

**MINISTRY OF HEALTH OF UKRAINE
ODESA NATIONAL MEDICAL UNIVERSITY**

Department of phthisiopulmonology

«APPROVED»



Vice-rector for scientific and pedagogical work

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September 1, 2023

**WORKING PROGRAM OF ELECTIVE EDUCATIONAL DISCIPLINE
"ANTI-TUBERCULOSIS MEASURES IN EPIDEMIC FOCUSES OF
TUBERCULOSIS INFECTION"**

Higher education level: second (master's)

Area of expertise: 22 "Health care"

Specialty: 222 "Medicine"

Educational and professional program: Medicine

The work program is compiled on the basis of the educational and professional program "Medicine" for the training of specialists of the second (master's) level of higher education in specialty 222 "Medicine" field of knowledge 22 "Health care" approved by the Scientific Council of ONMedU (protocol No. 8 of June 29, 2023) .

Developers:


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The work program was approved at the meeting of the Department of Phthisiopulmonology
Minutes No. 1 dated August 30, 2023

Head of the department

 Nina MATSEGORA

Agreed with the guarantor of EPP

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Approved by the subject cycle methodical commission for therapeutic disciplines
Protocol No. 1 of August 31, 2023

The head of the subject cycle methodical
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 Olena VOLOSHYNA

Reviewed and approved at the department meeting *Department of occupational diseases and functional diagnostics and phthisiopulmonology*

Minutes No. 1 dated "04" 09 2023

Head of Department


(signature)

Oleksandr Ignatiev
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Reviewed and approved at the department meeting _____

Minutes No. ___ dated "___" _____ 20__

Head of Department _____

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(First Name SURNAME)

1. Description of the academic discipline

Name of indicators	Field of knowledge, specialty, specialization, level of higher education	Characteristics of the academic discipline
The total number of:	Branch of knowledge 22 "Health care"	<i>Full-time education</i> <i>Elective discipline</i>
Credits: 3.0	Specialty 222 "Medicine"	<i>Year of training: 5</i>
Hours: 90		<i>Semesters VII - VIII</i>
Content modules: none	Level of higher education second (master's)	<i>Lectures (0 hours)</i>
		<i>Seminar /Practical (30 hours)</i>
		<i>Laboratory (0 hours)</i>
		<i>Independent work (60 hours)</i>
		<i>including individual tasks (0 hours)</i>
		<i>Final control form- credit</i>

2. The purpose and tasks of the educational discipline, competences, program learning outcomes

Goal: mastering a set of knowledge, skills, and abilities for carrying out anti-epidemic measures in the focus of tuberculosis infection, aimed at preventing new cases of infection and tuberculosis disease of contact persons.

Task:

- 1) To acquire knowledge about the source of tuberculosis infection.
- 2) To acquire skills and abilities to determine the clinical criteria of TB cases.
- 3) Master the knowledge and ability to implement algorithm of actions of specialists of institutions / services within the framework of epidemiological surveillance of TB.
- 4) To master the procedure for conducting epidemiologic surveillance of persons in contact with a case of TB.
- 5) Master preventive measures in the focus of tuberculosis infection.
- 6) Master the quality standards of epidemiological surveillance of TB

The process of studying the discipline is aimed at forming elements of the following competencies:

General (GC):

- GC1. Ability to abstract thinking, analysis and synthesis
- GC2. Ability to learn and master modern knowledge
- GC3. Ability to apply knowledge in practical situations

Special (SC):

- SC1. Ability to collect medical information about the patient and analyze clinical data
- SC6. Ability to determine the principles and nature of treatment and prevention of diseases
- SC13. Ability to carry out sanitary and hygienic and preventive measures
- SC14. Ability to plan and carry out preventive and anti-epidemic measures for infectious diseases

Program learning outcomes (PLO):

PLO 1. Have thorough knowledge of the structure of professional activity. To be able to carry out professional activities that require updating and integration of knowledge. To be responsible for professional development, the ability for further professional training with a high level of autonomy.

PLO 2. Understanding and knowledge of fundamental and clinical biomedical sciences, at a level sufficient for solving professional tasks in the field of health care.

