

ONMedU, Department of Obstetrics and Gynecology. Practical lesson No. 2. "Examination of the cervix in mirrors. Collection of material for bacterioscopy, bacteriological and cytomorphological research."

MINISTRY OF HEALTH OF UKRAINE ODESA

NATIONAL MEDICAL UNIVERSITY

Faculty international

Department of Obstetrics and Gynecology



CONFIRMED by
Vice-rector for scientific and pedagogical work
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«01»September 2023

**METHODOLOGICAL RECOMMENDATIONS FOR THE PRACTICAL
LESSON FROM ELECTIVE DISCIPLINE**

Faculty international, 5th year

Elective discipline «SIMULATION TRAINING IN OBSTETRICS AND
GYNECOLOGY».

Practical lesson No. 2. "Examination of the cervix in mirrors. Collection of material for bacterioscopy, bacteriological and cytomorphological research. ".

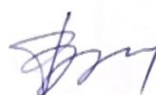
Methodical recommendations of a practical lesson, EPP "Medicine", 5th year, Faculty international. Elective discipline "Simulation training in obstetrics and gynecology".

Approved

Meeting of the Department of Obstetrics and Gynecology
Odessa National Medical University

Protocol No. 1 of August 28, 2023.

Head of the Department



(Igor GLADCHUK)

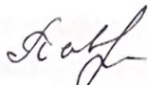
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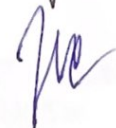
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Practical lesson №2

Topic: . "Examination of the cervix in mirrors. Collection of material for bacterioscopy, bacteriological and cytomorphological research. "

Goal. Learn the algorithm of drawing up a plan for laboratory and instrumental research in gynecological diseases and during pregnancy. Formation of skills in performing medical manipulations in gynecology.

Basic concepts: types of laboratory examinations in gynecology and obstetrics. Diagnosis of sexually transmitted diseases. Cervical cancer screening in gynecological patients and pregnant women. Management tactics of patients with infectious diseases of the genital tract, precancerous changes of the epithelium of the cervix and cervical cancer. PAP smear (cytological examination). International terminology for the classification of cytological tests, the Bethesda system.

Equipment: Professional algorithms, structural and logical schemes, tables, models, video materials, results of laboratory and instrumental exam, situational tasks, patients, clinical cases.

EDUCATIONAL TIME – 4 h

• **Organizational events (greetings, checking those present, announcing the topic, the purpose of the lesson, motivating students to study the topic).**

Cervical cancer (CC) is a malignant disease of the female reproductive organs. This is one of the most common oncological diseases among the fair sex, which often develops at a fairly young age of 35-45 years. According to statistics, cervical cancer ranks fourth in the world among women's cancers and the 7th most common cancer overall. There were more than 604,000 new cases of cervical cancer in 2020.

The 10 countries with the highest rates of cervical cancer and the highest number of deaths from cervical cancer in 2020 are shown in the tables below.

Sexually transmitted diseases (STDs) have a profound impact on sexual and reproductive health worldwide.

More than 1 million STIs are acquired every day. In 2020, WHO estimated 374 million new infections with 1 of 4 STIs: chlamydia (129 million), gonorrhoea (82 million), syphilis (7.1 million) and trichomoniasis (156 million). More than 490 million people were estimated to be living

with genital herpes in 2016, and an estimated 300 million women have an HPV infection, the primary cause of cervical cancer and anal cancer among men who have sex with men. An estimated 296 million people are living with chronic hepatitis B globally.

STIs can have serious consequences beyond the immediate impact of the infection itself.

- STIs like herpes, gonorrhoea and syphilis can increase the risk of HIV acquisition.
- Mother-to-child transmission of STIs can result in stillbirth, neonatal death, low-birth weight and prematurity, sepsis, neonatal conjunctivitis and congenital deformities.
- HPV infection causes cervical and other cancers.
- Hepatitis B resulted in an estimated 820 000 deaths in 2019, mostly from cirrhosis and hepatocellular carcinoma. STIs such as gonorrhoea and chlamydia are major causes of pelvic inflammatory disease and infertility in women.

At the same time STIs are often asymptomatic. When symptoms occur, they can be non-specific. Moreover, laboratory tests rely on blood, urine or anatomical samples

- **Control of the reference level of knowledge (written work, written test, online test, interviewed, etc.).**

Requirements for students' theoretical readiness to perform practical classes (knowledge requirements, list of didactic units).

- Knowledge requirements:

- Communication and clinical patient examination skills.
- The ability to determine the list of necessary clinical and laboratory and instrumental studies and evaluate their results.
- Ability to establish a preliminary and clinical diagnosis of the disease
- Perform medical manipulations
- Ability to keep medical records

List of didactic

units:

- The technique of conducting research in mirrors using a vaginal double-bladed mirror (Cusco) and spoon-shaped (Sims) mirrors.
- Assessment of the condition of mucous membranes, the vaginal part of the cervix, the external os of the cervix and secretions in various gynecological pathologies and pregnancy.
- Methods of sampling material for bacterioscopic, bacteriological, cytomorphological research.
- PAP smear. Liquid cytology. Smudge-imprint.

Questions (test tasks, problems, clinical situations) to check basic knowledge on the subject of the lesson.

