



# Prevenција infekcija izazvanih humanim papiloma virusima i raka grlića materice

## Prevention of cervical cancer and infections caused by human papilloma viruses

Suzana Milutinović

Dom zdravlja Medikus univerzalis-Tomović

Healthcare Center Medikus Univerzalis-Tomović

### Apstrakt

Infekcija HPV (Humani papiloma virus) virusima danas je najčešće dijagnostikovana polno prenosiva bolest. Istraživanja pokazuju da među ženama sa urednim citološkim nalazom širom sveta prevalencija HPV infekcije iznosi 11,7%. Rezultati su različiti, pa tako u regionu podsaharske Afrike iznosi 24,0%, Latinske Amerike i Kariba 14,2% i jugoistočne Azije 14,0%. To je vrlo opasan i infektivan virus. Smatra se da ih ima preko 200 genotipova, koji se svrstavaju u tri grupe, nisko, srednje i visoko rizični. Oko 40 genotipova HPV-a mogu da inficiraju genitalne organe. Visoko rizični genotipovi mogu da izazovu karcinom grlića materice, najčešći izazivači su genotipovi 16 i 18, a odgovorni su za oko 80% slučajeva raka grlića materice. Manji broj je izazvan genotipovima 33, 35, 39 i 52.

Papiloma virusi pripadaju porodici Papillomaviridae, to su DNA virusi, i imaju raznolik raspon domaćina i kod ljudi i kod životinja. Kada virus uđe u ćeliju HPV infekcija može imati tri različite forme: latentnu, koja se može otkriti jedino HPV tipizacijom, subkliničku formu, koju je moguće identifikovati kolposkopijom i eksfolijativnom citologijom i kliničku formu. HPV infekcija prema tipu može biti latentna gde nema replikacije virusa i produkcije kompletnih infektivnih čestica, dok se produktivna može razvijati u dva pravca, kao akutna i kao prezistentna infekcija.

HPV se prenosi seksualnim putem, mada se može preneti i u toku porođaja sa majke na dete, HPV može inficirati sluzokožu gornjih disajnih puteva i konjunktive oka, sato kod dece u uzrastu od 10 do 15 godina mogu izazvati pojavu laringealnih polipa. Humani papiloma virus je takođe odgovoran za više od 90% slučajeva raka završnog dela debelog creva, 71% slučajeva raka genitalnih organa kod oba pola i za 72% slučajeva raka usne duplje i ždrela.

Prema podacima Registra za rak Instituta za javno zdravlje Srbije „Dr Milan Jovanović Batut“, svake godine se u proseku registruju 1244 novoobolele žene od raka grlića materice. Svake godine u proseku 482 žene izgube život od ove vrste raka. Srbija se i dalje nalazi u grupi evropskih zemalja sa najvišim stopama obolevanja i umiranja od raka grlića materice, na osnovu procena Međunarodne agencije za istraživanje raka (IARC) i Evropske mreže registara za rak (ENCR).

Faktori rizika za nastanak raka grlića materice su: žene koje su seksualnu aktivnost započele pre 16 godine, žene koje su imale veći broj seksualnih partnera, promiskuitetan partner, nezaštićeni polni odnosi, žene koje u anamnezi imaju seksualno prenosive bolesti ili genitalne bradavice, osobe kod kojih postoji

### Abstract

HPV (Human Papilloma Virus) virus infection is the most commonly diagnosed sexually transmitted disease today. Studies show that among women with a regular cytological finding worldwide, the prevalence of HPV infection is 11.7%. The results are different, so in the region of sub-Saharan Africa, it is 24.0%, Latin America, and the Caribbean 14.2% and Southeast Asia 14.0%. It is a very dangerous and infectious virus. It is believed that there are over 200 genotypes, which are classified into three groups, low, medium, and high risk. About 40 HPV genotypes can infect the genitals. High-risk genotypes can cause cervical cancer, the most common causes are genotypes 16 and 18, and they are responsible for about 80% of cases of cervical cancer. A smaller number was caused by genotypes 33, 35, 39, and 52.

Papillomaviruses belong to the Papillomaviridae family, they are DNA viruses and have a diverse range of hosts in both humans and animals. When a virus enters a cell, HPV infection can take three different forms: latent, which can only be detected by HPV typing, subclinical form, which can be identified by colposcopy and exfoliative cytology, and clinical form. HPV infection by type can be latent where there is no replication of the virus and production of complete infectious particles, while productive can develop in two directions, as acute and as a persistent infection.

HPV is sexually transmitted, although it can be transmitted from mother to child during childbirth, HPV can infect the mucous membranes of the upper respiratory tract and conjunctiva of the eye, which can cause laryngeal polyps in children aged 10 to 15. The human papilloma virus is also responsible for more than 90% of cases of end-stage colon cancer, 71% of cases of genital cancer in both sexes and 72% of cases of cancer of the oral cavity and pharynx.

According to the data of Institute of Public Health of Serbia „Dr Milan Jovanović Batut“, yearly an average of 1244 newly diagnosed women with cervical cancer are registered. Every year, an average of 482 women lose their lives from this type of cancer. Serbia is still in the group of European countries with the highest rates of morbidity and mortality from cervical cancer, based on estimates by the International Agency for Research on Cancer (IARC) and the European Network of Cancer Registries (ENCR).

Risk factors for cervical cancer are: women who start being sexually active before the age of 16, women who have many sexual partners, a promiscuous partner, unprotected sex, women with a history of sexually transmitted diseases or genital



odsustvo imunog odgovora, veći broj porođaja, dugotrajno uzimanje oralnih kontraceptivnih sredstava, loš socijalno-ekonomski status, pozitivna porodična anamneza, izostanak redovnih citoloških pregleda, pušenje. Odgovor imunološkog sistema na HPV infekciju je kompleksan i još uvek nedovoljno i potpuno objašnjen.

Prevenција karcinoma grlića materice se može ostvariti na primarnom, sekundarnom i tercijarnom nivou. Primarna prevencija podrazumeva mere sprečavanja infekcije HPV (zdravstvena edukacija, vakcinacija). Sekundarna prevencija uključuje skrining (rano otkrivanje asimptomatskih oblika bolesti). Tercijarna prevencija je lečenje premalignih lezija, čime se sprečava njihova progresija do invazivnog karcinoma grlića materice.

warts, people with there is a lack of immune response, a higher number of births, long-term use of oral contraceptives, poor socioeconomic status, a positive family history, lack of regular cytological examinations, smoking. The response of the immune system to HPV infection is complex and still insufficiently and incompletely explained.

Prevention of cervical cancer can be achieved at the primary, secondary and tertiary levels. Primary prevention includes measures to prevent HPV infection (health education, vaccination). Secondary prevention includes screening (early detection of asymptomatic forms of the disease). Tertiary prevention is the treatment of premalignant lesions, which prevents their progression to invasive cervical cancer.