Research Square

Preprints are preliminary reports that have not undergone peer review.
They should not be considered conclusive, used to inform clinical practice,
or referenced by the media as validated information.

A multicenter cross-sectional survey of Human Papillomavirus knowledge and attitude among health professionals in Hunan Province

Chengniang Liu
The Second Xiangya Hospital of Central South University
Zhixian Zhou
The Second Xiangya Hospital of Central South University
Haiyi Cai
Guangzhou Medical University
Chun Fu
fuchun0814@csu.edu.cn

The Second Xiangya Hospital of Central South University

Research Article

Keywords: Human Papillomavirus, Health Professionals, Hunan Province, Questionnaire Survey

Posted Date: July 31st, 2026

DOI: https://doi.org/10.21203/rs.3.rs-9878454/v1

License: This work is licensed under a Creative Commons Attribution 4.0 International License. Read Full License

Additional Declarations: No competing interests reported.

Abstract

Purpose

This study aims to explore differences in knowledge levels and their influencing factors, and examine their attitudes towards new technologies for cervical cancer screening and treatment for HPV-related lesions in Hunan Province.

Methods

A convenience sampling method was used to distribute questionnaires to health professionals across 14 prefecture-level cities in Hunan Province. A total of 2,777 valid responses were collected, and statistical analysis was conducted to examine factors influencing the level of HPV knowledge.

Results

Participants generally understood HPV transmission and its role in cervical cancer prevention in women. However, awareness was low (< 70% correct) regarding HPV infection of multiple organ sites and male involvement in cervical cancer control. Key factors influencing HPV knowledge included gender, years of practice, education, position, department, and regular physical examination participation. Among female participants, most (81.40%) found over 500 RMB unacceptable for novel cervical screening technologies. When treating HPV-related lesions, they prioritized clinical efficacy over cost.

Conclusion

Health professionals in Hunan Province have a general understanding of the HPV transmission and its role in cervical cancer prevention in women. The female participants have high expectations for the affordability of cervical cancer screening and the effectiveness of the treatment.

Introduction

Human papillomavirus (HPV) comprises a group of extremely common viruses worldwide [1]. Globally, 4.5% of cancers are attributable to HPV, with cervical cancer accounting for 83% of all HPV-associated cancers [2]. The National Cancer Center of China data in 2024 indicated that new cervical cancer cases reached 151,000 representing 22.7% of the global incidence, while deaths approached 56,000 accounting for 16% of global mortality [3]. Hunan Province, located in central China, has 57,510 healthcare institutions and nearly 690,000 health professionals [4]. In 2024, cervical cancer ranked 4th in incidence and 5th in mortality among female cancers in Hunan Province, highlighting a severe public health challenge in disease prevention and control [5-6].

Reducing the incidence and mortality of cervical cancer largely depends on the standardized implementation of prevention and control strategies, among which HPV vaccine and cervical cancer screening are the two core measures in the tertiary prevention framework [7]. The level of knowledge among health professionals has a profound influence on the ultimate effectiveness of cervical cancer prevention and control at both clinical practice and public health levels [8-9]. A systematic review revealed that while most healthcare professionals globally are aware that HPV is a pathogenic virus and know of the existence of HPV vaccine, significant knowledge gaps remain regarding key details about the virus and HPV vaccination [10].

Furthermore, with mainland China approving HPV vaccine for eligible males [11], the domestic 9-valent HPV vaccine receiving market approval [12], and various new technologies being applied for triage in cervical cancer screening [13], the efficiency of cervical cancer prevention and control has been further enhanced. This presents a critical opportunity to advance a comprehensive population-wide strategy for HPV prevention and control.

However, there has been no multicenter study investigating the knowledge level and attitudes towards HPV among health professionals across Hunan Province. This study aims to explore differences in knowledge levels across various dimensions and their influencing factors, investigate the current status of HPV vaccination among health professionals, and examine their attitudes towards new technologies for cervical cancer screening and treatment for HPV-related lesions in Hunan Province. The findings aim to provide a foundation for developing targeted policies and educational initiatives that promote population-wide participation in cervical cancer prevention and control.

Methods

1. Study Participants

The study protocol received ethical approval from the Clinical Research Ethics Committee of the Second Xiangya Hospital of Central South University in December 2024 (Certificate Reference Number: LYEC2024-K0266). From March to October 2025, health professionals in Hunan Province were invited to participate.

2. Survey Methodology

With the Second Xiangya Hospital of Central South University as the main center in Changsha, one hospital in each of the 14 prefecture-level cities in Hunan Province was selected as a sentinel site. After receiving unified training, the coordinators used convenience sampling to invite health professionals from institutions of all levels within their prefecture-level cities to participate. Invitees decided voluntarily whether to join the study and provided informed consent.

3. Questionnaire Design

The questionnaire was self-designed using the Wenjuanxing platform. The content of the questionnaire is presented in **Supplemental Material**. The questionnaire consisted of four parts: Part (i) demographic characteristics and behavioral habits; Part (ii) Sources of HPV knowledge and an HPV knowledge assessment score; Part (iii) For female participants: HPV vaccination history, and attitudes towards novel cervical cancer screening technologies, and treatment of HPV-related lesions.

