FEDERAL STATE BUDGET EDUCATIONAL
HIGHER EDUCATION INSTITUTION
"ROSTOV STATE MEDICAL UNIVERSITY"
MINISTRY OF HEALTH OF THE RUSSIAN FEDERATION

FACULTY OF TREATMENT AND PREVENTION

Appraisal Fund
in the discipline "Epidemiology"

Specialty 05/31/01 General Medicine

2023

1. List of competencies formed by the discipline (in full or partially)

professional (PC)

Code and name of professional competence
PK-3ability and readiness to carry out anti-epidemic measures, organizing the protection of the population in hotbeds of especially dangerous infections, in case of deterioration of the radiation situation, natural disasters and other emergency situations **PC – 4**ability and readiness to use social and hygienic techniques collection and medical and statistical analysis of information on population health indicators.

2. Types of assessment materials in accordance with the competencies being developed

Name competencies	Types of assessment materials	number of tasks **for 1 competency**
PC-3	Closed tasks	25 with sample answers
	Open type tasks: Situational tasks	75 with sample answers
PC-4	Closed tasks	25 with sample answers
	Open type tasks: Situational tasks	75 with sample answers

PK-3 - 3

Closed type tasks:*TOTAL25 tasks.* Task 1. Instructions:

Choose one correct answer. Disinfection includes

destruction of:

1. pathogens of infectious diseases on environmental objects

2. ticks in natural foci of infection

3. insects in residential areas

4. synanthropic rodents on agricultural sites

*Sample answer:***1. pathogens of infectious diseases on environmental objects** Task

2. Instructions: Choose one correct answer. Preventive disinfection is carried out in:

1. premises of the railway station

2. apartment of a chronic carrier of typhoid bacteria

3. kindergarten during an outbreak of shigellosis

4. the apartment of a patient with diphtheria after his hospitalization

*Sample answer:***1. premises of the railway station**

Task 3. Instructions: Choose one correct answer.

Preventive disinfection is carried out:

1. if there is a possibility of the spread of infectious diseases, regardless of the identification of infectious patients

2. if there is a source of the infectious agent in a children's organized group

3. if there is a source of the infectious agent in a medical organization

4. after hospitalization, discharge, recovery or death of the source of the infectious agent

*Sample answer:***1. if there is a possibility of the spread of infectious diseases, regardless of the identification of infectious patients**

Task 4. Instructions: Choose several correct answers.

Disinfection is preventative:

1. water in swimming pools

2. in the apartment where there is a patient with dysentery

3. sputum of a patient with tuberculosis

4. premises and equipment in the emergency department of a therapeutic hospital

*Sample answer:***14**

Task 5. Instructions: Choose one correct answer.

Carrying out preventive disinfection is shown in: 1. the barracks in which the military unit is to be located

2. the hostel from which the patient with dysentery was hospitalized

3. the therapeutic department from which the patient with typhoid fever was transferred to the infectious diseases hospital

4. kindergarten where a patient with viral hepatitis A was identified

*Sample answer:***1. barracks in which the military unit is to be located**

Task 6. Instructions: Choose one correct answer.

Final disinfection in foci of infectious diseases is carried out after: 1. removal of the source of infection from the epidemic focus

2. completion of the patient's isolation of the infectious agent

3. making a final diagnosis

4. etiological decoding of the disease

*Sample answer:***1. removing the source of infection from the epidemic focus**

Task 7. Instructions: Choose one correct answer.

Chamber processing of things is carried out in the outbreak of:

1. tuberculosis

2. shigellosis

3. meningococcal infection

4. dysentery

*Sample answer:***1. tuberculosis**

Task 8. Instructions: Choose one correct answer.

Sterilization involves the destruction of:

1. all microorganisms in all forms on/in the objects being processed

2. all pathogens of infectious diseases in the environment

3. only vegetative forms of microorganisms on/in the treated objects

4. only pathogenic microorganisms on/in the objects being processed

*Sample answer:***1. all microorganisms in all forms on/in the objects being processed**

Task 9. Instructions: Choose one correct answer.

Intermediate level disinfection is the destruction of:

1. all forms of microorganisms, including Mycobacterium tuberculosis, fungi and most viruses, with the exception of spores

2. most bacteria, some viruses and fungi, except bacterial spores and mycobacterium tuberculosis

3. all microorganisms in all forms on/in the objects being processed

4. all viruses, including pathogens of parenteral hepatitis

*Sample answer:***1. all forms of microorganisms, including Mycobacterium tuberculosis, fungi and most viruses, with the exception of spores**

Task 10. Instructions: Choose one correct answer. Critical medical devices include:

1. instruments used in operations on sterile tissues, cavities, and the vascular system

2. objects in contact only with intact skin

3. objects in contact with mucous membranes

4. surrounding objects

*Sample answer:***1. instruments used in operations on sterile tissues, cavities, and the vascular system**

Task 11. Instructions: Choose one correct answer. The semi-critical category includes:

1. objects in contact with mucous membranes and non-intact skin
2. instruments used in operations on sterile tissues, cavities, and the vascular system

3. objects in contact only with intact skin
4. surrounding objects
Sample answer: **1. objects in contact with mucous membranes and non-intact skin**

Task 12. Instructions: Choose one correct answer.
The use of air conditioners and humidifiers in the ventilation system in healthcare facilities can lead to outbreaks associated with the pathogen:

1. legionellosis
2. measles
3. salmonellosis
4. malaria
Sample answer: **1. legionellosis**

Task 13. Instructions: Choose one correct answer.
The total number of microorganisms in 1 m3 of air (CFU/m3) in operating rooms before starting work is allowed no more than:
1.200
2.300
3.400
4.500
Sample answer: **1.200**

Task 14. Instructions: Choose one correct answer.
Responsible for prescribing and carrying out therapeutic and preventive vaccinations against rabies are:
1. traumatologists and (or) surgeons
2. doctors of the vaccination office of the children's clinic
3. infectious disease doctors
4. epidemiologists
Response standard: **1. traumatologists and (or) surgeons**

Task 15. Instructions: Choose one correct answer. The following are subject to routine rabies vaccinations:
1. veterinarians

2. population of territories enzootic for rabies

3. people living in rural areas

4. family members of hunters

Response standard:**1. veterinarians**

Task 16. Instructions: Choose one correct answer.

Dangerous localizations for rabies infection include bites in:

1. head, neck, fingers

2. lower leg, feet

3. thigh, buttocks

4. shoulder, forearm

Response standard:**1. head, neck, fingers**

Task 17. Instructions: Choose one correct answer.

Emergency prophylaxis for a 29-year-old construction worker, vaccinated twice with ADS-M 11 years ago, who received an open forearm injury while working on a construction site, is carried out according to the following scheme:

1. carry out the full course: as-anatoxin and PSCH (PSS)

2. do not vaccinate, treat the wound surgically

3. enter only PSCH (PSS)

4. administer only AC toxoid

Response standard:**1. carry out the full course: as-anatoxin and PSCH (PSS)**

Task 18. Instructions: Choose one correct answer.

An allergy to baker's yeast is a contraindication for the administration of a vaccine against:

1. hepatitis B

2. diphtheria

3. tuberculosis

4. polio

Response standard:**1. hepatitis B**

Task 19. Instructions: Choose several correct answers

Transmission factors for intestinal pathogens of epidemiological significance:

1. children's toys

2. vegetables

3. fruit

4. door handles

5. cutlery

*Sample answer:***1, 2, 3, 4, 5**

Task 20. Instructions: Choose one correct answer. The transmission mechanism depends on:

1. localization of the pathogen

2. forms of the disease

3. type of pathogen

4. characteristics of the body

5. Features of the pathogen

*Sample answer:***1. localization of the pathogen**

Task 21. Instructions: Select several correct answers Ways to implement the fecal-oral transmission mechanism:

1. contact-household

2. water

3. food

4. through blood-sucking insects

5. airborne dust

6. airborne

*Sample answer:***1, 2, 3**

Task 22. Instructions: Choose one correct answer. The artificial route of transmission involves the use of: 1. food products

2. water

3. surgical instruments

4. infected household items

5. personal care products

*Sample answer:***3. surgical instruments**

Task 23. Instructions: Choose several correct answers. Of the listed routes of transmission, the use of artificial means includes: 1. syringes

2. anesthesia equipment

3. surgical instruments

4. diagnostic equipment

*Sample answer:****1,2,3,4***

Task 24. Instructions: Choose one correct answer.

The natural route of transmission of pathogens of bloodborne infections is: 1. sexual

2. artificial for non-medical invasive procedures

3. artificial in medical invasive procedures

4. transmission

Response standard:**1. Sexual**

Task 25. Instructions: Choose several correct answers. The potential danger of the source of infection depends on:

1. forms of clinical course of the disease

2. virulence of the pathogen and the amount of pathogen released

3. Possibility of implementing transmission routes in specific conditions

4. degree of susceptibility of others

5. period of illness

Response standard:**1, 2, 5**

Open type tasks: ***TOTAL75 tasks*** Exercise 1.

