PROFILE OF PARENTS' KNOWLEDGE ABOUT PREVENTION OF CERVICAL CARCINOMA THROUGH HUMAN PAPILLOMA VIRUS VACCINATION

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Abstract. Human Papillomavirus (HPV) types 16 and 18 are the main viruses that cause carcinoma of the cervix uteri. The incidence of uterine cervical carcinoma in Indonesia is 23.4/100,000. HPV can be transmitted sexually and non-sexually. Vaccination is one of the strategies to prevent cervical uterine carcinoma. The HPV vaccine is given to healthy grade 5 students through the School Children's Immunization Month (BIAS) program. The role of parents can influence student participation in participating in the activity of administering the HPV vaccine. The level of parental knowledge about HPV vaccination is important to determine participation in the HPV vaccine program. This study aims to determine the level of parental knowledge about Human Papilloma Virus (HPV) immunization in grade 5 elementary school children in the Randulawang Health Center area. This type of research is descriptive with a cross-sectional design. The population of parents who have daughters in grade 5 elementary school in the working area of the Randulawang Health Center. The sampling technique is proportional stratified random sampling so that the sample size is 79 respondents. Descriptive data analysis. Most parents' knowledge is in the moderate category 32 (40.5%), good category 30 (38%), and less category 17 (21.5%). Parents' knowledge about HPV vaccination for grade 5 elementary school children in the Randulawang Health Center area was mostly in the moderate category. It is recommended that parents should be able to increase their knowledge about the HPV vaccine regarding the benefits, safety, and side effects of the vaccine and the dangers of cancer

Key words: [Knowledge, Parents, HPV Vaccine.]

INTRODUCTION

Efforts to improve the quality of human resources in the health sector are efforts to foster school-age children through School/Madrasah Health Enterprises (UKS/M). UKS/M is implemented to improve the quality of education and learning achievement of students through the UKS/M Triassic which includes health education, health services, and fostering a healthy school environment. One of the health services in UKS/M activities is the provision of immunization through the School Child Immunization Month (BIAS) activity which is carried out to improve the health status of school children and protect against Diseases Preventable by Immunization (PD3I). Implementation of BIAS for first-grade children includes immunization against Measles-Rubella and Diphtheria-Tetanus (DT) while for children in grades two and five immunizations for Tetanus-Diphtheria (TD). There is additional immunization, namely the Human Papilloma Virus (HPV) vaccine (Ministry of Health, 2022).

HPV vaccination is a specific protection against uterine cervical carcinoma which is given before exposure to HPV and will have a very effective level of protection against 70% of potential cases of cervical cancer. The HPV vaccine targets types 16 and 18 which are the causes of cervical cancer (WHO, 2017). This vaccine can prevent 91% of persistent infections, mild abnormalities, precancerous lesions, or candidal warts in the genital area (Ministry of Health, 2015). Cervical carcinoma vaccine administration coincides with BIAS activities in August and November and is mandatory. The HPV vaccine acts as prophylaxis and must be given before exposure to HPV so that the resulting adaptive immune response can recognize foreign cells so that the resulting defense can be effective. The HPV vaccine is prioritized for the target population of women aged 9-10 to 13 years to prevent carcinoma of the cervix uteri (WHO, 2018).

HPV is a virus that causes cervical cancer. As many as 99.7% of cases of uterine cervical carcinoma are caused by HPV types 16 and 18 (Ministry of Health, 2018). Uterine cervical carcinoma is the second leading cause of death in women in the world after breast cancer. HPV contributes to cancer deaths in low- and middle-income countries by 20% (WHO, 2016). The International Agency

for Research On Cancer (IARC) projects that by 2050 the population of women aged over 15 years with cervical uteri cancer worldwide will reach three billion. The prevalence of cervical cancer reaches 1.4 million with new cases of 528,000 and about 85% come from developing countries. The data states that more than 60% of new cases of cervical cancer are found in Africa, Asia, and Central and South America. The death rate from cancer in the world is around 70% every year. It is estimated that cancer cases will increase in the next two decades from 14 million to 22 million (WHO, 2020).

