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Factors Related To Parental Decision-Making In Administering *Human Papilloma Virus Vaccine* To Children

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ABSTRACT
Cervical cancer has been the second most common cancer in women and at high-risk to death. It is commonly caused by HumanPapillomaVirus (HPV) so that it is considered making effective use of HPV vaccine to prevent this disease. This study is aimed to investigate factors associated with parents' decision-making to get HPV vaccine for children at the State Primary Schools located in the Community Health Center working area of Binong, Tangerang, in 2024. An analytical survey with cross-sectional design was employed in this quantitative study. 87 people out of the whole population of female students at SDN Binong I-VI were selected as samples of the study. Samples were collected by means of Cluster Random Sampling and data gathered was analyzed by using a Chi-Square test. The study found that a substantial majority of parents administer the HPV vaccine to their children (78.2%). In bivariate analysis, no statistically significant relationship was observed between education level and the decision to vaccinate children against HPV (p = 0.637). However, significant associations were identified between knowledge level (p = 0.000), motivation (p = 0.004), family support (p = 0.000), exposure to information (p = 0.000), and the decision to vaccinate children against HPV.
Keywords*: Decision-making; Human Papilloma Virus; HPV Vaccine.*

ABSTRAK
Kanker serviks merupakan penyakit kanker terbanyak kedua yang menyerang kaum perempuan dan beresiko tingggi menyebabkan kematian. Penyebab umum terjadinya kanker serviks adalah Human Papilloma Virus (HPV) sehingga vaksin HPV efektif untuk mencegah terjadinya kanker serviks. Penelitian ini bertujuan untuk mengetahui faktor faktor yang berhubungan dengan pengambilan keputusan orang tua dalam pemberian vaksin Human Papiloma Virus pada anak di SDN wilayah kerja Puskesmas Kelurahan Binong, Kabupaten Tangerang tahun 2024. Penelitian ini merupakan penelitian kuantitatif dengan desain survey analitik menggunakan pendekatan

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cross-sectional. Jumlah sampel dalam penelitian ini 87 orang dari populasi seluruh siswi SDN Binong I-VI. Penelitian ini menggunakan pengambilan sampel secara Cluster Random Sampling. Analisis data dilakukan dengan uji Chi Square. Sebagian besar orang tua mengambil keputusan untuk memberikan vaksin HPV pada anaknya (78,2%). Hasil analisis bivariat diperoleh tidak ada hubungan pendidikan dengan pengambilan keputusan vaksinasi HPV anak dengan p-value (0,637), terdapat hubungan pengetahuan dengan pengambilan keputusan vaksinasi HPV anak dengan p-value (0,000), terdapat hubungan motivasi dengan pengambilan keputusan vaksinasi HPV anak dengan p-value (0,004), terdapat hubungan dukungan keluarga dengan pengambilan keputusan vaksinasi HPV anak dengan p-value (0,000), dan terdapat hubungan keterpaparan informasi dengan pengambilan keputusan vaksinasi HPV anak dengan p-value (0,000).
Kata Kunci: Pengambilan keputusan; Human Papilloma Virus; Vaksin HPV

INTRODUCTION

Reproductive health is one of the important things so it must be maintained from various diseases. One of the diseases that can affect female reproduction is cervical cancer or cervical cancer. *The World Health Organization* (WHO) in 2018 estimated that 569,800 women in the world had cervical cancer and as many as 311,400 women died from cervical cancer. Most of the deaths from cervical cancer occur in developing countries. Indonesia ranks fourth with the highest number of cervical cancer incidences in Southeast Asia. In 2018, WHO recorded 32,469 cases of cervical cancer in Indonesia. It is estimated that as many as 9.3% of the total cases or around 26 women die every day from cervical cancer.

Indonesia's Health Profile in 2021 recorded a higher percentage of women of childbearing age (WUS) with IVA positive in Banten Province who are suspected of having cervical cancer compared to the percentage in West Java Province. The data on the number of WUS aged 30-50 years in Banten Province is 2.4 million WUS and as many as 137,198 of them have been screened for early detection of cervical cancer with Visual Inspection with Acetic Acid (IVA Test) in the 2019-2021 scope. From the results of the examination, as many as 409 women with IVA results were positive and as many as 248 women were suspected of having cervical cancer. The 2021 Sectoral Statistics Book shows that 0.8% of the number of WUS aged 30-50 years in Tangerang Regency have carried out early detection of cervical cancer with the test method. There were positive IVA results in 30 WUS and 5 of them were in Curug District.