PLO 3 - Specialized conceptual knowledge, which includes scientific achievements in the field of health care and is the basis for conducting research, critical understanding of problems in the field of medicine and related interdisciplinary problems.

PLO 20. Analyze the epidemiological situation and carry out measures for mass and individual, general and local prevention of infectious diseases.

PLO 29. Plan, organize and carry out measures for the specific prevention of infectious diseases, including in accordance with the National calendar of preventive vaccinations, both mandatory and recommended. Manage vaccine residues, organize additional vaccination campaigns, including immunoprophylaxis measures.

As a result of studying the academic discipline, the applicant must:

Know:

- diagnosis and differential diagnosis of tuberculosis;
- the concept of the focus of tuberculosis infection. Categories of centers according to the degree of epidemic danger;
- infection control: administrative, engineering, individual protection;
- primary prevention (BCG vaccination);
- secondary prevention (chemoprophylaxis) of tuberculosis, indications, methods of implementation;
- sanitary and sanitary-educational prevention, their tasks;
- measures to prevent tuberculosis among persons working in anti-tuberculosis institutions;
- how to prevent infection of people from animals with tuberculosis;
- preventive measures at the inpatient and outpatient stages of TB treatment and categories of dispensary records.

Be able:

- master the ability to diagnose various clinical forms of tuberculosis;
- to characterize the center of tuberculosis infection according to the degree of epidemic danger; determine ways of TB infection;
- formulate the basic principles of infection control;
- demonstrate knowledge and procedure for primary (BCG vaccination) tuberculosis prevention;
- determine the knowledge and procedure for secondary prevention of tuberculosis (chemoprophylaxis);
- to formulate preventive measures for sanitary and sanitary-educational prevention, their tasks;

- register tuberculosis cases;
- demonstrate the formation of moral and ethical and deontological qualities during professional communication with the patient, as well as the principles of professional subordination in phthisiology.

3. Content of the academic discipline

Topic 1. Organization of medical care for tuberculosis patients: detection, diagnosis, treatment, prevention, dispensary supervision.

International standards for tuberculosis control. Modern approaches to the detection and diagnosis of tuberculosis. Standardization of clinical care.

Topic 2. Methods of examining a patient with tuberculosis.

Ways of infection. Basic diagnostic minimum. Additional research methods for the purpose of differential diagnosis.

Topic 3. The concept of the focus of tuberculosis infection.

Categories of centers according to the degree of epidemic danger. Work in the center of tuberculosis infection for the prevention of tuberculosis.

Topic 4. Social prevention. Infection control: administrative, engineering, individual protection.

Topic 5. Primary prevention of TB (BCG vaccination).

BCG vaccine. Vaccination technique. Contraindications to BCG vaccination. Assessment of local body reactions to vaccine administration. Complications of antituberculosis vaccinations. Secondary prevention (chemo-prophylaxis) of tuberculosis, indications, methods of implementation.

Topic 6. Sanitary prevention, its tasks.

Measures for the prevention of tuberculosis among persons working in anti-tuberculosis institutions. Prevention of infection of people from animals with tuberculosis. Sanitary and educational work. Categories of dispensary accounting.

Topic 7. The main barriers that people face during TB treatment.

Peculiarities of communicating with representatives of the TV community; coverage of the legislative norms available in Ukraine for the protection of the rights of people who have encountered the problem of tuberculosis; peculiarities of providing legal assistance to patients with TB. Clarification of common myths related to TV.

Topic 8. General principles of tuberculosis treatment. Antimycobacterial drugs. Standard treatment regimens for patients with tuberculosis.

General principles of antimycobacterial therapy: complexity, combination, controllability, duration and continuity, stage sequence, individual approach. Antituberculosis drugs (TTP): classification, doses, methods and frequency of introduction into the patient's body.

Topic 9. The concept of chemoresistance. Criteria for treatment of tuberculosis patients.

Categories of treatment of patients with tuberculosis. Observation of the condition of tuberculosis patients during treatment. Methods of evaluating the effectiveness and safety of pharmacotherapy. Adverse reactions to antimycobacterial

drugs. Peculiarities of pharmacotherapy of tuberculosis in pregnant women, in patients with kidney and liver pathology, in HIV-infected patients.