Questions:

- Clinical anatomy of the female genitalia.
- Classification of sex transmitted diseases.
- Classification of the cytological changes of cervical epithelium .
- HPV infection, diagnosis, meaning, management.
- Methods of examination and diagnosis of cervix neoplasms.
- Modern management of women with cervical pathology and STDs.

Situational tasks

1. A 65-year-old woman presents to the clinic for a follow up. She has a history of cervical intraepithelial neoplasia (CIN)-2 status post-cold knife cone, gonorrhea and chlamydia treated with a test-of-cure, and a grade 1 cystocele treated with a vaginal pessary. She attained menopause at age 53 years. She complains of symptoms of a malodorous vaginal discharge, irritation, and vaginal bleeding. On physical exam, she appears to have a vaginal ulcer. What is the best initial step in the management of this patient?

Answer. Remove pessary

Teaching Points

- Pessary ulcers are common, and symptoms include vaginal bleeding, vaginal discharge, and irritation.

- Treatment includes removing pessary or changing type and size to alleviate pressure points.
 - Water-based lubricants applied to pessary prevent pessary ulcers.
 - Encourage nighttime device removal, washing, and reinsertion on a more frequent basis.
- A 21-year-old female presents with complaints of a painful genital ulcer for the past twelve days. She states that she has noticed enlarging bumps around the ulcer. She is sexually active with two partners who do not use condoms regularly. She recently was treated for chlamydia with ten days of doxycycline. Her vital signs show a blood pressure of 110/75 mmHg, a heart rate of 86 beats per minute, a respiratory rate of 12 breaths per minute, and a temperature of 37 C (98.6 F). Physical examination reveals a 1 cm ulcer with an erythematous base and clearly demarcated edges in the genital region. Several enlarged lymph nodes are present in the inguinal region. Which of the following is most likely to be seen on a Gram stain of the ulcer exudate?

Answer. Gram-negative rods in long strands

Teaching Points

The most likely diagnosis is chancroid. Its typical presentation is as a painful ulcer with an erythematous base and clear demarcated edges or irregular edges with lymphadenopathy.

Haemophilus ducreyi is the causative organism. Gram stain of the exudate may show the typical "school of fish" finding of gram-negative rods in long strands.

Worm-like spiral bacteria describes *Treponema pallidum*, the causative agent for syphilis. Syphilis causes painless ulcers. *Klebsiella* is a gram-negative encapsulated rod. *Klebsiella granulomatis* causes beefy genital lesions. *Neisseria gonorrhoea* appears as gram-negative diplococci but does not cause genital lesions. Chlamydia will not be seen on Gram stain and presents as small, shallow painless ulcers.

• **Formation of professional abilities and skills (mastery of skills, conducting curation, determining the treatment scheme, conducting laboratory research, etc.).**

— **Content of tasks (tasks, clinical situations, etc.).**

Interactive task:

The students of the group are divided into 3 subgroups of 4-5 people each. We work in women's consultation rooms with gynecological patients, we give tasks: And the subgroup - to make a preliminary diagnosis.

Subgroup II – to draw up a management plan for a gynecological patient.

Subgroup III – evaluates the correctness of the answer of subgroups I and II and makes its corrections.

— **Recommendations (instructions) for performing tasks (professional algorithms, orienting maps for the formation of practical skills and abilities, etc.).**

Introduction

Each year, more than half a million women are diagnosed with cervical cancer and the disease results in over 300 000 deaths worldwide. High-risk subtypes of the [human papilloma virus](https://www.sciencedirect.com/topics/medicine-and-dentistry/wart-virus) (HPV) are the cause of the disease in most cases. The disease is largely preventable. Approximately 90% of cervical cancers occur in low-income and middle-income countries that lack organised screening and HPV vaccination programmes. In high-income countries, cervical cancer incidence and mortality have more than halved over the past 30 years since the introduction of formal screening programmes. Treatment depends on disease extent at diagnosis and locally available resources, and might involve [radical hysterectomy](https://www.sciencedirect.com/topics/medicine-and-dentistry/radical-hysterectomy) or [chemoradiation](https://www.sciencedirect.com/topics/medicine-and-dentistry/chemoradiation), or a combination of both. Conservative, fertility- preserving surgical procedures have become standard of care for women with low- risk, early-stage disease. Advances in radiotherapy technology, such as intensity- modulated radiotherapy, have resulted in less treatment-related toxicity for women with locally-advanced disease. For women with metastatic or recurrent disease, the overall prognosis remains poor; nevertheless, the incorporation of the anti-VEGF agent [bevacizumab](https://www.sciencedirect.com/topics/medicine-and-dentistry/bevacizumab) has been able to extend overall survival beyond 12 months.

Preliminary results of novel immunotherapeutic approaches, similarly to other [solid](#) [HYPERLINK](#)

["https://www.sciencedirect.com/topics/medicine-and-dentistry/solid-malignant-neoplasm"](https://www.sciencedirect.com/topics/medicine-and-dentistry/solid-malignant-neoplasm) [HYPERLINK](#)

["https://www.sciencedirect.com/topics/medicine-and-dentistry/solid-malignant-neoplasm"](https://www.sciencedirect.com/topics/medicine-and-dentistry/solid-malignant-neoplasm) tumours, have shown promising results so far.

