



The Relationship Between Knowledge Level and Attitude of Parents/Guardians with Acceptance of Human Papillomavirus (HPV) Vaccine Among 5th Grade Elementary School Students in Ambon City in 2024

Hertzia Batselia Hattu¹, Lidya Saptanno², Arlen Resnawaldi³, Nathalie Kailola⁴, Irene Leha⁵, Theresia Seimahuir⁶

^{1,2,3,4,5,6} Faculty of Medicine Pattimura University, Ambon, Indonesia

ARTICLE INFORMATION

Received: March 16, 2025

Revised: July 13, 2026

Available online: August 2026

KEYWORDS

Cervical cancer; Human papillomavirus (HPV) vaccine; Knowledge of parents/guardians; Attitude of parents/guardians; Acceptance of parents/guardians

CORRESPONDENCE

E-mail: hattuhertzia@gmail.com

ABSTRACT

Cervical cancer is one of the diseases caused by HPV virus infection. Cervical cancer ranks second as the leading cause of death in women in Indonesia. Based on WHO recommendations, HPV vaccine administration is the main prophylaxis to prevent cervical cancer which can be given from the age of 9 years. The effectiveness of the HPV vaccination program is influenced by one's knowledge and attitude. The purpose of this study was to determine the relationship between the level of knowledge and attitude of parents/guardians with the acceptance of the Human papillomavirus (HPV) vaccine in 5th grade elementary school students in Ambon City in 2024. This study used a correlation analytic design with a cross sectional approach. There were 112 respondents from ten grade 5 elementary schools selected by total sampling technique. Data were collected using a questionnaire research instrument of knowledge level, attitude, and acceptance of HPV vaccine. The data analysis technique used the Chi-square test. The results showed that the majority of respondents had a high level of knowledge (92.0%) with a high attitude (83.9%), and the majority accepted (50.9%). There was no relationship between knowledge and acceptance ($p=0.015$) with a value of $r=0.105$. There is no relationship between attitude and acceptance ($p=0.734$), with a value of $r=0.735$. So, it can be concluded that there is no significant relationship between the level of knowledge and attitude of parents/guardians with HPV vaccine acceptance.

INTRODUCTION

Cervical cancer is a primary malignant neoplasm growth that develops in the cervix, and occurs in the epithelium or outer surface layer of the cervix. The Human papillomavirus (HPV) virus is responsible for 99.7% of cervical cancer infections (Kementerian Kesehatan Republik Indonesia, 2015; Vera Novalia, 2023). Transmission of the HPV virus can occur through several ways, namely intrauterine, oro-genital or oro-oral sexual methods, and vertical indirect transmission (Sono et al., 2024). In the early stages of cervical cancer, the symptoms are usually insignificant, making it difficult to detect. This condition is quite a big problem in the medical world, because on average the majority of sufferers are only detected after they have entered an advanced stage (Rahmadini et al., 2022). HPV is a double-chain DNA virus, and is one of the most common sexually transmitted infections (Alnaeem et al., 2023). HPV vaccines function as HPV prophylaxis so that the immune response produced can recognize foreign objects so that the defense produced is more optimal (Zakiyah, 2023).

According to the World Health Organization, up to 604,000 women worldwide had cervical cancer in 2020, and about 342,000 of them lost their lives due to this disease (Sono et al., 2024). According to WHO data from 2022, cervical cancer accounted for 36,633 cases or 9.2% of all cancer cases worldwide, making it the second most

common type of cancer (Rahmadini et al., 2022). With 15,000 cases each year, 50% of cervical cancer patients die, making Indonesia the country with the second highest number of cervical cancer patients in the world after China. Approximately 20 women are estimated to lose their lives to cervical cancer every day, and there are an estimated 41 new cases of the disease every day (Widyaningsih et al., 2023). 5,4% of all cervical cancer cases worldwide are reported in Indonesia (Zakiyah, 2023). According to data from the Global Cancer Observatory (Globacan), there were 21,003 deaths from cervical cancer and 36,633 new cases of cervical cancer in Indonesia in 2020, or 17.2% of all cases. This data also shows that after breast cancer, cervical cancer ranks second (Rahmadini et al., 2022; Thieny H.I Mumekh et al., 2022). WHO recommends that HPV vaccine administration should begin when girls are 9 years old (Kamolratanakul & Pitisuttithum, 2021).

