

INFORMASI ARTIKEL

Received: April, 30, 2026

Revised: May, 17, 2026

Available online: May, 19, 2026

at: <https://e-jurnal.iphorr.com/index.php/mhc>

Description of the attitudes of female students toward human papillomavirus (HPV) vaccination

Nadya Juliaty Kacaribu*, Chreisye K. F. Mandagi, Afnal Asrifuddin

Universitas Sam Ratulangi

Corresponding author: *E-mail: nadyakacaribu@gmail.com

Abstract

Background: Cervical cancer is a significant global health problem, with most cases caused by infection with oncogenic types of *Human Papillomavirus* (HPV). In Indonesia, HPV vaccination coverage remains suboptimal. Female university students, as agents of change, are expected to play an active role in prevention through their knowledge, attitudes, and practices regarding HPV vaccination.

Purpose: To describe the behavior of female students toward HPV vaccination, including knowledge, attitudes, and practices.

Method: A quantitative descriptive design with a cross-sectional approach. The population consisted of all active female students from the 2021–2025 cohorts, totaling 990 individuals. A sample of 102 respondents was determined using the Lem show formula and selected through stratified random sampling. Data were collected using an online questionnaire (Google Form) that had been tested for validity and reliability. Data analysis was conducted univariately to describe the frequency distribution of each variable.

Result: Most respondents had a moderate level of knowledge (38.2%), followed by low (32.4%) and good (29.4%) levels. Attitudes toward HPV vaccination were overwhelmingly positive (98.0%), with only 2.0% showing negative attitudes. However, none of the respondents (0%) had received the HPV vaccine, although the majority (77.5%) expressed willingness to be vaccinated if it were available.

Conclusion: The knowledge of female students is generally moderate, and their attitudes toward HPV vaccination are highly positive; however, this is not reflected in actual vaccination behavior. There is a gap between intention and practice, indicating the need for more effective interventions to improve access and promote HPV vaccination uptake.

Keywords: Attitude; Cervical Cancer; Female Students; HPV; Vaccination; Knowledge; Practice.

INTRODUCTION

Cervical cancer remains a significant global health problem. It ranks as the eighth most common cancer worldwide, with approximately 662.301 new cases, and the ninth leading cause of cancer-related deaths, accounting for 348.874 deaths. The global age-standardized incidence rate is 14.1 per 100.000 population, while the mortality rate reaches 7.1 per 100.000 population. These high incidence and mortality rates indicate that cervical cancer continues to pose a serious threat to women's health. Globally,

it is also the fourth most frequently diagnosed cancer among women, reflecting the substantial risk faced by the female population (World Health Organization, 2022).

Cervical cancer is a malignancy arising from abnormal cells in the cervix that grow uncontrollably and have the potential to spread to other organs (Ahmad, Budiana, Surya, & Pangkahila, 2024). In Indonesia, the burden of cervical cancer is considerable, as it ranks as the second most common

Description of the attitudes of female students toward human papillomavirus (HPV) vaccination

cancer among women. The incidence rate is 24.4 per 100.000 population, with a mortality rate of 14.4 per 100.000 population. Approximately 95% of cervical cancer cases are caused by infection with oncogenic types of Human Papillomavirus (HPV), particularly among sexually active women. Data from the Ministry of Health (2022) indicate that HPV types 16 and 18 are responsible for about 70% of cervical cancer cases and precancerous lesions (Siregar, 2021).

HPV vaccination coverage among children in Indonesia remains suboptimal. In 2020, coverage reached only 50.7%, although it increased to 60.6% in 2021 (Sembiring, 2022). Despite this improvement, the coverage is still below the national target of 90% of girls aged 15 years receiving HPV vaccination by 2030 (Purwanto, Budiyo, & Suhermin, 2023). Low HPV vaccination uptake is also observed among adolescent girls from minority ethnic groups. A review of 14 studies reported that the uptake of at least one dose of the vaccine was only 38% (95% CI = 0.22–0.39). The review further identified several individual factors influencing vaccine acceptance, including age, knowledge about HPV, perceived importance of vaccination, and perceived risk of HPV infection (Chan, Li, Law, Choi, Lee, & So, 2023).