The methods of screening are:

- PAP smear. Liquid cytology. Smudge-imprint
- Detecting of HPV (PCR method).

Steps of examination with speculum

Introduction

- Introduce yourself to the patient
- Wash your hands
- Explain to the patient what the examination involves and why it is necessary
- For example: “I will be passing a speculum, which is a plastic/metal instrument, through the vagina to visualise the neck of the womb.”
- Reassure them that this should not be painful, but you will stop immediately if it becomes too uncomfortable
- Obtain verbal consent
- Request a chaperone

Preparation

- The patient ought to have an empty bladder, as this can make the examination less uncomfortable
- Ask the patient to remove all clothing from the waist down and any sanitary protection
- Cover with sheet when appropriate
- Prepare your equipment: gloves, lubricant, speculum (for example Cusco's speculum) +/- smear, swabs, Pipelle biopsy

Abdominal Examination

- Inspect the abdomen for scars and ascites
- Palpate the abdomen for masses and tenderness
- Palpate the groin for inguinal lymphadenopathy

External Examination

The patient should be laid on their back, with legs bent at the hip (feet towards their buttocks), and asked to flop their knees apart.

- Put on a pair of gloves
- Inspect the external genitalia for:
 - Deficiency associated with childbirth
 - Abnormal secondary sexual characteristics – hair distribution, clitoromegaly
 - Skin abnormalities – lesions, warts, erythema
 - Discharge – colour, consistency
 - Bleeding
- Swellings of the vulva – tumours, cysts (sebaceous, Bartholin's)
- Ask the patient to cough or strain to observe any incontinence or prolapse
- Palpate the labia majora with the index finger and thumb for any swellings

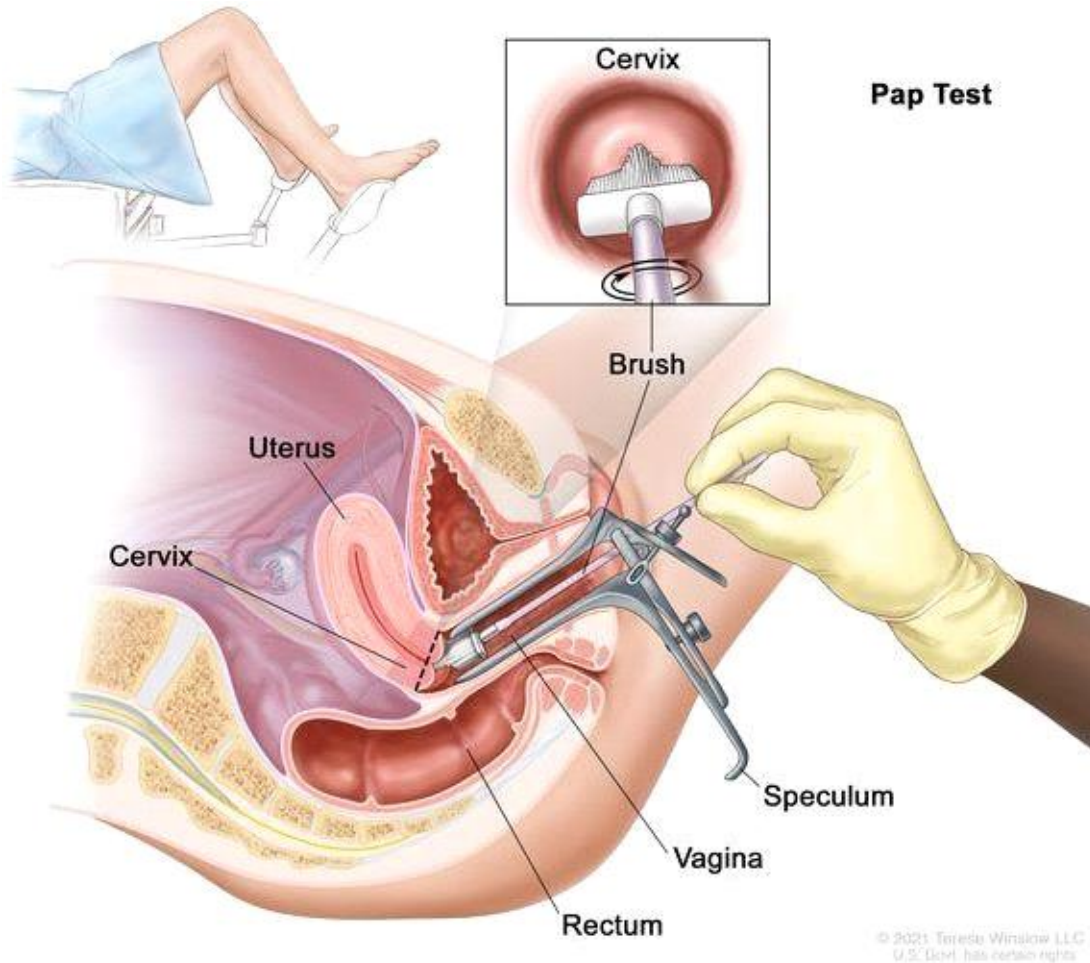
Speculum Examination

- Lubricate the speculum and warn the patient
- Part the labia using your left hand
- Gently insert the speculum with your right hand:
- Fully insert the speculum with the screw facing sideways and the blades vertical
- Rotate 90 degrees during insertion so the screw faces upwards and the blades become horizontal
- Slowly open the blades and use light to inspect the cervix