According to Leavel and Clark, health promotion can be carried out based on five levels *of prevention*, namely *health promotion*, general *and specific protection*, *early diagnosis and prompt treatment*, *disability limitation*, and rehabilitation). Health education and extension are included in the level of health promotion. Meanwhile,

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the administration of vaccines is included in the general and special protection levels. Both efforts include preventive efforts that can be carried out in order to control risk factors before the start of a disease.

As many as 95% of cervical cancer is caused by *the Human Papilloma Virus* (HPV) which is common in women of reproductive age, so HPV vaccination is effective up to 100% in a preventive effort to prevent cervical cancer. The administration of the HPV vaccine is a prophylactic effort that can prevent cervical cancer. The administration of HPV vaccine is one of the three pillars of WHO's target so that countries are on the path of cervical cancer elimination. WHO and the Ministry of Health have a global strategy for 2030, namely 90% of girls have been vaccinated against HPV by the age of 15.

The Global Alliances for Vaccine and Immunization (GAVI) has had a major program since 2014, namely the GAVI HPV Vaccine Alliance which aims to protect girls from cervical cancer by providing access to safe and effective HPV vaccines. GAVI has a target to reach more than 86 million girls with the HPV vaccine by 2025 which aims to prevent more than 1.4 million deaths from cervical cancer in the future.

The provision of HPV vaccination as a preventive measure includes complete basic immunization of children as regulated in the Decree of the Minister of Health of the Republic of Indonesia Number HK.01.07/MENKES/6779/2021 concerning the HPV Immunization Introduction Program. Regulation of the Minister of Health Number 12 of 2017, the vaccine is given at intervals of 0-12 months for children aged 9-13. The first dose is given to grade V elementary school students and the second dose is given to grade VI elementary school students. The HPV vaccine program has been included in the School Children's Immunization Month (BIAS) since 2023.

The implementation of the HPV vaccination program in Tangerang Regency has started since August 8, 2023, in accordance with the circulation of a circular letter from the Tangerang Regency Health Office regarding the implementation of HPV immunization. Tangerang Regency has a 2023 HPV BIAS target of 95%, but obstacles are still found in its implementation. One of the sub-districts whose coverage has not been achieved and is experiencing obstacles in pursuing the coverage target is Curug District, which is 91% which has only been achieved in September 2023. The Binong Village Health Center is a health center located in Curug District.

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Based on a preliminary study conducted on December 15, 2023 to the midwife coordinator of the immunization section at the Binong Village Health Center, there are several factors that are obstacles in achieving the HPV vaccination coverage target in BIAS 2023. Students who are sick when the HPV vaccine administration schedule at their school is one of the factors that hinder the achievement of HPV vaccine coverage. In addition to child health factors, factors from parents are influential factors in the administration of HPV vaccination, such as education, knowledge, motivation, family support, and information exposure.

Ages 9-13 years are children who still depend on their parents, especially mothers, in making decisions about whether their children can be immunized against HPV or not. As a result of a simple interview that has been conducted to 4 representatives from the Binong Village Elementary School, there are several parents of Binong Village Elementary School students who do not immediately allow their children to be vaccinated against HPV because of their perception that their children are still young and still too far away to be exposed to cervical cancer. The HPV vaccine is a vaccine that has just been included in the BIAS 2023 program in Tangerang Regency, so there are some parents who do not understand how the HPV vaccine works and are afraid that their children will be exposed to the negative effects of the HPV vaccine given.

One of the roles of midwives in Midwifery Law No. 4 of 2019 is as a researcher, this is the background for the author to conduct research on parents, especially parents of grade IV elementary school students who are targeted in the HPV vaccination program when their children are in grade V of elementary school. The results of this study can later be basic information and anticipation in increasing HPV vaccination coverage in children, so the author is interested in researching "Factors Related to Parental Decision Making in Administering *Human Papilloma Virus* Vaccine to Children at SDN Working Area of the Puskesmas Binong Village, Tangerang Regency in 2024".

