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ABSTRACTS**

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Cervical cancer in Ukraine and the possibility of its prevention by vaccination against papillomavirus infection

Serhii Hryshchuk^{1,2}, Valentin Parii³

1 Zhytomyr Ivan Franko State University, Zhytomyr, Ukraine

2 MHEI "Zhytomyr Medical Institute" Zhytomyr Regional Council, Zhytomyr, Ukraine

3 Bogomolets National Medical University, Kyiv, Ukraine

Introduction. Infection with human papillomavirus (HPV) presents a serious problem for modern health care. According to the World Health Organization, around 2.5-3 million cases of infection are diagnosed annually in the world. HPV causes cervical cancer, which has the most common cancer in women. A large majority (around 85%) of the global burden occurs in developed regions, where it accounts for almost 12% of all female cancers. HPV-associated diseases and, in particular, cervical cancer are a significant health problem in Ukraine. According to the National Cancer Registry of Ukraine, in the structure of the incidence of women with malignant neoplasia, cervical cancer is 5.9% (ranked fifth). About 1,700 women (5.8% of patients with malignant tumors) die every year from the cervical cancer in Ukraine.

The only way to effectively prevent HPV-associated diseases is through vaccination. Three HPV vaccines are now being marketed in many countries throughout the world - a bivalent, a quadrivalent, and nonvalent vaccine. All three vaccines are highly effective in preventing infection with virus types 16 and 18, which are together responsible for approximately 70% of cervical cancer cases globally. The vaccines have a high prevalence of cervical diseases caused by these viruses. Therefore, one of the topical issues is the study of the possibility of including vaccination against a papillomavirus infection in a mandatory vaccination calendar in Ukraine.

The purpose of the work is to determine the economic feasibility of preventing cervical cancer in Ukraine by introducing a continuous vaccination against with a papilloma virus infection.

Materials and methods. Markov simulation was used to determine the incremental cost-effectiveness ratio (ICER) on the basis of epidemiological data on morbidity and mortality from cervical cancer in Ukraine. It was assumed that the effect of vaccination persisted through out life, taking into account it only in the vaccinated population.

Results. Taking into account the accepted assumptions and limitations of the introduction of HPV vaccination in Ukraine, it will prevent the prevention of 1592 cervical cancer cases, the preservation of 2059 quality-adjusted life-year and the reduction of the cost of medical care for cervical cancer in the amount of \$1,534,778. The amount of additional costs for the vaccine and its introduction was \$19,037,021 (all results per 100,000 vaccinated persons). The ICER index is \$8,501, which is 3.3 times the gross domestic product in Ukraine per 1 person in 2017 (\$2,640).

Conclusions. Given the assumptions and the actual cost of the vaccine, vaccination against HPV infection with a view of preventing cervical cancer in Ukraine is currently not economically feasible.