The HPV knowledge assessment Part (ii) comprised 37 questions scored in a correct/incorrect format part (1 point for a correct answer, 0 for incorrect), with a total possible score of 37. Part (iii) was completed only by female participants. The survey was conducted anonymously. Only the research team had access to the data, personal information was kept confidential, and the results were objective and impartial. In a preliminary phase, the questionnaire was administered to 300 participants. The internal consistency of responses was assessed using Cronbach's alpha coefficient, yielding α=0.74, indicating acceptable reliability.

4. Data Collection and Quality Control

Three postgraduate students independently performed double data entry. Questionnaires were considered invalid and excluded under the following circumstances: (i) All questions answered with the same option, or responses following an obvious patterned selection; (iii) Obvious logical errors between different answer choices; (iv) Completion time less than 2 minutes.

5. Data Processing and Analysis

A database was established using Microsoft Excel 2010. SPSS version 28.0 was used for statistical analysis. Chi-square (χ^2) tests and Logistic regression were employed to analyze factors influencing the level of HPV knowledge. Logistic regression utilized a forward stepwise method, with an entry criterion of α= 0.05 and a removal criterion of α= 0.10. The significance level was set at α= 0.05. P< 0.05 was considered statistically significant.

Results

1. Demographic Characteristics and Behavioral Habits of Participants

A total of 2801 questionnaires were collected in this study. After excluding 24 questionnaires due to incomplete filling or non-submission, 2777 valid questionnaires were retained, yielding an effective response rate of 99.14%. Detailed information on the basic demographic characteristics of the participants is presented in **Table 1**. Among the participants, 2618 (94.27%) were female, and a median duration of professional practice of 13.24 years. The majority were married (85.45%) and held a bachelor's degree (70.44%). More than half of the participants were physicians (55.71%), with most working in the obstetrics and gynecology departments (73.32%). Participants were from 14 prefecture-level cities in Hunan Province. Based on whether the per capita GDP of their prefecture-level cities in 2024 was below 9,000 USD (1 USD = 6.9765 CNY), participants' locations were categorized into two groups. The majority reported undergoing regular physical examination (61.15%) and being non-smokers (97.84%).

2. Sources of HPV Knowledge and HPV Knowledge Assessment Scores among Participants

Participants' primary sources of HPV knowledge were investigated (**Fig 1**). Workplace training was the most common source (94.13%), followed by vaccine promotion (68.06%), and online media (66.98%).

HPV knowledge was assessed using a 37-item questionnaire covering three domains: HPV etiology, epidemiology, and prevention/control. The correct response rate for each item is shown in **Fig 2**. The overall mean knowledge score was 29.68 ± 4.15. Participants were categorized based on their total score. The distribution of average correct response rates across these three domains, stratified by various demographic characteristics, is presented in **Fig 3**.

The correct response rate exceeded 70% for 31 out of the 37 items. This indicated a general understanding among participants regarding HPV transmission routes and the roles of vaccination and screening in cervical cancer prevention. However, gaps in knowledge were identified. In the etiology domain, while participants were more aware of the high-risk association of HPV16 and 18 with cervical cancer, 42.28% were unaware that HPV52 and 58 are also high-risk types with carcinogenic potential. In epidemiology, although 98.56% knew the female cervix/vagina could be infected, fewer understood the virus's epitheliotropic nature. Awareness that HPV can infect the anus/urethra, skin, and oropharynx/nasopharynx was below 70% for each site. Regarding prevention and control, 93.37% knew both sexes could be infected, but knowledge was lacking that men can participate in female cervical cancer prevention through HPV vaccination and circumcision. Those scoring ≥32 points (the 70th percentile, P70) were classified as the "Adequate Knowledge" group (n=1034), while those scoring <32 points formed the "Inadequate Knowledge" group (n=1743).

3. Univariate Analysis of Factors Influencing Healthcare Workers' HPV Knowledge Level

Seven demographic variables—gender, years of practice, education level, marital status, professional position, department, prefecture-level city (based on per capita GDP), whether smoking and regular physical examination—were included in a univariate analysis to assess their association with HPV knowledge level. Details are presented in **Table 1**.

Regarding the distribution between the two HPV knowledge groups (Adequate vs. Inadequate), the results of the chi-square tests indicated that prefecture-level city ($\chi^2 = 0.447$, $P = 0.504$) and smoking status ($\chi^2 = 2.93$, $P = 0.087$) were not statistically significant. In contrast, statistically significant differences ($P < 0.001$) were observed for all other factors, including gender, years of practice, educational level, marital status, professional position, department, and regular physical examination.

Table 1: Univariate analysis of factors influencing healthcare workers' knowledge of HPV.