- Tighten the screw to hold open the speculum so you can use your right hand for swabs or Pipelle biopsy if necessary
- take a glass slide marked U/C/V;
- collect the material for bacterioscopic examination from the urethra with a cotton applicator or a Volkmann spoon from a depth of 1.5-2 cm by scraping and apply it to the slide in the U area;
- collect material for bacterioscopic examination:
- remove excess secretions with a cotton swab;
- carefully insert the second end of a Volkman spoon or a cytobrush into the cervical canal, take the material by scraping, apply it to the slide in area C;
- take the material from the back vault with an Eyra spatula, apply it to the slide in area V;

To collect swab for cytomorphological test:

- use an Eyre spatula (or a cytobrush bent at 90°) to scrape from the surface of the cervix by making a full rotation (360°), apply the material to the slide with a broad stroke, a thin and even stroke under the mark V (exocervix);
- insert the cytobrush into the cervical canal, turn it 360° 2-3 times, apply the collected material with rotational movements around its axis to the glass under the mark C (endocervix)



Look for:

- Abnormal discharge
- Erosions
- Ulcerations
- Growths
- Inflammation
- Bleeding
- Polyps
- Ectropion
- At this point swabs/endometrial biopsy should be taken if required
- To remove the speculum, undo the screw to allow the blades to close (leave open slightly to not pinch the vaginal walls), rotating back 90 degrees and gently remove.

To Complete the Examination

- Thank the patient and allow them to get dressed in private
- Dispose of your gloves and wash your hands

- Once the patient is dressed you can summarise the findings and suggest further investigations
- Send any specimens with a request form

PAP smear collecting

During the examination, the gynecologist takes a swab for cytology, one can say using the traditional method. The smear is applied to glass, fixed, dried, and then the smear is examined by a cytologist. The obtained results are useful, but less informative.

In liquid cytology, the same material from the smear is transferred to a preservation liquid (thus keeping the cells in their natural state) and examined in the laboratory. The PAP test is performed using the SurePath BD technology, an automated method recommended by the FDA (USA) and CE protocols. Research results for cervical cancer screening are much more accurate and informative. The advantages of such a cytological screening are:

Answer from the first take of the material;

A significant reduction in the number of unsatisfactory or limited for interpretation materials, by 43-81%;

Thanks to SurePath BD technology, impurities of blood and mucus that can be present during inflammatory processes during pregnancy are removed;

Since all the cells are stored in the preservation liquid, it contributes to high accuracy of the study;

With one-time sampling, it is possible to conduct several diagnostic tests to increase the effectiveness of cervical screening.

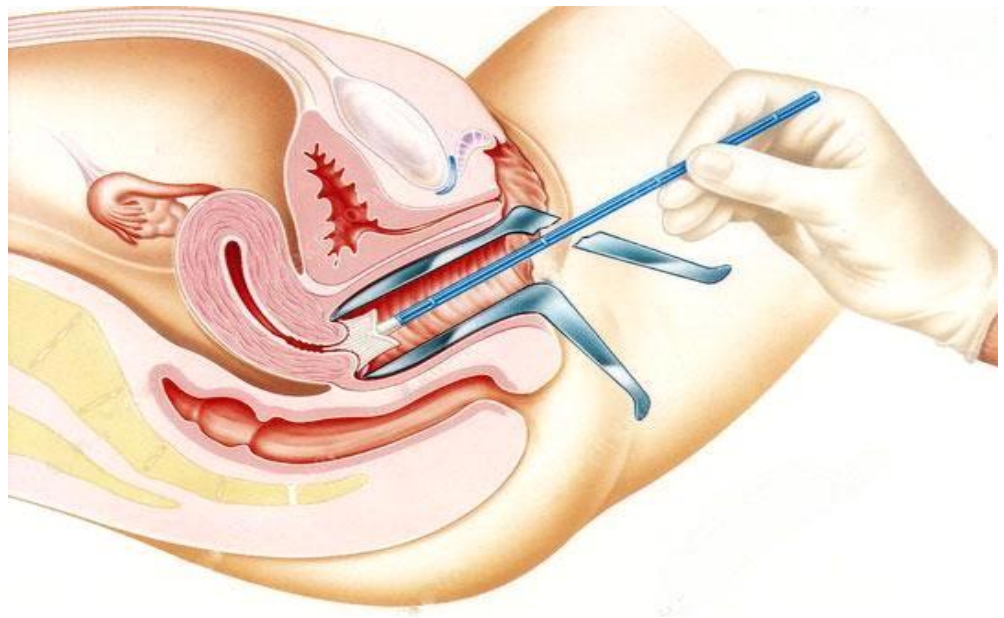
Preparation for analysis:

The recommended period for taking the material is 8-20 days of the menstrual cycle;

Two days before the time appointed for the procedure, do not use any vaginal products, do not have sexual contact;

Collection no less than a day after the gynecologist's examination and colposcopy; For women who gave birth no earlier than 5-6 weeks after giving birth.