Petya N. suffered from whooping cough at 6 months. Before the disease, he was vaccinated with DTP twice in accordance with the vaccination calendar.

Decide on the advisability of continuing vaccinations against whooping cough, diphtheria and tetanus, draw up an individual immunization regimen, indicate the vaccines, the method and place of their administration.

Sample answer:

Since the child has had whooping cough, the started course of immunization should be continued only against diphtheria and tetanus. Since 2 DTP vaccinations were carried out, the course of primary vaccination against diphtheria and tetanus is completed, after 9-12 months, carry out the first booster dose of DTP in a dose of 0.5 ml intramuscularly into the anterior outer surface of the thigh, subsequent revaccinations with DTP-m - at 6-7 years and at 14 years old, in a dose of 0.5 ml intramuscularly into the anterior outer surface of the thigh.

Task 2.

Draw up a schedule for continuing vaccinations against diphtheria and tetanus for Oleg S., 5 months old, who had whooping cough, if it is known that before the disease he was vaccinated once with DTP, indicate the vaccines, the method and place of their administration.

Sample answer:

Since the child received only 1 DTP vaccination to complete the course of primary vaccination against diphtheria and tetanus, he should, 1 month after recovery, undergo a second DTP vaccination in a dose of 0.5 ml intramuscularly into the anterior outer surface of the thigh and DTP revaccination after 9-12 months. subsequent revaccinations at 6-7 years and at 14 years are carried out with ADS-m, in a dose of 0.5 ml intramuscularly into the anterior outer surface of the thigh.

Task 3.

Immunization against influenza for employees of Gradient JSC is scheduled for November 15. During a medical examination on the eve of vaccination, the following was revealed:

Klimov was vaccinated against tetanus 3 weeks ago with AS toxoid on an emergency basis, 4 people had ARVI (Sidorov - 3 weeks ago, Petrov and Ivanov - 2 weeks, and Kubrin - 2 days ago), Denisenko 3 weeks ago suffered an exacerbation of chronic pneumonia.

Decide on the possibility of immunizing the listed persons at the appointed time and, if necessary, suggest timing for rescheduling vaccinations.

Sample answer:

Sidorov, Petrov and Ivanov can be vaccinated at the appointed time. Kubrin can be vaccinated no earlier than after 12 days, Klimov - after 9 days, Denisenko no earlier than after 9 days - 1 month. 9 days at the discretion of the doctor.

Task 4.

Immunization against influenza for employees of JSC Horizon is scheduled for November 20. During a medical examination on the eve of vaccination, the following was revealed:

Klimov was vaccinated against tetanus 3 weeks ago with AS toxoid on an emergency basis, 4 people had ARVI (Sidorov - 3 weeks ago, Petrov and Ivanov - 2 weeks, and Kubrin - 2 days ago), Denisenko 3 weeks ago suffered an exacerbation of chronic pneumonia.

Decide on the possibility of immunizing the listed persons at the appointed time and indicate the timing of rescheduling vaccinations in the specified circumstances

Sample answer:

Sidorov, Petrov and Ivanov can be vaccinated at the appointed time, since after acute infectious diseases vaccination can be carried out 2-4 weeks later. After an exacerbation of chronic pneumonia, vaccinations can be carried out after 1-2 months. after the onset of remission After vaccination against tetanus - after 1 month.

Task 5.

In accordance with the vaccination schedule, immunization of employees of clinic No. 4 against diphtheria and tetanus is scheduled for October 14. When examining them on the eve of vaccination - on October 13, it was found that two of them had suffered from diphtheria in the past (Vanina and Pashin), 2 people suffered from acute respiratory viral infections (Petrov - 3 days ago, Ivanov - 10 days), and Kovaleva was discharged from hospital 2 weeks ago. hospital, where she was treated for exacerbation of chronic cholecystopancreatitis, Grushovaya was vaccinated against viral hepatitis B 3 weeks ago.

Which of the listed persons can be vaccinated at the appointed time, when can the others be immunized, and with what drug?

Sample answer:

Vanina and Pashin can be vaccinated at the appointed time. After ARVI, vaccinations are allowed 2-4 weeks after recovery, therefore Petrov can be vaccinated after 11-25 days, and Ivanov - after 4-18 days at the discretion of the doctor. Nikolaev - 20 days, Zolotov and Lukina, etc. Kovalev can be vaccinated in 16 days - 1.5 months. at the discretion of the doctor. Pear can be vaccinated after 9 days, since the minimum interval between vaccinations is 1 month. ADS-m is used for immunization.

Task 6.

A citizen who was bitten by a stray dog, with bites on the shin and toes, came to the trauma center. The victim, a veterinarian by profession, received another scheduled revaccination against rabies 8 months ago. The dog ran away.

What should be the procedure for providing anti-rabies assistance? Specify the medications that should be prescribed to the victim? Indicate their dosages, dosage regimens, route and place of administration.

Sample answer:

The victim should immediately carry out local treatment of the wounds: rinse thoroughly for several minutes (up to 15 minutes) with soap and water (or detergent), after which the edges of the wound are treated with 70% alcohol or tincture of iodine. Sutures should be avoided whenever possible. Since the veterinarian received another scheduled revaccination against rabies 8 months ago, he is prescribed only 3 injections of the COCAV vaccine, 1 ml each, on days 0, 3 and 7.

Task 7.

A man came to the trauma center with a superficial abrasion on his lower leg.

as a result of a bite caused by a stray dog. The dog ran away, the victim - a hairdresser by profession, - was not vaccinated against rabies in the past, suffers from coronary artery disease. Specify the medications that should be prescribed to the victim? Indicate their dosages, dosage regimens, route and place of administration.

Sample answer:

The COCAV vaccine is prescribed at 0.3. 7,14, 30 and 90 days and single administration of AIH. First, AIH is administered and no more than 30 minutes later. KOKAV. KOKAV is injected 1 ml slowly intramuscularly into the deltoid muscle of the shoulder. AIH is infiltrated into the tissue around the wounds, the unused portion of the dose is injected deep intramuscularly at a site other than the one where COCAV was administered. The dose of homologous AIG-20 IU per 1 kg of body weight, the dose of equine AIG-40 IU per 1 kg of body weight, before introducing heterologous AIG, it is necessary to check the patient's individual sensitivity to horse proteins.

Task 8.

A woman who was bitten by a stray dog was taken to the emergency room. There are multiple deep bites on the woman's body in the neck, arms, including hands.

The victim is a nurse by profession, was not vaccinated against rabies in the past, and has diabetes.

Specify the medications that should be prescribed to the victim? Indicate their dosages, dosage regimens, method and place of administration

Sample answer:

The COCAV vaccine is prescribed at 0.3. 7,14, 30 and 90 days and single administration of AIH. First, AIH is administered and no more than 30 minutes later. KOKAV. 1 ml COCAV is injected slowly intramuscularly into the deltoid muscle of the shoulder. AIH is infiltrated into the tissue around the wounds, the unused portion of the dose is injected deep intramuscularly at a site other than the one where COCAV was administered. The dose of homologous AIG-20 IU per 1 kg of body weight, the dose of equine AIG-40 IU per 1 kg of body weight, before introducing heterologous AIG, it is necessary to check the patient's individual sensitivity to horse proteins.

Task 9.

A citizen came to the trauma center after being bitten by a stray dog, with bites on the shin and toes. The victim is a veterinarian by profession. The dog ran away.

What additional data is needed to decide on the prescription of drugs for emergency prevention of rabies?

Sample answer:

Since the victim is a veterinarian, according to the national vaccination calendar he must be vaccinated against rabies as planned. indications. To decide whether to prescribe drugs for emergency prevention of rabies, data is needed on the timing and completeness of the previously administered course of preventive vaccination against rabies.

Task 10.

Kolesnikova N.P., who was bitten by a yard dog, contacted the local therapist. Bite on the shin of the left leg. The dog is on a chain, healthy. The woman is 22 years old, pregnant (4 months).

Specify the medications that should be prescribed to the victim? Indicate their dosages, dosage regimens, method and place of administration

Sample answer:

The COCAV vaccine is prescribed at 0.3. 7,14, 30 and 90 days and single administration of AIH. First, AIH is administered and no more than 30 minutes later. KOKAV. 1 ml COCAV is injected slowly intramuscularly into the deltoid muscle of the shoulder. AIH is infiltrated into the tissue around the wounds, the unused portion of the dose is injected deep intramuscularly at a site other than the one where COCAV was administered. The dose of homologous AIG is 20 IU per 1 kg of body weight, the dose of equine AIG is 40 IU per 1 kg of body weight, before introducing heterologous AIG, it is necessary to check the patient's individual sensitivity to horse proteins. Organize observation of your neighbor's dog for 10 days, and if during this time the dog remains healthy, then treatment is stopped (i.e. after 3 injections).