Topic 10. Clinical-laboratory and instrumental monitoring of the quality of treatment.

Preventive measures at the inpatient and outpatient stages of TB treatment.

4. The structure of the academic discipline

Topic	Practice	SRS	In general
Topic 1. Organization of medical care for tuberculosis patients: detection, diagnosis, treatment, prevention, dispensary supervision.	2	8	10
Topic 2. Methods of examining a patient with tuberculosis. Ways of infection. Basic diagnostic minimum. Additional research methods for the purpose of differential diagnosis.	4	8	12
Topic 3. The concept of the focus of tuberculosis infection. Categories of centers according to the degree of epidemic danger. Work in the center of tuberculosis infection for the prevention of tuberculosis.	4	4	8
Topic 4. Social prevention. Infection control: administrative, engineering, individual protection.	2	6	8
Topic 5. Primary prevention of TB (BCG vaccination). BCG vaccine. Vaccination technique. Contraindications to BCG vaccination. Assessment of local body reactions to vaccine administration. Complications of antituberculosis vaccinations. Secondary prevention (chemoprophylaxis) of tuberculosis, indications, methods of implementation.	4	6	10
Topic 6. Sanitary prevention, its tasks. Measures for the prevention of tuberculosis among persons working in anti-tuberculosis institutions. Prevention of infection of people from animals with tuberculosis. Sanitary and educational work. Categories of dispensary accounting.	2	4	6
Topic 7. The main barriers that people face during TB treatment. Peculiarities of communicating with representatives of the TV community; coverage of the legislative norms available in Ukraine for the protection of the rights of people who have encountered the problem of tuberculosis; peculiarities of providing legal assistance to patients with TB. Clarification of common myths related to TV.	2	4	6
Topic 8. General principles of tuberculosis treatment. Antimycobacterial drugs. Standard treatment regimens for patients with tuberculosis. General principles of antimycobacterial therapy: complexity, combination, controllability, duration and continuity, stage sequence, individual approach. Antituberculosis drugs (TTP): classification, doses, methods and frequency of introduction into the patient's body. Standard regimens of chemotherapy.	4	8	12
Topic 9. The concept of chemoresistance. Criteria for treatment of tuberculosis patients. Categories of treatment of patients with tuberculosis. Observation of the condition of tuberculosis patients during treatment. Methods of evaluating the effectiveness and safety of pharmacotherapy. Adverse reactions to antimycobacterial drugs. Peculiarities of pharmacotherapy of tuberculosis in pregnant women, in patients with kidney and liver pathology, in HIV-infected patients.	4	6	10
Topic 10. Clinical-laboratory and instrumental monitoring of the quality of treatment. Preventive measures at the inpatient and outpatient stages of TB treatment	2	6	8
Total	30	60	90

5. Topics of lectures / seminars / practical / laboratory classes

5.1. Topics of lectures

Lectures are not provided.

5.2. Topics of seminar classes

Seminar classes are not provided.

5.3. Topics of practical classes

No	TOPIC	How many hours
1	International standards for tuberculosis control. Modern approaches to the detection and diagnosis of tuberculosis. Standardization of clinical care.	2
2	Methods of examination of a patient with tuberculosis. Ways of infection. Basic diagnostic minimum. Additional research methods for the purpose of differential diagnosis.	4
3	The concept of the focus of tuberculosis infection. Categories of centers according to the degree of epidemic danger. Work in the center of tuberculosis infection for the prevention of tuberculosis.	4
4	Social prevention. Infection control: administrative, engineering, individual protection.	2
5	Primary prevention of TB (BCG vaccination). BCG vaccine. Vaccination technique. Contraindications to BCG vaccination. Assessment of local body reactions to vaccine administration. Complications of antituberculosis vaccinations. Secondary prevention (chemoprophylaxis) of tuberculosis, indications, methods of implementation.	4
6	Sanitary prevention, its tasks. Measures for the prevention of tuberculosis among persons working in anti-tuberculosis institutions. Prevention of infection of people from animals with tuberculosis. Sanitary and educational work. Categories of dispensary accounting.	2
7	The main barriers that people face during TB treatment. Peculiarities of communicating with representatives of the TV community; coverage of the legislative norms available in Ukraine for the protection of the rights of people who have encountered the problem of tuberculosis; peculiarities of providing legal assistance to patients with TB. Clarification of common myths related to TV.	2
8	General principles of tuberculosis treatment. Antimycobacterial drugs. Standard treatment regimens for patients with tuberculosis. General principles of antimycobacterial therapy: complexity, combination, controllability, duration and continuity, stage sequence, individual approach. Antituberculosis drugs (TTP): classification, doses, methods and frequency of introduction into the patient's body. Standard regimens of chemotherapy.	4
9	The concept of chemoresistance. Criteria for treatment of tuberculosis patients. Categories of treatment of patients with tuberculosis. Observation of the condition of tuberculosis patients during treatment. Methods of evaluating the effectiveness and safety of pharmacotherapy. Adverse reactions to antimycobacterial drugs. Peculiarities of pharmacotherapy of tuberculosis in	4

