processing using Microsoft excel and SPSS program with Fisher Exact Test.

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## 3. Results and discussion

Respondents in this research amounted to 60 respondents. The following table describes the general description the characteristics of parents who were respondents in this study :

**Table 1** Characteristics of Respondents

Characteristic		N	%
Age	30 -35	10	16.7
	36 - 40	27	45
	41 - 45	14	23.3
	46 - 50	6	10
	>50	3	5
Education	Junior High School	3	5
	Senior High School	25	41.7
	Diploma	9	15
	Undergraduate	21	35
	Postgraduate	2	3.3
Profession	Housewife	30	50
	Employee	17	28.3
	Entrepreneur	8	13.3
	Civil Servant/Doctor	5	8.3
Family Cancer History	Have	5	8.3
	Don't have	55	91.7
Gender	Female	50	83.3
	Male	10	16.7

The results showed that the general description of the characteristics of respondents in this study on the age variable was that most of the 27 (45%) respondents were between 36-40 years old. In the education variable shows that most of the 25 (41.7%) respondents have the last education of Senior High School. The employment variable showed that most of the 30 (50%) respondents were housewives. The family history of cancer variable showed that 55 (91.7%) respondents did not have a history of cancer in their family. The gender variable showed that 50 (83.3%) of the respondents in this study were female.

**Table 2** Frequency Distribution of Respondents Knowledge

Knowledge	N	%
Good	22	36.7
Enough	27	45
Less	11	18.3
Total	60	100

The results showed that the most respondents had enough knowledge were 27 (45%). Respondents who had good knowledge were 22 (36.7%). The least respondents had less knowledge were 11 (18.3%).

**Table 3** Frequency Distribution of Respondents Participation Decision

Participation Decision	N	%
Participate	48	80
Not Participate	12	20
Total	60	100

The results showed that the most respondents had 48 (80%) participation actions. Respondents had an act of non-participation as many as 12 (20%). Respondents who had non-participation actions as many as 8 (67%) did not give reasons for their non-participation, while 4 (33%) gave reasons that they had not received information regarding the HPV vaccine and considered their daughters not old enough to get the vaccination.

**Table 4** Relationship Between Parents Knowledge Level and Decision to Participate in HPV Vaccination

Knowledge	Participation Decision				Total	%	P Value
	Participate		Not Participate				
	N	%	N	%			
Good	21	35.0	1	1.7	22	36.7	0.038
Enough	20	33.3	7	11.7	27	45.0	
Less	7	11.7	4	6.7	11	18.3	
Total	48	80	12	20	60	100	
Contingency Coefficient							0.295

The results showed that respondents with good knowledge mostly had participation actions as many as 21 (35%) respondents. Respondents with enough knowledge mostly had participation actions as many as 20 (33.3%) respondents, and respondents with less knowledge mostly also had participation actions as many as 7 (11.7%) respondents. The results of statistical analysis using the Fisher Exact Test, obtained a value of  $p = 0.038$  ( $P < 0.05$ ), it can be concluded that the level of parental knowledge is related to the decision to participate in HPV vaccination as a form of early prevention of cervical cancer in their daughters.

This study is in line with research by [7] with a total sample of 74 people also showing a relationship between parental knowledge and the provision of HPV vaccination. However, this study is different from the research conducted by [8]

with a total sample of 148 people who found that there was no relationship between the level of knowledge of cervical cancer and interest in HPV vaccination.

Attitude according to Theory of Planned Behavior [9] is a basic view of an individual's agreement with a stimulus that elicits a response in him, either positive or negative. A positive attitude can lead to positive behavior in parents in making decisions regarding vaccination participation [10]. Attitude or action in this case can also be influenced by other factors such as parents' awareness of HPV vaccination for their daughters.

Parents awareness of HPV vaccination for their daughters can arise from their knowledge of cervical cancer and HPV. Knowledge creates beliefs and perceptions of reality, which can provide the basis for decision-making and certain behaviors. The decision to participate in HPV vaccination in grade V and VI students is still fully given to parents, considering that grade V and VI students are still not capable enough and have the right to make their own decisions. This is in line with research conducted by [11] which states that parental permission is the most important thing in making vaccine participation decisions. Parents who already know about the HPV vaccine will begin to have the intention to vaccinate their children against HPV. so that their attitudes and interests are creates by the experiences and information they get [12].

The level of knowledge of parents of students in grades V and VI of SDN Kertajaya Surabaya whether good, enough, and less knowledge, mostly have a positive attitude that is more dominant towards the decision to vaccinate their daughters. A small proportion of parents who did not support HPV vaccination for their daughters gave reasons for their refusal because they had not received information regarding the HPV vaccine, did not want to, and considered their daughters not old enough to get the vaccination. This suggests that there is a need for a strategy to increase parents positive behavior in the decision to participate in HPV vaccination by conducting gradual socialization prior to the HPV vaccination program to parents so that information can be conveyed properly and provide opportunities for parents to clarify misconceptions regarding vaccination.

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#### **4. Conclusion**

Based on the results of the analysis and discussion discussed above, regarding the relationship between the level of parental knowledge and the decision to vaccinate HPV in grade V and VI female students at SDN Kertajaya Surabaya, it can be concluded that most parents of grade V and VI female students at SDN Kertajaya Surabaya have sufficient knowledge as many as 27 (45%) respondents. Most of the parents of grade V and VI schoolgirls at SDN Kertajaya Surabaya mostly have positive actions towards the decision to do HPV vaccination as many as 48 (80%) respondents. The results of statistical tests using the Fisher exact test in analyzing the relationship between the level of parental knowledge and the decision to participate in HPV vaccination in grade V and VI students obtained a p-value of 0.038, which means that there is a relationship between parents knowledge level and the decision to participate in HPV vaccination in grade V and VI female students SDN Kertajaya Surabaya.

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#### **Compliance with ethical standards**

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##### *Disclosure Conflict of interest*

The author declared no potential conflicts of interest.

##### *Statement of ethical approval*

This study was approved by the health research ethics committee of Faculty of Medicine, Airlangga University (51/EC/KEPK/FKUA/2024).

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