METHOD

This study is a quantitative research with an analytical survey design using *a cross-sectional* approach. The number of samples in this study is 87 people from the population of all students of SDN Binong I-VI. This study uses *Cluster Random Sampling*. The research was conducted from January to March 2024. Data collection in

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this study uses primary data by filling out questionnaires by respondents as a research tool. Data analysis was carried out by *the Chi Square* test.

RESULTS AND DISCUSSION

Table 1. Distribution of Frequency of Pediatric HPV Vaccine Decision-Making, Education, Knowledge, Motivation, Family Support, and Information Exposure

Variable	n = 87	%
Pediatric HPV Vaccination Decision Making		
Not	20	23,0
Yes	67	77,0
Education		
Low	46	52,9
Tall	41	47,1
Knowledge		
Less	45	51,7
Good	42	48,3
Motivation		
Less	57	65,5
Good	30	34,5
Family Support		
Negative	47	54,0
Positive	40	46,0
Information Exposure		
Not Exposed	16	18,4
Exposed	71	81,6

The results of the univariate analysis showed that most of the respondents made the decision to give the HPV vaccine to their children as many as 67 respondents (77.0%). Based on the analysis of factors related to parental decision-making in administering HPV vaccination to children at SDN in the Binong Village Health Center work area, the majority of respondents had low education (52.9%), poor knowledge (51.7%), poor motivation (65.5%), negative family support (54.0%), and the majority of respondents were exposed to information about cervical cancer and HPV vaccine (81.6%). The sources of information that respondents get include social media/internet, health workers, health cadres, community leaders, magazines, or television.

Bivariate analysis was carried out using the chi-square test. The results of the bivariate analysis showed that respondents who had a low level of education mostly made the decision to give the HPV vaccine to their children, namely 34 respondents (73.9%) and respondents who had a higher education level also mostly made the decision to give the HPV vaccine to their children (80.5%). The results of the statistical test showed a *p value* of 0.637 (>0.05), so it can be interpreted that there is no relationship between educational variables and parental decision-making variables in administering HPV vaccine to children.

Education is very important in influencing knowledge. In research Wiyono (2023) states that the level of formal education a person gets will affect a person's knowledge. The higher a person's education, the higher his knowledge about health so that he can make the right decisions. In contrast to the researcher's opinion

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supported by Oktaviana's (2019) research, low formal education is not an obstacle in increasing knowledge. In addition to being obtained from formal education, knowledge can also be obtained from non-formal education from the surrounding environment, various sources of information, or health education. The education that mothers get can also increase knowledge so that they can improve their behavior to achieve optimal health degrees.

The results of the bivariate analysis showed that 18 respondents (40.0%) with little/insufficient knowledge made the decision not to give the HPV vaccine to their children and 40 respondents (95.2%) with good knowledge who made the decision to give the HPV vaccine to their children. The results of the statistical test showed a *p value* of 0.000 (<0.05), so it can be interpreted that there is a meaningful relationship between the knowledge variable and the parental decision-making variable in administering the HPV vaccine to children.

According to Notoatmodjo (2014), one of them is influenced by the level of knowledge which is a predisposition factor that can affect a person's behavior. This research is in line with the research of Triana (2015) and the Pakpahan theory (2021) which states that the higher the individual's knowledge about the consequences caused by a disease, the higher the prevention efforts will be made. If parents have good knowledge, there will be a positive response to decision-making in administering HPV vaccine to children.

The results of the bivariate analysis showed that respondents with poor motivation made the decision not to give the HPV vaccine to their children as many as 19 people (33.3%), while respondents with good motivation mostly made the decision to give the HPV vaccine to their children, namely 29 people (96.7%). The results of the statistical test showed a *p value* of 0.004 (<0.05), so it can be interpreted that there is a meaningful relationship between motivation variables and parental decision-making variables in administering HPV vaccine to children.