Variables	HPV Knowledge Level		χ^2	*P*
	Inadequate Knowledge (n=1743)	Adequate Knowledge (n=1034)		
Gender				
Male	125	34	18.13	0.001
Female	1618	1000		
Years of Practice				
< 10 years	493	187	67.01	0.001
10–19 years	712	380		
≥ 20 years	538	467		
Education Level				
Below Bachelor's Degree	424	92	137.83	0.001
Bachelor's Degree	1188	768		
Postgraduate Degree	131	174		
Marital Status				
Unmarried	252	77	30.55	0.001
Married	1491	957		
Professional Position				
Nursing	935	152	537.34	0.001
Physician	678	869		
Other	130	13		
Department				
Obstetrics & Gynecology	652	89	275.15	0.001
Non-Obstetrics & Gynecology	1091	945		
Prefecture-level City (based on per capita GDP)				
Cities with per capita GDP < 9,000 USD	852	519	0.447	0.504
Cities with per capita GDP ≥ 9,000 USD	891	515		
Smoking				
No	1699	1018	2.93	0.087
Yes	44	16		
Regular Physical Examination				
No	312	88	46.41	0.001
Yes	1431	946		

4. Logistic Regression Analysis of Factors Associated with Knowledge Level

A multivariate binary logistic regression analysis was conducted with knowledge level (“Inadequate Knowledge” = 0, “Adequate Knowledge” = 1) as the dependent variable, incorporating all factors that showed statistical significance ($P< 0.05$) in the univariate analysis as independent variables, including gender, years of practice, education level, marital status, professional position, department, and whether regular physical examination (see **Table 2** for details).

The results demonstrated that female participants had significantly higher HPV knowledge than males (OR= 2.21, 95% *CI*: 1.41–3.47, $P < 0.001$); those with more than 10 years of professional practice showed higher knowledge than those with ≤10 years ($P< 0.05$); participants with a bachelor’s degree or above had higher knowledge than those with lower educational attainment ($P< 0.001$); physicians exhibited

significantly higher knowledge than nurses (OR= 6.88, 95% *CI*: 5.51–8.60, *P*< 0.001); healthcare workers in obstetrics/gynecology departments had higher knowledge than those in other departments (OR= 4.55, 95% *CI*: 3.47–5.95, *P*< 0.001); and participants who underwent regular physical examination showed higher knowledge than those who did not (OR = 1.67, 95% *CI*: 1.23–2.27, *P* = 0.001).

Table 2: Multivariate binary logistic regression analysis of factors influencing healthcare workers' knowledge level of HPV.

Variable		*β*	*SE*	Wald χ^2	*P*	OR (95% *CI*)
Gender	Male					1
	Female	0.79	0.23	11.94	<0.001	2.21（1.41-3.47）
Years of Practice	< 10 years					1
	10–19 years	0.36	0.15	6.12	0.013	1.43（1.08-1.90）
	≥ 20 years	0.49	0.15	10.42	0.001	1.63（1.21-2.19）
Education Level	Below Bachelor's Degree					1
	Bachelor's Degree	0.61	0.15	17.75	<0.001	1.85（1.39-2.46）
	Postgraduate Degree	1.19	0.20	35.02	<0.001	3.27（2.21-4.85）
Marital Status	Unmarried					1
	Married	0.34	0.19	3.34	0.068	1.41（0.98-2.04）
Professional Position	Nursing					1
	Physician	1.93	0.11	288.41	<0.001	6.88（5.51-8.60）
	Other	0.40	0.33	1.45	0.229	1.48（0.78-2.82）
Department	Obstetrics & Gynecology					1
	Non-Obstetrics & Gynecology	1.51	0.14	121.11	<0.001	4.55（3.47-5.95）
Smoking	No					1
	Yes	0.51	0.16	10.59	0.001	1.67（1.23-2.27）

5. Attitudes Toward HPV Vaccine, Novel Cervical Cancer Screening Technologies, and Treatment of HPV-Related Lesions

Among the 2,618 female participants, 1,073 (40.99%) had received the HPV vaccine (**Fig 4(A)**). Regarding the maximum acceptable cost for novel cervical cancer screening technologies, the largest proportion of participants selected 300 RMB (**Fig 4(B)**). Furthermore, participants were surveyed on six categories of factors influencing their choice of treatment for HPV-related lesions. The highest proportion of responses prioritized the clearance rate of HPV. In contrast, treatment expense was the least influential factor, indicating that participants placed greater weight on clinical efficacy rather than treatment expense when selecting treatment for HPV-related lesions (**Fig 4(C)**).

Discussion

A study based on the 2022 global epidemiology of cervical cancer indicates that, with population growth and aging, the number of new cervical cancer cases is projected to increase by 14.8% and deaths by 17.8% by 2030 [14]. The success of cervical cancer prevention and control relies not only on the education, screening, and treatment provided by health professionals for patients, but also, crucially, on the improvement of health professionals' own knowledge and competence in this field [15]. In this study, we found that only 54.20% of the participants acquired knowledge about HPV through school education. Several previous studies reported similar findings, indicating that medical students still have significant knowledge gaps regarding HPV during their training, with average scores on various assessment questionnaires generally below 60% [16–18]. It can be inferred that after these medical graduates enter clinical practice, if they work in positions not directly related to HPV-associated diseases and lack systematic continuing education following graduation, their knowledge level of HPV may further decline. Therefore, it is essential to strengthen academic education on HPV knowledge for healthcare professionals in clinical practice.