According to information from the Maluku Provincial Health Office, in 2021 there were 15 women in Maluku suspected of having cervical cancer, 34 people in 2022, and 5 people in 2023 (Dinas Kesehatan Provinsi Maluku, 2023). HPV vaccination coverage in Ambon city according to data from the Ambon City Health Office in 2023 was 60.3% or as many as 1,634 5th grade students had been vaccinated against HPV and 39.7% or around 1,077 students were not vaccinated (Dinas Kesehatan Kota Ambon, 2023). Based on data from the Ambon City Government in 2024, it states that the Ambon City Education Office has conducted a mapping of education units in Ambon City whose students have not been immunized, so that it can be an effective step to achieve the targets (Pemerintah Kota Ambon, 2024). Based on government policy stated in the Regulation of the Minister of Health of the Republic of Indonesia Number 12 of 2017 concerning the implementation of immunization, every girl over the age of nine must receive vaccine immunization (Menteri Kesehatan Republik Indonesia, 2017). HPV vaccination is aimed at primary school children in grades 5 and 6, and can be obtained free of charge (Ansiga et al., 2024). In order to expand the Human Papillomavirus (HPV) Vaccine immunization pilot program for 2020-2024 as a development and introduction into the national immunization program, the stages of HPV immunization as stipulated in the Decree of the Minister of Health Number HK.01.07/Menkes/449/2020 must be implemented. This program is carried out in stages every year to coincide with the Immunization Month for School Children, which is targeted at girls in primary schools (Menteri Kesehatan Republik Indonesia, 2021). The first stage of HPV vaccine administration is given in two doses with an interval of 6 to 15 months (Sono et al., 2024). WHO has set the 90-70-90 target as part of its cervical cancer elimination strategy to be achieved by 2030. It is expected that 90% of girls aged 15 years receive the full range of vaccinations as well as the HPV vaccine, 70% of women undergo accurate screening for cervical cancer by age 35 years, and 90% of women identified with cervical cancer (invasive cancer stage or pre-cancer stage) should undergo effective care and treatment (World Health Organization, 2020).

HPV vaccine is most effective when given to individuals who have never engaged in sexual activity, so the vaccine can be started in elementary school-aged children. However, if the vaccine is given to someone who has

been sexually active, the benefits and effectiveness of the vaccine will decrease. HPV vaccination is intended to prevent HPV virus infection and reduce female mortality from cervical cancer, not to treat pre-existing HPV infections (Dewi Ayumaruti, 2021). The effectiveness of the HPV vaccination program as a preventive measure for cervical cancer is strongly influenced by parents attitudes and understanding of the vaccine (Sinshaw et al., 2022). Based on the description of the problem above, the researcher is interested in conducting a study entitled “The Relationship between the Level of Knowledge and Attitudes of Parents / Guardians with the Acceptance of Human Papillomavirus (HPV) Vaccine in 5th Grade Elementary School Students in Ambon City in 2024”. The general purpose of this study was to analyze the relationship between the level of knowledge and attitudes of parents/guardians with the acceptance of the Human papillomavirus (HPV) vaccine in 5th grade elementary school students in Ambon City in 2024. The specific objectives are to determine the level of knowledge of parents/guardians of 5th grade elementary school students in Ambon City in 2024 regarding the Human papillomavirus (HPV) vaccine, to determine the attitude of parents/guardians of 5th grade elementary school students in Ambon City in 2024 towards the Human papillomavirus (HPV) vaccine, to determine the acceptance of parents/guardians of 5th grade elementary school students in Ambon City in 2024 towards the Human papillomavirus (HPV) vaccine, to determine the relationship between knowledge and the acceptance of parents/guardians of 5th grade elementary school students in Ambon City in 2024 regarding the Human papillomavirus (HPV) vaccine, and to determine the relationship between attitudes and the acceptance of parents/guardians of 5th grade elementary school students in Ambon City in 2024 regarding the Human papillomavirus (HPV) vaccine.