This research is in line with the research of Vivi (2015) and Fauzi (2024) which stated that parents with good motivation tend to give complete immunizations to their children, while parents with poor motivation tend not to give complete immunizations to their children. Respondents' motivation to make the decision to give the HPV vaccine to their children can arise from the knowledge, information, environmental support, and experience they have gained. Meanwhile, respondents who have poor motivation can be caused by a lack of parental knowledge

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and awareness in administering vaccinations, or trust in mythical rumors about the HPV vaccine circulating in their environment. In addition, low knowledge, lack of educational programs, or comprehensive counseling about the HPV vaccine can cause a lack of motivation for respondents in vaccinating their children.

Table 2. Results of Bivariate Analysis of Factors Related to Parental Decision Making in Administering HPV Vaccine to Children

Variable	Pediatric HPV Vaccine Decision Making				P-value	OR (CI 95%)
	Not		Yes			
	n	%	N	%		
Education						
Low	12	26,1	34	73,9	0,637	1,4 (0,5-4,0)
Tall	8	19,5	33	80,5		
Knowledge						
Less	18	40,0	27	60,0	0,000	13 (2,8-62)
Good	2	4,8	40	95,2		
Motivation						
Less	19	33,3	38	66,7	0,004	14 (1,8-114)
Good	1	3,3	29	96,7		
Family Support						
Negative	18	38,3	29	61,7	0,000	11 (2,5-54)
Positive	2	5,0	38	95,0		
Information Exposure						
Not Exposed	15	93,8	1	6,3	0,000	198(21-1821)
Exposed	5	7,0	68	93,0		

The results of the bivariate analysis showed that respondents with negative family support made the decision not to give the HPV vaccine to their children as many as 18 respondents (38.3%), while respondents with positive family support made the decision to give the HPV vaccine to their children, namely 38 respondents (95%). The results of the statistical test showed *a p value* of 0.000 (<0.05), so it can be interpreted that there is a meaningful relationship between the family support variable and the parental decision-making variable in administering the HPV vaccine to children.

Environmental factors are factors that have great power in determining a person's behavior. The knowledge of family members greatly influences the behavior and support that will be provided. The family itself affects the process of entering knowledge into the individuals in the environment. This research is in line with Janatri research (2022) which states that the family can be a very influential factor in determining individual health beliefs and values, and is the most important factor in adherence to medical programs. In addition, this research is also in line with Husnida's (2019) research which states that support provided by family members will give a

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positive response to mothers. Mothers who receive positive family support will tend to pay attention to the health of their children to be immunized.

The results of the bivariate analysis showed that most of the respondents who were not exposed to information made the decision not to give the HPV vaccine to their children, namely 15 respondents (93.8%), while the respondents who were exposed to the information, most of them made the decision to give the HPV vaccine to their children, namely 68 respondents (93.0%). The results of the statistical test showed *a p value* of 0.000 (<0.05), so it can be interpreted that there is a meaningful relationship between the variable of information exposure and the variable of parental decision-making in administering the HPV vaccine to children.

This research is in line with Asih's (2022) research which states that people who are exposed to and receive a lot of information tend to have a better understanding compared to someone who has few sources of information or has never been exposed to sources of information. The source of information can be in the form of counseling or health education. With this information, it is hoped that groups or individuals can gain knowledge about better health. This knowledge is ultimately expected to have an effect on behavior, including in the provision of child immunizations. In line with Aulia's theory (2022) which states that health promotion can have consequences for changing the behavior of respondents, especially if it is carried out intensively or repeatedly.

CONCLUSION

Based on the results of the study "Factors Related to Parental Decision Making in Administering *Human Papilloma Virus* Vaccine to Children at SDN Working Area of Puskesmas Binong Village, Tangerang Regency", it can be concluded that most parents make decisions to give HPV vaccines to their children, most parents have low education, poor knowledge, poor motivation, family support is negative, and most parents have been exposed to information about cervical cancer and the HPV vaccine.

Based on the results of the bivariate analysis, it was found that there was no meaningful relationship between education and parental decision-making in administering HPV vaccine to children at SDN Puskesmas Working Area, Binong Village, and there was a meaningful relationship between the variables of knowledge, motivation, family support, and information exposure and parental decision-making in administering HPV vaccine to

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children at SDN Puskesmas Working Area, Binong Village.

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