Currently, the concept of joint prevention and treatment of HPV in both men and women is gaining increasing attention [19]. HPV infects human epithelial cells, leading to skin and mucosal lesions, and its diagnosis and management involve multiple disciplines such as gynecology, dermatology, surgery, and otorhinolaryngology, representing a shared health challenge for all genders [20]. HPV vaccination for

eligible individuals of both sexes helps prevent cervical cancer, head and neck cancers, warts, and other conditions [21]. We found that male health professionals had lower levels of HPV knowledge than female health professionals.

Our results showed that 81.40% of female participants reported a maximum acceptable price of less than 500 RMB for novel cervical cancer screening technologies. However, when making treatment decisions for HPV-related lesions, they prioritized clinical efficacy, with treatment expense being a non-critical factor. This finding suggests a distinct difference in value judgment between the screening and treatment phases: as asymptomatic individuals undergoing preventive screening, they are more expense-sensitive; conversely, when faced with definitive treatment decisions for diagnosed lesions, they tend to prioritize optimal therapeutic outcomes.

This study was a multicenter cross-sectional questionnaire survey conducted in Hunan Province. However, several limitations should be acknowledged. First, selection bias may exist in the sampling process. Notably, HPV infection and related diseases involve multiple clinical disciplines, yet 73.32% of the study sample was derived from obstetrics and gynecology departments, resulting in insufficient representation from other departments. Second, male participants accounted for only 5.73% of the sample, which may compromise the gender representativeness of the findings.

Conclusion

Health professionals in Hunan Province have a general understanding of the HPV transmission and its role in cervical cancer prevention in women. The female participants have high expectations for the affordability of cervical cancer screening and the effectiveness of the treatment. This study provides a reference for the prevention and control of cervical cancer.

Declarations

Acknowledgements

We are grateful to Professor Yumei Cao from The Central Hospital Of Shaoyang, Professor Wupeng Tan from Hengyang Maternal And Child Health Hospital, Professor Meifang He from Women And Children Healthcare Hospital Of Zhuzhou , Professor Guangxia Luo from Hunan University Of Medicine General Hospital, Professor Yi Qiu from Loudi Central Hospital, Professor Hua Zeng from The People's Hospital Of Louxing District, Professor Zhe Wu from Yueyang Central Hospital, Professor Tong Lin from Xiangxi Autonomous Prefecture People's Hospital, Professor Chen Tan from The First People's Hospital Of Chenzhou, Professor Li Wang from The First People's Hospital Of Changde City, Professor Zhenying Yang from The Central Hospital Of Yongzhou, Professor Xiangquan Wang from The Maternal And Child Health Care Hospital Of Xiangtan City, Professor Xing Fan from Changsha Hospital For Maternal&child Health Care, Professor Haiying Chen from Yiyang Central Hospital and Professor Xianyou Yi from Zhangjiajie People's Hospital for their contributions to distribution of questionnairs. We would also like to thank Dr.Yu-Ligh Liou, Dr. Jing Deng and Dr. Xingyu Liu for their support in conceptualization and statistical analysis.

Data Availability Statement

Due to the privacy requirements of the data, the data cannot be publicly shared. However, eligible researchers can obtain the data from the Clinical Research Ethics Committee of the Second Xiangya Hospital of Central South University (contact Tel: +86 731 8529 2476).

Ethics Statement

This study has been approved by the Clinical Research Ethics Committee of the Second Xiangya Hospital of Central South University; Decision Date: December 23rd, 2024; Certificate Reference Number: LYEC2024-K0266.

Conflicts of Interest Statement

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Funding Statement

This research was supported by Postgraduate Innovative Project of Central South University (2024XQLH144).

Author Contributions

Chengniang Liu: designed the study protocol, drafted the manuscript; Zhixian Zhou: carried out data collection, revised the manuscript; Haiyi Cai: analyzed the data; Chun Fu: the guarantors of the paper. All authors have read and agreed to the published version of the manuscript.