METHOD

This study used a correlation analytic design with a cross sectional approach. The data collection process was carried out by distributing research questionnaires to 5th grade homeroom teachers in 10 selected elementary schools, then the questionnaires were distributed to 5th grade female students to be sent home and filled in by the parents of the students. However, there were also parents who filled in the questionnaires directly at school, because they crossed paths with teacher and parent/guardian meetings at school. Parents/guardians were excluded as subjects in this study if they refused to participate. The questionnaires that have been filled in, will then be collected back to be analyzed and processed by the researcher. The research sample was selected based on the inclusion criteria, namely parents/guardians of 5th grade students in 10 selected elementary schools, parents/guardians of students who were willing to become research respondents, and students who had never received the first and second doses of HPV vaccine. The exclusion criteria were parents/guardians of 5th grade schoolgirls who did not fill out the questionnaire clearly and completely. 112 samples were obtained from parents/guardians of 5th grade

students in ten elementary schools, including 5 elementary schools selected based on the highest HPV vaccination coverage in 2023, and 5 elementary schools selected based on the lowest HPV vaccination coverage in 2023. Sampling was conducted using a total sampling technique. The research instrument used was a structured questionnaire. The questionnaire used was a questionnaire developed from the research of Frianto D et al (2022), and has gone through validity and reliability tests. Data analysis used univariate analysis to identify the characteristics of respondents, and to process data from questionnaires to find the level of knowledge (low, high) and attitudes (low, medium, high), while bivariate analysis to find the relationship between parental/guardian knowledge and acceptance, and parental/guardian attitudes with HPV vaccine acceptance.

The statistical test used is the Chi-square test which is used to determine whether the two variables are related or not, with a significance level of 0.05. H_0 can be accepted if the p-value is >0.05 , meaning that there is a relationship between the two variables, and H_a is accepted if the p-value is <0.05 , meaning that there is a relationship between the two variables studied.

RESULT

Table 1. Frequency Distribution of Respondent Characteristics (n=112)

Characteristics	Frequency (n)	Percentage (%)
Age		
12 - 18 Years	1	0,9
19 - 40 Years	63	56,3
40 - 65 Years	47	42,0
>65 Years	1	0,9
Gender		
Male	19	17,0
Female	93	83,0
Last Education		
Elementary	5	4,5
Junior High School	10	8,9
Senior High School	66	58,9
Diploma	6	5,4
Bachelor	23	20,5
Not in school	2	1,8

Table 1 shows that the majority of respondents were between 19-40 years old (56.3%). The majority of respondents were female (83.0%), and the majority of respondents were high school graduates (58.9%).

Table 2. Frequency Distribution of Parents/Guardians Knowledge Level about HPV Vaccine and Cervical Cancer

Knowledge	n	%
Low	9	8,0
High	103	92,0
Total	112	100

Table 2 shows that out of 112 respondents, most respondents had high knowledge (92.0%).

Table 3. Frequency Distribution of Parents/Guardians Attitudes Towards HPV Vaccine

Attitude	n	%
Low	3	2,7
Medium	15	13,4
High	94	83,9
Total	112	100

Table 3 shows that out of 112 respondents, the majority of respondents had a high attitude (83.9%).

Table 4. Frequency Distribution of Parent/Guardians Acceptance of HPV Vaccine

Acceptance	n	%
Yes	57	50,9
No	55	49,1
Total	112	100

Table 4 shows that of the 112 respondents, the majority accepted (50.9%). However, the proportion of acceptance and rejection was almost equal, with the level of acceptance only slightly higher than rejection (difference of 2 respondents or 1.8%).