	pregnant women, in patients with kidney and liver pathology, in HIV-infected patients.	
10	Clinical-laboratory and instrumental monitoring of the quality of treatment. Preventive measures at the inpatient and outpatient stages of TB treatment	2
	Total	30

5.4. Topic of laboratory classes

Laboratory classes are not provided.

6. Independent work of students of higher education

No	TOPIC	How many hours
1	International standards for tuberculosis control. Modern approaches to the detection and diagnosis of tuberculosis. Standardization of clinical care.	8
2	Methods of examination of a patient with tuberculosis. Ways of infection. Basic diagnostic minimum. Additional research methods for the purpose of differential diagnosis.	8
3	The concept of the focus of tuberculosis infection. Categories of centers according to the degree of epidemic danger. Work in the center of tuberculosis infection for the prevention of tuberculosis.	4
4	Social prevention. Infection control: administrative, engineering, individual protection.	6
5	Primary prevention of TB (BCG vaccination). BCG vaccine. Vaccination technique. Contraindications to BCG vaccination. Assessment of local body reactions to vaccine administration. Complications of antituberculosis vaccinations. Secondary prevention (chemoprophylaxis) of tuberculosis, indications, methods of implementation.	6
6	Sanitary prevention, its tasks. Measures for the prevention of tuberculosis among persons working in anti-tuberculosis institutions. Prevention of infection of people from animals with tuberculosis. Sanitary and educational work. Categories of dispensary accounting.	4
7	The main barriers that people face during TB treatment. Peculiarities of communicating with representatives of the TV community; coverage of the legislative norms available in Ukraine for the protection of the rights of people who have encountered the problem of tuberculosis; peculiarities of providing legal assistance to patients with TB. Clarification of common myths related to TV.	4
8	General principles of tuberculosis treatment. Antimycobacterial drugs. Standard treatment regimens for patients with tuberculosis. General principles of antimycobacterial therapy: complexity, combination, controllability, duration and continuity, stage sequence, individual approach. Antituberculosis drugs (TTP): classification, doses, methods and frequency of introduction into the patient's body. Standard regimens of chemotherapy.	8
9	The concept of chemoresistance. Criteria for treatment of tuberculosis patients. Categories of treatment of patients with tuberculosis. Observation of the condition of tuberculosis patients during treatment. Methods of evaluating the effectiveness and safety of pharmacotherapy. Adverse reactions to antimycobacterial drugs. Peculiarities of pharmacotherapy of tuberculosis in pregnant women, in patients with kidney and liver pathology, in HIV-infected	6

	patients.	
10	Clinical-laboratory and instrumental monitoring of the quality of treatment. Preventive measures at the inpatient and outpatient stages of TB treatment	6
	Total	60

7. Teaching methods

Practical training.

Teaching a selective academic discipline in practical classes, it is provided with methodical developments for each class, visual teaching aids for each class (presentations, video lectures), the information resource of the department, structured algorithms of skill control.

Independent work.

Independent work in the study of a selective academic discipline is ensured by methodical developments for independent work, visual teaching aids (video lectures, presentations), information resource of the department, topics of independent work, structured algorithms of skill control.

8. Forms of control and assessment methods (including criteria for evaluating learning outcomes)

Current control: entrance and final knowledge level control tests on the subject of practical training; oral answer to questions based on the material of the current topic; solving typical and atypical clinical situational problems; control of practical skills.