References

1. McBride AA (2022) Human papillomaviruses: diversity, infection and host interactions. Nat Rev Microbiol 20(2):95–108. 10.1038/s41579-021-00617-5
2. de Martel C, Plummer M, Vignat J, Franceschi S (2017) Worldwide burden of cancer attributable to HPV by site, country and HPV type. Int J Cancer 141(4):664–670. 10.1002/ijc.30716
3. Han B, Zheng R, Zeng H et al (2024) Cancer incidence and mortality in China, 2022. J Natl Cancer Cent 4(1):47–53 Published 2024 Feb 2. 10.1016/j.jncc.2024.01.006
4. Huang M, Luo D, Wang Z et al (2020) Equity and efficiency of maternal and child health resources allocation in Hunan Province, China. *BMC Health Serv Res*. ;20(1):300. Published 2020 Apr 15. 10.1186/s12913-020-05185-7
5. Hunan Provincial Bureau of Statistics Hunan Statistical Yearbook (2024) 2025. https://tjj.hunan.gov.cn/hntj/tjfx/hntjnj/202503/t20250331_33627676.html
6. Pu L (2021) Fairness of the Distribution of Public Medical and Health Resources. Front Public Health 9:768728 Published 2021 Nov 10. 10.3389/fpubh.2021.768728
7. Arroyo Mühr LS, Gini A, Yilmaz E et al (2024) Concomitant human papillomavirus (HPV) vaccination and screening for elimination of HPV and cervical cancer. *Nat Commun*. ;15(1):3679. Published 2024 May 1. 10.1038/s41467-024-47909-x
8. Khamisy-Farah R, Adawi M, Jeries-Ghantous H et al (2019) Knowledge of Human Papillomavirus (HPV), Attitudes and Practices Towards Anti-HPV Vaccination Among Israeli Pediatricians, Gynecologists, and Internal Medicine Doctors: Development and Validation of an Ad Hoc Questionnaire. *Vaccines (Basel)*. ;7(4):157. Published 2019 Oct 21. 10.3390/vaccines7040157
9. Soni S, Amin S, Pundhir A, Ramotra RK (2025) Assessment of 5A's of Human Papilloma Virus Vaccination: Awareness, Attitude, Apprehension, Action Expected and Acceptability Amongst Health Care Providers, Medical Students, Para-Medical and Administration Staff in AIIMS Rajkot. J Med Virol 97(2):e70231. 10.1002/jmv.70231
10. Thanasa E, Thanasa A, Kamaretsos E et al (2022) Awareness Regarding Human Papilloma Virus Among Health Professionals and Will to Accept Vaccination: A Systematic Review. Cureus 14(10):e30855 Published 2022 Oct 29. 10.7759/cureus.30855
11. Wong LP, Chen X, Huang Z et al (2025) Addressing male HPV vaccination in China: A narrative review of challenges and opportunities. Hum Vaccin Immunother 21(1):2552061. 10.1080/21645515.2025.2552061
12. Zhao FH, Wu T, Hu YM et al (2022) Efficacy, safety, and immunogenicity of an Escherichia coli-produced Human Papillomavirus (16 and 18) L1 virus-like-particle vaccine: end-of-study analysis of a phase 3, double-blind, randomised, controlled trial. Lancet Infect Dis 22(12):1756–1768. 10.1016/S1473-3099(22)00435-2
13. Li X, Zheng J, Liu C, Liu B, Wang D (2025) Multidimensional technological advances in cervical cancer screening: From standardized processes to precision medicine. Biochim Biophys Acta Rev Cancer 1880(5):189432. 10.1016/j.bbcan.2025.189432
14. Li Z, Liu P, Yin A et al (2025) Global landscape of cervical cancer incidence and mortality in 2022 and predictions to 2030: The urgent need to address inequalities in cervical cancer. Int J Cancer 157(2):288–297. 10.1002/ijc.35369
15. Shakurnia A, Salehpoor F, Ghafourian M, Nashibi R (2025) Knowledge and attitudes toward HPV, cervical cancer and HPV vaccine among healthcare providers in Ahvaz, Southwest Iran. *Infect Agent Cancer*. ;20(1):44. Published 2025 Jul 8. 10.1186/s13027-025-00669-9
16. Sukrong M, Prapaisilp P, Juntamongkol T et al (2024) Knowledge regarding human papillomavirus and cervical cancer prevention among medical students from Chulalongkorn University in Thailand. BMC Womens Health 24(1):129 Published 2024 Feb 19. 10.1186/s12905-024-02933-3
17. Milecki T, Michalak M, Milecki J et al (2021) Polish Medical Students' Knowledge Regarding Human Papillomavirus's Ways of Transmission, Risk of Cancer Development and Vaccination, and Their Intention to Recommend Vaccination. Vaccines (Basel) 9(7):776 Published 2021 Jul 12. 10.3390/vaccines9070776
18. Huang Y, He M, Li L et al (2025) The vaccination status and attitudes toward human papillomavirus among gynecologists in China: A cross-sectional survey. Hum Vaccin Immunother 21(1):2578902. 10.1080/21645515.2025.2578902
19. Zou K, Huang Y, Li Z (2022) Prevention and treatment of human papillomavirus in men benefits both men and women. Front Cell Infect Microbiol 12:1077651 Published 2022 Nov 24. 10.3389/fcimb.2022.1077651
20. Bruni L, Albero G, Rowley J et al (2023) Global and regional estimates of genital human papillomavirus prevalence among men: a systematic review and meta-analysis. Lancet Glob Health 11(9):e1345–e1362. 10.1016/S2214-109X(23)00305-4
21. Bergman H, Henschke N, Arevalo-Rodriguez I et al (2025) Human papillomavirus (HPV) vaccination for the prevention of cervical cancer and other HPV-related diseases: a network meta-analysis. Cochrane Database Syst Rev 11(11):CD015364 Published 2025 Nov 24. 10.1002/14651858.CD015364.pub2

