



WEEKLY EPIDEMIOLOGICAL REPORT

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Prevent the Preventable:

Risk of HPV-related Anal Cancer among groups with high-risk sexual behaviours

Human Papillomavirus Infection

Human Papillomavirus (HPV) infection is the most prevalent sexually transmitted infection (STI) in the world. Over 200 different HPV genotypes have been identified, of which around 40 HPV genotypes are transmitted sexually, leading to mucosal tumours in the anogenital and oropharyngeal region[1]. These genotypes have been classified into low-risk (LR) genotypes (6, 11, 42, 43, 44, etc) and 12 high-risk (HR) genotypes (16, 18, 31, 33, 35, 39, 45, 51, 52, 56, 58, 59) with one probable HR genotype (HPV68) [2]. Low-risk genotypes are associated with anogenital warts, low-grade cervical intraepithelial lesions, and laryngeal papillomatosis. Persistent infection with HR genotypes has the potential to lead to malignant transformation[1]. It has been identified that almost all cervical cancers are attributed to persistent HR HPV infection. In addition to cervical cancers, HPV infection accounts for a variable range of carcinomas of the vulvar, vagina, oropharynx, anus, and penis [3].

Anal Cancer and HPV

Anal cancer is considered the third most frequent HPV-related cancer and almost all anal squamous cell carcinomas (SCCs) are caused by persistent high-risk (HR) HPV infection. Anal cancer incidence is increasing globally, particularly in developed countries while limited data is available in lower and middle-income countries[4]. Further, vaccine-preventable HPV-16 has been detected in approximately 87% of HPV-positive anal SCC cases [5]. As anal cancer incidence is relatively low in the general population, routine screening has not been recommended yet for them. However, a higher incidence of anal SCC has been observed among individuals with high-risk sexual behaviours. An Anal Cancer Risk Scale was developed based on incidence estimates to prioritize research and prevention efforts according to risk profiles[4].

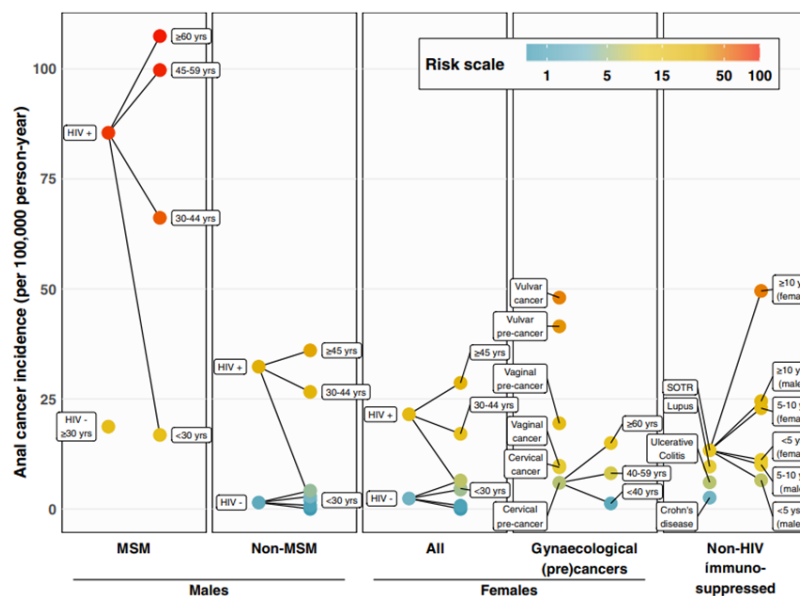


Figure 1 Anal cancer risk scale - Estimates for Men who have Sex with Men (MSM), non-MSM males and females

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WEB

High HPV prevalence, along with immune suppression and increased HPV oncogene expression, significantly raises the risk of HPV-related SCC in high-risk groups. Men who have sex with men (MSM) and people living with HIV (PLWH) are the main high-risk (HR) groups for HPV-related anal cancer. Other high-risk groups include organ transplant recipients and women with HPV-related gynaecological conditions [6]. The incidence rates (IRs) of anal cancer among these high-risk groups found that the IR for HIV-positive MSM was 85 per 100,000 person-years, which is substantially higher than the general population (nearly 5 times cervical cancer IR in the general community). Among men living with HIV, IR is 32 per 100,000 person-years, while among women living with HIV, IR is 22 per 100,000 person-years. Additionally, 265 cases of anal high-grade intraepithelial lesions (HSIL) are found among people living with HIV (PLWH), highlighting the increased risk in this population. However, in HIV-negative MSM, IR is 19 per 100,000-person years. With this background, recent findings from the Anal Cancer & HSIL Outcomes Research (ANCHOR) study have demonstrated that screening and treating anal HSIL can substantially reduce the risk of anal cancer in PLWH [7],[8]. In light of these findings, an updated guideline for screening precancerous anal lesions in PLWH was established in 2024, marking a shift toward preventive care in this high-risk population [8].

