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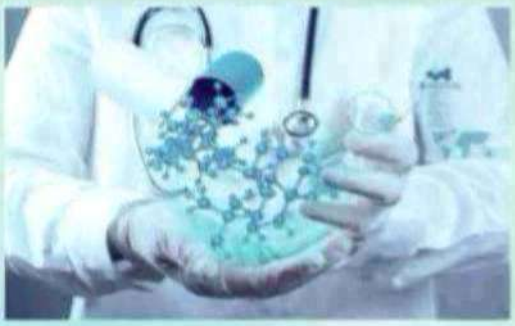

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CURRENT CHALLENGES IN GYNECOLOGIC ONCOLOGY: INSUFFICIENT COVERAGE OF CERVICAL CANCER SCREENING AND HPV VACCINATION

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✓ ***Resume***

Cervical cancer remains one of the most preventable malignancies in women, yet it continues to cause significant morbidity and mortality worldwide. Despite the availability of effective screening methods and prophylactic HPV vaccines, many low- and middle-income countries still suffer from inadequate program coverage. This review highlights the main barriers to widespread implementation of screening and vaccination programs and emphasizes the need for integrated public health strategies to reduce the global burden of cervical cancer.

Key words: cervical cancer, HPV vaccination, screening coverage, gynecologic oncology, prevention barriers, public health, epidemiology.

ТЕКУЩИЕ ПРОБЛЕМЫ В ОНКОГИНЕКОЛОГИИ: НЕДОСТАТОЧНЫЙ ОХВАТ СКРИНИНГОМ РАКА ШЕЙКИ МАТКИ И ВАКЦИНАЦИЕЙ ПРОТИВ ВПЧ

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✓ ***Резюме***

Рак шейки матки остаётся одним из наиболее предотвратимых злокачественных новообразований у женщин, однако продолжает быть значимой причиной заболеваемости и смертности во всём мире. Несмотря на наличие эффективных методов скрининга и профилактических вакцин против ВПЧ, многие страны с низким и средним уровнем дохода по-прежнему сталкиваются с недостаточным охватом профилактических программ. В данном обзоре рассматриваются основные барьеры, препятствующие широкому внедрению программ скрининга и вакцинации, а также подчёркивается необходимость комплексных стратегий общественного здравоохранения для снижения глобального бремени рака шейки матки.

Ключевые слова: рак шейки матки, вакцинация против ВПЧ, охват скринингом, онкогинекология, барьеры профилактики, общественное здравоохранение, эпидемиология.

ҲОЗИРГИ ЗАМОНАВИЙ ОНКОГИНЕКОЛОГИЯДАГИ ДОЛЗАРБ МУАММОЛАР: БАЧАДОН БЎЙНИ САРАТОНИ СКРИНИНГИ ВА HPV ВАКЦИНАЦИЯСИ ҚОПЛАМИ ЕТАРЛИ ЭМАСЛИГИ

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✓ ***Резюме***

Бачадон бўйни саратони аёлларда энг кўп олдини олиш мумкин бўлган ўсмалардан бири ҳисобланишига қарамай, ҳозирги кунда ҳам бутун дунёда юқори касалланиш ва ўлим кўрсаткичларига сабаб бўлмоқда. Самарали скрининг усуллари ва профилактик HPV (инсон папилломавируси) вакциналари мавжуд бўлишига қарамасдан, кўплаб паст ва ўрта даромадли мамлакатларда ушбу дастурлар қамрови етарли эмас. Ушбу таҳлилий мақолада скрининг ва вакцинация дастурларини кенг жорий этишга тўсқинлик қилаётган асосий омиллар ёритилиб, бачадон бўйни саратони юкини камайтириш учун интеграциялашган жамоат саломатлиги стратегияларини ишлаб чиқиш зарурлиги таъкидланади.

Калит сўзлар: бачадон бўйни саратони, HPV вакцинацияси, скрининг қамрови, онкогинекология, профилактикадаги тўсиқлар, жамоат саломатлиги, эпидемиология.

Introduction

Gynecologic oncology has undergone remarkable advances over the past two decades, yet several malignancies—including cervical, ovarian, and endometrial cancers—remain major contributors to global morbidity and mortality among women [1]. Cervical cancer, in particular, stands out as one of the most preventable cancers due to the availability of effective screening methods and prophylactic human papillomavirus (HPV) vaccines [2-4]. Nevertheless, substantial challenges persist in achieving adequate prevention, early detection, and equitable access to care.