Task 11.

Arkhipov V.P. turned to the local therapist. regarding a bite to the right hand and forearm caused by a yard dog. By profession - a veterinarian, vaccinated against influenza 3 weeks ago; received a full course of preventive vaccinations against rabies as planned 10 months ago.

What specialty doctors provide anti-rabies care? What should be the procedure for providing anti-rabies assistance?

Sample answer:

Antirabies care is provided by surgeons and traumatologists. The victim should immediately carry out local treatment of the wound: rinse it generously for several minutes (up to 15 minutes) with soap and water (or detergent), after which

Treat the edges of the wounds with 70% alcohol or tincture of iodine. Sutures should be avoided whenever possible.

Task 12.

Arkhipov V.P. turned to the local therapist. regarding a bite to the right hand and forearm caused by a yard dog. By profession - a veterinarian, vaccinated against influenza 3 weeks ago; received a full course of preventive vaccinations against rabies as planned 10 months ago.

Specify the medications that should be prescribed to the victim? Indicate their dosages, dosage regimens, method and place of administration

Sample answer:

Because the victim - veterinarian and received a full course preventive vaccinations against rabies routinely less than 1 year ago, he should be prescribed COCAV vaccine in a dose of 1 ml in a shortened course - in 0.3, 7 days, the vaccine is administered to the slowly intramuscularly into the deltoid muscle shoulder.

Task 13.

It is necessary to resolve the issue of emergency tetanus prophylaxis for a rescue climber who was taken to the emergency room with grade 3 frostbite on his hands; according to the documentation, he was vaccinated once on an emergency basis as a contact person with a carrier of diphtheria infection with ADS-M toxoid 1.5 years ago.

What drugs and in what dosage should be prescribed to the victim?

Sample answer:

The victim should be administered 1 ml of AC and 3000 IU of PSS or 250 IU of PSCI.

Task 14.

It is necessary to resolve the issue of emergency tetanus prophylaxis for patient M.N. A 55-year-old man came to the emergency room for a 2nd degree burn on his left hand. In the anamnesis, 4 years ago, for emergency indications, he was vaccinated with AS in a dose of 1 ml:

What drugs and in what dosage should be prescribed to the victim?

Sample answer:

The victim should be administered 0.5 ml of

AS Task 15.

Does a long-distance bus driver (41 years old) who was brought to the traumatology department, injured in a car accident with burns and lacerations, need emergency tetanus prophylaxis? There is no vaccination documentation.

What medications and in what dosage should a bus driver be prescribed?

Sample answer:

The bus driver should administer 1 ml AC and 3000 IU PSS or 250 IU PSCI

Task 16.

Does an 18-year-old girl with 3rd degree burns, who was brought to the traumatology department and injured in a car accident, need emergency tetanus prophylaxis? There is no vaccination documentation.

What medications and in what dosage should the girl be prescribed?

Sample answer:

The girl should be given 0.5 ml AC and 3000 IU PSS or 250 IU PSCI

Task 17.

It is necessary to resolve the issue of emergency tetanus prophylaxis for a 60-year-old man who came to the emergency room with a stab wound to the forearm; I was not vaccinated against tetanus.

What drugs and in what dosage should be prescribed to the victim?

Sample answer:

The victim should be administered 1 ml of AC and 3000 IU PSS or 250 IU PSCI

Task 18.

It is necessary to resolve the issue of emergency tetanus prophylaxis for a migrant worker from Tajikistan who went to the emergency room with a 2nd degree burn on the left hand. Presented a certificate of two-time vaccination with AS with an interval of 60 days, carried out 3 years ago:

What drugs and in what dosage should be administered to the victim?

Sample answer:

The victim should be administered 0.5 ml of

AS Task 19.

In Moscow in 1998, nurse V.Yu., an employee of one of the Moscow hospitals, while disconnecting the IV from a seriously ill patient T., who, as it turned out later, was infected with Plasmodium falciparum, pricked herself with an injection needle at the base of her thumb. The nurse took a number of general preventive measures against infection: she took off her glove, squeezed the blood out of the wound, washed the wound under running water and soap, treated it with 70° alcohol, tincture of iodine, and sealed it with an adhesive plaster. Despite these measures, 10 days after the injection, V.Yu. the temperature increased to 38.7°C. She took analgesics without attributing her discomfort to an accidental needle prick. Two days later she called an ambulance; on the advice of the visiting doctor, I started taking

Ampicillin. The temperature continued to rise, and 6 days after the start of antibiotic therapy, V.Yu. sought advice at her place of work, where the emergency department doctor suspected tropical malaria. Plasmodium falciparum was detected in the blood taken from V.Yu. in the emergency department

Make a list of anti-epidemic measures in the outbreak. In terms of anti-epidemic measures in a hospital, is it necessary to carry out chemoprophylaxis of tropical malaria for contact hospital employees?

Sample answer:

The patient should be hospitalized and treated.

Carry out disinfection and sterilization in the hospital to the required extent. It is not necessary to carry out chemoprophylaxis for tropical malaria for all hospital staff (those who have and have not had contact with patients with tropical malaria).

Task 20.

In Moscow in 1998, nurse V.Yu., an employee of one of the Moscow hospitals, while disconnecting the IV from a seriously ill patient T., who, as it turned out later, was infected with Plasmodium falciparum, pricked herself with an injection needle at the base of her thumb. The nurse took a number of general preventive measures against infection: she took off her glove, squeezed the blood out of the wound, washed the wound under running water and soap, treated it with 70° alcohol, tincture of iodine, and sealed it with an adhesive plaster. Despite these measures, 10 days after the injection, V.Yu. the temperature increased to 38.7°C. She took analgesics without attributing her discomfort to an accidental needle prick. Two days later she called an ambulance; On the advice of the visiting doctor, I started taking Ampicillin. The temperature continued to rise, and 6 days after the start of antibiotic therapy, V.Yu. sought advice at her place of work, where the emergency department doctor suspected tropical malaria. Plasmodium falciparum was detected in the blood taken from V.Yu. in the emergency department.

Is focal disinsection against mosquitoes needed in the departments of this hospital and why?

Sample answer:

Focal disinsection against mosquitoes in the departments of this hospital is not advisable, since the natural vector-borne mechanism of transmission of tropical malaria in this territory (Moscow) cannot be implemented due to the lack of vectors.

Task 21.

Patient B., 55 years old, was operated on for cholelithiasis in July. In the postoperative period, complications arose, accompanied by severe bleeding, and therefore the patient was operated on again. Subsequently, the patient received multiple blood transfusions, including from relative donors, and his condition returned to normal. 7 days after the last blood transfusion, the donor of which was relative A., who returned from Afghanistan in May, the patient had a rise in temperature to 39°C, accompanied by chills. When interviewing a relative-donor A., it turned out that A. suffered from three-day malaria in Afghanistan, and was treated irregularly. In connection with this information, blood products were examined in patient B., and as a result, numerous causative agents of three-day malaria (P. vivax) were discovered.

How could patient B. become infected with three-day malaria? Name who was the source of three-day malaria for patient B. Explain to which cases (according to the classification of malaria cases) patient B's illness can be attributed.

Sample answer:

In this case, patient B. was infected with three-day malaria through a transfusion of infected blood (parenteral transmission). The source of three-day malaria for patient B. was the donor, his relative A., who, apparently, is a carrier of pl.Vivax.

According to the classification of malaria cases, patient B.'s disease is called a vaccine case, since the patient was infected during a blood transfusion

Task 22.

From January to June 2008, 42 children infected with Pseudomonas aeruginosa were identified among newborns in the intensive care unit (ICU). The increase in the number of children who were excreting Pseudomonas aeruginosa began in April. If in January-March one or two cases of isolation of Pseudomonas aeruginosa were recorded, then in April the number of such cases was 6, in May - 18, in July - 13. Pseudomonas aeruginosa was found in mucus from the throat of newborns, sputum, as well as in secretions from endotracheal tube. If in January-March infection was not accompanied by any clinical manifestations, then from April to June, clinical signs of pneumonia were detected in eight of the infected children. In April, one child was diagnosed with pneumonia, in May - three, and in June - four children.

Of the medical procedures performed in the ICU, the most

artificial pulmonary ventilation (ALV) was common, followed by suction of secretions from the endotracheal tube and pharynx using a low-vacuum electric suction device. Irregularities were detected when using the Basic 036 device for suctioning mucus and disinfecting suction tubes that were contaminated with Pseudomonas aeruginosa.

According to regulations, in pediatric intensive care units the number of electric suction devices must correspond to the number of ventilators, but in this ICU there were only three electric suction devices for eight ventilators; During the day, one electric suction device was used to suction mucus from the throat and endotracheal tube in several children.

When typing Pseudomonas strains aeruginosa, isolated from newborns, endotracheal tube and from the hospital environment, it was found that the vast majority of strains (with the exception of three isolates) had the same restriction profile and were resistant to three or more antibiotics, working solutions of disinfectants and formed a biofilm.

