HPV AND CEVICAL CANCER IN MOLDOVA – COST/BENEFIT MODEL

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Human papillomavirus, or HPV, is a sexually transmittable virus infection, which is necessary risk factor for developing cervical cancer - first most common type of cancer in working age women in Moldova. We observe both behavioral change (sexuality increase) and demographical change (population ageing). The main goal is the authoritative analysis of the costs and losses of potential epidemiological control strategies and identifies potential problems that health care will have to face in the future. We run computer simulation to prepare cost/benefit analyze for different vaccination strategies, various screening programs and preventive programs (using condoms) for Moldova, based on its own demography and sexual behavior. We used data since 1998 to adjust model parameter and we project till 2031. We use mathematical and sociological concepts within complex system methodology. Moldovan cervical cancer perspective looks much better, than in central/western Europe countries, because of relatively young society. In our setup, obligatory vaccination seems to not be so crucial (for none of realistic scenarios increase of cancer cases is possible) for public health, as in most countries in European Union. However, screening practice could be verified in terms of efficiency, when cost/benefit calculation would be done. We propose more optimal screening guidelines, which could provide saving perspective in 10-15 year in range 100-300k EUR yearly. Targeted vaccination could be also consider, because costs are similar to high frequencies screening schema with the same cancer cases projection. However, some positive side effects of vaccination as reduction of pathogen circulation in society, will cause decrease of other pathologies related to HPV like genital warts and other cancer.