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Original Article

Knowledge, attitudes, and practices of parents towards HPV immunization of girl children aged 9 - 13 years at OPD in Kawaala health center IV, Kampala district. A cross-sectional study.

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ABSTRACT

Background:

The study aimed to evaluate the knowledge, attitudes, and practices of parents towards HPV immunization of girls aged 9 - 13 years at OPD in Kawaala Health Center IV, Kampala district.

Methodology:

A descriptive cross-sectional study was conducted at the OPD of Kawaala Health Centre IV in Kampala among parents or guardians of girls aged 9–13 years. Sample size was calculated using the Kish and Leslie (1965) formula (n=367), but due to limited resources, 92 participants were recruited. Purposive sampling was used. Data were collected through interviews using questionnaires, analyzed in Excel, and presented in tables and percentages. Ethical approval, informed consent, confidentiality, and pre-testing ensured quality and ethical compliance.

Results:

Among 92 parents attending OPD at Kawaala Health Center IV, 40 (43.5%) had primary education and 39 (42.4%) secondary education. Almost half, 45 (48.9%), believed HPV vaccination is important, while 40 (43.5%) disagreed. Most respondents, 77 (83.7%), heard about the vaccine from health centers. However, 63 (68.5%) had never actively searched for cancer prevention information. Regarding perceived severity, 53 (57.6%) considered HPV infection somewhat serious and 34 (37%) very serious. Although 77 (83.7%) had attended HPV education sessions, 45 (48.9%) were unsure whether the benefits outweighed the risks. Attitudinally, 42 (45.7%) believed vaccination protects against sexually transmitted infections, while 48 (52.2%) feared it might influence sexual behavior. Most children, 64 (69.6%), were already vaccinated, mainly through school programs, 72 (78.3%). Key barriers included distance to health centers 38, 41.3%), limited knowledge 30 (32.6%), and concerns about unknown side effects 30 (32.6%).

Conclusion:

Limited parental knowledge, safety fears, misinformation, and social barriers negatively influence attitudes and practices toward HPV vaccination.

Recommendation:

Health workers should intensify routine health education at OPD, clarifying HPV vaccination benefits and safety, and addressing common misconceptions such as fears about sexual behavior.

Keywords: *Level of knowledge, Attitudes towards HPV vaccination, Girls aged 9–13 years, Cervical cancer, HPV severity, practices towards HPV immunization.*
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BACKGROUND OF THE STUDY

Human papillomavirus (HPV) is a sexually transmitted infection linked to several cancers, including cervical cancer, and genital warts. The HPV vaccine protects against specific HPV strains and can prevent these conditions in both males and females. According to Noor (2025), the HPV vaccine represents a major advancement in lowering women's risk of cervical cancer. The World Health Organization (WHO, 2025) recommends administering two doses of the vaccine to girls aged 9–14 years before they become sexually active.

Despite inclusion in national immunization programs, global HPV vaccination coverage remains below the 90% target. In 2024, 67 countries, covering over 80% of girls aged 9–14, adopted a one-dose schedule. The worldwide first-dose coverage is estimated at 31%, up from 17% in 2019, with a 4% increase driven by program expansions and improved implementation.

In Sub-Saharan Africa, HPV prevalence averages 24%, contributing to high cervical cancer mortality, the leading cause of cancer deaths among women in the region. Vaccination has been shown to reduce HPV-related cancers, but SSA countries are behind the WHO's 2030 target of fully vaccinating 90% of girls by age 15 (Kutz, 2023).

In East Africa, vaccine uptake is hindered by misinformation, hesitancy, financial limitations, long travel

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distances, negative provider attitudes, and sociocultural or religious resistance, including reluctance from male guardians.

In Uganda, HPV vaccination began in 2015 and is part of the routine Uganda National Expanded Program on Immunization (UNEPI). Despite Uganda having the seventh-highest cervical cancer incidence globally, vaccination coverage remains low. Studies report uptake rates of 17.6% among adolescents in Lira District (Aruho, 2022) and 49% initiation coverage in Eastern Uganda, with only 13.8% completing the second dose. WHO Uganda data from 2016–2021 indicate double-dose coverage ranged from 30% to 44%, peaking at 74% in 2018. Gavi's 2016 report recorded 22.8% coverage, and the National Cervical Cancer Prevention and Control Strategic Plan (2021–2026) notes 57% double-dose and 96% single-dose coverage in 2021 (Troels, 2025). In Central Uganda, HPV vaccination uptake was 39.4% and was associated with maternal education, HPV knowledge, maternal age, religion, household wealth, residence, birth order, and schooling status (Isabirye, 2020).