According to the National STD/AIDS Control annual reports from 2017 to 2023, the main probable mode of HIV transmission among PLWH in Sri Lanka was homosexual relationships. In 2023, there were 693 new HIV infections, with the majority occurring in males, who accounted for 613 cases (88% of the total). Among new cases, 62% reported a history of male-to-male sexual exposure, which carries a high risk of acquiring HPV infection and a higher potential for persistent infection, increasing the risk of developing anal squamous cell carcinoma (SCC) in the future [9]. In addition, a study conducted among STD clinic attendees revealed that 56.1% had more than one female partner during their lifetime while 5.3% had >51 male sex partners with 42.8% having >2-5 male sex partners highlighting an alarming trend.

HPV Vaccination as Preventive Strategy against Anal Cancer in High-Risk Populations

Thus, the future risk of HPV-related anal cancer among MSM, primarily HIV-positive MSM, in Sri Lanka is likely to increase unless targeted prevention strategies are implemented. Studies show that HPV vaccination generates strong immune responses in PLWH, with a near 100% seroconversion for HPV16 and HPV18 after three doses. The WHO recommends individuals known to be immunocompromised or HIV-infected (regardless of age or antiretroviral therapy status) should receive at least two HPV vaccine doses (minimum 6-month interval) and, where possible, three doses. Prophylactic HPV vaccination along with anal precancer screening can be considered after an economic evaluation to reduce the risk of HPV-related anal cancer among high-risk groups like MSM and PLWH in Sri Lanka.

Nevertheless, the growing HIV burden in many LMICs makes vaccination a potential strategy to reduce HPV-related cancer incidence in these populations. However, the sustainability and feasibility of implementing high-risk male HPV vaccination in LMICs is uncertain and depends on several key factors. The cost of the HPV vaccine remains a significant barrier, as many LMICs struggle with vaccine procurement, affordability, and distribution. International initiatives such as GAVI (Global Alliance for Vaccines and Immunization) can help subsidize vaccine prices in LMICs, which could make large-scale vaccination programs more feasible.

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Table 1: Selected notifiable diseases reported by Medical Officers of Health 01st-07th Feb 2025 (06th Week)

RDHS	Dengue Fever		Dysentery		Encephalitis		En. Fever		F. Poisoning		Leptospirosis		Typhus F.		Viral Hep.		H. Rabies		Chickenpox		Meningitis		Leishmania-		Tuberculosis		WRCD	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	T*	C**
Colombo	252	1695	0	4	1	2	0	0	1	5	60	1	3	1	2	0	0	13	68	0	4	0	1	34	210	100	100	
Gampaha	131	1170	1	7	1	8	0	1	0	39	11	117	0	2	1	2	0	21	118	3	23	1	8	24	132	93	100	
Kalutara	29	267	2	7	0	1	0	0	9	10	13	107	0	0	0	2	0	13	87	1	5	0	0	0	65	96	75	
Kandy	50	487	0	14	0	2	0	1	0	6	2	63	4	18	0	3	0	12	62	0	5	0	10	19	121	100	100	
Matale	38	278	2	7	0	1	0	0	1	5	5	39	0	1	0	4	0	0	12	0	0	6	32	4	14	100	100	
Nuwara Eliya	4	39	2	14	0	1	0	2	3	43	2	29	2	15	0	0	0	3	38	0	2	0	0	3	41	92	100	
Galle	44	366	0	9	0	2	0	0	0	17	16	117	3	21	0	0	14	114	4	26	0	0	8	66	100	100		
Hambantota	15	177	0	5	0	2	0	0	2	3	66	1	8	1	1	0	13	55	0	2	9	47	4	29	92	100		
Matara	34	261	0	2	0	2	0	0	0	3	15	83	3	5	0	2	0	7	45	1	8	3	18	4	28	100	100	
Jaffna	35	321	1	16	0	1	0	2	1	10	4	98	21	140	0	0	1	11	41	0	4	0	0	1	26	100	93	
Kilinochchi	2	27	0	4	0	0	0	1	0	1	3	23	0	5	0	1	0	0	0	0	0	0	0	0	5	100	100	
Mannar	3	66	0	0	0	0	0	0	0	0	7	0	1	0	0	0	1	4	0	7	0	0	0	0	4	100	100	
Vavuniya	2	17	0	4	0	0	0	0	1	2	20	1	2	0	0	0	0	1	0	3	0	2	0	0	5	100	100	
Mullaitivu	2	19	0	1	0	0	0	1	0	4	28	0	2	0	0	0	0	3	0	2	0	0	0	0	2	83	100	
Batticaloa	60	437	1	45	2	5	0	0	3	0	15	0	1	0	7	0	5	43	2	7	0	1	6	17	93	100		
Ampara	3	33	1	2	0	1	0	0	1	5	26	0	1	0	1	0	2	12	0	2	1	4	3	8	71	100		
Trincomalee	28	203	0	17	0	1	0	0	13	1	34	0	3	1	1	0	1	22	1	7	0	3	0	8	100	100		
Kurunegala	27	199	0	5	0	4	0	1	2	17	19	153	1	11	0	1	0	20	121	2	26	20	88	13	54	97	100	
Puttalam	16	163	0	4	0	0	0	0	0	4	83	1	10	0	1	0	4	33	2	19	2	5	5	34	85	100		
Anuradhapura	39	162	2	5	1	3	0	0	1	7	16	113	2	8	0	4	0	8	43	1	11	24	149	4	38	96	100	
Polonnaruwa	10	41	0	6	0	1	0	0	1	8	47	0	0	1	7	0	4	33	0	0	9	49	5	9	100	94		
Badulla	17	159	0	2	0	1	0	0	0	6	66	0	5	1	8	0	13	65	6	16	0	3	3	26	100	100		
Monaragala	6	152	2	5	0	1	0	0	2	10	102	5	16	0	2	0	1	15	1	15	2	18	2	15	91	100		
Ratnapura	47	382	2	18	1	2	0	2	0	6	30	262	2	8	0	1	0	18	68	4	26	0	9	8	50	100	100	
Kegalle	29	223	0	14	0	3	0	0	1	12	11	106	0	1	1	4	0	22	118	3	9	0	8	6	38	91	100	
Kalmunai	14	95	1	5	0	0	0	0	4	4	23	0	0	0	1	0	5	39	0	4	0	0	1	16	100	100		
SRILANKA	937	7439	17	222	6	44	0	11	18	204	199	1887	47	287	7	55	0	1	211	1260	31	233	77	455	157	1061	95	99