Final control: balance

Evaluation of the current educational activity in a practical session:

1. Evaluation of theoretical knowledge on the subject of the lesson:
methods: survey, solving a situational clinical problem;
2. Evaluation of work with a 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 and determining the degree of epidemiological danger, conducting epidemiological measures in the focus of tuberculosis infection.

Current evaluation criteria in practical training

Rating	Evaluation criteria
Perfectly "5"	The applicant is fluent in the material, takes an active part in discussing and solving a situational clinical problem, confidently demonstrates practical skills during the examination of a patient and the interpretation of data from clinical, laboratory, instrumental studies and the patient's epidemiological anamnesis, expresses his

	opinion on the subject of the lesson, demonstrates clinical thinking.
Fine "4"	The applicant has a good command of the material, participates in the discussion and solution of the situational clinical problem, demonstrates practical skills during the examination of the patient and the interpretation of data from clinical, laboratory, instrumental studies and the epidemiological history of the patient with some errors, expresses his opinion on the topic of the lesson, demonstrates clinical thinking.
Satisfactory "3"	The acquirer does not have sufficient knowledge of the material, is unsure of participating in the discussion and solution of the situational clinical problem, demonstrates practical skills during the examination of the patient and the interpretation of data from clinical, laboratory, instrumental studies and the epidemiological history of the patient with significant errors.
Unsatisfactory "2"	The acquirer does not possess the material, does not participate in the discussion and solution of the situational clinical problem, does not demonstrate practical skills during the examination of the patient and the interpretation of the data of clinical, laboratory, instrumental studies and the epidemiological history of the patient.

Credit is given to the applicant who has completed all the tasks of the work program of the academic discipline, actively participated in practical classes and has an average current grade of at least 3.0 and has no academic debt.

Test is carried out: at the last lesson before the beginning of the examination session - with the tape system of learning, at the last lesson - with the cyclical system of learning. The credit score is the arithmetic mean of all components on a traditional four-point scale and has a value that is rounded using the statistical method with two decimal places after the decimal point.

9. Distribution of points received by students of higher education

The obtained average score for the academic discipline for applicants who have successfully mastered the work program of the academic discipline is converted from a traditional four-point scale to points on a 200-point scale, as shown in the table:

Conversion table of a traditional assessment into a multi-point scale

National score for the discipline	The sum of scores for the discipline
Excellent («5»)	185 – 200
Good («4»)	151 – 184
Satisfactory («3»)	120 – 150
Unsatisfactory («2»)	Less than 120

A multi-point scale (200-point scale) characterizes the actual success of each applicant in learning the educational component. The conversion of the traditional grade (average score for the academic discipline) into a 200-point grade is performed

by the information and technical department of the University.

According to the obtained points on a 200-point scale, the achievements of the applicants are evaluated according to the ECTS rating scale. Further ranking according to the ECTS rating scale allows you to evaluate the achievements of students from the educational component who are studying in the same course of the same specialty, according to the points they received.

The ECTS scale is a relative-comparative rating, which establishes the applicant's belonging to the group of better or worse among the reference group of fellow students (faculty, specialty). An "A" grade on the ECTS scale cannot be equal to an "excellent" grade, a "B" grade to a "good" grade, etc. When converting from a multi-point scale, the limits of grades "A", "B", "C", "D", "E" according to the ECTS scale do not coincide with the limits of grades "5", "4", "3" according to the traditional scale. Acquirers who have received grades of "FX" and "F" ("2") are not included in the list of ranked acquirers. The grade "FX" is awarded to students who have obtained the minimum number of points for the current learning activity, but who have not passed the final examination. A grade of "F" is assigned to students who have attended all classes in the discipline, but have not achieved a grade point average (3.00) for the current academic activity and are not admitted to the final examination.

