

# Human Papillomavirus Infection and Cervical Cancer in Immigrant and Refugee Women

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Cervical cancer is primarily caused by infection with human papillomavirus (HPV), and annually results in the deaths of 266,000 women worldwide. Cervical cancer prevention strategies have significantly decreased its incidence in Slovenia due to efficient screening program named ZORA; however, it continues to be an important health problem for immigrant and refugee women. Immigrant women from low- and medium income countries have a higher prevalence of HPV and consequently a higher risk of cervical pre-cancer and cancer than native women also due to barriers in access to screening programs and vaccination uptake. Data from other countries show as that refugee girls had significantly lower HPV immunization uptake compared with native born girls. There is an urgent need for health providers to understand sociocultural barriers for HPV screening programs and vaccination in order to provide comprehensive healthcare for all immigrant and refugee women.

## **Introduction**

Sexual and reproductive health (SRH) is one of human rights applied to sexuality and reproduction. Migrant and refugee women are at risk of negative SRH outcomes due to low utilisation of SRH services (Metusela et al., 2017). Inadequate SRH knowledge combined with low use of sexual health services can have serious negative health consequences for migrant and refugee women (Henderson & Kendall, 2011). Identifying how SRH is constructed and experienced by migrant and refugee women is essential in order to provide culturally safe medical care, sexual health education and health promotion and to increase capacity for all women in accessing SRH services.

## **Cervical Cancer**

Infection with human papillomavirus (HPV), the most common sexually transmitted infection, may result in cervical cancer and cancers of the anus, penis, vulva and oropharynx, among others. According to the WHO cervical cancer is the fourth most frequent cancer in women and with an es-

estimated 570,000 new cases in 2018 representing 6.6% of all female cancers (see <http://www.who.int/immunization/diseases/hpv/en/>). Wide differences in cervical cancer incidence and mortality have been observed around the world. Rates of cervical cancer are inversely proportional to screening and treatment access, and poor and minority women face more barriers to healthcare access (Jeudin et al., 2014).

Almost all cervical cancer deaths could be avoided if known effective interventions were available to all women and implemented, including immunizing adolescent girls against HPV and cervical screening and treatment of pre-cancerous lesions. In Slovenia, we observe significant decreases in incidence and mortality of cervical cancer in recent decades, and this has been attributed to appropriate screening program named ZORA. Screening aims to detect precancerous changes, which, if not treated, may lead to cancer. The crude incidence rate of invasive cervical cancer in Slovenia increased from 22.5/100,000 in 1950 to 33.4/100,000 in 1962 and then decreased to 20.7/100,000 in 2003 and much more to 7.9/100,000 in 2017 (see <https://zora.onko-i.si/program-zora>). In Slovenia screening program ZORA for early detection of cervical cancer was established in 2003 and covers most of the resident population. Screening rates remain low for certain subgroups of women, including immigrants and refugee women and delayed sexual health screening may result in late diagnosis and treatment of cervical cancer (Mcmullin, Alba, Chávez, & Hubbell, 2005).

Increased effort to screen for cervical cancer predominantly via Papanicolaou (Pap) tests has tremendously reduced cervical cancer morbidity and mortality in many developed countries; however, in many low- and medium-income countries efficient screening programs have not been established. Unfortunately those countries have also high prevalence of HPV infection.

Cervical cancer continues to be important health problem in Slovenia for immigrant and refugee women. Several studies have shown that migrant women from low- and medium-income countries have higher risk of cervical cancer than native women. This population has a comparatively high incidence of pre-invasive cervical lesions, cervical cancer, and mortality from the disease (McComb, Ramsden, Olatunbosun, & Williams-Roberts, 2018). During the years 2000–2004 the cervical cancer in women from Central and Eastern Europe and living in Italy was 38.3 per 100,000, which is statistically significant higher than that of the native Italian women (6 per 100.00) (Tornesello, Giorgi Rossi, Buonaguro, Buonaguro, & HPV Prevalence Italian Working Group, 2014). These disparities may be explained by lower participation in screening programs as well as higher rates of fertility and HPV infection.