Indonesia is the second country in the world after China which has the most patients with cervical cancer with 15,000 cases each year and 50% die. Every day it is estimated that there are 41 new cases of carcinoma of the cervix uteri and 20 women die from this cancer. New cases of cervical uteri carcinoma totaled 2,429 or 25.91% of all cancers found in Indonesia. The estimated incidence of uterine cervical carcinoma in Indonesia is 23.4/100,000 women with the death of 13.9/100,000 women (Ministry of Health, 2020). Data in Central Java recorded 19,734 cases (1.2%) of cervical cancer patients (Central Java Health Office, 2020). In Blora Regency in 2020, with a total of 41,170 Women of Reproductive Age (WUS) and only 4.4% had carried out early detection of cervical and breast cancer, with positive IVA results there were 76 WUS of 4.2% (Blora Health Office, 2021).

Uterine cervical carcinoma is caused by HPV infection and mostly occurs in women of childbearing age. Most HPV enters the body through mucous membranes, especially through sexual contact with someone who has been infected. The types that can cause the most reproductive cancers are types 16 and 18, while types 6 and 11 most often cause genital warts. One of the efforts to prevent cancer with HPV vaccination. WHO has established a global strategy to eliminate cervical uterine carcinoma which aims to reduce the incidence to 4/100,000 cases per year by 2030 (Ministry of Health, 2018).

Based on Globocan 2020 data, there were 36,633 new cases of cervical cancer with an estimated death of 21,003 people. Based on data in Indonesia, it can be concluded that every day there are 88 new cases and 50 deaths from cervical uteri carcinoma. Indonesia has the highest incidence and death per 100,000 population among countries in Southeast Asia with an incidence of 24.4 and 14.4 deaths.

HPV vaccination is a specific form of protection against cervical uteri carcinoma (WHO, 2020). The target for the global program setting is 90-70-90, which means that 90% of girls fully receive the HPV vaccine at the age of 15 years, as many as 70% of women are screened with high-precision tests at ages 35 and 45 years and as many as 90% of women identified to suffer from cervical cancer receive management and treatment of the disease (IDAI, 2017). The national program that has been implemented is early detection of cervical uteri carcinoma with the Acetic Acid Visual Inspection (IVA) method. The government has also launched a national immunization program, namely the first dose of the HPV vaccine for grade 5 students and the second dose for grade 6. Vaccination for SD/MI and equivalent students through the School Children Immunization Month (BIAS) program. Primary prevention of uterine cervical carcinoma by avoiding risks and HPV vaccination. Vaccines are recommended for ages 13-26 years who do not receive repeated vaccines or do not receive complete vaccines (Ministry of Health, 2016).

Some 67 out of 194 countries in the world have implemented HPV vaccination programs to increase immunity and many studies from these countries have shown benefits in reducing the incidence of cervical uterine carcinoma and diseases related to HPV infection (WHO, 2016). An estimated 118 million women are targeted through this vaccine program, but only 1% are from low- or lower-middle-income countries. A total of 47 million women (95% CI 39–55 million) received the full course of the vaccine, representing 1.4% of total population coverage (95% CI 1.1–1.6), and 59 million women (48–71 million) had received at least one dose, representing a total population coverage of 1.7% (1.4–2.1). In more developed areas, 33.6% (95% CI 25.9–41.7) of women aged 10-20 years received the full vaccine, compared to only 2.7% (1.8–3.6) of women in less developed areas. less developed (Bruni et al., 2020). Data in Indonesia recorded that in 2020 the coverage of BIAS HPV class 5 (66.8%), and BIAS HPV class 6 (50.7%). In 2021 the coverage of BIAS HPV class 5 (79.5%) and class 6 (60.6%). Meanwhile, Central Java in 2021 recorded BIAS HPV class 5 (88.0%) and class 6 (70.4%) (Ministry of Health, 2022). In more developed areas, 33.6% (95% CI 25.9-41, 7) of women aged 10-20 years received the full vaccine, compared to only 2.7% (1.8–3.6) of women in less developed areas (Bruni et al., 2020). Data in Indonesia recorded that in 2020 the coverage of BIAS HPV class 5 (66.8%), and BIAS HPV class 6 (50.7%). In 2021 the coverage of BIAS HPV class 5 (79.5%) and class 6 (60.6%). Meanwhile,

Central Java in 2021 recorded BIAS HPV class 5 (88.0%) and class 6 (70.4%) (Ministry of Health, 2022).