This study focuses on evaluating the knowledge, attitudes, and practices of parents regarding HPV immunization for girls aged 9–13 years attending the outpatient department at Kawaala Health Center IV in Kampala.

METHODOLOGY

Study Design

The descriptive cross-sectional study design was chosen because it favored the limited resources that were available to complete the study.

Study Area

The study was conducted at the Outpatient Department (OPD) of Kawaala Health Center IV, located in Kampala District, Uganda. Kawaala Health Centre IV is located in the Kawaala area of Rubaga Division in Kampala, Uganda, approximately 5 kilometers north of the city's central business district, north of Nakulabye and west of Makerere, with coordinates (0°21'43.0"N, 32°33'41.0" E)

Study population

The study involved parents and guardians of girls aged 9 - 13 years who were attending services at Kawaala Health Centre IV during the time of the study.

Sample Size Determination

Sample size was determined using the Kish and Leslie method, 1965

$$n = \frac{z^2pq}{e^2}$$

Where n = the sample size, z = z score (1.96 for 95% confidence)

p = According to a study by Isabirye (2020), HPV vaccination uptake was generally low (39.4%) in central Uganda.

e= level of confidence (95% confidence interval) == 0.05 q = 1- p; Q = 0.606

$$n = \frac{(1.96)^2(00.394)(0.606)}{(0.05)^2}$$

=366.894312

The required Sample size estimated was 367 participants. Due to limited resources, this was divided by 4 to give a total of 91.5. Therefore, 92 participants were recruited for the study

Sampling Technique

The purposive sampling technique was used since it allowed for flexibility and ease of access to the study participants and saved time and resources.

Sampling procedure

Every parent/guardian who arrived at OPD and met the inclusion criteria was approached until the desired number of participants was obtained.

Data Collection Method

Interview techniques and group discussions were used as the desired data collection methods.

Data collection tools

Questionnaire and scholastic materials were used to collect data.

Data collection procedure

Parents or guardians of girls aged 9–13 years attending OPD services at Kawaala Health Center IV were approached, and the researcher determined if they were eligible for the study. Written informed consent was obtained from legible participants who were assured of confidentiality and the right to withdraw at any stage of the study. Interviews were used to collect the data using the questionnaire. The collected data was then stored privately and securely for report writing.

Quality Control

The reliability of the data collection tools and methods was ensured through pre-testing in a nearby health facility.

Inclusion criteria

Parents/guardians of girls aged 9–13 years attending OPD at Kawaala Health Centre IV that consent and were willing to participate.

Exclusion criteria

Parents of children outside the age range or those who were unable to provide informed consent

Data Analysis and Presentation

The tallied manually and entered into Microsoft EXCEL, then presented in the form of tables, graphs, percentages, and statements.

Ethical consideration

Ethical approval was obtained from the Mildmay Institute of Health Sciences research ethics committee, and permission

to conduct the study was obtained from the person in charge of Kawaala Health Center.
IV. Informed consent form from participants was obtained. Confidentiality and anonymity were also maintained throughout the entire study.

RESULTS

Level of knowledge about the benefits of HPV vaccination among parents for girls aged 9–13 years at OPD in Kawaala health center IV, Kampala district

Nearly half, 40 (43.5%), of the respondents completed primary level of education; nearly half, 45(48.9%), of the respondents believe that HPV immunization is important. The majority, 77 (83.7%), of the parents said that they came to hear about HPV vaccination from the health center. The majority, 63(68.5%), of the respondents said that they searched for information about cervical cancer. Slightly over half, 53(57.6%), of the respondents said they perceive HPV immunization to be serious. Have you ever received education or attended a session about HPV or cervical cancer? The majority, 77(83.70%) of the parents said they have ever attended a session about HPV or cervical cancer. Nearly half, 45(48.9%), of the respondents are not sure whether the benefits of HP vaccination outweigh the risks.