Figures

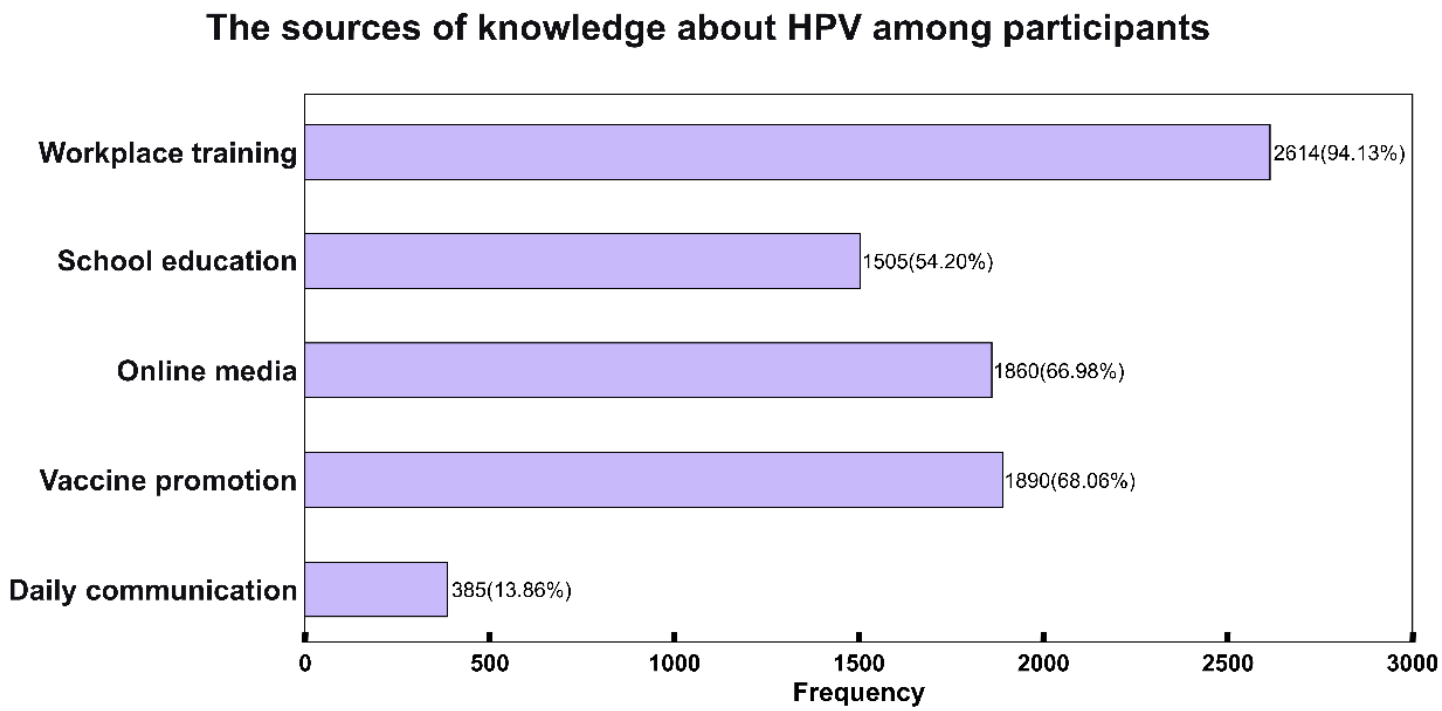


Figure 1

The sources of HPV knowledge acquisition among participants.