The success of the HPV vaccination program requires an understanding of HPV disease and the benefits of vaccination. The education process and the role of the mass media should make it easier to access health information and open up insight, especially for parents and young girls. Lack of attention and proper use of facilities by parents can lead to a lack of knowledge about the dangers, ways of spreading, and prevention of infection so that the incidence and mortality from HPV infection increase (Ekowati et al., 2017). Prevention of uterine cervical carcinoma can be done early so that every parent must understand the importance of HPV vaccination. The main factor that can affect the implementation of cervical uteri carcinoma prevention is parental acceptance (Asda, 2018). A 2015 study on parents' attitudes toward sexually transmitted diseases found that several factors determined parental acceptance, namely knowledge, level of education, number of sexual partners, and the effectiveness of the prevention (Zimeth, 2015)

Parents who have less knowledge can lead to a low level of awareness of the importance of preventing uterine cervical cancer. Lack of awareness will have an impact on the behavior of parents in preventing cervical uteri carcinoma in themselves and other family members. Knowledge influences the mother's attitude which determines the mother's behavior toward cervical cancer prevention (Zahra, 2018). In 2018, in Ungaran, Semarang Regency, research was conducted on maternal knowledge about preventing cervical cancer in female students and found that more than half of the respondents had a high level of knowledge (59.3%) and a positive attitude (57.2%) towards HPV vaccination (Zulfa, 2018). Asda's research (2018) found that the majority of respondents had insufficient knowledge of HPV immunization, which was related to knowledge, goals, schedules, side effects, and contraindications to HPV vaccination of 64.3%. Aline's study (2022) stated that knowledge about HPV as cancer prevention got 4 (4.9%) good categories, 63 (77.8%) sufficient categories, and 14 (17.3%) poor categories.

Based on research on the description of knowledge and behavior of HPV vaccination, it was shown that 8.4% of respondents had good knowledge about cervical cancer and 16.9% had good knowledge about the HPV vaccine. More than 50% of respondents have a negative attitude towards cervical cancer and HPV vaccination and 64.3% of respondents have a good attitude towards cervical cancer prevention. This affects the behavior of carrying out the HPV vaccination. Respondents who had not been vaccinated against HPV were 92.2% (Dethan and Suariyani, 2017). Previous studies showed that 70.8% were categorized as a group with a high knowledge value, but knowledge could not significantly influence motivation to vaccinate against HPV. Respondents' confidence in carrying out the HPV vaccination was as much as 90.8% had a high perception of the perceived seriousness and 92.5% of the perceived benefits obtained after carrying out the HPV vaccination (Sari, 2019).

Based on the results of a review in Blora District, the incidence of cervical uterine carcinoma with positive IVA was 76 people (4.2%), with data at the Randulawang Health Center as many as 7 cases, when compared to Community Health Centers such as Doplang (0 cases), Randublatung (0 cases). Government policy that the first dose of HPV vaccination is given to girls in grade 5 of elementary school, and the second dose for grade 6 of elementary school. The administration of this vaccine is carried out simultaneously in the province of Central Java as mandatory immunization. In the working area of the Randulawang Health Center, there are 12 Elementary Schools (SD). The total target of HPV in Blora dose 1 was 6,206, those who had received HPV immunization were 5,353 (86.3%), while in the Randulawang Health Center, the vaccine coverage data were 60 children out of a total target of 98 children (61%), this was because students did not get parental approval. It can be concluded that 39% of parents do not allow health workers to vaccinate their children. As a comparison, the coverage of HPV vaccination at other health centers, namely the Randublatung Health Center (88.2%), and the Doplang Health Center (68.53%). This data shows that the coverage of HPV immunization at Randulawang Health Center is still low when compared to randublatung and doplang. Based on a preliminary study conducted on 11 October 2022 to 5 parents of grade 5 students at SDN Tobo through unstructured interviews, it was found that 4 out of 5 parents stated that the HPV vaccination was not important for their children, as many as 3 people did not understand the benefits of the HPV vaccination. Based on the above background, the urgency of this research is to study the profile of parental knowledge about the prevention of cervical uteri carcinoma through the first dose of Human Papilloma Virus (HPV) vaccination in Elementary Schools in the Randulawang Health Center.