Table 1: Respondents' level of knowledge (n=92)

Variable	Categories	Frequency	Percentage
Level of education completed	No formal education	5	5.4
	Primary	40	43.5
	Secondary	39	42.4
	Tertiary	8	8.7
HPV vaccination importance	Yes	45	48.9
	No	40	43.5
	Do not know	7	7.6
How did you come to hear about HPV vaccination?	News papers	0	0
	Friends	10	10.9
	Social media	5	5.4
	Health centers	77	83.7
How did you come to hear about HPV vaccination?	News papers	0	0
	Friends	10	10.9
	Social media	5	5.4
	Health centers	77	83.7
Have you ever actively searched for information about cancer or cancer prevention?	Yes	29	31.5
	No	63	68.5
How serious do you perceive HPV infection to be?	Not serious	5	5.4
	Somewhat serious	53	57.6
	Very serious	34	37
Have you ever received education or attended a session about HPV or cervical cancer?	Yes	77	83.7
	No	15	16.3
Do you believe the benefits of HPV vaccination outweigh the risks?	Yes	42	45.7
	No	5	5.4
	Do not know	45	48.9

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Parental attitudes towards HPV immunization that may influence acceptance of HPV vaccination.

Table 2 Parents' attitudes towards HPV immunization (n=92)

Variable	Categories	Frequency	Percentage
What do you believe HPV vaccination protects against?	Only cervical cancer	**20**	**21.7**
	Multiple types of cancer	**15**	**16.3**
	Sexually transmitted infections in general	**42**	**45.7**
	Do not know	**5**	**5.4**
What influenced your decision to accept or consider HPV vaccination for your child?	School-based vaccination program	**64**	**69.6**
	Physician recommendation	**20**	**21.7**
	Social media or online information	**5**	**5.4**
	I have not considered HPV vaccination	**3**	**3.3**
What concerns do you have about HPV vaccination?	It may affect my child's sexual behavior	**48**	**52.2**
	I don't have enough information to decide	**34**	**37**
	I have no concerns	**10**	**10.9**
Are you willing to vaccinate your daughter against HPV?	Yes	**25**	**27.2**
	No	**3**	**3.3**
	Already vaccinated	**64**	**69.6**
Where is your place of residence	urban	72	78.3
	Rural	**20**	**21.7**

Nearly half, 42(45.7%) of the respondents believe that HPV immunization protects against STIs in general, and half of the respondents, 48(52.2%), fear that HPV immunization may affect their children's sexual behavior. More than half, 64(69.6%), of the respondents said that their children were already immunized majority, 72(78.3%), of the respondents live in the urban setting.