The procedure is painless, very slight discomfort is possible. The gynecologist takes the cells for analysis with a special soft brush. After that, the obtained material is transferred to a special container with a solution and sent for research.



The results of the Pap test are classified according to the international terminology for the classification of cytological tests, the Bethesda system. Changes in the squamous epithelium:

- NILM - negative results, normal state of the epithelium, that is, the cytogram is within normal limits.
- ASC-US - are atypical cells with uncertain features. At this stage, changes are reversible.
- ASC-H - atypical cells of the squamous epithelium, when dysplasia cannot be excluded.
- LSIL - cells with signs of disruption, low degree of malignancy, mild dysplasia.

- HSIL - lesions of a high degree of malignancy, suspicion of cancer.
- CIS - invasive squamous cell carcinoma.

Changes in the glandular epithelium:

- AGC-US - atypical cells of the glandular epithelium of unknown significance.
- AGC favor neoplastic - atypical cells with suspicion of neoplasia (precancerous lesion).
- AIS - adenocarcinoma.

Clinical management according to results of PAP smear

Pap Smear Test Result	21-24 Years of Age	25-29 Years of Age	≥ 30 Years of Age HPV Negative	≥ 30 Years of Age HPV Positive
Normal Pap Test Result	<ul style="list-style-type: none"> • Pap test every 3 years 	<ul style="list-style-type: none"> • Pap test every 3 years 	<ul style="list-style-type: none"> • Co-testing every 5 years <ul style="list-style-type: none"> ◦ preferred • Pap test every 3 years <ul style="list-style-type: none"> ◦ acceptable 	<ul style="list-style-type: none"> • Co-testing in 1 year <ul style="list-style-type: none"> ◦ acceptable • HPV typing <ul style="list-style-type: none"> ◦ acceptable
ASC-US	<ul style="list-style-type: none"> • Pap test in 1 year <ul style="list-style-type: none"> ◦ preferred • Reflex HPV test <ul style="list-style-type: none"> ◦ acceptable 	<ul style="list-style-type: none"> • Pap test in 1 year <ul style="list-style-type: none"> ◦ acceptable • Reflex HPV test <ul style="list-style-type: none"> ◦ preferred 	<ul style="list-style-type: none"> • Repeat co-testing in 3 years 	<ul style="list-style-type: none"> • Colposcopy
LSIL	<ul style="list-style-type: none"> • Repeat pap test in 1 year 	<ul style="list-style-type: none"> • Colposcopy 	<ul style="list-style-type: none"> • Repeat pap test in 1 year <ul style="list-style-type: none"> ◦ preferred • Colposcopy <ul style="list-style-type: none"> ◦ acceptable 	<ul style="list-style-type: none"> • Colposcopy
ASC-H	<ul style="list-style-type: none"> • Colposcopy 	<ul style="list-style-type: none"> • Colposcopy 	<ul style="list-style-type: none"> • Colposcopy 	<ul style="list-style-type: none"> • Colposcopy
HSIL	<ul style="list-style-type: none"> • Colposcopy 	<ul style="list-style-type: none"> • Excisional treatment or colposcopy 	<ul style="list-style-type: none"> • Excisional treatment or colposcopy 	<ul style="list-style-type: none"> • Excisional treatment or colposcopy

Co-testing = Pap and HPV testing

Sex transmitted infectionKey facts

- More than 1 million sexually transmitted infections (STIs) are acquired every day worldwide, the majority of which are asymptomatic.
- Each year there are an estimated 374 million new infections with 1 of 4 curable STIs: chlamydia, gonorrhoea, syphilis and trichomoniasis.
- More than 500 million people 15–49 years are estimated to have a genital infection with herpes simplex virus (HSV or herpes) (1).
- Human papillomavirus (HPV) infection is associated with over 311 000 cervical cancer deaths each year (2).
- Almost 1 million pregnant women were estimated to be infected with syphilis in 2016, resulting in over 350 000 adverse birth outcomes (3).
- STIs have a direct impact on sexual and reproductive health through stigmatization, infertility, cancers and pregnancy complications and can increase the risk of HIV.
- Drug resistance is a major threat to reducing the burden of STIs worldwide.

Overview

More than 30 different bacteria, viruses and parasites are known to be transmitted through sexual contact, including vaginal, anal and oral sex. Some STIs can also be transmitted from mother-to-child during pregnancy, childbirth and breastfeeding. Eight pathogens are linked to the greatest incidence of STIs. Of these, 4 are currently curable: syphilis, gonorrhoea, chlamydia and trichomoniasis. The other 4 are incurable viral infections: hepatitis B, herpes simplex virus (HSV), HIV and human papillomavirus (HPV).

In addition, emerging outbreaks of new infections that can be acquired by sexual contact such as monkeypox, *Shigella sonnei*, *Neisseria meningitidis*, Ebola and Zika, as well as re-emergence of neglected STIs such as lymphogranuloma venereum. These herald increasing challenges in the provision of adequate services for STIs prevention and control.

Scope of the problem

STIs have a profound impact on sexual and reproductive health worldwide.