METHODS

This type of research is descriptive with a cross-sectional design. The population of parents who have daughters in grade 5 elementary school in the working area of the Randulawang Health Center is 98 people. Furthermore, the study sample size was determined using the Slovin formula with an error tolerance limit (e = 5%). Based on the calculation results, the sample size was 79. The sampling technique used proportional stratified random sampling so that the sample size was 79 respondents. Descriptive data analysis.

RESULTS AND DISCUSSION

Characteristics of respondents

a. Age

Table 1.Frequency Distribution of Respondents Based on Parents' Age in the Randulawang Community Health Center in 2022

Mean	Median	Minimum	Maksimum	SD
33,66	34,00	23	42	4,585

The mean age of parents is 33.66 years with a median value of 34 years. The youngest is 23 years old and the oldest is 42 years.

b. Gender, Education, and Occupation of Parents

Table 2. Frequency Distribution of Respondents Based on Gender, Education, and Occupation of Parents in the Randulawang Health Center Area in 2023

No	variable	f	%
1	**Gender**		
	Male	24	30.4
	Female	55	69.6
2	**Education**		
	basic education (*elementary school* until junior high school)	34	42
	middle education (Senior high school)	41	51.9
	College	4	5.1
3	Occupation of Parents		
	do not work	6	7.6
	Laborer	25	31.6
	private sector worker	48	60.8

Based on Table 2, it is known that the sex of the respondents was mostly female as many as 55 respondents (69.6%), and male sex as many as 24 respondents (30.4%). For education, the most respondents were high school graduates, 41 (51.9%) and the least were university graduates, 4 (5.1%). The distribution of parents' employment data shows that most are sector workers as many as 48 respondents (60.8%) and at least 6 (7.6%) do not work.

c. Knowledge Parent

Table 3. Frequency Distribution of Respondents Based on Prevention of Uterine Cervical Carcinoma through Human Papilloma Virus Vaccination in class 5 Elementary School in the Randulawang Health Center Area in 2022

Parent's Knowledge of Human Papilloma Virus (HPV) Immunization	f	%
Good knowledge	30	38.0
Moderate knowledge	32	40.5
Less knowledge	17	21.5
Total	**79**	**100**

Parents' knowledge about Human Papilloma Virus (HPV) immunization in class 5 elementary school in the Randulawang Health Center area was mostly in the moderate category as many as 32 respondents (40.5%), in the good category as many as 30 respondents (38%) and the less category as many as 17 respondents (21.5%).

The results of the study obtained parents' knowledge about Human Papilloma Virus (HPV) immunization in grade 5 elementary school children in the Randulawang Health Center area, most in the moderate category, with as many as 32 respondents (40.5%). These data indicate that parents' understanding of vaccines is still limited in their perception of information exposure. This study describes the scope of parental knowledge from indicators of understanding, purpose, schedule, effectiveness, side effects, and contraindications of HPV vaccination. The indicator of knowledge about the side effects of HPV vaccination was the lowest indicator known by the respondent and the highest indicator of knowledge was knowledge of the HPV vaccination schedule. Basically, in the description of parental coverage, it can be seen that in all indicators, the majority of respondents only partially understand these indicators, so their knowledge is moderate