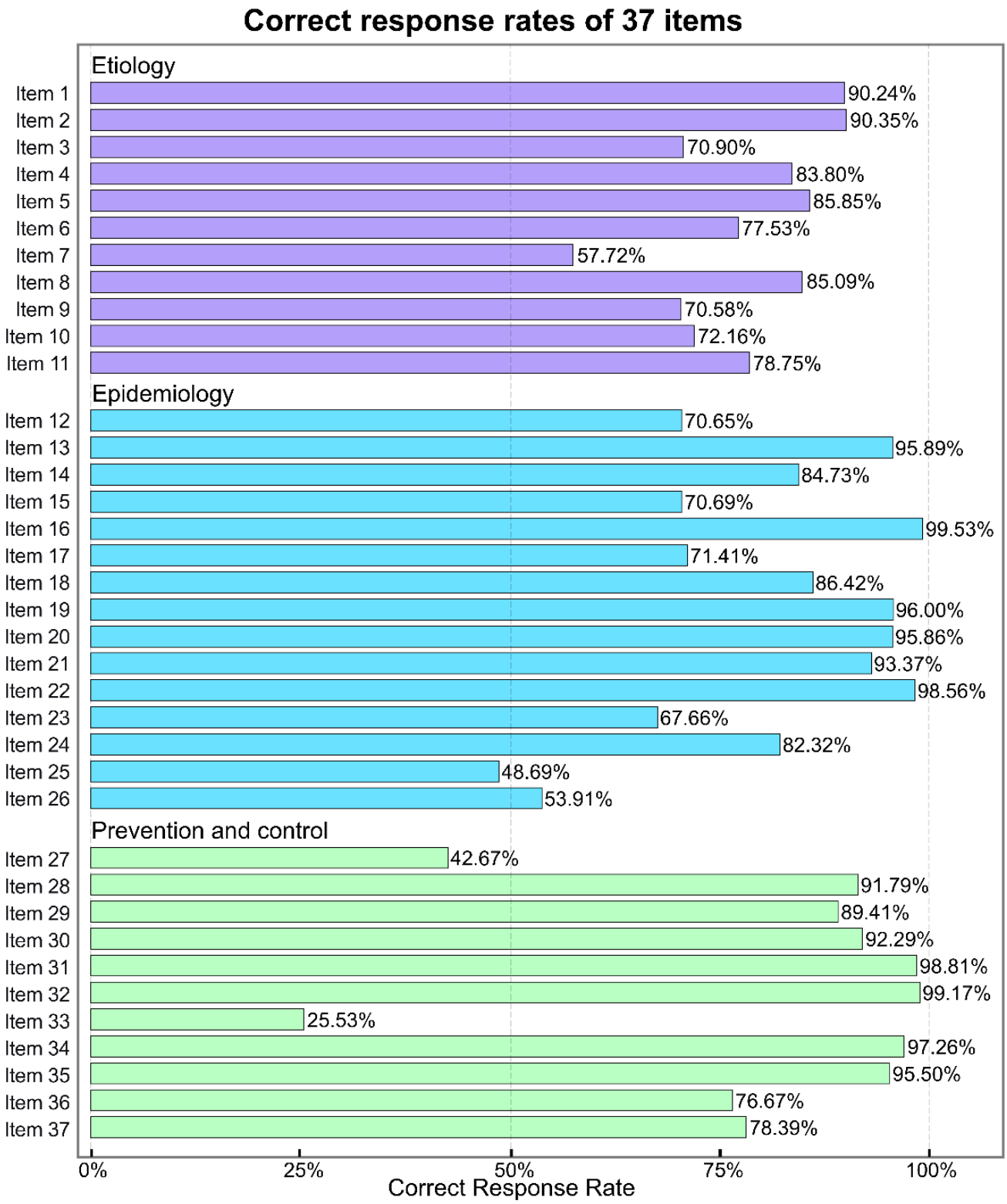


Figure 2

Correct response rates for 37 items across three HPV knowledge domains.