What kind of training should be given to medical staff during anti-epidemic measures?

Sample answer:

It is necessary to instruct personnel about the inadmissibility of using the same electric suction device to suction mucus from the pharynx and endotracheal tube during the working day from more than one child.

Task 23.

In a children's recreation camp located 20 km from the regional center of the Central Federal District, from August 13 to 25, 60 children and 12 staff fell ill with Flexner's dysentery. In total, 320 children aged from 7 to 15 years rested in the camp. The total number of camp staff is 35 people. Medical care for the camp was provided by a paramedic and a nurse. During the first and second shifts in the camp, no intestinal diseases were observed. The food service workers were permanent.

The first two children fell ill on August 13th. The disease began acutely, with an increase in temperature to 39.5°C, abdominal pain, nausea, and vomiting. However, the diseases were diagnosed as acute respiratory disease and foodborne illness. The next day, these children had multiple loose stools. From August 15 to August 18, 49 patients were registered; on August 20, three more children fell ill. Only eight children who fell ill on August 15 and three who fell ill on August 25 had severe dysentery with a pronounced clinical picture. In 35 people the disease progressed in

mild form. Dysentery in children was confirmed bacteriologically in 51.7% of cases, in personnel - in 46.4%.

What signs indicate the water nature of the outbreak?

Sample answer:

The waterborne nature of the epidemic outbreak at its beginning is evidenced by a large number of cases of disease, a gradual increase in morbidity, and the predominance of mild clinical forms

Task 24.

In a children's recreation camp located 20 km from the regional center of the Central Federal District, from August 13 to 25, 60 children and 12 staff fell ill with Flexner's dysentery. In total, 320 children aged from 7 to 15 years rested in the camp. The total number of camp staff is 35 people. Medical care for the camp was provided by a paramedic and a nurse. During the first and second shifts in the camp, no intestinal diseases were observed. The food service workers were permanent.

The first two children fell ill on August 13th. The disease began acutely, with an increase in temperature to 39.5°C, abdominal pain, nausea, and vomiting. However, the diseases were diagnosed as acute respiratory disease and foodborne illness. The next day, these children had multiple loose stools. From August 15 to August 18, 49 patients were registered; on August 20, three more children fell ill. Only eight children who fell ill on August 15 and three who fell ill on August 25 had severe dysentery with a pronounced clinical picture. In 35 people the disease was mild. Dysentery in children was confirmed bacteriologically in 51.7% of cases, in personnel - in 46.4%.

Draw up a plan of anti-epidemic measures aimed at the source of infection and transmission mechanism.

Sample answer:

Measures aimed at the source of infection:

Patients with severe forms of the disease should be hospitalized in an infectious diseases hospital, the rest should be isolated in the isolation ward of the pioneer camp.

Activities aimed at the transmission mechanism:

It is necessary to carry out ongoing and final disinfection in the pioneer camp. Strictly observe the “drinking regime” and do not allow the use of unboiled tap water. In case of extreme pollution of the reservoir, prohibit swimming in the reservoir.

Task 25.

At a boarding school in the city of N., on February 7, Dima F., 12 years old, fell ill and was diagnosed with acute respiratory disease (ARI). No other cases of acute respiratory infections were registered. The boy did not develop jaundice. During the first few days of his illness, he was not isolated and continued to attend classes. After 26-28 days (March 2-4), three students who had contact with Dima F. fell ill with hepatitis A, which occurred with jaundice. During March (mainly in the last days of this month), six more schoolchildren were diagnosed with a manifest form of hepatitis A, and 11 were diagnosed with anicteric form. The results of a detailed clinical and laboratory examination of Dima F. carried out on March 4 (with the determination of anti-HAV IgM in the blood) made it possible to establish that in early February he suffered not an acute respiratory infection, but an anicteric form of hepatitis A. The presence of specific antibodies of the IgM class in his blood was confirmed this diagnosis.

The boarding school is located in a four-story building. The dormitories accommodate 5 students. The catering unit is located on the ground floor and includes rooms for receiving food products, a pantry for vegetables, rooms for primary processing of vegetables (including peeling potatoes), container washing and a waste storage room. Meals are served in the canteen in 2 shifts due to a shortage of seats. The water supply is centralized, however, there are constant interruptions in hot and cold water. There are 1 toilet rooms in the school on each floor. The toilet has a place for preparing disinfection solutions.

Children are in boarding school for 5 days. They go home on Saturday and Sunday.

List anti-epidemic Events, directed on source of infection and contact persons.

Sample answer:

Measures aimed at the source of infection:

Patients with severe forms of the disease should be hospitalized in an infectious diseases hospital, while the rest should be isolated “at home.” At the boarding school, organize the implementation of regime-restrictive measures for 35 days, during which organize medical observation at the boarding school and in families with a study for the presence of specific markers of viral hepatitis A in order to identify anicteric forms of the disease.

Task 26.

In the urology department of the city clinical hospital for the period from November 1 to

On December 1, 9 cases of urinary tract infection caused by Pseudomonas aeruginosa were reported. According to the serogroup affiliation to the antibiogram, the isolated strains of Pseudomonas aeruginosa were similar to the strains isolated from the hospital environment. All patients underwent instrumental and diagnostic interventions.

The department has a capacity of 100 beds, has an operating room, a cytoscopic room and a dressing room. Patients with pathologies of the bladder, prostate (adenoma), and urethra (urethral stricture) are being treated. Two thirds of patients undergo surgery. The average length of stay of one patient in hospital is 21 days.

Make a plan for anti-epidemic measures. Sample answer:

Anti-epidemic measures include: isolation of the patient in a separate room; current disinfection in the ward; final disinfection after discharge, transfer (death) of the patient with mandatory chamber disinfection of bedding; changing the medical gown when entering and leaving the ward; performing manipulations in the ward, eating in the ward (excluding contact with other patients); thorough disinfection of equipment used for the patient; disinfection of the toilet room, shower; hand treatment using an alcohol-containing antiseptic before entering and exiting the ward of medical personnel and visitors; when performing any manipulations on the patient; single phage or intermittent phage by Pseudomonas bacteriophage.

Task 27.

At a boarding school in the city of N., on February 7, Dima F., 12 years old, fell ill and was diagnosed with acute respiratory disease (ARI). No other cases of acute respiratory infections were registered. The boy did not develop jaundice. During the first few days of his illness, he was not isolated and continued to attend classes. After 26-28 days (March 2-4), three students who had contact with Dima F. fell ill with hepatitis A, which occurred with jaundice. During March (mainly in the last days of this month), six more schoolchildren were diagnosed with a manifest form of hepatitis A, and 11 were diagnosed with anicteric form. The results of a detailed clinical and laboratory examination of Dima F. carried out on March 4 (with the determination of anti-HAV IgM in the blood) made it possible to establish that in early February he suffered not an acute respiratory infection, but an anicteric form of hepatitis A. The presence of specific antibodies of the IgM class in his blood was confirmed this diagnosis.

The boarding school is located in a four-story building. The dormitories accommodate 5 students. The catering unit is located on the ground floor and includes rooms for receiving food products, a pantry for vegetables, rooms for primary processing of vegetables (including peeling potatoes), container washing and a waste storage room. Meals are served in the canteen in 2 shifts due to a shortage of seats. The water supply is centralized, however, there are constant interruptions in hot and cold water. There are 1 toilet rooms in the school on each floor. The toilet has a place for preparing disinfection solutions.

Children are in boarding school for 5 days. They go home on Saturday and Sunday.

List anti-epidemic activities aimed at on contact persons

Sample answer:

At the boarding school, organize the implementation of regime-restrictive measures for 35 days, during which organize medical observation with a study for the presence of specific markers of viral hepatitis A in order to identify anicteric forms of the disease. Vaccinate all those who have been in contact with patients with viral hepatitis A, who have not been vaccinated and have not previously been ill at a boarding school or in family settings.

Task 28.

On September 11, 13 patients with dysentery were identified in three military units of the N garrison. Over the next 3 days of the month, another 304 patients were registered who served in these military units. In 60% of patients the disease was severe. A bacteriological examination of patients revealed the dysentery pathogen Shigella Sonne, which was isolated from 110 patients.

When conducting a bacteriological study of drinking water in barracks and food facilities (canteens), no pathogenic microflora was detected. All sick people ate in the canteen.

The dining room is located in a separate building, has rooms for receiving food products, a pantry for vegetables, rooms for primary processing of vegetables (including peeling potatoes), container washing and a waste storage room. Dining room with 100 seats. Service is provided directly by conscripts. When conducting a bacteriological study of drinking water in the barracks and at the catering facility (canteen), no pathogenic microflora was detected.

Make a plan for anti-epidemic sources of events for aimed on infection and transmission mechanisms.