The majority of respondents' knowledge about the HPV vaccine showed moderate knowledge. Identified from the answers of the respondents who were wrong in answering the definition of vaccination (39.2%), the HPV vaccine as primary prevention of cervical cancer (32.9%), the wrong answer for what stands for HPV (43%), the wrong answer for the type of HPV vaccine (32.9%)), administration of the vaccine is only given to women who have had sexual intercourse (31.6%), vaccine(31.6%), wrong answer that the HPV vaccine is given at the age of 9-26 years (60.8%). Previous research found that respondents did not know the stage of the HPV vaccination (64.9%), did not know the period for the next vaccination after giving the first dose (88.3%), and where to get the HPV vaccine (44.8%) of respondents answered they did not know. This shows that the respondents' knowledge is classified as moderate, where some still do not know well about cervical cancer or the HPV vaccine (Zakina, 2022).

Previous research by Dethan (2017) found that as many as 50% of the respondents had a sufficient level of knowledge about HPV vaccination. 33.1% of respondents did not know about the HPV vaccine and only 16.9% of respondents knew very well about the vaccine. Most respondents (68.8%) did not know about the virus that causes cervical cancer and there were 48 (31.2%) respondents who knew cervical cancer occurred due to an infection caused by HPV type 16/18. Knowledge is at a moderate level because there are obstacles in perceiving the concept of the HPV vaccine. After all, the information obtained is difficult to accept. Research by Cinar et al (2019) shows that the majority of respondents have sufficient knowledge about health problems caused by infection with the HPV virus.

Wulandari (2015) in his research stated that knowledge is moderate due to lack of exposure to information about HPV immunization for cervical cancer prevention which is believed to have a contribution in influencing the level of parental knowledge. Aline (2022) in his research stated that some respondents had moderate knowledge due to a lack of ability to process information so they still had difficulties when answering questions about the HPV vaccine. Donadiki et al (2018) in their research stated that the majority of respondents were moderately knowledgeable about the HPV vaccine. The lack of information makes respondents not understand the concept of the HPV vaccine. Providing the right information will increase the knowledge of respondents in preventing cervical cancer through participation in the HPV vaccine

The results of the study obtained parents' knowledge about Human Papilloma Virus (HPV) immunization in grade 5 elementary school children in the Randulawang Health Center area at least in the less category as many as 17 respondents (21.5%). This lack of knowledge is indicated by wrong answers about the meaning of the HPV vaccine (39.2%), wrong answers about the benefits of the HPV vaccine (32.9%), wrong answers about vaccine distribution (32.9%), wrong answers about the frequency of vaccine administration (31, 6%), incorrectly answered the target of the HPV vaccine (24.1%) and incorrectly answered the age of the vaccine recipient (60.6%). Kuntari's research (2021) found that the majority of respondents had less knowledge about vaccines. Many factors affect the level of knowledge, most of the respondents who have less knowledge say they have never been exposed to information about HPV immunization as a prevention of cervical cancer.

A person's level of knowledge is influenced by various formal and informal sources (Husain et al., 2019). Notoatmodjo (2016) states that factors that influence knowledge include age, education,

experience, and information acquisition. Fridayanti and Laksono's research (2017) found that the respondents' knowledge was in the less category and there was an increase in knowledge after counseling was carried out. This increase occurred due to media exposure or sources of information coupled with encouragement from community leaders who became role models. Budiman & Riyanto (2018) explain that knowledge is obtained from the results of providing information (education) and is supported by the ability to interpret information as a form of knowledge. The information is modified with the new reality in the environment and this must follow the process of forming knowledge in the individual.

Another factor that affects knowledge is age. This study found that the average age of parents was 33.66 years, with the youngest being 23 years and the oldest being 42 years. Rosalina's research (2018) showed that the majority of respondents were 36-45 years old, namely 28 respondents (93.3%). Nahak's research (2018) states that age > 30 years is one of the factors that influence knowledge. Increasing a person's age increases the maturity of thinking so that his ability to absorb information and knowledge also increases. Nursalam (2018) states that the more humans enter the adult category, the level of understanding of one's maturity and strength increases in thinking and working. The results of the study can be concluded simply that a person's maturity is influenced by his age so it is easy for someone to obtain information and remember immunization information.