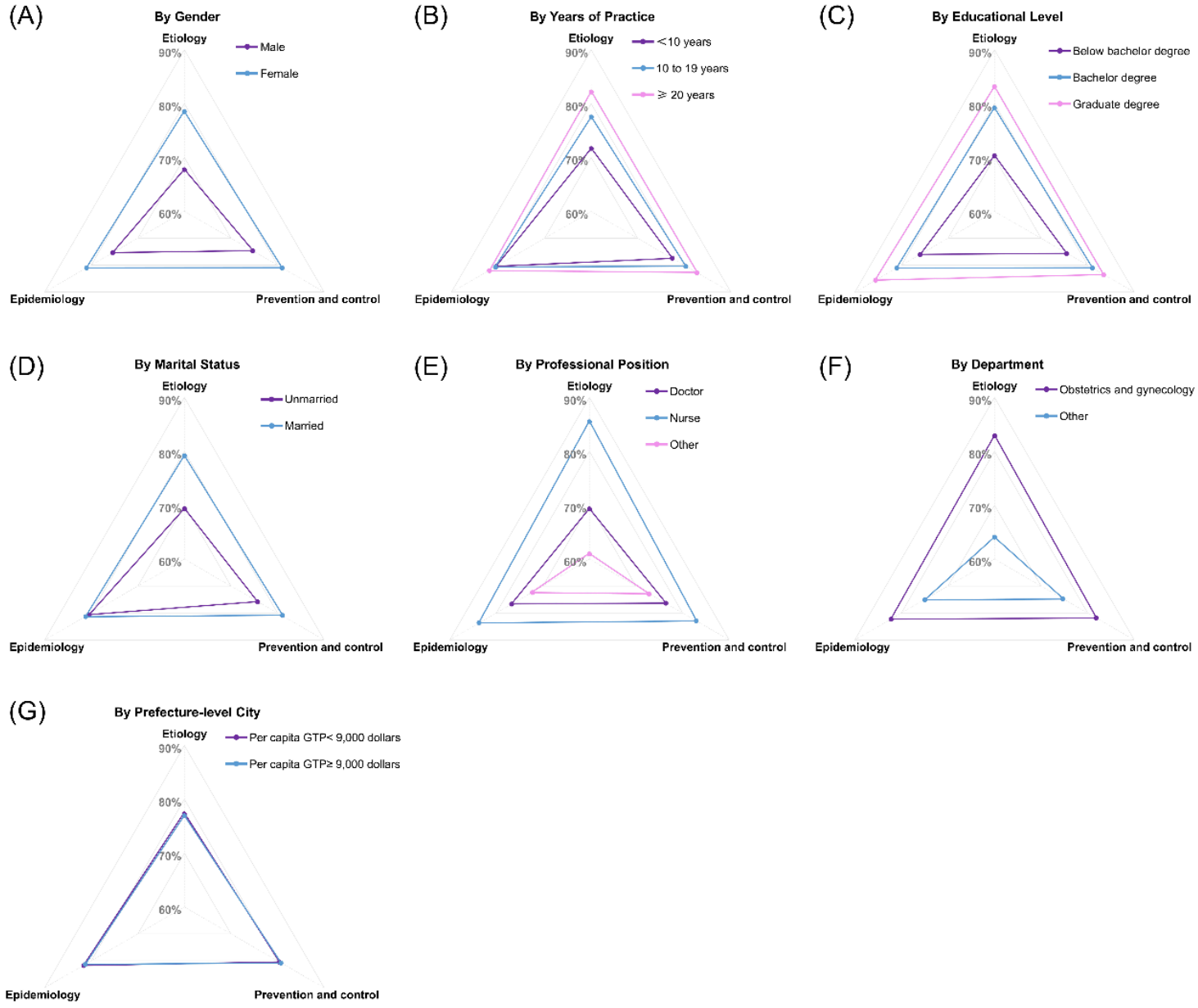


Figure 3

The radar charts illustrate the average correct response rates across three domains of HPV knowledge—Etiology, Epidemiology, and Prevention & Control—stratified by different demographic characteristics:(A) Gender, (B) Years of Practice, (C) Educational Level, (D) Marital Status, (E) Professional Position, (F) Department, and (G) Prefecture-level Cities.

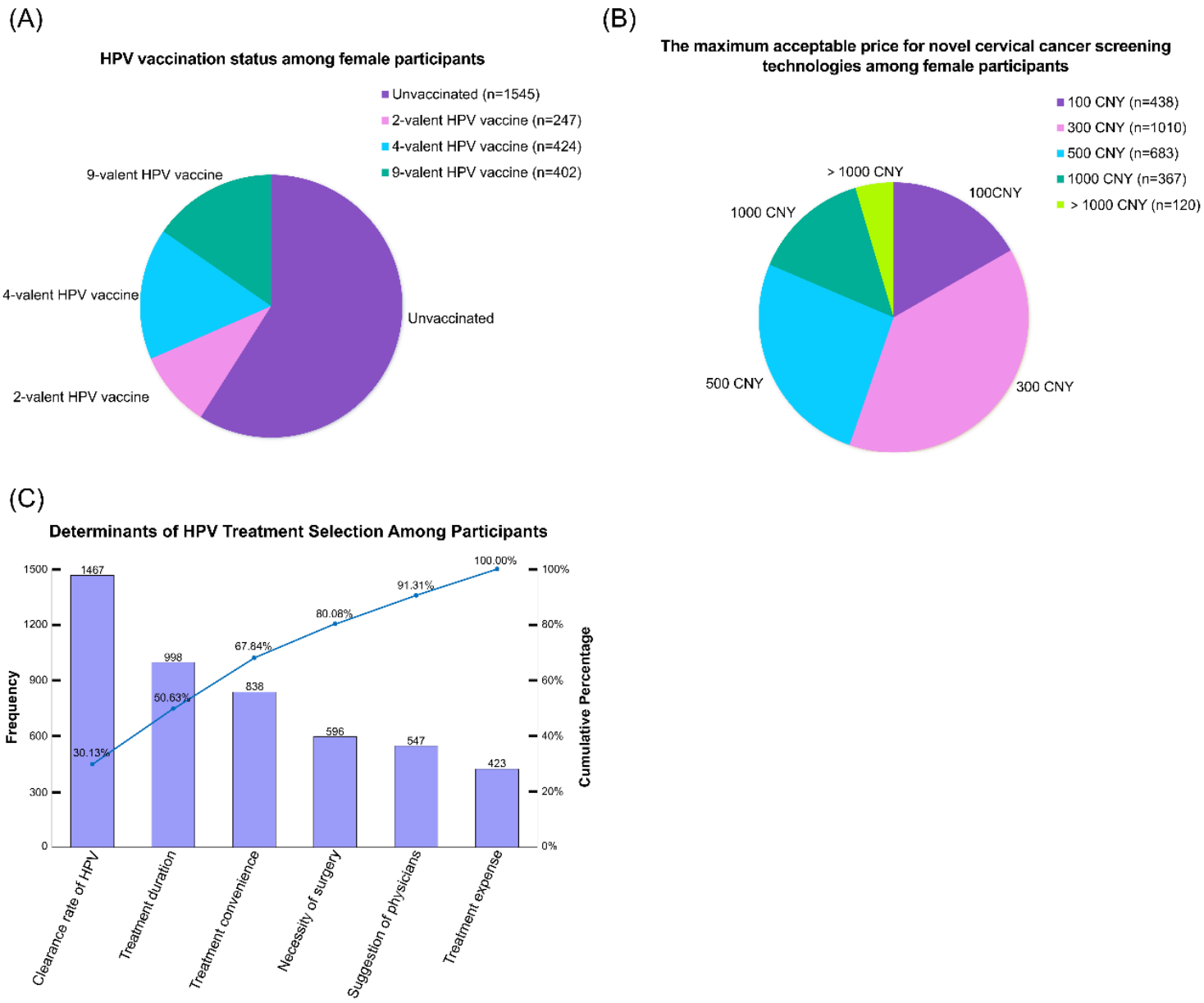


Figure 4

(A) HPV vaccination status among female participants; (B) Maximum acceptable price for novel cervical cancer screening technologies among female participants; (C) Considerations influencing the choice of treatment for HPV-related lesions among female participants.

Supplementary Files

This is a list of supplementary files associated with this preprint. Click to download.

- Supplementalmaterial.docx