Preliminary observations conducted among female students in the Health Policy Administration concentration at the Faculty of Public Health found that none of the 30 students surveyed had received HPV vaccination. As agents of change and social control, university students play a crucial role in driving positive change and influencing health behaviors within themselves, their families, peers, and the wider community (Setyaningsih, 2019). Previous studies have shown that knowledge and attitudes significantly influence the acceptance of HPV vaccination as a primary prevention strategy for cervical cancer ($p < 0.05$) (Mulia, Latifa, Amirsyah, & Novia, 2021). Other findings indicate that better knowledge is associated with more positive attitudes toward HPV vaccination, with 38% of respondents having good knowledge and 77% strongly agreeing with vaccination (Reysa & Talaksoru, 2022).

However, some studies reveal gaps in knowledge and attitudes among female students, where knowledge levels are moderate (57.0%), and many believe they are not at risk of cervical cancer due to their lifestyle (Ambarwulan, Puspitasari, Afandi, Khairunnisa, Haryanti, Putri, & Sulistyarini, 2024). Further studies have demonstrated a significant relationship between knowledge level and attitudes toward willingness to receive HPV vaccination ($p < 0.05$) (Fitri & Akbar, 2021).

RESEARCH METHOD

A quantitative descriptive design with a cross-sectional approach to assess the knowledge, attitudes, and practices related to HPV vaccination among female students of the Faculty of Public Health, Sam Ratulangi University at a single point in time. The study was conducted from December 2025 to January 2026 at the Faculty of Public Health, Sam Ratulangi University. The study population consisted of all active female students from the 2021–2025 cohorts, totaling 990 individuals. The sample included active female students who met the inclusion criteria, namely being actively enrolled in the Faculty of Public Health from the 2021–2025 cohorts and willing to participate in the study. Students who were on academic leave, not actively enrolled during the study period, or failed to complete the questionnaire were excluded from the study. The sample size was determined using the Lem show formula, resulting in a minimum required sample of 88 respondents. To anticipate non-response and incomplete questionnaires, an additional 15% safety margin was applied, resulting in a final sample size of 102 respondents. A stratified random sampling technique was used to ensure proportional representation from each cohort. Following proportional allocation and safety adjustment, the final sample distribution consisted of 16 respondents from the 2021 cohort, 25 from 2022, 17 from 2023, 20 from 2024, and 24 from the 2025 cohort, for a total of 102 respondents.

Nadya Juliaty Kacaribu*, Chreisy K. F. Mandagi, Afnal Asrifuddin

Universitas Sam Ratulangi

Corresponding author: *E-mail: nadyakacaribu@gmail.com

10.56922/mhc.v5i2.3136

RESEARCH RESULTS**Table 1. Distribution of Respondents (N= 102)**

Variable	Results
Age (n/%) (Mean±SD) (Range) (Year)	(20.0±1.4) (17-23)
17	2/2.0
18	23/22.5
19	21/20.6
20	19/18.6
21	24/23.5
22	11/10.8
23	2/2.0
Knowledge Level	
Good	30/29.4
Moderate	39/38.2
Poor	33/32.4

Based on the respondents' characteristics table, the mean age of the respondents was 20.0±1.4 years, with an age range of 17–23 years. Most respondents were aged 21 years, accounting for 24 respondents (23.5%), followed by those aged 18 years with 23 respondents (22.5%), and 19 years with 21 respondents (20.6%). The smallest proportions were respondents aged 17 years and 23 years, with 2 respondents each (2.0%). Based on the level of knowledge, most respondents had a moderate level of knowledge, consisting of 39 respondents (38.2%), followed by poor knowledge with 33 respondents (32.4%), and good knowledge with 30 respondents (29.4%). These findings indicate that the majority of respondents had a moderate level of knowledge.

Table 2. Distribution of Respondents' Knowledge Responses (N= 102)

Statement	Correct (n%)	Incorrect (n%)	Don't Know (n%)
HPV is a virus that can cause cervical cancer	97/95.1	2/2.0	3/2.9
HPV vaccination can prevent cervical cancer	90/88.2	5/4.9	7/6.9
HPV vaccine is only given to females	39/38.2	52/51.0	11/10.8
HPV vaccine should be given before marriage	92/90.2	2/2.0	8/7.8
HPV vaccine is sufficient if given once in a lifetime	38/37.3	29/28.4	35/34.3
HPV is transmitted through sexual contact	84/82.4	6/5.9	12/11.8
All women with HPV will definitely develop cervical cancer	37/36.3	33/32.4	32/31.4
HPV vaccine may cause mild side effects such as pain at the injection site	68/66.7	0/0.0	34/33.3
Public health students do not need HPV vaccination	92/90.2	3/2.9	7/6.9
Condom use completely prevents HPV transmission	48/47.1	28/27.5	26/25.5
Pap smear/IVA can help early detection of cervical cell changes due to HPV	69		