They usually maintain the same cervical cancer risk as that of their countries of origin for several years. Pap test coverage in migrant women is lower than in native women because the diffusion of screening in the countries of origin is very low and because there could be several barriers to screening access in the host country. Multiple socioeconomic factors were indicators for low screening rates. Refugees and immigrants are often of low education and income. Language and cultural barriers can result in lack of knowledge and understanding of preventative procedures, and, especially when coinciding with past trauma, can result in fear authoritative physician with whom they would likely struggle to communicate (Beckett, 2016). Important factors are also older ages and recent entry into host country.

Among immigrants, limited knowledge about cervical cancer and screening guidelines has been described so the need for provision of culturally appropriate sexual health information has been emphasise (Vahabi & Lofters, 2018). To enhance immigrant women screening uptake, efforts should made to increase their knowledge of the Slovenian healthcare system and preventive services at the time of entry to our country. Health professionals need to take an active role in offering screening during health encounters, be educated about sexual health communication with minority women, and be aware of the detrimental impact of preconceived assumptions about sexual activity of immigrant women.

### **Prevalence of HPV Infection**

The association between certain oncogenic (high-risk) strains of HPV and cervical cancer is well established. HPV are remarkably diverse DNA viruses, which are etiologically linked to various benign and malignant neoplastic lesions. Nowadays more than 50 HPV genotypes have been found to infect the anogenital mucosa and most of them have been classified by the International Agency for Research on Cancer (IARC) as group I 'high risk' viruses for cancer (Komloš et al., 2011). Genital HPV infections are highly prevalent among sexually active man and women worldwide. Most HPV infections are asymptomatic and resolve spontaneously with cervical smear abnormalities only occurring in those women with persistent HPV infection.

HPV prevalence depends largely on age, and on sexual practice. The international survey on the HPV type distribution in cytological normal women, coordinated by IARC showed a variation of nearly 20 times in the overall HPV prevalence between different regions of the world (Clifford et al., 2005). Meta-analysis assessing the burden of cervical HPV infection among more than one million women without cervical disease showed that 11.7% of the

women worldwide are positive for HPV DNA (Bruni et al., 2010). The prevalence of high risk HPV ranges from 11% in healthy women in Belgium, 20% in female university students in the USA to 46% in Spanish women in prisons (Beckett, 2016). Study from 2010 shows that 59.2% of Slovenian women in life have been infected (they have genotypically specific antibodies in the blood) with at least one of the 12 high-risk HPV genotypes and that at the time of the study, in 12.2 % of women HPV genotype was proven in a cervical smear (Komloš et al., 2011).

More than 83% of the global burden occurs in developing countries including Eastern, Western and Middle Africa, Central America, South Central Asia and Melanesia, where is the leading cause of cancer-related death among women (Arbyn et al., 2011). Migration and population mixing has been shown to increase the risk of sexual transmitted disease including HPV infection in several regions of the world (Tornesello et al., 2011). Several studies have documented a higher occurrence of infection-related cancer, including cervical cancer, in immigrants from low and medium-income developing countries compared to the native populations (Arnold et al., 2013; Beiki, Allebeck, Nordqvist, & Moradi, 2009).

Tornesello et al. (2014) reported 51.9% overall prevalence of HPV infection observed among 499 migrant women living in Southern Italy, much higher compared to the infection frequency of 13.4% observed among 3,817 Italian women attending organised cervical cancer screening, and of 19.7% found in 183 Italian women with normal cytology self-referring for gynaecological care. The high burden of HPV infection in migrants may reflect the high viral prevalence in their country of origin. Besides, the HPV genotypes are not equally distributed in different populations. They reported, that among HPV-positive migrant women, the fraction of HPV16 infections varied between 15.4% from Africa and 51.1% from Southern and Eastern Europe (Tornesello et al., 2011). Other common viral types were HPV31 that cause infections in migrant women from Southern and Eastern Europe, Southern and Central America, and Southern Asia; as well as HPV58 and HPV53 in African HPV-positive women (Tornesello et al., 2014).

To analyse the barriers impeding adequate cervical cancer screening in immigrant and refugee women, one must become familiar with the challenges faced by this population and the ways in which their incoming culture and experiences may be incompatible with our current approaches to preventative care. Among migrant and refugee communities, talking about sex is often forbidden due to cultural and religious taboos. Patriarchal values culturally prescribed gender roles may impact on women's access to sexual health screening (Metusela et al., 2017).