Applicants who study in one course (one specialty), based on the number of points scored in the discipline, are ranked on the ECTS scale as follows:

Conversion of the traditional grade from the discipline and the sum of points on the ECTS scale

ECTS' s mark	Statistical indicator
«A»	the best 10% of students
«B»	the next 25% of students
«C»	the next 30% of students
«D»	the next 25% of students
«E»	the next 10% of students

10. Methodological support

- Working program of the academic discipline
- Syllabus
- Methodical developments for practical classes
- Multimedia presentations
- Situational clinical tasks

11. Questions for preparing for the final inspection

1. What are the groups at increased risk of tuberculosis?
2. What are the main methods of diagnosing tuberculosis?
3. What should you pay special attention to when collecting an epidemiological history to establish a diagnosis of "tuberculosis"?
4. What is a focus of tuberculosis infection?
5. What criteria are characteristic of the first category of foci of tuberculosis infection?
6. What criteria are characteristic of the second category of foci of tuberculosis infection?
7. What criteria are characteristic of the third category of foci of tuberculosis infection?
8. What measures are provided by sanitary prevention in the center of tuberculosis infection?
9. What kind of disinfection is carried out in the center of tuberculosis infection?
10. Who conducts and what is the current and final disinfection?

12. Recommended literature

Main:

1. Phthisiology: a textbook / V. I. Petrenko, L. D. Todoriko, L. A. Hryshchuk [and others]; under the editorship V. I. Petrenko. Kyiv: Medicine, 2015. 471 p.
2. Current issues of phthisiology: manual/D.G. Kryzhanoskyi, V.A. Freiwald, N.A. Marchenko (and others). Dnipropetrovsk: T.K. Serednyak, 2015.–55 p.
3. General approaches to the prevention of tuberculosis <http://www.ifp.kiev.ua/doc/tubprof>. Translatethispage Preventive measures in foci of tuberculosis infection.
4. Order of the Ministry of Health of Ukraine dated March 9, 2021 No. 406 "On approval of the Procedure for epidemiological surveillance of tuberculosis and changes to the criteria for determining cases of infectious and parasitic diseases subject to registration"
5. Order of the Ministry of Health of Ukraine on the approval of the standards of medical care "Tuberculosis" dated January 19, 2023 No. 102
6. Order of the Ministry of Health of Ukraine dated 02/01/2019 No. 287 "Infection control standard for health care facilities providing care to tuberculosis patients".
7. WHO consolidated guidelines for the treatment of drug-resistant tuberculosis, 2018.
8. Order of the Ministry of Health of Ukraine dated June 5, 2019 No. 1292 "On the approval of a new Clinical Protocol on the use of antiretroviral drugs for the treatment and prevention of HIV infection."
9. "Extrapulmonary tuberculosis" edited by Professor N. A. Matsegora, November, 2022 - 448 p. (co-authors: Prof. Matsegora N.A., Prof. Marichereda V.G., Prof. Antonenko P.B., Assoc. Shpota O.E., Assoc. Smolska I.M., Assoc. Kaprosh A.V. , Assistant L.P. Omelyan, Assistant A.S. Zaitsev)

10. Management of adverse reactions during the treatment of patients with tuberculosis and co-infection (tuberculosis/HIV infection/AIDS) (methodical guide for doctors) "National Institute of Phthisiology and Pulmonology named after F.G. YANOVSKY NAMN of Ukraine". - Kyiv, 2016. - p.80.

Additional:

1. Prevention of tuberculosis. Study guide for students and interns of VNMZ IV accreditation level and doctors / V. I. Petrenko, M. G. Dolynska, A. V. Aleksandrin, V. V. Petrenko. Kyiv: 2 Print, 2017. 88 p.
URL: <http://tb.ucdc.gov.ua/uploads/files/prophilaktica.pdf>.

2. Emergencies in the practice of a phthisiopulmonologist: teaching. manual / N. A. Matsegora, O. Ya. Lekan, O. A. Baburina, M. Yu. Golubenko. Odesa: "Astroprint", 2016. 64 p.

13. Electronic information resources

1. Website of the Public Health Center of the Ministry of Health of Ukraine. <http://phc.org.ua/>
2. Tuberculosis issues on the WHO website. <http://www.who.int/tb/en/>
3. National Tuberculosis Resource Center. <http://tb.ucdc.gov.ua/>
4. Stages of HIV-AIDS. www.ifp.kiev.ua > doc > people > vil-pop > vil-pop5
5. TB/HIV site. <https://aph.org.ua/uk/nasha-robota/ukraine/gf/>