Nadya Juliaty Kacaribu*, Chreisye K. F. Mandagi, Afnal Asrifuddin

Universitas Sam Ratulangi

Corresponding author: *E-mail: nadyakacaribu@gmail.com

10.56922/mhc.v5i2.3136

Description of the attitudes of female students toward human papillomavirus (HPV) vaccination

Based on the table, most respondents correctly understood that HPV is a virus that can cause cervical cancer, with 97 respondents (95.1%) answering correctly. In addition, 90 respondents (88.2%) knew that HPV vaccination can prevent cervical cancer, and 92 respondents (90.2%) agreed that the HPV vaccine should be administered before marriage. Most respondents also correctly recognized that HPV can be transmitted through sexual contact, with 84 respondents (82.4%) answering correctly.

However, several misconceptions were still identified among respondents. Only 39 respondents (38.2%) correctly understood that the HPV vaccine is not only for females, while 52 respondents (51.0%) answered incorrectly. Furthermore, only 38 respondents (37.3%) correctly answered that the HPV vaccine is not sufficient if administered only once in a lifetime. Knowledge regarding the statement that all women with HPV will definitely develop cervical cancer was also relatively low, with only 37 respondents (36.3%) answering correctly. Regarding preventive measures, 48 respondents (47.1%) correctly recognized that condom use does not completely prevent HPV transmission. In addition, 69 respondents (67.6%) correctly understood that Pap smear/IVA examinations can help in the early detection of cervical cell changes caused by HPV. These findings indicate that although respondents generally had good basic knowledge about HPV and vaccination, misconceptions regarding vaccine indications, transmission prevention, and long-term HPV outcomes still existed.

Table 3. Distribution of Respondents' Knowledge Levels by Cohort (N= 102)

Cohort	Good (n=30)	Poor (n=39)	Moderate (n=33)
2021	4/25.0	7/43.8	5/31.2
2022	8/32.0	12/48.0	5/20.0
2023	6/35.3	4/23.5	7/41.2
2024	7/35.0	7/35.0	6/30.0
2025	5/20.8	9/37.5	10/41.7

Attitudes toward HPV vaccination were overwhelmingly positive, with 98.0% of respondents classified as having positive attitudes. Most respondents strongly agreed that HPV vaccination is important for preventing cervical cancer and should be given to all women. However, uncertainty remained regarding vaccine side effects, with 43.1% expressing hesitation. Social stigma was generally not perceived as a major barrier.

Table 4. Distribution of Respondents' Attitudes Toward HPV Vaccination

Statement	Strongly Agree (n/%)	Agree (n/%)	Neutral (n/%)	Disagree (n/%)	Strongly Disagree (n/%)
HPV vaccination is important to prevent cervical cancer	50/49.0	41/40.2	2/2.0	0/0.0	9/8.8
I am afraid of the side effects of the HPV vaccine	1/1.0	18/17.6	44/43.1	33/32.4	6/5.9
HPV vaccine should be given to all women	56/54.9	37/36.3	3/2.9	3/2.9	3/2.9
HPV vaccine is expensive, so it is unnecessary	0/0.0	3/2.9	19/18.6	48/47.1	32/31.4
If my friends/family are vaccinated, I am also willing to be vaccinated	25/24.5	56/54.9	12/11.8	8/7.8	1/1.0

Nadya Juliaty Kacaribu*, Chreisy K. F. Mandagi, Afnal Asrifuddin

Universitas Sam Ratulangi

Corresponding author: *E-mail: nadyakacaribu@gmail.com

10.56922/mhc.v5i2.3136

Description of the attitudes of female students toward human papillomavirus (HPV) vaccination

Statement	Strongly Agree (n/%)	Agree (n/%)	Neutral (n/%)	Disagree (n/%)	Strongly Disagree (n/%)
Information from healthcare workers makes me more confident to get vaccinated	38/37.3	59/57.8	4/3.9	0/0.0	1/1.0
I am concerned about social stigma if I receive HPV vaccination	0/0.0	7/6.9	29/28.4		

None of the respondents (0%) had received the HPV vaccine. Despite this, a majority (77.5%) expressed willingness to be vaccinated if the vaccine were available, while 21.6% were hesitant and only 1.0% were unwilling. These findings highlight a substantial gap between positive attitudes and actual vaccination behavior, indicating an intention–behavior gap in HPV vaccination among female students.

