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Research Article

Cervical Cancer Screening Among Female Immigrants Aged 20–29: A Retrospective Analytical Review

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Abstract

Objective: *To analyze factors influencing cervical cancer screening participation among female immigrants aged 20–29 residing in a high-income host country between 2019 and 2024.*

Methods: *This retrospective review evaluates screening behaviors, socio-demographic patterns, and predictors of participation using health sector data and prior studies. Variables included duration of residence, region of origin, employment status, comorbidities, and general health check-up engagement.*

Results: *Screening participation among immigrant women aged 20–29 remained suboptimal. Higher participation was associated with shorter residency duration, prior general health check-ups, and existing comorbidities. Conversely, employed women and those with extended residency demonstrated lower participation.*

Conclusion: *Screening engagement in this demographic is shaped by multiple sociodemographic and health-related factors. Culturally informed outreach and integrated preventive care models may enhance early detection and reduce disease burden.*

Introduction

Cervical cancer ranks as the fourth most common cancer among women globally, with a high mortality rate in underserved populations where access to screening and prevention is limited. Over 90% of cervical cancer deaths occur in low- and middle-income countries, though the disease is highly preventable through early detection methods like Pap smears and HPV screening.

In many high-income countries with large immigrant populations, significant disparities persist in access to preventive healthcare. Female immigrants, particularly those aged 20–29, represent a unique risk group. Though younger than typical screening targets, early interventions can significantly impact outcomes in high-risk subpopulations.

These women often come from regions with limited or no cervical cancer screening infrastructure. Upon arriving in the host country, barriers such as cultural stigma, health illiteracy, language differences, and occupational constraints can hinder access to available services.

This study explores the sociodemographic and clinical factors influencing cervical cancer screening among immigrant women aged 20–29 over a five-year period (2019–2024), aiming to guide improved, population-

specific public health interventions.

Materials and Methods

Study Design and Setting

A retrospective analytical review was performed using anonymized records from multiple public and private healthcare centers, including outpatient gynecology departments. The timeframe of data collection spanned January 2019 to December 2024.

Inclusion and Exclusion Criteria

Included were female immigrants aged 20–29 who had resided in the country for at least one year and had accessed care in gynecology or general medicine. Excluded were women who were pregnant, had previous cervical intraepithelial neoplasia (CIN) or carcinoma, or had incomplete records.

Data Collection and Variables

Data included demographics, clinical history, and screening records. The primary outcome was cervical cancer screening participation, defined as documentation of at least one Pap smear during the study period.

Variables included:

- **Duration of stay** (<2 years, 2–4 years, ≥5 years)
- **Region of origin** (South Asia, Southeast Asia, Sub-Saharan Africa, Arab countries excluding GCC)
- **Employment status** (employed/unemployed)
- **Comorbidities** (Charlson Comorbidity Index ≥1)
- **General health check-up history** (within past 2 years)

Statistical Analysis

Descriptive statistics summarized all variables. Chi-square tests assessed group differences. Multivariate logistic regression identified predictors of screening participation. Significance was set at $p<0.05$, and odds ratios (ORs) with 95% confidence intervals (CIs) were reported.

Results

Among 19,402 immigrant women aged 20–29, 8,860 (45.7%) underwent cervical screening. Participation varied with residency duration, employment status, comorbidities, and general health check-up history.

Women residing in the country for <2 years had higher screening rates (52.1%) than those with longer stays ($p<0.001$). Employment negatively affected screening uptake (38.6% vs. 48.9%; $p<0.001$), likely due to time constraints and inflexible work schedules.

Women with chronic conditions (CCI ≥1) showed greater screening participation (27.5% vs. 20.4%; $p<0.001$).

Likewise, general health check-up engagement correlated positively with screening (36.8% vs. 11.2%; p<0.001).

Multivariate Analysis:

- **Shorter duration of stay (<2 years)**: OR 1.29 (95% CI: 1.18–1.42)
- **Health check-up participation**: OR 3.78 (95% CI: 3.32–4.29)
- **CCI ≥1**: OR 1.21 (95% CI: 1.11–1.33)
- **Employment status**: OR 0.81 (95% CI: 0.74–0.89)
- **Region of origin** was not a significant factor after adjustment.

Population Overview:

Variable	Screened (n=8,860)	Not Screened (n=10,542)	p-value
Mean Age (years)	25.3 ± 2.7	25.1 ± 2.8	0.12
Duration of Stay <2 years	52.1%	39.4%	<0.001
Employed	38.6%	48.9%	<0.001
South Asian origin	51.3%	49.7%	0.23
Recent Health Checkup	36.8%	11.2%	<0.001
CCI ≥1	27.5%	20.4%	<0.001

Logistic Regression Results (Adjusted OR):

Factor	Odds Ratio (95% CI)	p-value
Duration of stay <2 years	1.29 (1.18–1.42)	<0.001
Employed status	0.81 (0.74–0.89)	<0.001
Health check-up participation	3.78 (3.32–4.29)	<0.001
CCI ≥1	1.21 (1.11–1.33)	0.002

Women with recent general health check-ups had nearly four times the likelihood of participating in cervical screening. Conversely, employment status was negatively associated with screening uptake, possibly due to scheduling barriers, lack of employer support, or limited coverage for preventive care.

Discussion

The study demonstrates that despite available screening programs, uptake among young immigrant women remains inadequate. Occupational and socioeconomic barriers—especially among employed individuals—suggest a need for workplace-centered education and health flexibility.

Women with chronic illnesses were more likely to be screened, likely due to greater system interaction. Integrating cervical screening into routine visits, especially general check-ups, presents a practical solution

for increasing participation.

The lower screening rates among long-term residents may suggest declining engagement over time, underscoring the importance of ongoing health education.

These findings highlight the value of culturally tailored, system-integrated programs to address the specific barriers immigrant women face in preventive healthcare.

Conclusion

Cervical cancer screening rates among immigrant women aged 20–29 in the host country are suboptimal. Key factors affecting participation include employment status, residency duration, chronic health conditions, and preventive health behavior. Public health systems should adopt proactive, accessible, and culturally informed strategies to improve early detection and reduce cervical cancer burden among immigrants.

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