Sample answer:

Measures aimed at the source of infection:

Patients with severe forms of the disease should be hospitalized in an infectious diseases hospital, the rest should be isolated in the isolation ward of the unit.

Activities aimed at the transmission mechanism:

In units, organize focal disinfection (current and final) and strict compliance with sanitary and hygienic requirements.

Task 29.

On September 11, 13 patients with dysentery were identified in three military units of the N garrison. Over the next 3 days of the month, another 304 patients were registered who served in these military units. In 60% of patients the disease was severe. A bacteriological examination of patients revealed the dysentery pathogen Shigella Sonne, which was isolated from 110 patients.

When conducting a bacteriological study of drinking water in barracks and food facilities (canteens), no pathogenic microflora was detected. All sick people ate in the canteen.

The dining room is located in a separate building, has rooms for receiving food products, a pantry for vegetables, rooms for primary processing of vegetables (including peeling potatoes), container washing and a waste storage room. Dining room with 100 seats. Service is provided directly by conscripts. When conducting a bacteriological study of drinking water in the barracks and at the catering facility (canteen), no pathogenic microflora was detected.

What should be done regarding contacts?

Sample answer:

In military groups, organize the implementation of regime-restrictive measures for 7 days, during which organize medical observation with bacteriological testing to identify carriers. Conduct bacteriophage of military personnel.

Task 30.

During the period from June 19 to June 23, 13 cases of acute dysentery were registered among patients of the general psychiatric department of the regional psychoneurological hospital in the city of L., including in 12 cases the diagnosis was confirmed

bacteriologically, nine bacterial pathogens of Shigella Flexner 2a were also identified.

Of the victims, 20 people were actively identified based on clinical and laboratory data. Two patients had a moderate degree of severity, 11 had a mild degree of severity.

All cases of acute forms and bacterial carriage were registered among patients of one department. The victims are over 18 years old.

The psychoneurological hospital is located in an adapted room. The wards accommodate 10-12 patients. Toilets, one on each floor, are combined with a washroom. The toilet does not have a place for preparing disinfectant solutions; there are no disinfectants, liquid soap or toilet paper.

List anti-epidemic measures according to liquidation epidemic focus aimed at the source of infection and contact persons

Sample answer:

Measures aimed at the source of infection: isolate patients in separate rooms. In the department, organize the implementation of regime-restrictive measures for 7 days, during which organize medical observation with bacteriological testing in order to identify carriers among medical personnel and catering workers. It is not allowed to accept new patients or transfer patients to other departments and other somatic hospitals.

Conduct bacteriophage of patients and medical personnel. Task 31.

In the city of K., free from typhoid fever, 6 cases of typhoid fever were registered. The population of the city of K. is relatively small, the water supply is partially centralized, and standpipes are used in most areas of the city.

The first cases were identified on June 16 - in the family of Sh., consisting of four people, on June 16, a woman M., 32 years old, and a man T., 37 years old, fell ill; in the family of V., on June 16, woman T., 46 years old, and on June 28, woman Y., 31 years old, fell ill. In the R. family, a 35-year-old woman, G., and a 40-year-old man, S., fell ill on the same day—June 19.

Families live in neighboring one-story houses that lack running water and sewerage. Water is consumed from the nearest pump, which is used by residents of five more houses. Families are friends with each other. On June 1, we celebrated the birthday of woman T. from V's family.

In 70% of patients the disease was severe.

Should contact persons in the outbreak of typhoid fever be examined in a laboratory? Who is subject to laboratory examination in areas of typhoid fever?

Sample answer:

Contact persons in the outbreak of typhoid fever should be examined laboratory. In an epidemic focus of typhoid fever, identified patients with characteristic symptoms of the disease, persons at risk of infection, and persons from decreed groups of the population are subject to laboratory examination. During the period of laboratory research, in the absence of clinical symptoms of the disease, persons at risk of contracting typhoid fever and not belonging to designated groups of the population are allowed to work and visit organizations.

Task 32.

In the city of K., free from typhoid fever, 6 cases of typhoid fever were registered. The population of the city of K. is relatively small, the water supply is partially centralized, and standpipes are used in most areas of the city.

The first cases were identified on June 16 - in the family of Sh., consisting of four people, on June 16, a woman M., 32 years old, and a man T., 37 years old, fell ill; in the family of V., on June 16, woman T., 46 years old, and on June 28, woman Y., 31 years old, fell ill. In the R. family, a 35-year-old woman, G., and a 40-year-old man, S., fell ill on the same day—June 19.

Families live in neighboring one-story houses that lack running water and sewerage. Water is consumed from the nearest pump, which is used by residents of five more houses. Families are friends with each other. On June 1, we celebrated the birthday of woman T. from V's family.

In 70% of patients the disease was severe.

Indicate measures aimed at the source of infection. What are the indications for hospitalization?

Sample answer:

Patients should be hospitalized in an infectious diseases hospital for epidemiological reasons. Hospitalization of patients (persons with suspected typhoid fever) and carriers of typhoid fever pathogens is carried out according to clinical and epidemiological indications. According to epidemiological indications, the following are hospitalized:

patients with typhoid fever or paratyphoid fever with various forms of disease severity when it is impossible to comply with the anti-epidemic regime at the place of residence (identification of the patient);

patients with typhoid fever or paratyphoid fever from among the decreed groups of the population; patients with typhoid fever or paratyphoid fever of various ages, located in closed institutions.

Task 33.

In the city of K., free from typhoid fever, 6 cases of typhoid fever were registered. The population of the city of K. is relatively small, the water supply is partially centralized, and standpipes are used in most areas of the city.

The first cases were identified on June 16 - in the family of Sh., consisting of four people, on June 16, a woman M., 32 years old, and a man T., 37 years old, fell ill; in the family of V., on June 16, woman T., 46 years old, and on June 28, woman Y., 31 years old, fell ill. In the R. family, a 35-year-old woman, G., and a 40-year-old man, S., fell ill on the same day—June 19.

Families live in neighboring one-story houses that lack running water and sewerage. Water is consumed from the nearest pump, which is used by residents of five more houses. Families are friends with each other. On June 1, we celebrated the birthday of woman T. from V's family.

In 70% of patients the disease was severe.

By whom, in what time frame and to what extent should local ongoing disinfection be carried out in residential outbreaks of typhoid fever.

Sample answer:

Focal ongoing disinfection at facilities is carried out by the organization's personnel, or by a person caring for a patient with typhoid fever or paratyphoid fever before hospitalization, during the period after discharge from the hospital for 3 months, as well as in foci of bacterial carriage. Current disinfection can be performed independently using convalescent and bacteria carriers. All items that have contact with a patient with typhoid fever or paratyphoid fever and are factors in the transmission of typhoid fever (tableware, underwear and bed linen, towels, handkerchiefs, napkins, personal hygiene items, as well as patient excretions (feces, urine), surfaces) must be disinfected. indoors, sanitary equipment).

Task 34.

Patient P., 25 years old, intern, pediatrician, in June this year. g. went to the district clinic with complaints of weakness, fever, and cough. When conducting research regarding the diagnosis of “pneumonia?” The x-ray revealed changes in the lungs characteristic of tuberculosis. Sent for further examination to the anti-tuberculosis dispensary (PTD) with a diagnosis of “focal pulmonary tuberculosis, infiltration phase, MBT “+””. June 25th g. was hospitalized in the PTD. Data on fluorographic examinations for the previous year - without pathology.

In the family, 2 adults and a child 1 year 3 months were in contact with the patient. The home inspection was carried out by an epidemiologist from the branch of the Federal State Institution "Center for Hygiene and Epidemiology", at the place of work - by the chief specialist-expert of the Territorial Department of the Rospotrebnadzor Administration together with a TB doctor and a pediatrician from the PTD on the next day after the emergency notification was received. Those who had contact with the patient in the family were examined at the PTD for two weeks: the adults underwent a fluorographic examination, no pathology was detected, the child underwent a Mantoux test, the result was 5 mm.

Evaluate the timeliness and completeness of anti- primary epidemic measures taken in epidemic foci.

Sample answer:

The initial examination of the outbreak and persons in contact with the patient must be carried out within 14 calendar days from the moment the patient is identified. The epidemiological examination of tuberculosis foci was carried out in a timely manner: within 3 days from the receipt of the emergency notification, the examination of family contacts was carried out in a timely manner. There is no data on the testing of those in contact at the place of work.

Task 35.

A case of tick-borne encephalitis was registered in a three-year-old child. She fell ill on June 5 while on vacation in the village. Hospitalized. The parents deny the bite of a tick and the child’s visit to the forest, but note the girl’s consumption of raw goat’s milk, bought from the owner of the house in which they live. The parents and the second child did not drink milk for 5 years. The owner has 2 goats, grazing on a pasture in the undergrowth. When collecting an epidemiological history, it was found out that on June 3, the child’s father, while fishing on a forest lake, discovered an attached tick, which he removed independently and threw away. The patient was asked to conduct a blood test or biopsy from the site of tick attachment using the PCR method.