DISCUSSION

Respondent characteristics in this study included age and cohort. In terms of age, all respondents were within the late adolescence to early adulthood range, a critical transitional phase in a woman's life both biologically and socially. This finding confirms that the majority of respondents belong to the age group actively pursuing higher education. The age range of 15–26 years is considered ideal for HPV vaccination, as it coincides with the period of sexual debut and increased risk of HPV exposure POGI (2025). Based on cohort, respondents were from the 2021 to 2025 classes, with the highest proportion from the 2022 cohort, followed by 2025 and 2024. The 2023 and 2021 cohorts had relatively smaller proportions. This distribution indicates that the study included students at various stages of their academic journey, from junior to senior levels. The relatively balanced representation across cohorts suggests that the findings reflect a broad perspective rather than being concentrated in a single group. Differences in cohort may also reflect variations in academic experience and maturity in understanding health issues (Apande, Asrifuddin, & Kaunang, 2021).

The findings indicate that most respondents had a moderate level of knowledge regarding HPV and its vaccination. However, nearly one-third had low knowledge, and only a smaller proportion demonstrated good knowledge. This is noteworthy given that the respondents were public health

students who are expected to have greater exposure to health-related information. These findings are consistent with previous studies reporting low to moderate knowledge levels among respondents (Sulistowati & Trisnawati, 2020; Halim, Kartarino, & Fadillah, 2025).

Variations in knowledge levels may be influenced by differences in academic exposure across cohorts. Senior students (2021–2023) generally demonstrated better knowledge compared to junior students (2024–2025), likely due to greater exposure to coursework and health-related information. This is supported by evidence showing that knowledge significantly improves at more advanced stages of education (Abusamak, AlQato, Alrfooh, Altheeb, Bazbaz, Suleiman, & Al-Amer, 2024).

At the item level, the highest knowledge was observed for the statement that HPV causes cervical cancer, indicating strong basic awareness. However, knowledge was limited regarding technical aspects, such as vaccination dosage and target groups. Only a minority of respondents knew that the HPV vaccine requires multiple doses and that it can also be administered to males. This indicates that while general awareness is high, detailed understanding remains limited. According to the Theory of Planned Behavior, insufficient knowledge may negatively influence beliefs and attitudes toward vaccination. Previous research has demonstrated a significant relationship between knowledge and attitudes toward HPV vaccination (Sakurawati, Masrika, & Saleh, 2025). The results showed that nearly all respondents had positive attitudes toward HPV vaccination, indicating strong support for cervical cancer prevention. Most respondents agreed or strongly agreed that HPV vaccination is important and should be given to all women. These findings are consistent with previous studies reporting high levels of positive attitudes among university students (Putri & Harahap, 2022).

Nadya Juliaty Kacaribu*, Chreisy K. F. Mandagi, Afnal Asrifuddin

Universitas Sam Ratulangi

Corresponding author: *E-mail: nadyakacaribu@gmail.com

10.56922/mhc.v5i2.3136

Description of the attitudes of female students toward human papillomavirus (HPV) vaccination

Despite the overall positive attitudes, a notable proportion of respondents expressed uncertainty due to concerns about vaccine side effects. This suggests the presence of underlying anxiety that may hinder vaccination uptake. Respondents with negative attitudes tended to consistently express doubts about vaccine importance, safety, and effectiveness, and were less influenced by social support or health information (Sari, 2016).

Regarding cost, most respondents disagreed with the statement that HPV vaccination is too expensive and unnecessary, indicating that cost was not a primary barrier in this study. This contrasts with other findings where cost was identified as a significant obstacle (Lactona & Cahyono, 2024).

Importantly, healthcare providers were identified as a key influencing factor. Most respondents agreed that information from health professionals increased their confidence in vaccination. Within the framework of the Theory of Planned Behavior, this reflects the role of subjective norms, where trusted individuals significantly influence health-related decisions. This is supported by previous studies highlighting the importance of healthcare recommendations in shaping vaccination intentions (Octaviana & Ramadhani, 2021).