More than 1 million STIs are acquired every day. In 2020, WHO estimated 374 million new infections with 1 of 4 STIs: chlamydia (129 million), gonorrhoea (82 million), syphilis (7.1 million) and trichomoniasis (156 million). More than 490 million people were estimated to be living with genital herpes in 2016, and an estimated 300 million women have an HPV infection, the primary cause of cervical cancer and anal cancer among men who have sex with men. An estimated 296 million people are living with chronic hepatitis B globally.

STIs can have serious consequences beyond the immediate impact of the infection itself.

- STIs like herpes, gonorrhoea and syphilis can increase the risk of HIV acquisition.
- Mother-to-child transmission of STIs can result in stillbirth, neonatal death, low-birth weight and prematurity, sepsis, neonatal conjunctivitis and congenital deformities.
- HPV infection causes cervical and other cancers.
- Hepatitis B resulted in an estimated 820 000 deaths in 2019, mostly from cirrhosis and hepatocellular carcinoma. STIs such as gonorrhoea and chlamydia are major causes of pelvic inflammatory disease and infertility in women.

Prevention of STIs

When used correctly and consistently, condoms offer one of the most effective methods of protection against STIs, including HIV. Although highly effective, condoms do not offer protection for STIs that cause extra-genital ulcers (i.e., syphilis or genital herpes). When possible, condoms should be used in all vaginal and anal sex.

Safe and highly effective vaccines are available for 2 viral STIs: hepatitis B and HPV. These vaccines have represented major advances in STI prevention. By the end of 2020, the HPV vaccine had been introduced as part of routine immunization programmes in 111 countries, primarily high- and middle-income countries. To eliminate cervical cancer as a public health problem globally, high coverage targets for HPV vaccination, screening and

treatment of precancerous lesions, and management of cancer must be reached by 2030 and maintained at this high level for decades.

Research to develop vaccines against genital herpes and HIV is advanced, with several vaccine candidates in early clinical development. There is mounting evidence suggesting that the vaccine to prevent meningitis (MenB) provides some cross-protection against gonorrhoea. More research into vaccines for chlamydia, gonorrhoea, syphilis and trichomoniasis are needed.

Other biomedical interventions to prevent some STIs include adult voluntary

medical male circumcision, microbicides, and partner treatment. There are ongoing trials to evaluate the benefit of pre- and post-exposure prophylaxis of STIs and their potential safety weighed with antimicrobial resistance (AMR).

Diagnosis of STIs

STIs are often asymptomatic. When symptoms occur, they can be non-specific. Moreover, laboratory tests rely on blood, urine or anatomical samples. Three anatomical sites can carry at least one STI. These differences are modulated by sex and sexual risk. These differences can mean the diagnosis of STIs is often missed and individuals are frequently treated for 2 or more STIs.

Accurate diagnostic tests for STIs (using molecular technology) are widely used in high-income countries. These are especially useful for the diagnosis of asymptomatic infections. However, they are largely unavailable in low- and middle-income countries (LMICs) for chlamydia and gonorrhoea. Even in countries where testing is available, it is often expensive and not widely accessible. In addition, the time it takes for results to be received is often long. As a result, follow-up can be impeded and care or treatment can be incomplete.

On the other hand, inexpensive, rapid tests are available for syphilis, hepatitis B and HIV. The rapid syphilis test and rapid dual HIV/syphilis tests are used in several resource-limited settings.

Several other rapid tests are under development and have the potential to improve STI diagnosis and treatment, especially in resource-limited settings.

Treatment of STIs

Effective treatment is currently available for several STIs.

- Three bacterial (chlamydia, gonorrhoea and syphilis) and one parasitic STIs (trichomoniasis) are generally curable with existing single-dose regimens of antibiotics.
- For herpes and HIV, the most effective medications available are antivirals that can modulate the course of the disease, though they cannot cure the disease.
- For hepatitis B, antivirals can help fighting the virus and slowing damage to the liver.

AMR of STIs – in particular gonorrhoea – has increased rapidly in recent years and has reduced treatment options. The [Gonococcal AMR Surveillance Programme \(GASP\)](#) has shown high rates of resistance to many antibiotics including quinolone, azithromycin and extended-spectrum cephalosporins, a last-line treatment .

AMR for other STIs like *Mycoplasma genitalium*, though less common, also exists.

STI case management

LMICs rely on identifying consistent, easily recognizable signs and symptoms to guide treatment, without the use of laboratory tests. This approach – syndromic management – often relies on clinical algorithms and allows health workers to diagnose a specific infection based on observed syndromes (e.g., vaginal/urethral discharge, anogenital ulcers, etc). [Syndromic HYPERLINK "https://www.who.int/publications-detail-redirect/9789240024168"](https://www.who.int/publications-detail-redirect/9789240024168) HYPERLINK ["https://www.who.int/publications-detail-redirect/9789240024168"](https://www.who.int/publications-detail-redirect/9789240024168) management is simple, assures rapid, same-day treatment, and avoids expensive or unavailable diagnostic tests for patients with symptoms. However, this approach results in overtreatment and missed treatment as the majority of STIs are asymptomatic. Thus, WHO

recommends countries to enhance syndromic management by gradually incorporating laboratory testing to support diagnosis. In settings where quality assured molecular assays are available, it is recommended to treat STIs based on laboratory tests. Moreover, STI screening strategies are essential for those at higher risk of infection, such sex workers, men who have sex with men, adolescents in some settings and pregnant women.