Table 5. Frequency Distribution of the Relationship between Parents/Guardians Knowledge Level and HPV Vaccine Acceptance

Knowledge	HPV vaccine acceptance						<i>p-value</i>	<i>r</i>
	Yes		No		Total			
	n	%	n	%	n	%		
Low	1	0,9	8	7.1	9	8,0	0,015	0,105
High	56	50,0	47	42,0	103	92,0		
Total	57	50.9	55	49.1	112	100		

Table 5 shows that out of 112 respondents, most respondents (50%) who received the HPV vaccine had high knowledge. Meanwhile, most respondents (42%) who refused the HPV vaccine also had high knowledge. The results of the statistical test analysis to find the relationship between knowledge and acceptance used Fisher's exact test as an alternative Chi-square test because the conditions were not met (there was an expectation value of less than 5 as much as 50%). Based on the results of the test, the *p*-value was 0.015 ($p > 0.05$) which indicates that H_0 is accepted, meaning that there is no relationship between the level of knowledge of parents/guardians and the acceptance of the HPV vaccine. With a value of $r = 0.105$, indicating a very weak relationship between the two variables or a weak positive correlation.

Table 6. Frequency Distribution of the Relationship between Parent/Guardian Attitude and HPV Vaccine Acceptance

Attitude	HPV vaccine acceptance						<i>p-value</i>	<i>r</i>
	Yes		No		Total			
	n	%	n	%	n	%		
Low-Medium	8	7,1	10	8,9	18	16,1	0,734	0,735
High	49	43,8	45	40,2	94	83,9		
Total	57	50.9	55	49,1	112	100		

Table 6 shows that out of 112 respondents, most respondents (43.8%) who received the HPV vaccine had high knowledge. Meanwhile, most respondents (40.2%) who refused the HPV vaccine also had high knowledge. The results of statistical test analysis using the Chi-square test obtained a p-value of 0.734 ($p > 0.05$) which indicates that H_0 is accepted, meaning that there is no relationship between parental/guardian attitudes and HPV vaccine acceptance. With a value of $r = 0.735$, it shows the strength of the strong relationship between the two variables or a strong positive correlation. The more positive the attitude of parents/guardians towards the HPV vaccine, the higher the level of vaccine acceptance for their children.

DISCUSSION

The research findings regarding the level of knowledge of respondents found that most respondents had a high level of knowledge. A person's high level of knowledge can be influenced by several factors including one of which is the surrounding environment. In this case, based on research findings from conditions in the field, direct interaction between fellow respondents can provide space for them to discuss with friends next to them while filling out the questionnaire. This can lead to a high level of knowledge. In addition, the fact that most of the questionnaires were distributed to schoolgirls at school and then completed by their parents at home also gave parents the opportunity to seek further information about the HPV vaccine, either through the internet or by asking others before completing the questionnaire. Most likely, this also contributed to their high level of knowledge of the HPV vaccine and cervical cancer. Supported by Annisa et al. (2024), that social media was the main source of information for respondents who had heard about HPV and vaccination. In this case, the main source of their knowledge about HPV vaccination was obtained through social media and the internet (Annisa Fitri Rahmadini, Lela Zakiah, Nina Yusnia, Fadia Rasyidin, 2024).

Other factors that influence a person's knowledge are age and education (Notoatmodjo S, 2010). A person's ability and maturity in thinking and working will develop with age. Therefore, age plays an important role in raising parents awareness of the superiority of the HPV vaccine in cervical cancer prevention efforts. Education is an effort to develop one's personality and skills both inside and outside the classroom. Education and knowledge are closely related, and it is assumed that people with higher education will have greater knowledge (Nahak et al., 2018).

Based on the results of the analysis of respondents attitudes towards the HPV vaccine, the majority of respondents had a high attitude. This is because parents, especially mothers, are more aware of the need to avoid HPV virus infection to reduce the risk of cervical cancer. In this case, a person's understanding of cervical cancer can also increase their awareness. Parents who have sufficient information about cervical

cancer and the HPV vaccine can generate feelings and generate emotions that motivate them to participate in HPV immunization.