A striking contrast was observed between attitudes and practices. Although nearly all respondents had positive attitudes, none had received the HPV vaccine. This finding aligns with previous studies reporting low HPV vaccination coverage, even among health-related student populations (Li, Jin, Li, & Jin, 2025). Despite the absence of vaccination uptake, most respondents expressed willingness to be vaccinated if the vaccine were available, while a smaller proportion remained hesitant and only one respondent was unwilling. This indicates that, in terms of intention, most respondents are ready to receive the vaccine. Similar findings have been reported in other settings, where vaccination coverage remains low despite high willingness (Yacouti, Elkhoudri, El Got, Benider, Hadrya, Baddou, & Mouallif, 2022; Nie, Ma, Rui, & Li, 2025).

These findings highlight a clear intention-behavior gap in HPV vaccination. Factors such as access, availability, and social support (subjective norms) may play a role in this discrepancy. Although respondents demonstrated positive attitudes,

external influences such as family and peer support may still affect their actual vaccination behavior (Nelwan, 2020).

CONCLUSION

Female students at the Faculty of Public Health, Sam Ratulangi University generally have a moderate level of knowledge regarding HPV and its vaccination, with adequate basic understanding but limited knowledge of technical aspects such as dosage and target groups. Attitudes toward HPV vaccination are highly positive, with the vast majority recognizing its importance and benefits, although some concerns about potential side effects persist. Despite this positive perception, none of the respondents had received the HPV vaccine. However, a substantial proportion expressed willingness to be vaccinated if the vaccine were available. These findings highlight a clear gap between knowledge, attitudes, and actual vaccination practices, indicating the need for targeted interventions to improve access and translate positive intentions into real vaccination uptake.

REFERENCES

- Abusamak, M., AlQato, S., Alrfooh, H. H., Altheeb, R., Bazbaz, L., Suleiman, R., & Al-Amer, R. (2024). Knowledge, attitudes, practices and barriers of medical research among undergraduate medical students in Jordan: a cross-sectional survey. *BMC medical education*, 24(1), 23.
- Ahmad, N., Budiana, I. N. G., Surya, I. G. N. H. W., & Pangkahila, E. S. (2024). Hubungan Tingkat Pengetahuan dengan Sikap Kesiediaan Melakukan Vaksinasi Human Papillomavirus pada Siswi Sekolah Menengah Atas Negeri 3 Kota Bima. *E-Jurnal Medika Udayana*, 13(8), 71.
- Ambarwulan, P., Puspitasari, R. T., Afandi, A. N., Khairunnisa, N. Z., Haryanti, N., Putri, R. A., & Sulistyarini, A. (2024). Pengetahuan dan Sikap tentang Kanker Serviks dan Vaksinasi HPV pada Mahasiswi Kampus C Universitas Airlangga. *Jurnal Farmasi Komunitas*, 11(2).

Nadya Juliaty Kacaribu*, Chreisye K. F. Mandagi, Afnal Asrifuddin

Universitas Sam Ratulangi

Corresponding author: *E-mail: nadyakacaribu@gmail.com

10.56922/mhc.v5i2.3136

Description of the attitudes of female students toward human papillomavirus (HPV) vaccination