To interrupt transmission and prevent re-infection, treating sexual partners is an

important component of STI case management.

Controlling the spread Behaviour change is complex

Despite considerable efforts to identify simple interventions that can reduce risky sexual behaviour, behaviour change remains a complex challenge.

Information, education and counselling can improve people's ability to recognize the symptoms of STIs and increase the likelihood that they will seek care and encourage a sexual partner to do so. Unfortunately, lack of public awareness, lack of training among health workers, and long-standing, widespread stigma around STIs remain barriers to greater and more effective use of these interventions.

Health services for screening and treatment of STIs remain weak

People seeking screening and treatment for STIs face numerous problems. These include limited resources, stigmatization, poor quality of services and often out-of-pocket expenses.

Some populations with the highest rates of STIs – such as sex workers, men who have sex with men, people who inject drugs, prison inmates, mobile populations and adolescents in high burden countries for HIV – often do not have access to adequate and friendly health services.

In many settings, STI services are often neglected and underfunded. These problems lead to difficulties in providing testing for asymptomatic

infections, insufficient number of trained personnel, limited laboratory capacity and inadequate supplies of appropriate medicines.

WHO respons is currently guided by the [Global health sector strategy on HIV, Hepatitis](https://www.who.int/publications-detail-redirect/9789240053779) [HYPERLINK "https://www.who.int/publications-detail-redirect/9789240053779"](https://www.who.int/publications-detail-redirect/9789240053779) [HYPERLINK "https://www.who.int/publications-detail-redirect/9789240053779"](https://www.who.int/publications-detail-redirect/9789240053779) [and](https://www.who.int/publications-detail-redirect/9789240053779) [HYPERLINK "https://www.who.int/publications-detail-redirect/9789240053779"](https://www.who.int/publications-detail-redirect/9789240053779) [Sexually](https://www.who.int/publications-detail-redirect/9789240053779) [HYPERLINK "https://www.who.int/publications-detail-redirect/9789240053779"](https://www.who.int/publications-detail-redirect/9789240053779) [Transmitted](https://www.who.int/publications-detail-redirect/9789240053779) [HYPERLINK "https://www.who.int/publications-detail-redirect/9789240053779"](https://www.who.int/publications-detail-redirect/9789240053779) [Infections,](https://www.who.int/publications-detail-redirect/9789240053779) [HYPERLINK "https://www.who.int/publications-detail-redirect/9789240053779"](https://www.who.int/publications-detail-redirect/9789240053779) [2022–2030](https://www.who.int/publications-detail-redirect/9789240053779). Within this framework,

WHO:

- develops global targets, norms and standards for STI prevention, testing and treatment;
- supports the estimation and economic burden of STIs and the strengthening of STI surveillance;
- globally monitors AMR to gonorrhoea; and
- leads the setting of the global research agenda on STIs, including the development of diagnostic tests, vaccines and additional drugs for gonorrhoea and syphilis.

As part of its mission, WHO supports countries to:

- develop national strategic plans and guidelines;
- create an encouraging environment allowing individuals to discuss STIs, adopt safer sexual practices, and seek treatment;
- scale-up primary prevention (condom availability and use, etc.);

- increase integration of STI services within primary healthcare services;
- increase accessibility of people-centred quality STI care;
- facilitate adoption of point-of-care tests;
- enhance and scale-up health intervention for impact, such as hepatitis B and HPV vaccination, syphilis screening in priority populations;
- strengthen capacity to monitoring STIs trends; and
- monitor and respond to AMR in gonorrhoea.
- **Summing up:**

On-going control: oral survey, testing, assessment of performance of practical skills, solution of situational clinical tasks, assessment of activity in class, etc.

The structure of the current assessment in the practical session:

- ***Evaluation of theoretical knowledge on the subject of the lesson:***
- methods: survey, solving a situational clinical problem;
- maximum score – 5, minimum score – 3, unsatisfactory score – 2.
- Evaluation of practical skills and manipulations on the subject of the lesson:
- methods: assessment of correct performance of practical skills;
- maximum score – 5, minimum score – 3, unsatisfactory score – 2.
- Evaluation of work with the patient on the subject of the lesson:
- methods: assessment of: a) communication skills of communicating with the patient, b) the correctness of prescribing and evaluating laboratory and instrumental studies, c) compliance with the differential diagnosis algorithm, d) substantiation of the clinical diagnosis, e) drawing up a treatment plan;
- maximum score – 5, minimum score – 3, unsatisfactory score – 2.

Criteria for current assessment on the practical lesson:

«5»	The student is fluent in the material, takes an active part in the discussion and solution of situational clinical problems, confidently demonstrates practical skills during the examination of a pregnant and interpretation of
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	clinical, laboratory and instrumental studies, expresses his opinion on the topic, demonstrates clinical thinking.
«4»	The student is well versed in the material, participates in the discussion and solution of situational clinical problems, demonstrates practical skills during the examination of a pregnant and interpretation of clinical, laboratory and instrumental studies with some errors, expresses his opinion on the topic, demonstrates clinical thinking.
«3»	The student isn't well versed in material, insecurely participates in the discussion and solution of a situational clinical problem, demonstrates practical skills during the examination of a pregnant and interpretation of clinical, laboratory and instrumental studies with significant errors.