Source: Weekly Returns of Communicable Diseases (esurveillance.avid.gov.lk). T=Timeliness refers to returns received on or before 07th Feb, 2025 Total number of reporting units 358 Number of reporting units data provided for the current week: 358 C**=Completeness. A = Cases reported during the current week. B = Cumulative cases for the year.

Table 2: Vaccine-Preventable Diseases & AFP

01st – 07th Feb 2025 (06th Week)

Disease	No. of Cases by Province									Number of cases during current week in 2025	Number of cases during same week in 2024	Total number of cases to date in 2025	Total number of cases to date in 2024	Difference between the number of cases to date in 2025 & 2024
	W	C	S	N	E	NW	NC	U	Sab					
AFP*	00	00	00	00	00	00	00	00	00	00	02	07	10	-30%
Diphtheria	00	00	00	00	00	00	00	00	00	00	00	00	00	0 %
Mumps	00	00	00	01	01	01	00	00	00	03	08	27	30	-10 %
Measles	00	00	00	00	00	00	00	00	00	00	11	04	118	-96.6%
Rubella	00	00	00	00	00	00	00	00	00	00	00	00	01	-100%
CRS**	00	00	00	00	00	00	00	00	00	00	00	00	00	0 %
Tetanus	00	00	00	00	00	00	00	00	00	00	00	01	00	0 %
Neonatal Tetanus	00	00	00	00	00	00	00	00	00	00	00	00	00	0 %
Japanese Encephalitis	01	00	00	00	00	00	00	00	00	00	00	03	00	0 %
Whooping Cough	00	01	00	00	00	00	00	00	00	01	01	05	01	400 %

Key to Table 1 & 2

Provinces: W: Western, C: Central, S: Southern, N: North, E: East, NC: North Central, NW: North Western, U: Uva, Sab: Sabaragamuwa.
RDHS Divisions: CB: Colombo, GM: Gampaha, KL: Kalutara, KD: Kandy, ML: Matale, NE: Nuwara Eliya, GL: Galle, HB: Hambantota, MT: Matara, JF: Jaffna, KN: Killinochchi, MN: Mannar, VA: Vavuniya, MU: Mullaitivu, BT: Batticaloa, AM: Ampara, TR: Trincomalee, KM: Kalmunai, KR: Kurunegala, PU: Puttalam, AP: Anuradhapura, PO: Polonnaruwa, BD: Badulla, MO: Moneragala, RP: Ratnapura, KG: Kegalle.

Data Sources:
Weekly Return of Communicable Diseases: Diphtheria, Measles, Tetanus, Neonatal Tetanus, Whooping Cough, Chickenpox, Meningitis, Mumps., Rubella, CRS,
Special Surveillance: AFP* (Acute Flaccid Paralysis), Japanese Encephalitis
CRS** =Congenital Rubella Syndrome
NA = Not Available

Take prophylaxis medications for leptospirosis during the paddy cultivation and harvesting seasons.

It is provided free by the MOH office / Public Health Inspectors.

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