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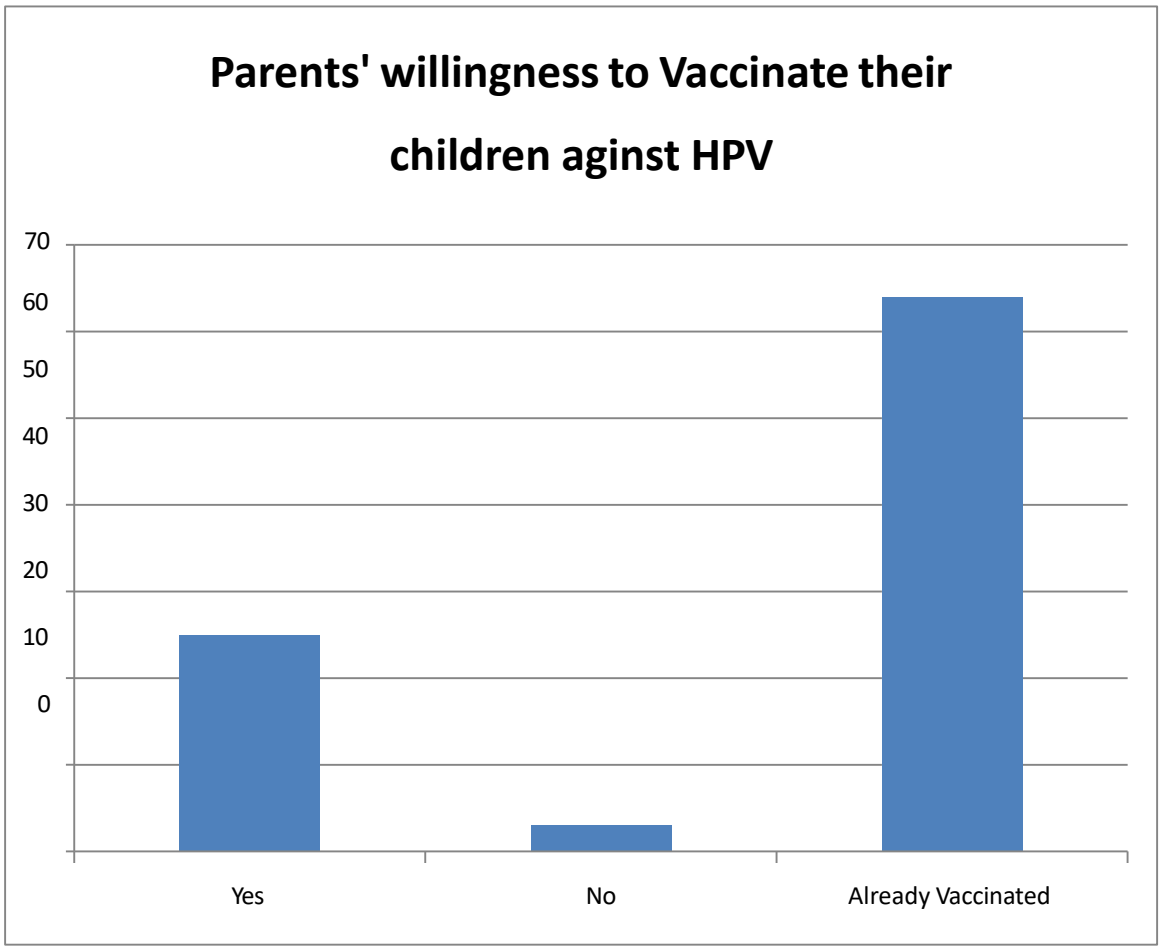
Figure 1: Parents' Willingness to Vaccinate Their Girls Against HPV



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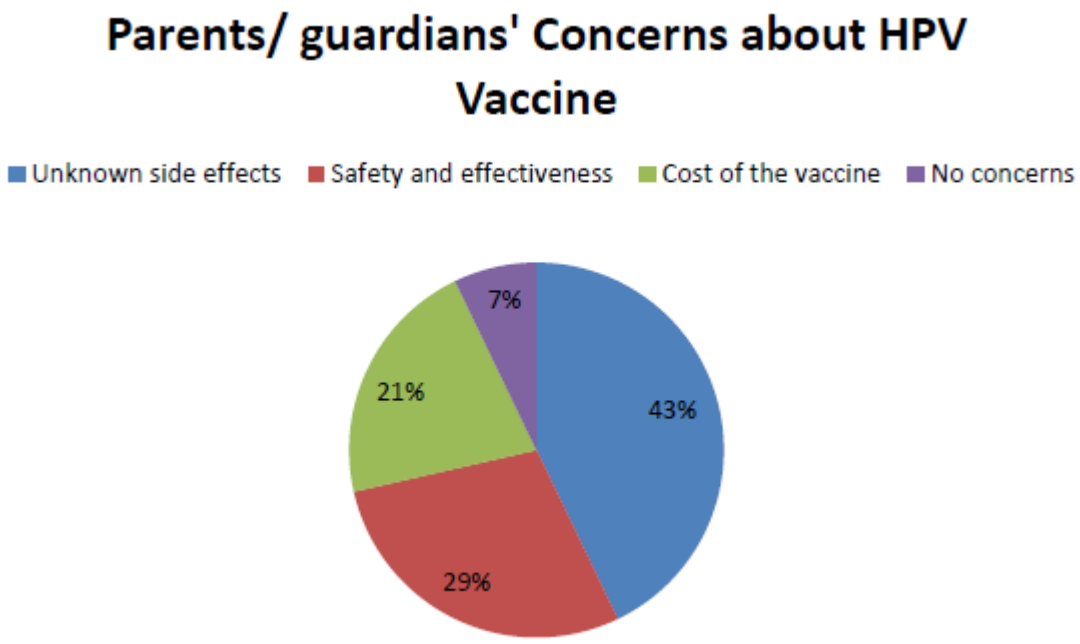
Barriers influencing decision-making regarding HPV immunization at the OPD of Kawaala Health Center IV.

