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VII INTERNATIONAL SCIENTIFIC
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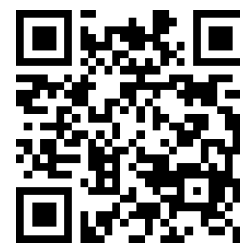
SCIENCE OF XXI CENTURY:
DEVELOPMENT, MAIN
THEORIES AND
ACHIEVEMENTS

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ІНТЕГРАЦІЯ ГРАМАТИЧНИХ ПІСЕНЬ У НАВЧАННЯ АНГЛІЙСЬКОЇ МОВИ ДЛЯ ПОЧАТКІВЦІВ Ящишина А.К.	255
МЕТОДИ ФОРМУВАННЯ ПРОГРАМНИХ РЕЗУЛЬТАТІВ НАВЧАННЯ НА ОП «ГРАФІЧНИЙ ДИЗАЙН» Касьян Т.К., Хребто Т.С., Манзенко І.В.	259
ФОРМУВАННЯ СТУДЕНТІВ-БОГОСЛОВІВ У СТАНІСЛАВІВСЬКІЙ ДУХОВНІЙ СЕМІНАРІЇ (1907-1945): ТОГОЧАСНІ ВИКЛИКИ ТА ПРОБЛЕМИ Харевич І.І.	268

SECTION 19. PSYCHOLOGY AND PSYCHIATRY

MENTAL WELLNESS OF PREGNANT WOMEN IN SCIENTIFIC RESEARCH CONTEXT Goldenblat M.	271
ОСОБИСТІСНО-ПРОФЕСІЙНА ЗРІЛІСТЬ МАЙБУТНІХ ПСИХОЛОГІВ Чусова О.М., Гуменюк В.А.	274
ПСИХОЛОГІЧНІ ОСОБЛИВОСТІ ПРОЯВІВ ТРИВОЖНОСТІ У ЗДОБУВАЧІВ ВИЩОЇ ОСВІТИ Ємець О.А.	277

SECTION 20. MEDICAL SCIENCES AND PUBLIC HEALTH

INFLUENCE OF MICROORGANISMS ON THE VAGINAL MUCOSA Shcherbyna Ye.O., Bukhmin O.O., Sukhonosov R.O.	280
АНАЛІЗ ПОЛІЕТИОЛОГІЧНОСТІ ТА МУЛЬФАКТОРІАЛЬНОСТІ НЕВИНОШУВАННЯ ВАГІТНОСТІ НА РАННІХ ТЕРМІНАХ: ВЗАЄМОЗВ'ЯЗОК З АНАТОМО-ФІЗІОЛОГІЧНИМИ ЗМІНАМИ ОРГАНІЗМУ ЖІНКИ Антоняк М.Д., Галичанська О.М.	283
ВЕРТЕБРОГЕННИЙ СИНДРОМ У ПРАКТИЦІ НЕВРОПАТОЛОГА: ПОГЛЯД СУЧАСНОСТІ Несен Н.А.	287
ВПЛИВ МІКОТОКСИНІВ ПЛІСНЯВИ НА РОЗВИТОК БРОНХІАЛЬНОЇ АСТМИ У ДІТЕЙ Буга В.В., Єрьоміна О.І.	290
ВПЛИВ ПАРЕНТЕРАЛЬНОГО ХАРЧУВАННЯ НА РОЗВИТОК НОВОНАРОДЖЕНИХ З НИЗЬКОЮ МАСОЮ ТІЛА Маляренко В.Р., Грицьков В.А.	293

SECTION 20.

MEDICAL SCIENCES AND PUBLIC HEALTH

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INFLUENCE OF MICROORGANISMS ON THE VAGINAL MUCOSA

Relevance: The study of the normal microflora of the human body is now one of the main areas of research in medicine. This is due to the fact that in the context of urbanization, growing environmental problems, widespread use of antibiotics and other factors affecting the immune status of the body, significant changes occur in the evolutionary microbiocenoses of the human body. As a consequence of this process, we can consider the growing role of opportunistic pathogens in infectious diseases, in particular in the context of women's reproductive health.

The aim of the study: To investigate the composition of normal microflora and pathological microflora, as well as to consider the effect of pathogenic microorganisms on the uterine mucosa.

Materials and methods: Theoretical: review and analysis of scientific and methodological literature.

Results and conclusions: To date, the vaginal microflora is considered as an extremely dynamic and multicomponent microecosystem in terms of its composition. Its distinctive feature is a strict dependence on the level of estrogen, which explains the dynamic changes in the microflora in different periods of a woman's life, i.e., childhood, puberty, reproductive period, menstrual cycles, and postmenopause. [1]

If we consider the normal vaginal microflora, the dominant bacteria in the vaginal environment are *Lactobacillus* spp. This is a large group of bacteria, mostly

microaerophiles. Although more than 10 species of lactobacilli are isolated from the vagina of healthy women, there is no clear species that is present in all women. In a healthy woman, several species of lactobacilli are usually present in the vagina at the same time, which provides a wide range of protective and physiological functions of the biocenosis. Another important symbiont of lactobacilli is another representative of the Doderlein group, which belongs to the genus *Bifidobacterium*. During pregnancy, especially in the prenatal period, the level of bifidobacteria in the vaginal biocenosis increases significantly. This is due to the evolutionary function of the mother's bifidus flora, which is an important protective factor for the newborn, protecting its body from colonization by potentially pathogenic microorganisms, because the first microorganisms that colonize the fetus after sterile development in the womb are the microflora of the mother's birth canal. [2]

When the colonization resistance of the habitat decreases, favorable conditions are created for the establishment of exogenous pathogenic microflora. At the same time, the opportunistic part of the microbiocenosis with conditionally pathogenic potential multiplies excessively. Their peaceful coexistence with the host organism ceases as soon as suitable conditions for reproduction and colonization arise. In case of deep dysbiosis, opportunistic symbiont microbes spread from their usual habitat to habitats that are not typical for them, which leads to pathological processes. [3]

Bacterial vaginosis and infection with fungi of the genus *Candida* (vaginal candidiasis) are often associated with disorders of the vaginal microflora. The imbalance caused by the overgrowth of *Gardnerella vaginalis* and other anaerobic bacteria in bacterial vaginosis reduces the number of lactobacilli, which normally maintain an acidic vaginal environment that inhibits the growth of pathogens, including *Sandida* fungi. When the number of lactobacilli decreases, the environment becomes less acidic, which favors the growth of *Candida*. Thus, women with bacterial vaginosis have an increased risk of developing vaginal candidiasis, as both conditions occur in conditions of vaginal dysbiosis. This connection explains why in some cases patients may have a simultaneous combination of bacterial vaginosis and candidiasis, which complicates the symptoms and requires an integrated approach to restore normal microflora, which is very important for a woman's health. [4,5]

Thus, a woman's vaginal microflora is a very diverse and important system throughout her life. It provides protection against pathogens and maintains a healthy balance by adapting to changes in hormone levels, especially estrogen, at different stages of a woman's life. Lactobacilli, as the dominant bacteria in the vaginal environment, play a key role in creating an acidic environment that inhibits the

development of pathogens. During pregnancy, bifidobacteria become an important component of protection, preventing harmful microorganisms from reaching the newborn. An imbalance of this microflora can lead to infectious diseases, which emphasizes the need to maintain and restore it in case of disorders.

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