

Prevalence of high-risk Human Papillomavirus Types Among Women Aged 30–49 Years in the Chui Region of the Kyrgyz Republic

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Introduction

- Human papillomavirus (HPV) is a widespread sexually transmitted infection, with over 200 known types.
- At least 14 are classified as high-risk or oncogenic due to their strong association with cervical cancer
- Cervical cancer is the fourth most common cancer among women worldwide
- The burden of cervical cancer and HPV-related diseases is disproportionately higher in LMICs due to limited access to screening programs, HPV vaccination, and timely treatment
- In Central Asia, including Kyrgyzstan, the epidemiological data on HPV prevalence and type distribution are scarce, although cervical cancer incidence rates remain alarmingly high
- In Kyrgyzstan, cervical cancer is the second most common cancer among women, with an estimated age-standardized incidence rate of 14.0 per 100,000 women
- The lack of widespread cervical cancer screening and HPV vaccination programs has contributed to the persistent burden of cervical cancer in this region
- In Kyrgyzstan as in other LMICs, face numerous challenges in implementing organized screening programs, resulting in low screening coverage and late-stage diagnosis of cervical cancer

Objectives

To estimate the prevalence of HPV types and its distribution in Chui region in Kyrgyzstan

Materials & Methods

- A hospital based cross-sectional study was conducted in 3 public health facilities (PHCC in Sokuluk and Jani-Jer and FMC#6) in Chui region from January to May 2024.
- Women, aged 30-49 years, attending routine gynecologic or family planning services were included in the study after ruling out total hysterectomy, acute severe febrile illness, thermal ablation less than 1 year and pregnancy.
- After obtaining informed consent, a cervical specimen was collected for detection of high- risk oncogenic HPV types, followed by a VIA test and completion of a structured questionnaire.
- In total 1152 women were recruited
- GeneXpert HPV testing was used for detection of high-oncogenic HPV types and analysis was done in pools as followed: “HPV16 Primary” for HPV16, “HPV 18_45,” P3:HPV types 31, 33, 35, 52, or 58, “P4: HPV types 51 or 59, P5: HPV types 39, 56, 66, or 68

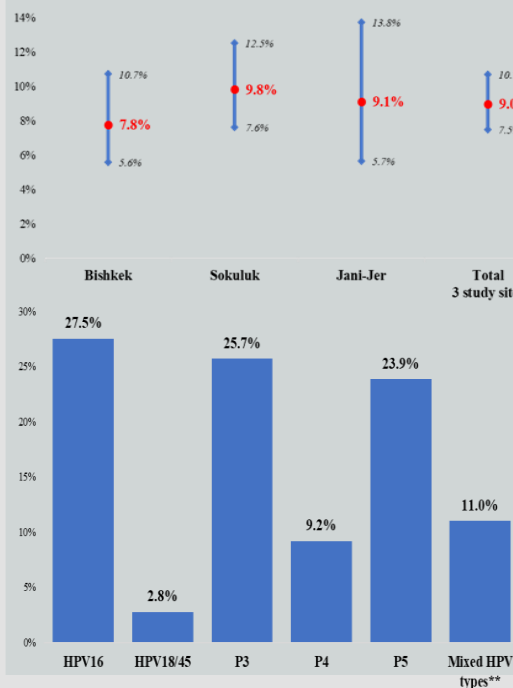
Results

Characteristics	Total n	Presence of HR-HPV types n (%)	95%CI	P-value	cOR	95%CI	P-value
Age (mean ± SD)	39.2±5.4	39.1±5.8					
Marital status				<0.05			
Married	1057	84(7.9)	6.4-9.7		1		
Not married*	156	25(16.0)	6.1-25.3		2.21	1.3-3.5	<0.05
Work status				0.054			
Not employed	563	41(7.3)	5.4-9.7		1		
Employed	650	68(10.5)	8.3-13.0		1.48	0.9-2.2	0.05
Smokes cigarettes				0.02			
No	1105	93(8.4)	6.9-10.2		1		
Yes	108	16(14.8)	8.7-22.9		1.89	1.0-3.3	0.03
Alcohol consumption				<0.05			
No	923	69(7.5)	5.9-9.3		1		
Yes	290	40(13.8)	10.0-18.3		1.98	1.3-2.9	<0.05
Number of pregnancies				<0.05			
No pregnancy	22	6(27.3)	10.7-50.2		1		
1-5 pregnancies	770	72(9.4)	7.4-11.6		0.27	0.1-0.7	<0.05
6 and more pregnancies	421	31(7.4)	5.2-10.2		0.26	0.1-0.5	<0.05
Previously diagnosed with cervical pathology				<0.05			
No	669	72(10.8)	8.6-13.3		1		
Yes	544	37(6.8)	4.9-9.2		0.60	0.4-0.9	<0.05
Previously treated for cervical pathology				0.05			
No	835	84(10.1)	8.2-12.2		1		
Yes	378	25(6.6)	4.5-9.5		0.63	0.3-1.0	0.05
Number of sexual partners in the last 5 years				0.04			
No partner	22	4(18.2)	5.1-40.2		1		
1 partner	1067	88(8.2)	6.7-10.0		0.40	1.1-1.2	0.10
2 and more partners	124	17(13.7)	8.1-21.0		0.71	0.2-2.3	0.58

Characteristic	aOR	95% CI	P-value
Not married*	1,86	1.13 - 3.07	0,014
Smokes cigarettes	1,24	0.66 - 2.31	0,490
Consumes alcohol	1,71	1.09 - 2.69	0,018
Previously diagnosed with cervical pathology	0,61	0.40 - 0.93	0,024

HR-HPV types	Number (%)	95% CI
Not detected HR-HPV	1104 (91.0)	89.25 - 92.50
HPV16	30 (2.5)	1.74 – 3.51
HPV18/45	3 (0.2)	0.08 - 0.72
HPV-Other (P3)	28 (2.3)	1.6 - 3.32
HPV-Other (P4)	10 (0.8)	0.45 - 1.51
HPV-Other (P5)	26 (2.1)	1.47 - 3.12
Mixed HPV types	12 (1.0)	0.57 - 1.72

Results



CONCLUSION

This study represents the first comprehensive data on the prevalence and distribution of highly oncogenic HPV types in Kyrgyzstan. The most common type is HPV16, followed by other types grouped into P3 and P5. The findings emphasize the importance of tailored public health interventions, including expanded HPV vaccination, enhanced cervical cancer screening programs, and targeted education on risk factors such as alcohol use and sexual behavior. Further research is needed to evaluate the impact of these interventions on reducing the burden of HPV-associated cervical cancer in Kyrgyzstan.