All family members are recommended to consume goat milk only after

boiling. In the future, before traveling to areas where tick-borne viral encephalitis is endemic, carry out vaccination prophylaxis. When visiting the forest, wear special clothing.

The village is located on the territory of the V. region, where more than 15 cases of tick-borne encephalitis are registered annually. More than 2,000 people seek help regarding tick bites. Cases of tick-borne encephalitis associated with the consumption of raw goat milk are periodically identified in the region.

What is the purpose of the study proposed to the father of a sick child? In what case will emergency specific prophylaxis be recommended for him?

Sample answer:

The study is carried out with the aim of early indication of the infectious agent in the patient's body; depending on the result obtained, the issue of emergency prevention of the disease is decided. In case of receiving A positive result of a blood test or tick bite using the PCR method indicates the specific prophylaxis: administration of a specific immunoglobulin no later than 4 days after tick bite.

Task 36.

A case of tick-borne encephalitis was registered in a three-year-old child. She fell ill on June 5 while on vacation in the village. Hospitalized. The parents deny the bite of a tick and the child's visit to the forest, but note the girl's consumption of raw goat's milk, bought from the owner of the house in which they live. The parents and the second child did not drink milk for 5 years. The owner has 2 goats, grazing on a pasture in the undergrowth. When collecting an epidemiological history, it was found out that on June 3, the child's father, while fishing on a forest lake, discovered an attached tick, which he removed independently and threw away. The patient was asked to conduct a blood test or biopsy from the site of tick attachment using the PCR method.

All family members are recommended to consume goat milk only after boiling. In the future, before traveling to areas where tick-borne viral encephalitis is endemic, carry out vaccination prophylaxis. When visiting the forest, wear special clothing.

The village is located on the territory of the V. region, where more than 15 cases of tick-borne encephalitis are registered annually. More than 2,000 people seek help regarding tick bites. Cases of tick-borne encephalitis associated with the consumption of raw goat milk are periodically identified in the region.

Indicate the most likely route of infection of a 3-year-old child with tick-borne viral encephalitis, and justify the decision.

Sample answer:

Infection with TVE is possible through a tick bite, crushing it when removed, or consuming raw goat milk. Since parents deny visiting the forest and biting a tick, the most likely infection remains through consumption of raw goat milk.

Task 37.

A case of tick-borne encephalitis was registered in a three-year-old child. She fell ill on June 5 while on vacation in the village. Hospitalized. The parents deny the bite of a tick and the child's visit to the forest, but note the girl's consumption of raw goat's milk, bought from the owner of the house in which they live. The parents and the second child did not drink milk for 5 years. The owner has 2 goats, grazing on a pasture in the undergrowth. When collecting an epidemiological history, it was found out that on June 3, the child's father, while fishing on a forest lake, discovered an attached tick, which he removed independently and threw away. The patient was asked to conduct a blood test or biopsy from the site of tick attachment using the PCR method.

All family members are recommended to consume goat milk only after boiling. In the future, before traveling to areas where tick-borne viral encephalitis is endemic, carry out vaccination prophylaxis. When visiting the forest, wear special clothing.

The village is located on the territory of the V. region, where more than 15 cases of tick-borne encephalitis are registered annually. More than 2,000 people seek help regarding tick bites. Cases of tick-borne encephalitis associated with the consumption of raw goat milk are periodically identified in the region.

What data needs to be clarified in a patient with suspected TBE when collecting an epidemiological history.

Sample answer:

When collected epidemiological medical history medical workers set:

- availability of data on tick suction or contacts with ticks (indicating place and time), consumption of raw goat's or cow's milk;

- data on visits to areas endemic for TVE;

- patient's vaccination history,

- data on emergency specific prophylaxis with immunoglobulin against KVE.

Task 38.

In the urology department of the city clinical hospital for the period from November 1 to December 1, 9 cases of urinary tract infection caused by Pseudomonas aeruginosa were registered. According to the serogroup affiliation to the antibiogram, the isolated strains of Pseudomonas aeruginosa were similar to the strains isolated from the hospital environment. All patients underwent instrumental and diagnostic interventions.

The department has a capacity of 100 beds, has an operating room, a cytoscopic room and a dressing room. Patients with pathologies of the bladder, prostate (adenoma), and urethra (urethral stricture) are being treated. Two thirds of patients undergo surgery. The average length of stay of one patient in hospital is 21 days.

What barrier measures should medical personnel observe for patients with infections caused by multidrug-resistant microorganisms?

Sample answer:

- in the airlock at the entrance to the ward, puts on a mask, overalls, gloves and takes off after carrying out manipulations when exiting the gateway;

- personal care items, as well as a stethoscope and thermometer, are used individually for a given patient;

- dressing the patient is carried out in the ward;

- upon entering and exiting the ward, staff sanitize their hands with alcohol. skin antiseptic;

- after the patient is discharged, final disinfection is carried out, including chamber disinfection of bedding, disinfection of air and surfaces and general cleaning of premises;

- after final disinfection and general cleaning in the ward, laboratory examination of environmental objects for sanitary indicator and target (identified in the patient) microflora.

Task 39.

A case of tick-borne encephalitis was registered in a three-year-old child. She fell ill on June 5 while on vacation in the village. Hospitalized. Tick sucking and visiting the forest

The parents deny the child, but note the girl's consumption of raw goat's milk, bought from the owner of the house in which they live. The parents and the second child did not drink milk for 5 years. The owner has 2 goats, grazing on a pasture in the undergrowth. When collecting an epidemiological history, it was found out that on June 3, the child's father, while fishing on a forest lake, discovered an attached tick, which he removed independently and threw away. The patient was asked to conduct a blood test or biopsy from the site of tick attachment using the PCR method.

All family members are recommended to consume goat milk only after boiling. In the future, before traveling to areas where tick-borne viral encephalitis is endemic, carry out vaccination prophylaxis. When visiting the forest, wear special clothing.

The village is located on the territory of the V. region, where more than 15 cases of tick-borne encephalitis are registered annually. More than 2,000 people seek help regarding tick bites. Cases of tick-borne encephalitis associated with the consumption of raw goat milk are periodically identified in the region.

What measures are taken when a person seeks medical help due to a tick bite?

Sample answer:

When a person seeks medical help due to a tick bite, medical workers are obliged to:

- remove the tick;

- inform the victim about the need to conduct research

tick for the presence of markers of the TVE virus and other pathogens of vector-borne infections endemic to the territory, and explain the rules for delivering the tick to the laboratory;

- decide on the need for emergency prevention;

- collect an epidemiological history;

inform the victim of the need to seek medical help if symptoms of the disease occur within 3 weeks after the bite.

Task 40.

On November 16, a local pediatrician was called to see a sick 4-year-old child (runny nose and fever up to 38°C). Upon examination, hyperemia of the oropharyngeal mucosa, Filatov's spots, and conjunctivitis were revealed. A preliminary diagnosis of measles was made. The sick child was not vaccinated against measles due to refusal

parents from preventive vaccinations. The family lives in a separate apartment, on the last floor of a 9-story building. The family has 2 more children - a 6-year-old who attends kindergarten and was vaccinated at the age of 1 year, and a 9-month-old child. My mother, a kindergarten teacher, had measles. The apartment is also occupied by a father, a university teacher, who has not been vaccinated against measles and has not been ill, as well as a grandmother, 64 years old, a pensioner, with no information about vaccination against measles or previous illness.

During the investigation, an epidemiologist found that on October 27, a case of measles was registered in a child living on the second floor in the same entrance of the house. No anti-epidemic measures were taken.

Indicate measures regarding contact family members of the sick person.

Sample answer:

Family members of the sick person are under medical observation for 21 days. Within 72 hours from the moment the patient is identified, the father and grandmother are given emergency vaccination with live measles vaccine. A 6-year-old child receives age-appropriate revaccination against measles. A 9-month-old child is given normal human immunoglobulin.

Task 41.

On November 16, a local pediatrician was called to see a sick 4-year-old child (runny nose and fever up to 38°C). Upon examination, hyperemia of the oropharyngeal mucosa, Filatov spots, and conjunctivitis were revealed. A preliminary diagnosis of measles was made. The sick child was not vaccinated against measles due to the parents' refusal to receive preventive vaccinations. The family lives in a separate apartment, on the last floor of a 9-story building. The family has 2 more children - a 6-year-old who attends kindergarten and was vaccinated at the age of 1 year, and a 9-month-old child. My mother, a kindergarten teacher, had measles. The apartment is also occupied by a father, a university teacher, who has not been vaccinated against measles and has not been ill, as well as a grandmother, 64 years old, a pensioner, with no information about vaccination against measles or previous illness.

During the investigation, an epidemiologist found that on October 27, a case of measles was registered in a child living on the second floor in the same entrance of the house. No anti-epidemic measures were taken.