Worldwide, more than 600,000 new cases of cervical cancer are diagnosed annually, with the highest burden observed in low- and middle-income countries, where organized screening systems are limited and HPV vaccination programs remain underutilized [5]. Social, economic, and healthcare disparities further exacerbate the issue, contributing to late-stage diagnoses and poor clinical outcomes. Despite robust scientific evidence confirming the safety and efficacy of HPV vaccines and HPV-based screening, vaccination uptake and screening coverage remain insufficient in many regions [6].

As a result, cervical cancer continues to be a pressing public health problem and a central focus within gynecologic oncology. Understanding the barriers that hinder the effective implementation of prevention programs is essential for reducing disease burden and achieving the World Health Organization's (WHO) global cervical cancer elimination targets [7-8].

The aim of the study is to examine the main barriers to the widespread implementation of screening and vaccination programs and the challenges to comprehensive public health strategies to reduce the global burden of cervical cancer.

Materials and Methods

This study was designed as a mixed-methods investigation combining retrospective epidemiological analysis with a cross-sectional survey aimed at identifying barriers to cervical cancer screening and HPV vaccination. Epidemiological data covering the period from 2018 to 2024 were obtained from national cancer registries, public health databases, and WHO regional reports, with a focus on incidence trends, screening participation rates, and vaccination coverage among females aged 9 to 26 years. The survey component included women aged 18 to 65 years eligible for cervical cancer screening, as well as parents or guardians of adolescents eligible for HPV vaccination. A structured 32-item questionnaire was administered in outpatient gynecology clinics and community health centers, assessing participants' knowledge of HPV, attitudes toward vaccination, prior screening behavior, and perceived barriers related to access and socioeconomic or cultural factors. Only respondents who provided informed consent and completed the questionnaire were included, while individuals with a previous history of cervical cancer, hysterectomy, or incomplete responses were excluded. Data collection was conducted by trained research assistants through face-to-face interviews, ensuring anonymity and confidentiality. Epidemiological indicators were extracted using standardized definitions, with screening coverage defined as the proportion of eligible women undergoing cytology or HPV-based testing within the recommended interval, and vaccination coverage defined as the percentage of adolescents completing the full HPV vaccination schedule. All research procedures complied with ethical requirements and were approved by the institutional ethics committee. Quantitative data were analyzed using SPSS version 26.0, applying descriptive statistics along with chi-square tests and logistic regression to identify predictors of low participation, while qualitative responses were examined through thematic content analysis. Statistical significance was set at $p < 0.05$.

Results and discussions

The analysis of national and regional epidemiological data demonstrated that cervical cancer screening and HPV vaccination coverage remain substantially below recommended global benchmarks. Over the 2018–2024 period, screening participation among eligible women showed only a modest increase, reaching an average coverage of 42%, which is considerably lower than the WHO target of 70%. The majority of screened individuals underwent cytology-based testing, while the use of HPV DNA testing remained limited due to restricted availability in primary healthcare settings. Incidence data further revealed that regions with the lowest screening coverage had proportionally higher rates of late-stage cervical cancer diagnoses, emphasizing the direct impact of insufficient prevention efforts.

HPV vaccination coverage among girls aged 9–15 years was also notably low, with full-dose completion averaging 35%. Survey findings indicated that many parents expressed uncertainty about vaccine safety and necessity, reflecting gaps in public awareness. Additionally, high vaccine cost and limited access to immunization centers were commonly reported barriers. Qualitative responses from adolescents and parents highlighted misconceptions regarding the association between vaccination and early sexual activity, which negatively influenced acceptance rates.

The cross-sectional survey involving adult women further revealed that nearly half of respondents had never undergone cervical cancer screening. The most frequently cited barriers included lack of time, fear of discomfort, absence of symptoms, and limited knowledge about the importance of early detection. Logistic regression analysis showed that women with higher educational levels, urban residence, and regular access to gynecologic care were significantly more likely to participate in screening programs. Healthcare providers reported that insufficient staffing, limited laboratory capacity, and irregular supply of HPV test kits impeded the implementation of organized screening.

Overall, the combined quantitative and qualitative findings confirm that both systemic and sociocultural factors significantly contribute to the low uptake of cervical cancer prevention measures. These trends collectively illustrate a persistent gap between available preventive technologies and their actual utilization among the target population.

Conclusion

The findings of this study underscore the persistent gaps in cervical cancer prevention efforts, demonstrating that both screening and HPV vaccination coverage remain critically inadequate. Despite the proven effectiveness of these interventions, structural, educational, and sociocultural barriers continue to limit their widespread implementation. Addressing these challenges requires strengthening primary healthcare infrastructure, expanding community-based education, improving accessibility of screening services, and integrating school-based HPV vaccination programs. Enhanced public health strategies, greater governmental commitment, and multidisciplinary collaboration are essential for increasing participation and ultimately reducing the burden of cervical cancer.

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