The age factor plays a role in increasing mothers' knowledge about HPV immunization. Wantini (2020) stated that the age of most respondents was > 30 years. Parents in the middle adult age category, of course, will play a very important role in determining their child's attitude toward acceptance of the HPV vaccination. Increased life experience is one of the driving factors for increasing parental wisdom in making decisions. This is to Diane's theory (2014), the stage of psychosocial development in middle adulthood is to develop a concern to build, guide, and influence the next generation. The role of parents is to guide and influence their children to vaccinate against HPV. Hidayat (2016) states that receiving this information is supported by a mature age, where knowledge will increase after being given information.

The level of knowledge is also influenced by educational factors, where knowledge is lacking due to low education (Aynaci & Gusku, 2019). Education helps develop scientific thinking so that someone with higher education supports obtaining better knowledge (Notoatmodjo, 2016). Zakina (2022) gets the most parental education with 53.9% of high school graduates. Sari's research (2019) found that most people graduated from high school. Shao et al (2015) stated that education in the secondary education category would greatly assist in the ability to receive new information regarding HPV vaccination so it is hoped that parents will provide informational support to their children. This is by the study of Tang et al (2014) which stated that the education level of the mother's father had an impact on knowledge of HPV and determined the decision to participate in the HPV vaccine.

Education plays an important role in shaping mindsets. In this research, the respondents found that the most were high school graduates, 41 respondents (51.9%) and the least were university graduates, 4 respondents (5.1%). Rosalina's research (2018) found that the majority of respondents graduated from junior high school (50%) and most had less knowledge of the HPV vaccine (53.3%). Nasrullah (2018) who received education most of the respondents graduated from high school (High School) 47 (67.1%) with less knowledge. This is because respondents have never heard of or received information about the HPV vaccine from health workers or the media. The results of this study are not in line with Anggraeni (2015) where as many as 14 respondents (42.4%) who graduated from high school had good knowledge about cervical cancer and prevention efforts through the participation of the HPV vaccine.

The study by Makwe et all. (2017) showed that the majority of respondents did not know that infection with the HPV virus could cause cervical cancer, even though almost half of them had heard of cervical cancer. According to Cinar et al. (2019), the factors that caused the vaccine not to be carried out were a lack of awareness (84.1%) and parental consent was not obtained (14.4%). The average vaccination rate is low. This could be because the HPV vaccine has not yet become a national basic vaccination program, the HPV vaccine is not free, and a lack of knowledge has resulted in low awareness about the problem of HPV virus infection for health. Wawan & Dewi (2018) stated that higher education tends to easily receive and obtain information, both from other people and from the mass media. The more information that comes in, the more knowledge is gained about health.

HPV vaccination is primary prevention which is expected to reduce the occurrence of high-risk HPV infection, reduce the incidence of cervical cancer carcinogenesis and ultimately reduce the

incidence of uterine cervical cancer (Nuriwijaya, 2016). Previous studies have shown that the level of knowledge and behavior of the general public regarding the HPV virus and vaccine is still low (Kuntari, 2021). The knowledge possessed by parents should be able to reach the level of application because the level of knowledge starting from knowing, understanding, and then applying it will show a person's actual condition so that a person will behave well according to the knowledge he has, especially about HPV immunization and about cancer in general (Muhwezi et al. ., 2014).