Determine the area of the outbreak. Indicate arrangements for contact persons.

Sample answer:

The outbreak area is all apartments of this entrance. It is necessary to identify all

contact persons living in the entrance are subject to medical observation for 21 days. Their vaccination history and data on measles in the past are ascertained; within 7 days from the moment a case of measles is identified, all contacts who have not been vaccinated and who have not been ill are given emergency vaccination with live measles vaccine.

Task 42.

A 30-year-old man fell ill with measles after returning from a business trip to China. On March 29, the patient felt unwell, his body temperature increased to 38.6°C, and he had a sore throat and photophobia. During March 29-31, the patient treated himself: he took antipyretics and gargled with a solution of baking soda and iodine. On April 1, the temperature rose to 39.5°C, and a pinpoint rash appeared on the body. The man called an ambulance. The emergency doctor diagnosed “follicular tonsillitis” and hospitalized the patient in the ENT department of the city clinical hospital, where he was kept from April 1 to April 8. From April 17 to April 21, 4 employees, 3 patients in the internal medicine department, 4 patients in the cardiology department, and 2 patients in the neurology department fell ill with measles in the hospital. The therapeutic building where the patient was initially admitted has 5 floors; the departments in which cases of measles were registered are located on different floors of this hospital building. In the reception department, located on the first floor of the building, no cases of measles were identified among patients and employees. All patients were identified with the H1 genotype, endemic to China.

Indicate measures aimed at the source of infection and the mechanism of transmission. What are the conditions for discharge of those who have had measles?

Sample answer:

Measures to identify the source of infection: identifying sick people, transferring all people with measles to the infectious diseases department for epidemic indications.

Laboratory confirmation required diagnosis of measles. Extract from infectious diseases hospital is carried out no earlier than 5 days after the appearance of the rash.

Measures on the transmission mechanism: wet cleaning and ventilation are carried out in the measles outbreak. Final disinfection is not carried out.

Task 43.

A 30-year-old man fell ill with measles after returning from a business trip to China. On March 29, the patient felt unwell, his body temperature increased to 38.6°C, and he had a sore throat and photophobia. During March 29-31, the patient was treated independently:

took antipyretics and gargled with a solution of baking soda and iodine. On April 1, the temperature rose to 39.5°C, and a pinpoint rash appeared on the body. The man called an ambulance. The emergency doctor diagnosed “follicular tonsillitis” and hospitalized the patient in the ENT department of the city clinical hospital, where he was kept from April 1 to April 8. From April 17 to April 21, 4 employees, 3 patients in the internal medicine department, 4 patients in the cardiology department, and 2 patients in the neurology department fell ill with measles in the hospital. The therapeutic building where the patient was initially admitted has 5 floors; the departments in which cases of measles were registered are located on different floors of this hospital building. In the reception department, located on the first floor of the building, no cases of measles were identified among patients and employees. All patients were identified with the H1 genotype, endemic to China.

Indicate activities aimed at contact persons Sample

answer:

The entire therapeutic building is quarantined for 21 days. Persons who interacted with sick people are identified (patients and medical workers of departments where measles cases were registered). They are under medical observation for 21 days from the moment the last case of the disease is detected in the outbreak.

Their vaccination history and data on previous measles disease are ascertained. Depending on the data received, the issue of emergency vaccination is decided.

Task 44.

A 30-year-old man fell ill with measles after returning from a business trip to China. On March 29, the patient felt unwell, his body temperature increased to 38.6°C, and he had a sore throat and photophobia. During March 29-31, the patient treated himself: he took antipyretics and gargled with a solution of baking soda and iodine. On April 1, the temperature rose to 39.5°C, and a pinpoint rash appeared on the body. The man called an ambulance. The emergency doctor diagnosed “follicular tonsillitis” and hospitalized the patient in the ENT department of the city clinical hospital, where he was kept from April 1 to April 8. From April 17 to April 21, 4 employees, 3 patients in the internal medicine department, 4 patients in the cardiology department, and 2 patients in the neurology department fell ill with measles in the hospital. The therapeutic building where the patient was initially admitted has 5 floors; the departments in which cases of measles were registered are located on different floors of this

hospital building. In the reception department, located on the first floor of the building, no cases of measles were identified among patients and employees. All patients were identified with the H1 genotype, endemic to China.

Which contacts should be vaccinated on an emergency basis and when?

Sample answer:

The vaccination history of contacts and data on previous measles disease are ascertained. Within 72 hours from the moment the patient is identified, all contacts who have not been vaccinated and have not been previously ill, as well as those who do not have information about vaccinations against measles and persons over 6 years of age who have been vaccinated against measles once, are given emergency vaccination with live measles vaccine..

Task 45.

On November 25, the mother of a 5-year-old boy consulted a local pediatrician about a prolonged dry cough in the child. The child has been coughing for 7 days, the body temperature is normal, and no catarrhal symptoms are observed. The doctor diagnosed tracheitis and prescribed appropriate treatment. When visiting the clinic again after 5 days, the child had a paroxysmal cough with facial redness, which intensified at night and during physical activity. The doctor suspected whooping cough.

The child attends kindergarten, the last visit is November 24. The boy was vaccinated with DPT vaccine at 3, 6, 9 months and revaccinated at 2 years.

During an epidemiological examination of the kindergarten, it was established that in the group that the child attended, in early November, a case of whooping cough was registered in Vasya V. The patient's family lives in a separate three-room apartment. Father is a civil servant, mother is a primary school teacher, sister is 7 years old, a 1st grade student, healthy at the time of the examination, vaccinated with DTP at 3, 4.5, 6 months, revaccinated at 1.5 years with DTP vaccine. Brother - 6 months He is not vaccinated against whooping cough due to contraindications.

Indicate measures regarding contact family members of the sick person.

Sample answer:

Family members are under medical observation for 14 days. If there is a cough, the mother is subject to removal from work, and the 7-year-old sister is subject to suspension from visiting a child care facility. They are allowed to join the team and work after two negative results of a bacteriological and (or) one molecular genetic study. My brother should be given normal human immunoglobulin for 6 months.

Task 46.

A 5-year-old girl attending a middle group kindergarten was diagnosed with whooping cough on January 15 according to a bacteriological examination. The girl has been coughing for 10 days and has not visited the garden for the last 7 days. When examined by a local doctor on January 13, no catarrhal symptoms were detected. Body temperature did not increase during illness. Currently, there is a paroxysmal cough with facial redness, which gets worse at night.

Vaccinated at 3, 5, 7 months and revaccinated at 2 years with DTP vaccine. There are no other children in the apartment. Parents work in a bank.

In the average kindergarten group there are 30 children aged 4 and 5 years old, all of whom are vaccinated against whooping cough in accordance with the preventive vaccination calendar. There were no children with previous whooping cough or prolonged coughing in the group. However, on December 29 and 30, two children diagnosed with whooping cough were isolated from the senior group of the kindergarten.

The kindergarten is located in a standard building. The groups are located on different floors, the rooms have different entrances. However, on December 25, a matinee was held in the kindergarten, in which children from the middle and senior groups participated.

Indicate measures regarding contact persons in the outbreak. What should be done regarding coughing contact persons?

Sample answer:

Family members and contact children and kindergarten employees from the middle and senior groups of the kindergarten are subject to medical observation for 14 days. All coughing children and adults in the outbreak undergo a double bacteriological test (two days in a row or every other day) and (or) a single molecular genetic study. If there is a cough, children and adults are subject to exclusion from visiting a child care facility. They are allowed to join the team and work after two negative results of a bacteriological and (or) one molecular genetic study.

Preventive vaccinations are not carried out in whooping cough areas.

Task 47.

On the evening of March 18, a 5-year-old boy attending kindergarten. The temperature increased to 38°C, and on March 19, isolated elements of a rash appeared on various parts of the body. On March 20, the number of rash elements increased. Some of them were filled with transparent content. On the same day, the local doctor was called and diagnosed “chicken pox”. The last visit to kindergarten is March 18.

The family lives in a separate three-room apartment. The mother is a kindergarten teacher, she had chickenpox, the father is a civil servant, she did not have chickenpox, the grandmother is 65 years old, the history of chickenpox is unknown. There is also a 6 month old child in the apartment.

There are 25 children in the kindergarten group attended by the sick child. 5 children had previously had chickenpox, the rest were not sick and were not vaccinated. On March 5, 2 children with a diagnosis of chickenpox were isolated from the group. No events were held at the children's institution.

Name the terms of observation of contacts in this outbreak, their methods examinations. Indicate to whom, by what means and in what time frame the emergency is carried out prevention .

Sample answer:

Family members and contact children and kindergarten employees are subject to medical observation for 21 days. All contacts are examined by ELISA and PCR to identify mild, atypical and asymptomatic forms of the disease. All persons who have been in contact with the patient, who have not been sick and have not been vaccinated before, are given emergency vaccination no later than 72-96 hours from the moment of last contact. A 6-month-old child is given specific or normal immunoglobulin.