The highest prevalence of HPV has been described in female sex workers as they have multiple risk factors for HPV infection, such as young age and multiple sexual contacts. There is wide heterogeneity in reported HPV prevalence in female sex workers in different geographical areas; 43% in Mexico, 48% in Japan and 63% in India. In Spain, the HPV prevalence among migrants from Latin American countries was found three times higher than the 8.2% prevalence in Spanish-borne women (Gonzalez, 2006) and a peak of 61% in HPV prevalence was observed among sex workers from Eastern Europe (del Amo, 2005). Over the last few years, an increasing proportion of the female sex workers in European countries are migrants especially from Eastern Europe. (Tornesello et al., 2007). The Eastern European countries are still experiencing high incidence of cervical cancer, lack of appropriate cervical cancer prevention programs and paucity of HPV epidemiological surveys (Bruni et al., 2010). It is likely that migrant female sex workers differ from other groups of the population in terms of sociodemographic characteristics, sexual and health seeking behaviour, as well as HPV prevalence and types. The knowledge of these characteristics is essential to design appropriate preventive and curative strategies for immigrant sexual workers.

### **Vaccination against HPV**

HPV vaccination is a safe and effective primary prevention strategy for cervical cancer especially in developed countries. Vaccination against HPV shows great potential. Unfortunately, refugee and recently immigrated women are among the least likely to participate in screening or vaccination. Gerend, Zapata, and Reyes (2013) reported that despite generally favourable views of HPV vaccination, observed rates of vaccine uptake among Hispanic adolescents living in the United States were substantially lower than national estimates (Gerend et al., 2013).

In Slovenia, HPV vaccination became the first non-mandatory vaccine to be included in the national vaccination program in the 2009/2010 school year (Troha, Šterbenc, Mlaker, & Poljak, 2018). Routine vaccination is for girls aged 11 or 12 years whereas boys are not included in the program. Because parental permission is required for vaccination of girls under age 18 years, parental attitudes and behaviour play a central role in vaccine uptake. There are significant differences in HPV vaccine uptake among different regions in Slovenia, ranging from very high (79.0%) to very low (32.2%) (Učakar, Poljak, & Klavs, 2012). There is no research dedicated to analysing HPV vaccination rates of refugees in Slovenia.

Lower uptake of HPV vaccination among immigrants and refugees has been documented in other countries, although exploration of underlying

reasons remains an understudied area. Möller, Kristiansen, and Norredam (2018) found that refugee girls had significantly lower HPV immunization uptake compared with Danish-born girls in the ordinary immunization program. They also identified that region of origin, duration of residence, and income were predictors of HPV vaccination uptake among refugee girls. Unfortunately, those factors that correlate with low screening participation, such as low education, low income, and minority status, also correlate with low HPV vaccination rates (Becket, 2016). A study in the Netherlands has drawn attention to the cultural differences that can act as a barrier to HPV vaccination for immigrants and refugees in Western countries (Salad, Verdonk, de Boer, & Abma, 2015). Immigrant parents' concerns related to lack of information with respect to vaccine efficacy and safety, fear that vaccine was experimentation on their daughter, cost, long term side effect, and a belief that vaccination may increase early sexual behaviour have been implicated in the lack of vaccination acceptance. Cultural attitude and the fear of shame and stigma also inhibited vaccination uptake (Salad et al., 2015). The decision-making process of women of this population generally relies upon social connections and support of cultural peers. Greater efforts are needed to increase knowledge about HPV among immigrant and refugee parents and support for physicians to discuss and offer vaccination to this underserved population.

## Conclusions

With vaccination against HPV and efficient screening program to detect precancerous cervical lesions, we believe that Slovenia could be free of cervical cancer within 20 years. The high prevalence of HPV infections and cervical cancer risk among immigrant women demands for an urgent implementation of preventive strategies to increase screening and vaccine coverage. It is imperative that we understand the current state of screening and vaccination in this population, and the cultural and systemic barriers by which they are affected. Further research should explore rates of HPV vaccination and screening in refugees in Slovenia, and the barriers that prevent refugees from taking this preventive measure.

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