

## MODERN CYTODETECTION OF CERVICAL CANCER

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**Introduction.** Cervical cancer (CC) is ranked second place in the world among malignant tumors in women and second in Ukraine (10,8%) among all cancers. Every year in our country are registered about 5 000 new cases of this disease, with the peak of incidence occurring among women of young age (40-44 years). Also, cervical cancer is diagnosed more than in 500 000 women every year and 280 000 women are died because of this disease (in Ukraine, every 6 days 6 women are died because of cervical cancer). In 2018, the highest incidence rates for CC were recorded in Kropyvnytskyi, Zhytomyr, Odesa, Khmelnytsky regions. The lowest is in Zaporizhy region. The highest mortality rate because of CC in 2018 was observed in Volyn', the lowest – in Cherkasy region.

Cervical cancer is associated with: sexual activity (early onset of sexual activity – 16 years); infection with human papillomavirus (HPV) – the main and obligatory etiologic factor (in 70 % of oncogenic genotypes HPV 16 and HPV 18); frequent changes of sexual partners; sexually transmitted infections; active and passive smoking; HIV/AIDS; low social level.

**Aim of the study.** To analyze existing literature sources regarding the effectiveness of cytological screening for the early detection of cervical cancer and reduction of mortality from this pathology of young women.

**Materials and methods.** The following methods were used: theoretical analysis, study of scientific literary sources.

**Results and discussion.** According to the literature search and Internet resources, it has been found that for 50 years, the material for laboratory examination of CC is Papanicolaous test (Pap-smear or PAP-test – scraping cells lining the cervix channel for further microscopic examination to detect possible changes that indicate the development of cancer in a woman). This method makes it possible to detect pre-invasive and initial invasive cervical cancer characterized by a lack of clinical manifestations. In addition, this study is characterized by high specificity (70-95 %), but moderate sensitivity (~ 50 %), which increases with regular examination. The accuracy of the method depends on the technique of harvesting the material (especially from the endocervix) and from the interpretation of the results.

Studies of recent years also indicate that Pap-smears have a significant percentage of false-negative results (5-55 %), especially with pre-invasive lesions of the cervix. Therefore, new additional screening methods were proposed, such as: a papillomavirus infection test and visual inspection. However, the HVP-test is not a priority and crucial because of its high cost.

A visual examination of the cervix was suggested for early detection of a tumor at an initial stage as an alternative to routine cytological examination in cases of limited resources. This method is characterized by low cost (using a solution of Lugol' or acetic acid), the rate of obtaining results, high sensitivity, but low specificity, which effects on the effectiveness of the method.

**Conclusions.** Thus, based on literature dates and internet resources, it has been established that cytological research is effective at 70-80 %; the test for the detection of human papillomavirus is effective 80-100 % (for lesions of high degree of malignancy); visual examination is effective only for early detection of CC (40-50 %).

The cytological study is recommended for screening programs for the detection of cervical cancer. Human papillomavirus detection and visual screening methods, as primary screening tests, are currently recommended for use only in pilot projects or in cases of disease monitoring.