Table 3 Barriers influencing decision making regarding HPV Immunization (n=92)

Variable	Categories	Frequency	Percentage
What made you take your child for HPV immunization	Fear of cervical cancer	13	14.4
	Recommendation from a healthcare provider	10	10.9
	School programme	72	78.3
	I do not recommend it	5	5.4
Which of the following is the biggest challenge to HPV vaccination?	Lack of knowledge about HPV and the vaccine	30	32.6
	No strong recommendation from a healthcare provider	10	10.9
	Limited access to health education materials	14	15.2
	Distance to the health center	38	41.3
Do you think HPV vaccination is connected to politics?	Yes	25	27.2
	No	47	51.1
	Not sure	20	21.7
Which of the following concerns do you have about the HPV vaccine?	Unknown side effects	30	32.6
	Safety and effectiveness	20	21.7
	Cost of the vaccine	15	16.3
	No concerns	5	5.4
Which of the following most influences your intention to vaccinate your child?	What others around me think	22	23.1
	I might regret it if I don't vaccinate	35	38
	Trust in health authorities	15	16.3
	My ability to access and afford the vaccine	42	45.7

The majority of the respondents, 72(78.3%), said that their children were immunized against HPV because it is a school program. Nearly half of the respondents, 38(41.3%), said that their biggest challenge following HPV immunization is the distance to the health center. Nearly half of the respondents, 47(51.1%), think that HPV immunization is connected to politics. The majority of the respondents, 30(32.6%), had unknown side effects from HPV vaccination. Nearly half of the respondents, 42(45.7%), said that their ability to access and afford the vaccine influenced their intention to vaccinate their child.

Figure 2: Parents/ guardians' Concerns about HPV Vaccine



DISCUSSION

Knowledge about the Benefits of HPV Vaccination

Although most participants had attained at least primary education and many had received information from health facilities, gaps in knowledge were apparent. Nearly half of the respondents did not know whether the benefits of HPV vaccination outweighed the risks. This uncertainty suggests that while parents receive information, the content may be inadequate or not well understood. The high proportion of parents who had attended HPV or cervical cancer sessions indicates an opportunity for structured health education, but the persistent misconceptions underscore the need for clearer, more targeted communication. These findings are consistent with prior research highlighting low parental knowledge as a major contributor to poor uptake of HPV vaccination.

Parental Attitudes towards HPV Immunization

Attitudes significantly influenced vaccine acceptance. A dominant proportion of parents believed that HPV vaccination protects against sexually transmitted infections in general, illustrating a limited understanding of its specific role in preventing cervical cancer. School-based vaccination programs strongly shaped parental acceptance, demonstrating the importance of institutional frameworks in immunization uptake. However, fears that vaccination may influence sexual behavior remain prevalent and mirror concerns seen in other studies. The high proportion of parents whose children were already vaccinated reflects the success of school programs, yet the persistent concerns and limited knowledge indicate that attitudes remain fragile and prone to misinformation.

Barriers Influencing Decision-Making Regarding HPV Immunization

Distance to the health facility was the most significant barrier, despite the availability of vaccination services. This finding reflects broader infrastructural challenges that limit access to preventive services. Lack of knowledge further contributed to hesitancy, while unknown side effects and safety concerns were frequent, revealing gaps in parental confidence. Although vaccination is free, some parents cited cost as a concern, indicating misinformation regarding

vaccine affordability. Personal ability to access services strongly influenced intention to vaccinate, reinforcing the need to strengthen accessibility and awareness. The influence of regret and community opinion highlights the role of social dynamics in immunization decisions.