- Apande, J., Asrifuddin, A., & Kaunang, W. P. (2021). Gambaran tingkat stres mahasiswa akhir kerukunan Pelajar Mahasiswa Indonesia Bolaang Mongondow Timur (KPMIBT) selama pembatasan sosial pandemi. *Jurnal Kesmas*, 10(5), 94-99.
- Chan, D. N., Li, C., Law, B. M., Choi, K. C., Lee, P. P., & So, W. K. (2023). Factors affecting HPV vaccine uptake among ethnic minority adolescent girls: a systematic review and meta-analysis. *Asia-Pacific Journal of Oncology Nursing*, 10(9), 100279.
- Fitri, A., & Akbar, A. (2021). Hubungan Pengetahuan Dan Sikap Remaja Putri Tentang Infeksi Dan Vaksinasi Human Papilloma Virus Di Kelurahan Bulian Kota Tebing Tinggi. *Jurnal Implementa Husada*, 2(3), 324-330.
- Halim, C. L., Kartarino, D., & Fadillah, Q. (2025). Gambaran Pengetahuan dan Sikap Siswi SMA Sutomo 2 Medan Terhadap Vaksinasi HPV. *Journal of Syntax Literate*, 10(10).
- Lactona, I. D., & Cahyono, E. A. (2024). Konsep Pengetahuan; Revisi Taksonomi Bloom. *Enfermeria Ciencia*, 2(4), 241-257.
- Li, W., Jin, Y., Li, X., & Jin, M. (2025). Human papillomavirus and vaccine knowledge, willingness, and uptake among university students: a systematic review and meta-analysis. *BMC Public Health*, 25(1), 4268.
- Mulia, V. D., Latifa, N., Amirsyah, M., & Novia, H. S. (2021). Hubungan tingkat pengetahuan dengan sikap terhadap imunisasi vaksin Human Papilloma Virus sebagai pencegahan primer kanker serviks pada mahasiswi fakultas keperawatan Unsyiah. *Jurnal Kedokteran Syiah Kuala*, 21(3).
- Nelwan, J. E. (2020). *Epidemiologi Kesehatan Reproduksi*. Deepublish.
- Nie, R., Ma, Z., Rui, X., & Li, T. (2025). HPV vaccination willingness and behavior among nursing female students in China based on the protection motivation theory: A cross-sectional study. *Human Vaccines & Immunotherapeutics*, 21(1), 2569738.
- Octaviana, D. R., & Ramadhani, R. A. (2021). Hakikat manusia: Pengetahuan (knowledge), ilmu pengetahuan (sains), filsafat dan agama. *Jurnal tawadhu*, 5(2), 143-159.
- Purwanto, N., Budiyo, B., & Suhermin, S. (2023). Theory of Planned Behavior.
- Putri, S. L., & Harahap, F. Y. (2022). Tingkat pengetahuan, sikap dan perilaku mahasiswi fakultas kedokteran Universitas Sumatera Utara tentang kanker serviks. *Jurnal Kesehatan Andalas*, 11(1), 26-31.
- Reysa, A., & Talaksoru, D. (2022). Pengetahuan Dan Sikap Masyarakat Tentang Vaksinasi Hpv Di Kota Batam, Kepulauan Riau. *Jurnal Ilmiah Zona Psikologi*, 5(1).
- Sakurawati, A., Masrika, N. U. E., & Saleh, F. M. (2025). Hubungan Pengetahuan dan Sikap Remaja Putri Tentang Infeksi dan Vaksinasi Human Papillomavirus di Kota Ternate. *Jurnal Kesehatan Masyarakat*, 18(1).
- Sari, D. N. I. (2016). *Hubungan pengetahuan ibu tentang imunisasi dasar dengan kelengkapan imunisasi dasar bayi di Wilayah Kerja Puskesmas Bendo Kabupaten Magetan* (Doctoral dissertation, Universitas Muhammadiyah Surakarta).
- Sembiring, D. B. (2022). Pengaruh Metode Konseling terhadap Pengetahuan dan Sikap tentang Vaksinasi Human Papilloma Virus (HPV). *Embrio: Jurnal Kebidanan*, 14(1), 105-112.

Nadya Juliaty Kacaribu*, Chreisy K. F. Mandagi, Afnal Asrifuddin

Universitas Sam Ratulangi

Corresponding author: *E-mail: nadyakacaribu@gmail.com

10.56922/mhc.v5i2.3136

Description of the attitudes of female students toward human papillomavirus (HPV) vaccination

- Setyaningsih, P. H. (2019). Hubungan pengetahuan ibu tentang imunisasi dasar dengan kelengkapan imunisasi dasar di wilayah kerja puskesmas larangan utara kota tangerang. *Edu Dharma Journal: Jurnal penelitian dan pengabdian masyarakat*, 3(2), 44-55.
- Siregar, D. N. (2021). Vaksin Hpv Pencegah Kanker Serviks Segini Mungkin. *Publis Penerbit Unpri Press*, 1(1).
- Sulistyowati, N., & Trisnawati, Y. (2020). Pengetahuan Remaja Putri Tentang Vaksinasi Hpv (Human Papilloma Virus) Untuk Mencegah Kanker Serviks Di Smkn 4 Kota Tanjungpinang. *Jurnal Estu Utomo Health Science*, 31-37.
- World Health Organization. (2022). Human papillomavirus vaccines: WHO position paper (2022 update). *Wkly Epidemiol Rec*, 97(50), 645-672.
- Yacouti, A., Elkhoudri, N., El Got, A., Benider, A., Hadrya, F., Baddou, R., & Mouallif, M. (2022). Awareness, attitudes and acceptability of the HPV vaccine among female university students in Morocco. *PLoS One*, 17(4), e0266081.

Nadya Juliaty Kacaribu*, Chreisy K. F. Mandagi, Afnal Asrifuddin

Universitas Sam Ratulangi

Corresponding author: *E-mail: nadyakacaribu@gmail.com

10.56922/mhc.v5i2.3136