Based on the research findings regarding HPV vaccine acceptance, the majority of parents/guardians were willing to accept the HPV vaccine for their daughters. However, the proportion of acceptance and rejection of the HPV vaccine tends to be balanced, with acceptance only slightly higher than rejection with a difference of 2 respondents. This could be due to parents lacking access to reliable sources of information to find out the truth about false information and conspiracies about vaccines circulating in the community. In this case, from the results of brief discussions with parents and homeroom teachers during the study, it was found that parents had never previously received counseling or socialization about HPV vaccination, which is thought to have affected their level of knowledge and resulted in their acceptance of the HPV vaccine being lower. Parents also mentioned that since this was the first time they had heard of the HPV vaccine, they did not know much about it and wanted more accurate information before making a decision. Nevertheless, even though they have never received or even heard previous information and explanations regarding the HPV vaccine, based on the findings of this study, the majority of parents and guardians have high knowledge, because it is possible that they received information about the HPV vaccine via the internet at the time of filling out the questionnaire, especially in the digital era like now. This is in line with research by Grandahl M et al. (2017), which noted that most parents obtained information about HPV vaccination through mass media and the internet (Grandahl et al., 2017). In addition, more accurate and reliable information is needed from health service providers so that the public is not consumed by distorted issues about vaccines.

The results of this study also show that there is no relationship between the level of knowledge of parents/guardians and the acceptance of the HPV vaccine. This is supported by Hendra (2021), showing that there is no significant correlation ($p > 0.05$) between interest in HPV vaccination and knowledge about cervical cancer ($p = 0.403$). According to their study, the lack of interest in vaccination was due to lack of knowledge (Hendra, 2021). Although social media contributes to the expansion of knowledge, exposure to information from social media can also be one of the factors contributing to low interest in HPV vaccination, as it can present confusing information. Based on experiences that occurred in the field during this study, there were several reasons for parents rejection of the HPV vaccine, where most parents and guardians were afraid that their children would be vaccinated immediately when they filled out the questionnaire. Even the homeroom teacher reported that there were students who did not want to go to school because they were afraid of being vaccinated. Most parents also said they had only heard of this vaccine, so they needed accurate information regarding the vaccine. Knowledge based on experience supported by concrete facts is often more quickly accepted when making decisions to act. In this case,

respondents said that because their children had previously experienced Post-Immunization Adverse Events (AEFI) as a side effect of immunization (excluding HPV vaccination), they were more reluctant to accept the HPV vaccine. Therefore, the more people know about the HPV vaccine, the more likely they will be motivated to receive the vaccination (Namira Wadjir Sangadji, Ira Marti Ayu, 2024). In line with research by Forster AS et al. (2015), respondents who refused HPV vaccination were due to several factors, including lack of parental consent, safety concerns due to fear that vaccination could cause side effects that had not previously occurred, feeling that the HPV vaccine was unnecessary, needing more information, and procedural issues due to fear of needles, health reasons in this case it was reported that some children were allergic to ingredients contained in the vaccine, and other reasons that were not clearly given (Forster et al., 2015). Parents who have better information and knowledge tend to be willing to do HPV vaccination because they understand the important role of the vaccine to avoid cervical cancer (Zulfa et al., 2023). In line with research by Zulfa A et al. (2023), which explains that a sign of parents acceptance of the HPV vaccine is shown by their readiness to carry out HPV vaccination. The reason for acceptance was most often mentioned, namely because of the vaccine's ability to protect children from HPV infection and cervical cancer (Zulfa et al., 2023). According to the findings of this study, a mother's knowledge plays a very important role, because the more knowledgeable a woman is, the formation of her attitude will be much better so that she will be more likely to accept the HPV vaccine.