«2»	The student isn't versed in material at all, does not participate in the discussion and solution of the situational clinical problem, does not demonstrate practical skills during the examination of a pregnant and the interpretation of clinical, laboratory and instrumental studies.
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- The student is admitted to the credit if he fulfills the requirements of the educational program and if he received at least 3.00 points for the current educational activity.

Test

At the end of the study of the discipline, the assessment is carried out. Only those students who have no academic debt and have an average score for the current educational activity of at least 3.00 are admitted to the final certification. If the discipline ends with a credit, only the average score of the current performance is calculated, that is, the arithmetic average of all received grades on a traditional scale, rounded to two decimal places, which is converted according to the 200- point system. At the same time, the average current score is recorded in the corresponding documentation, which

is converted on a 200-point scale and a grade is assigned on a 2-point scale (“passed” or “not passed”):

- the grade "passed" is awarded to a student who has completed the curriculum of the discipline and has no academic debt; the level of competence is high (creative);

– the grade "failed" is assigned to a student who has not completed the curriculum of the discipline, has academic debt (average grade below 3.0 and/or missed classes); the level of competence is low (receptive-productive).

RECOMMENDED LITERATURE

Basic:

- Zaporozhan V.M., Mishchenko V.P. Obstetrics and gynaecology in 2 Books

: Book 1 : Obstetrics, 2007. – 373 pp.

- Williams Manual of Obstetrics (24th Ed) F. G. Cunningham, K. J. Leveno,

S. L. Bloom, C. Y. Spong, J. S. Dashe, B. L. Hoffman, B. M. Casey, J. S. Sheffield, McGraw-Hill Education/Medical. – 2014. – 1377 pp.

- Textbook of Gynecology (6th Ed) Dutta DC., Hiralal Konar (Ed.). –JAYPEE BROTHERS MEDICAL PUBLISHERS (P) LTD, 2013. – 702 pp.

- DC Duttas Textbook of Obstetrics including Perinatology and Contraception (8th Ed.) Dutta DC., Hiralal Konar (Ed.). – JAYPEE BROTHERS MEDICAL PUBLISHERS (P) LTD, 2015. – 782 pp.

- Llewellyn-Jones Fundamentals of Obstetrics and Gynaecology (10th Ed). Jeremy Oats, Suzanne Abraham. Elsevier. 2016. – 384 pp.

- The FIGO Textbook of Pregnancy Hypertension. An evidence-based guide to monitoring, prevention and management. L. A. Magee, P. Daddelsen, W. Stones, M. Mathai (Eds), The Global Library of Women’s Medicine. – 2016. – 456pp.

- Mayo Clinic Guide to a Healthy Pregnancy. Roger W. Harms (Ed). Rosetta books, 2011. – 612 pp.
- Best practice in labor and delivery / edited by Richard Warren, S. Arullkumaran. Cambridge University Press. – 2009. – 362 pp.
- Basic Science in Obstetrics and Gynaecology / edited by Philip Bennet, Catherine Williamson. 4th Edition. 2010, Churchill Livingstone Elsevier. – 386 pp.

Additional:

- Maternal-Fetal Medicine. Creasy R.K., Resnik R – 2009. – 1296 pp.
- Gibbs R. S., Karlan B. Y., Haney A. F., Nygaard I. E. Danforth's Obstetrics and Gynecology (10th Ed).- Lippincott Williams & Wilkins. – 2008. – 2225 pp.
- CTG Made Easy / edited by Susan Gauge, Christine Henderson. 3rd Edition, 2009.- Elsevier Churchill Livingstone. – 280 pp.
- Obstetrics: Normal and Problem Pregnancies, 7th Edition S. Gabbe, J. R. Niebyl, J. L. Simpson, M. B. Landon, H. L. Galan, E. R. M. Jauniaux, D. A. Driscoll, V. Berghella and W. A. Grobman, Elsevier. – 2017. – 1320 pp.
- Obstetrics by Ten Teachers (20th ed) Louise C. Kenny, Jenny E. Myers. – CRC Press. – 2017. – 342 pp.
- Current Progress in Obstetrics and Gynaecology. Vol 4. Eds. J. Studd, SeangLin Tan, F. Chervenak. – 2017. – 419 pp.
- Recent Advances in Obstetrics and Gynaecology. Vol 26. W. Ledger, J. Clark. – JP Medical. – 2015.– 230 pp.
- Proactive Support of Labor. Reuwer P., Bruinse H., Franx A. – 2015. – 216 pp.

INTERNET SOURCES:

- <https://www.cochrane.org/>
- <https://www.ebcog.org/>
- <https://www.acog.org/>
- <https://www.uptodate.com>
- <https://online.lexi.com/>
- <https://www.ncbi.nlm.nih.gov/>
- <https://pubmed.ncbi.nlm.nih.gov/>
- <https://www.thelancet.com/>
- <https://www.rcog.org.uk/>

- <https://www.npwh.org/>