CONCLUSION

The study established that parental knowledge about HPV vaccination at Kawaala Health Centre IV remains limited despite widespread exposure to health information. Although school-based programs have achieved substantial vaccination coverage, parental attitudes continue to be shaped by misinformation, fears, and an inadequate understanding of vaccine benefits. Structural and social barriers, including distance to health facilities, limited access to correct information, uncertainty about side effects, and social influence, significantly affect parental decision-making. Improving

HPV vaccination uptake requires strengthening health education, enhancing accessibility, and addressing prevailing misconceptions.

Study Limitations

Health workers should intensify routine health education at OPD, focusing on clarifying the benefits and safety of HPV vaccination and addressing common misconceptions, such as fears about sexual behavior. The facility should also strengthen provider-initiated vaccination reminders to reinforce parental confidence.

There is a need to enhance community outreach programs that extend HPV vaccination and sensitization to hard-to-reach areas to reduce distance-related barriers. The Ministry should also strengthen public information campaigns using clear, consistent messages that counter misinformation and highlight the free availability and safety of the HPV vaccine. Parents should actively seek accurate information from qualified health workers and participate in health education sessions. They should also support their children's vaccination by ensuring the timely completion of the required doses, using available vaccination opportunities within schools and health facilities.

Recommendation

Health workers should strengthen routine health education at the outpatient department by providing clear and detailed information about the benefits of HPV vaccination, particularly its role in preventing cervical cancer. Educational materials such as posters, brochures, and health talks should be used to increase parental awareness and improve understanding of the vaccine's importance for girls aged 9–13 years.

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List of abbreviations

CIN – Cervical Intraepithelial Neoplasia
HPV – Human Papillomavirus
OPD – Outpatient Department
QALY – Quality Adjusted Life Year
REC – Research Ethics Committee
WHO – World Health Organization

Source of funding

The study received no external funding.

Conflict of interest

The authors declare no conflict of interest.

Data availability

Data is available upon request from the author.

Author biography

Catherine Nakasujja is a student pursuing a diploma in clinical medicine and community health.
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Immaculate Prosperia Naggulu is a tutor at Mildmay Institute of Health Sciences.

Author contributions

CN: collected the data.
HN: supervised the study.
FS: supervised the study.
JFN: supervised the study

REFERENCES

1. Aruho, C., Mugambe, S., Baluku, J. B., & Taremwa, I. M. (2022). *Human papillomavirus vaccination uptake and its predictors among female adolescents in Gulu Municipality, Northern Uganda.* Adolescent Health, Medicine and Therapeutics, 77–91. https://doi.org/10.2147/AHMT.S383872
2. Isabirye, A., Asiimwe, J., & Mbonye, M. (2020). *Factors associated with HPV vaccination uptake in Central Uganda.* East African Journal of

Science, Technology and Innovation, 1(4). https://doi.org/10.37425/eajsti.v1i4.185

3. Kutz, J. M., Rausche, P., Gheit, T., et al. (2023). Barriers and facilitators of HPV vaccination in sub-Saharan Africa: A systematic review. *BMC Public Health, 23*, 974. https://doi.org/10.1186/s12889-023-15842-1
4. Mukthar, V., & Chirchir, I. (2025). *Uptake of Human Papillomavirus (HPV) Vaccine in Kenya: Barriers and Facilitators – A Scoping Review.* East African Journal of Health and Science, 8(1), 450–464. https://doi.org/10.37284/eajhs.8.1.3002
5. Noor Shuhada Salleh, K., Lim Abdullah, K., & Chow, H. Y. (2025). Cultural barriers and facilitators of parents for human papillomavirus (HPV) vaccination uptake by their daughters: A systematic review. *Jornal de Pediatria, 101*(2), 133–149. https://doi.org/10.1016/j.jped.2024.07.012
6. Troels Alnor Einarson, E., Musana, E., Balonde, J., Lorentzen, K. B., Kallestrup, R., Juncker, M., Okello Damoi, J., Nakami, S., & Kallestrup, P. (2025). Human papillomavirus awareness, vaccination rate, and sociodemographic covariates of vaccination status in a low-income country: A cross-sectional study in the rural Busoga region of Uganda. *Vaccine, 53*, 127089. https://doi.org/10.1016/j.vaccine.2025.127089
7. World Health Organization. (2025). *Global HPV vaccination coverage report 2025.* World Health Organization.

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