The results of this study indicate that there is no significant relationship between parents/guardians attitudes and HPV vaccine acceptance. Both parents who choose to accept or reject HPV vaccination for their children both have high attitudes. In line with research findings by Frianto D et al. (2020), which showed that the overall attitude of respondents about the HPV vaccine and the acceptance of parents of schoolgirls were not significantly correlated ($p = 0.364$). Despite having a relatively high overall attitude score, respondents still rejected the HPV vaccine due to limited information so they did not know about it (Frianto et al., 2020). In addition, a person's interest is also strongly influenced by the surrounding environment so that sometimes someone is interested in doing something because they follow the crowd (Hendra, 2021). Attitudes affect the formation of interest and tend to accept, reject, or not respond to objects (Fitri & Elviany, 2018). Based on experiences that occurred in the field, most parents who rejected the HPV vaccine were because they were worried about side effects and dangerous chemical content in the vaccine. In addition, most parents also said that their experience with the Covid-19 pandemic and the side effects of the Covid-19 vaccine had influenced their thinking and made them more reluctant to accept the HPV vaccine. This is supported by Dapari R et al. (2024), where vaccine hesitancy and concerns about side effects and potential vaccine safety issues were the main reasons for women's vaccine hesitancy (Dapari et al., 2024). On the other hand, parents received the HPV vaccine because they realized the

importance of the vaccine to protect their daughter from dangerous diseases such as cervical cancer. Parents beliefs or attitudes regarding their child's susceptibility to HPV and the severity of infection, as well as prevention efforts against HPV virus infection contributed to their desire to have their child receive the HPV vaccine. In addition, some of them also considered receiving the HPV vaccine for their children because they were supported by the government-funded free vaccination/immunization program. Parents attitudes did not directly influence their decision to receive the HPV vaccine. In other words, even if parents have a positive attitude towards the vaccine, it does not necessarily mean they will be willing to receive the vaccine for their child (Zulfa et al., 2023).

CONCLUSION

Based on the results of the above study, it can be concluded that the majority of respondents had a high level of knowledge, with a high attitude, and most accepted the HPV vaccine, however, the proportion of acceptance and rejection of the HPV vaccine was almost balanced. The results of this study also showed that there was no significant relationship between the level of knowledge and attitude of parents/guardians with the acceptance of HPV vaccine among 5th grade elementary school students in Ambon City in 2024.

REFERENCES

- Alnaeem, L., Alanizi, S., AlQarni, G., Alwadani, J., Bomouzah, F., & Ali, Z. (2023). Acceptance, Knowledge, and Attitude of Parents Toward the Human Papillomavirus Vaccine in the Eastern Region of Saudi Arabia: A Cross-Sectional Study. *Cureus*, 15(12), 1–12. <https://doi.org/10.7759/cureus.51293>
- Annisa Fitri Rahmadini, Lela Zakiah, Nina Yusnia, Fadia Rasyidin, Y. W. (2024). Faktor-faktor yang berhubungan dengan siswa-siswi terhadap kesediaan untuk vaksinasi HPV (Human Papilloma Virus). *Journal of Midwifery Care*, 5(01), 28–34. <https://doi.org/10.34305/jmc.v5i1.132>
- Ansiga, J., Acihayati, J. P., & Wirdani, P. (2024). Hubungan Tingkat Pengetahuan dan Dukungan Orang Tua dengan Keikutsertaan Vaksinasi HPV pada Siswa Sekolah Dasar di Manado. *Jurnal Keperawatan Cikini*, 5(01), 10–16. <https://doi.org/10.55644/jkc.v5i01.150>
- Dapari, R., Li, M., Chen, X. J., Cui, J., Ahmad Zamzuri, M. ‘Ammar I., Hassan, M. R., Che Dom, N., & Syed Abdul Rahim, S. S. (2024). Factors influencing HPV vaccine acceptance among females in mainland China: A systematic review. *Clinical Epidemiology and Global Health*, 26, 101514. <https://doi.org/10.1016/j.cegh.2024.101514>
- Dewi Ayumaruti, D. A. (2021). Tinjauan Sistematis terhadap Pengetahuan, Persepsi, Motivasi Masyarakat Tentang Vaksinasi HPV bagi Remaja Putri dan Wanita Usia Subur : Literature Review. *Media Publikasi Promosi Kesehatan Indonesia*, 2(1), 56–61.
- Dinas Kesehatan Kota Ambon. (2023). *Rekapan Hasil Pelaksanaan Bulan Imunisasi Anak Sekolah (BIAS) di Kota Ambon*.
- Dinas Kesehatan Provinsi Maluku. (2023). *Data Manual Skrining IVA Curiga Kanker Tahun 2021, 2022, dan 2023*.