The results of the study obtained parents' knowledge about Human Papilloma Virus (HPV) immunization in grade 5 elementary school children in the Randulawang Health Center area in the good category as many as 30 respondents (38%). This shows that parents' understanding is in a good category, namely at the application level. This good knowledge is related to an understanding of the meaning, purpose, indications, schedule, and contraindications of the HPV vaccine, namely 60.8% understand the meaning of the vaccine, answer correctly about administering the HPV vaccine (79.7%), answer correctly the target of the HPV vaccine (68.4%). This good knowledge is because respondents have been exposed to knowledge about HPV in the form of leaflets from health center staff during socialization in the community. Socialization was given during posyandu activities with BIAS (School Children Immunization Month) socialization activities. Parents of students were also given informed consent during the previous year's BIAS program so that they found out about the HPV vaccine before the parents agreed for their child to be immunized. Exposure to this information increases parental understanding and knowledge.

Previous research by Manoppo (2017) found that half (50%) of parents had good knowledge about HPV and HPV vaccination. This is because parents get information about vaccines. Exposure to the right information will make respondents increase their knowledge about the HPV vaccine. Efendi and Makhfudli (2018) stated that this knowledge is included in the cognitive domain which has levels, where the lowest level is knowing (know). This shows that half of the respondents have received material or information so that they can recall material that has been studied or received before filling out the questionnaire.

Zaky's research (2020) found that some respondents had good knowledge about cervical cancer (65%). This good knowledge is supported by the respondent's education (high school) and information, both directly and indirectly, about cervical cancer and HPV vaccination. This is following the theory put forward by Notoatmodjo (2016), that education is one of the factors that influence one's knowledge. Wantini (2020) in her research found that most parents understand about the HPV vaccine. This good knowledge of parents affects the willingness of parents to allow their children to get the HPV vaccine. Research from Almughais et al. (2018) found that parents' decision/willingness of parents to allow their children to be vaccinated was influenced by their knowledge about the benefits of vaccines, as well as the risks of exposure to HPV infection.

This research is supported by Cates, et al (2014) who state that most of the good knowledge of parents is obtained through social marketing techniques (Social Marketing Techniques) so that it can encourage parents and health service providers to promote vaccination to prevent exposure to HPV, which means a person's perception can be influenced through external stimuli. Shao et al (2015) stated that parental knowledge about the impact of cervical cancer caused by HPV adds to parents' belief that their child needs an HPV vaccination. Knowledge of HPV immunization can increase interest in HPV immunization. The role of parents in the family including raising, educating, and guiding to good things can be one of the factors that influence parents' perceptions.

Zakina (2022) in his research stated that parental knowledge was in a good category (33.3%). This lack of knowledge will form negative perceptions so they refuse to participate in the immunization program. Meanwhile, in the study of Grigora et al (2019), it was explained that with good knowledge a person will care more about the health of himself and his family, so he will want to do early detection to prevent cervical cancer with HPV immunization. Nahak's research (2018) states that good parental knowledge will stimulate attitudes and actions following Human papillomavirus (HPV) immunization. This good knowledge is obtained through information obtained by respondents through education and health promotion from officers so that parents with good knowledge will increase their desire to participate in HPV immunization. Research states that information about cervical cancer and HPV immunization is obtained through counseling (21.4%), and information from print and electronic media (4.3%).

Sari (2019) in his research found that the majority of respondents (70.9%) had a high level of knowledge. Many respondents are already aware of the various benefits of getting the HPV vaccination, including being able to prevent cervical cancer, provide a sense of security, and improve quality of life. The Ministry of Health (2015) states that HPV vaccination is a primary prevention effort that is expected to reduce the occurrence of high-risk HPV infection, reduce the incidence of cervical cancer carcinogenesis and ultimately reduce the incidence of uterine cervical cancer. Adejuyigbe et al. (2015) stated that good knowledge of HPV had a positive effect on behavior for receiving and carrying out vaccinations. Donadiki et al. (2018) found that some respondents had good knowledge. This knowledge has a strong positive relationship between the level of knowledge and the scope of the vaccination program.

CONCLUSION

Conclusion: Parents' knowledge about HPV vaccination for grade 5 elementary school children in the Randulawang Health Center area was mostly in the moderate category. It is recommended for further research on whether the administration of the HPV vaccine injection can increase the cellular immune response (TNFα dan IL-2).

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