- Fitri, D. M., & Elviany, E. (2018). Hubungan Pengetahuan, Persepsi, dan Sikap dengan Minat Untuk Melakukan Vaksinasi Human Papilloma Virus (HPV) pada Wanita Usia Subur di Desa Gudang Kecamatan Cikalongkulon Kabupaten Cianjur. *Jurnal Ilmiah Kesehatan Dan Kebidanan*, 7(2), 1–15. <https://smrh.e-journal.id/Jkk/article/view/41/20>
- Forster, A. S., Waller, J., Bowyer, H. L., & Marlow, L. A. V. (2015). Girls' explanations for being unvaccinated or under vaccinated against human papillomavirus: a content analysis of survey responses. *BMC Public Health*, 15(1), 1–9. <https://doi.org/10.1186/s12889-015-2657-6>
- Frianto, D., Ashari, A. D., & Amal, S. (2020). Pengaruh Faktor Sikap Terhadap Penerimaan Vaksin Hpv Pada Orang Tua Murid Sekolah Dasar Di Kecamatan Teluk Jambe Timur Dan Tegalwaru. *Pharma Xplore : Jurnal Ilmiah Farmasi*, 5(2), 41–48. <https://doi.org/10.36805/farmasi.v5i2.1192>
- Grandahl, M., Tydén, T., Westerling, R., Nevéus, T., Rosenblad, A., Hedin, E., & Oscarsson, M. (2017). To Consent or Decline HPV Vaccination: A Pilot Study at the Start of the National School-Based Vaccination Program in Sweden. *Journal of School Health*, 87(1), 62–70. <https://doi.org/10.1111/josh.12470>
- Hendra, S. D. P. (2021). Hubungan Tingkat Pengetahuan Kanker Serviks Dengan Minat Untuk Vaksinasi HPV Pada MahasiswiI Fakultas Kedokteran Universitas HKBP Nommensen Medan. *Nommensen Journal of Medicine*, 6(2), 58–61. <https://doi.org/10.36655/njm.v6i2.492>
- Kamolratanakul, S., & Pitisuttithum, P. (2021). Human Papillomavirus Vaccine Efficacy and Effectiveness against Cancer. *Vaccines*, 9(12), 1–21. <https://doi.org/10.3390/vaccines9121413>
- Kementerian Kesehatan Republik Indonesia. (2015). Panduan Pelayanan Klinis Kanker Serviks. In *Komite Nasional Penanggulangan Kanker (KPKN)*. http://www.theseus.fi/handle/10024/341553%0Ahttps://jptam.org/index.php/jptam/article/view/1958%0Ahttp://ejurnal.undana.ac.id/index.php/glory/article/view/4816%0Ahttps://dspace.uii.ac.id/bitstream/handle/123456789/23790/17211077_Tarita_Syavira_Alicia.pdf?
- Menteri Kesehatan Republik Indonesia. Keputusan Menteri Kesehatan Republik Indonesia Nomor HK.01.07/Menkes/6779/2021 Tentang Program Introduksi Imunisasi Human Papillomavirus Vaccine (HPV) Tahun 2022-2024, 1 (2021).
- Nahak, P. A. L., Yuliwar, R., & Warsono. (2018). Hubungan Pengetahuan Ibu Tentang Kanker Serviks Dengan Sikap Untuk Mengikuti Imunisasi Human Papilloma Virus (HPV) di Kelurahan Tlogomas Kecamatan Lowokwaru Kota Malang. *Nursing News*, 3(1), 164–174.
- Namira Wadjir Sangadji, Ira Marti Ayu, E. V. (2024). Faktor yang Berhubungan dengan Penerimaan Vaksin HPV. *Surya Medika: Jurnal Ilmiah Ilmu Keperawatan Dan Ilmu Kesehatan Masyarakat*, 19(1), 55–60. <https://doi.org/10.32504/sm.v19i01.888>
- Notoatmodjo S. (2010). *Promosi Kesehatan dan Perilaku Kesehatan*. Rineka Cipta.
- Pemerintah Kota Ambon. (2024, November 16). *Bantu Tingkatkan Imunisasi, Anak Mudah Ambon diberi Pelatihan Komunikasi*.
- Menteri Kesehatan Republik Indonesia. Peraturan Menteri Kesehatan Republik Indonesia Nomor 12 Tahun 2017 Tentang Penyelenggaraan Imunisasi (2017).
- Rahmadini, A. F., Kusmiati, M., & Sunarti, S. (2022). Faktor-Faktor yang Berhubungan dengan Perilaku Remaja Terhadap Pencegahan Kanker Serviks Melalui Vaksinasi HPV. *Jurnal Formil (Forum Ilmiah) Kesmas Respati*, 7(3), 317–325. <https://doi.org/10.35842/formil.v7i3.458>
- Sinshaw, M. T., Berhe, S., & Ayele, S. G. (2022). Knowledge and Attitude Towards Human Papillomavirus Vaccine and Associated Factors Among Mothers Who Have Eligible Daughters in

- Debre Markos Town, Northwest Ethiopia. *Infection and Drug Resistance*, 15, 781–793. <https://doi.org/10.2147/IDR.S352440>
- Sono, R. H., Dewi, R., Sari, P., Lisiswanti, R., Romulya, A. I., Kedokteran, F., Lampung, U., Obstetri, B., Kedokteran, F., Lampung, U., Kedokteran, B. P., Kedokteran, F., & Lampung, U. (2024). Efektivitas Vaksin Human Papillomavirus Pada Anak Perempuan dalam Upaya Pencegahan Kanker Serviks. *Medula*, 14(3), 436–441.
- Thieny H.I Mumekh, Cut Mutiya Bunsal, & Sunarti Basso. (2022). Edukasi Kesehatan Vaksinasi Human Papiloma Virus (Hpv) Pada Anak Sekolah Terhadap Pengetahuan Sikap Guru. *Jurnal Kesehatan Amanah*, 6(2), 10–21. <https://doi.org/10.57214/jka.v6i2.155>
- Vera Novalia. (2023). Kanker Serviks. *GALENICAL: Jurnal Kedokteran Dan Kesehatan Mahasiswa Malikussaleh*, 2(1), 45–56.
- Widyaningsih, H., Wulan, E. S., Indah, N. N., Hartini, S., & Fatmawati, Y. (2023). Profile of Parents' Knowledge About Prevention of Cervical Carcinoma Through Human Papilloma Virus Vaccination. *Cendekia International Conference Health and Technology*, 196–206.
- World Health Organization. (2020). Global strategy to accelerate the elimination of cervical cancer as a public health problem. In *World Health Organization*. <https://www.who.int/publications/i/item/9789240014107>
- Zakiah, H. (2023). *Efektivitas Program Vaksinasi HPV dalam Pencegahan Kejadian Kanker Serviks pada Perempuan di Indonesia*. 1–7. https://www.researchgate.net/publication/376642104_Efektivitas_Program_Vaksinasi_HPV_dalam_Pencegahan_Kejadian_Kanker_Serviks_pada_Pemempuan_di_Indonesia
- Zulfa, A., Lismidiati, W., & Kustanti, A. (2023). Gambaran Pengetahuan, Sikap, dan Penerimaan Orang Tua terhadap Vaksinasi HPV di SMP Kota Yogyakarta. *Jurnal Keperawatan Klinis Dan Komunitas (Clinical and Community Nursing Journal)*, 7(2), 69–80. <https://doi.org/10.22146/jkkl.71832>