Task 48.

On March 13, a local pediatrician, when calling at home to a 6-year-old girl attending kindergarten, based on a clinical examination, diagnosed her with “follicular tonsillitis.” The girl fell ill on March 12. Last visit to kindergarten March 11th.

Examination data: body temperature – 38.7°C, complaints of sore throat when swallowing. The doctor took swabs from the child’s throat and nose to detect Corynebacterium diphtheria. In the kindergarten group that the sick woman attends, 4 children are absent due to ARVI. On March 14, a response came from the laboratory about the isolation of toxigenic corynebacteria diphtheria of the biological variant Gravis. The child was hospitalized in an infectious diseases hospital with a diagnosis of oropharyngeal diphtheria. On April 14, the doctor sent an emergency notification to the Center for Hygiene and Epidemiology. No other activities were carried out in the diphtheria outbreak.

There are 4 more people in the family: mother is a dentist at a clinic, father is a military man, grandmother is a pensioner, does not work, brother is 8 years old and is a schoolboy. The family moves often. The children have no vaccination records. The family has been living in a military dormitory since the beginning of April and occupies two adjacent rooms. The bathroom is on the floor, the kitchen is also

common, located on the floor.

What should be done in relation to a sick child? What are the conditions for discharge? from the hospital and admission to the team?

Sample answer:

Mandatory hospitalization of the child. On the day of admission to the hospital and then for 2 consecutive days, regardless of the prescription of antibiotics, a bacteriological examination is carried out for the presence of the causative agent of diphtheria.

A patient with diphtheria is discharged after complete clinical recovery and a 2-fold bacteriological examination for the presence of the causative agent of diphtheria with a negative result. The patient is examined no earlier than 3 days after discontinuation of antibiotics with an interval of 1–2 days. After discharge from the hospital after effective sanitation (freedom from the pathogen), the child is immediately admitted to the team.

Task 49.

On March 13, a local pediatrician, when calling at home to a 6-year-old girl attending kindergarten, based on a clinical examination, diagnosed her with “follicular tonsillitis.” The girl fell ill on March 12. Last visit to kindergarten March 11th.

Examination data: body temperature – 38.7°C, complaints of sore throat when swallowing. The doctor took swabs from the child’s throat and nose to detect Corynebacterium diphtheria. In the kindergarten group that the sick woman attends, 4 children are absent due to ARVI. On March 14, a response came from the laboratory about the isolation of toxigenic corynebacteria diphtheria of the biological variant Gravis. The child was hospitalized in an infectious diseases hospital with a diagnosis of oropharyngeal diphtheria. On April 14, the doctor sent an emergency notification to the Center for Hygiene and Epidemiology. No other activities were carried out in the diphtheria outbreak.

There are 4 more people in the family: mother is a dentist at a clinic, father is a military man, grandmother is a pensioner, does not work, brother is 8 years old and is a schoolboy. The family moves often. The children have no vaccination records. The family has been living in a military dormitory since the beginning of April and occupies two adjacent rooms. The bathroom is on the floor, the kitchen is also shared, located on the floor.

Indicate the measures regarding the transmission mechanism, who organizes and carries out the current disinfection?

Sample answer:

At the source of diphtheria, current and final (after hospitalization)

source of infection) disinfection. Routine disinfection is organized by a medical professional and carried out at home by family members using disinfectants.

Task 50.

On March 13, a local pediatrician, when calling at home to a 6-year-old girl attending kindergarten, based on a clinical examination, diagnosed her with “follicular tonsillitis.” The girl fell ill on March 12. Last visit to kindergarten on March 11th.

Examination data: body temperature – 38.7°C, complaints of sore throat when swallowing. The doctor took swabs from the child’s throat and nose to detect Corynebacterium diphtheria. In the kindergarten group that the sick woman attends, 4 children are absent due to ARVI. On March 14, a response came from the laboratory about the isolation of toxigenic corynebacteria diphtheria of the biological variant Gravis. The child was hospitalized in an infectious diseases hospital with a diagnosis of oropharyngeal diphtheria. On April 14, the doctor sent an emergency notification to the Center for Hygiene and Epidemiology. No other activities were carried out in the diphtheria outbreak.

There are 4 more people in the family: mother is a dentist at a clinic, father is a military man, grandmother is a pensioner, does not work, brother is 8 years old and is a schoolboy. The family moves often. The children have no vaccination records. The family has been living in a military dormitory since the beginning of April and occupies two adjacent rooms. The bathroom is on the floor, the kitchen is also shared, located on the floor.

Indicate measures regarding the transmission mechanism, what is subject to disinfection, including chamber processing during final disinfection?

Sample answer:

Current and final (after hospitalization of the source of infection) disinfection is carried out at the source of diphtheria. During the final disinfection, the premises in which the patient was located, dishes, food debris, underwear and bed linen, furnishings in the patient’s room with which he was in contact, the floor, walls, doors in common areas, bathtubs, sinks, toilets, cleaning equipment are subject to disinfection. material. During the final disinfection, clothing and bedding are subject to mandatory chamber processing.

Task 51.

On March 13, a local pediatrician, when calling at home to a 6-year-old girl attending kindergarten, based on a clinical examination, diagnosed her with “follicular

angina". The girl fell ill on March 12. Last visit to kindergarten March 11th.

Examination data: body temperature – 38.7°C, complaints of sore throat when swallowing. The doctor took swabs from the child's throat and nose to detect Corynebacterium diphtheria. In the kindergarten group that the sick woman attends, 4 children are absent due to ARVI. On March 14, a response came from the laboratory about the isolation of toxigenic corynebacteria diphtheria of the biological variant Gravis. The child was hospitalized in an infectious diseases hospital with a diagnosis of oropharyngeal diphtheria. On April 14, the doctor sent an emergency notification to the Center for Hygiene and Epidemiology. No other activities were carried out in the diphtheria outbreak.

There are 4 more people in the family: mother is a dentist at a clinic, father is a military man, grandmother is a pensioner, does not work, brother is 8 years old and is a schoolboy. The family moves often. The children have no vaccination records. The family has been living in a military dormitory since the beginning of April and occupies two adjacent rooms. The bathroom is on the floor, the kitchen is also shared, located on the floor.

Who is subject to preventive vaccinations in a diphtheria outbreak?

Sample answer:

subject to vaccination:

persons not vaccinated against diphtheria;

children and adolescents who are due for their next vaccination or revaccination;

adults for whom, according to medical documentation, 10 or more years have passed since the last vaccination;

persons in whom, during a serological examination, protective titers of anti-diphtheria antibodies in the blood serum were not detected

Task 52.

On November 15, 201... at 15:00 Moscow time, while crossing the state border of the Russian Federation by a bus with passengers of 35 people and 2 drivers, a sick passenger was identified. According to the accompanying documents, the passengers were heading on a tourist trip from one southern European country to the historical places of Russia; their stay was designed for 8 days of travel on this bus with visits to several cities, towns and overnight stops at pre-agreed hotels.

Patient N., 25 years old, was identified by an official exercising state control at a checkpoint across the state border of the Russian Federation. The patient noted an acute onset of the disease, since the morning of the current day on the road

Following investigation, he complained of severe headache, high body temperature, vomiting without nausea, and manifestations of nasopharyngitis. The bus left its destination on November 13, 201... From the very beginning of the trip, the sick person was part of a tourist group, along the way, together with the group, he visited all the places planned by the trip, ate at points where the travel company usually had an agreement, accommodation was also organized according to the recommendations of the travel agency.

The doctor at the sanitary-quarantine point was informed about the identified patient, who, after a preliminary examination of the patient and analysis of epidemiological information received from bus passengers and the senior group (representative of the travel company), made a preliminary diagnosis of "meningococcal infection." The general condition of the patient is moderate.

Justify the preliminary diagnosis of the disease, which can be made based on the results of anamnestic data and a primary epidemiological investigation.

Sample answer:

These manifestations of the disease are characteristic of meningococcal meningitis and often develop after clinical manifestations of nasopharyngitis. The disease begins acutely with a rise in body temperature to high values and the development of general cerebral symptoms - a sharp painful headache, often uncontrollable vomiting without nausea, not associated with food intake. Already on the 1st day of the disease, tonic muscle tension and muscle contractures appear - rigidity of the neck muscles and long muscles of the back, symptoms of Kernig, Brudzinsky, etc.

When examining patients, their excitement and euphoria are noted; in some cases, a disorder of consciousness occurs already in the first hours of the disease. Facial hyperemia is typical, and herpetic rashes on the lips are not uncommon. Hyperesthesia (tactile, auditory and visual) is noted, muscle cramps are possible

Task 53.

On June 25, 2000, businessman K., who had returned 2 weeks ago from Azerbaijan, where he was on a long business trip, came to the district clinic in the city of N. with complaints of chills, fever, and malaise. After examination, the doctor diagnosed "Acute respiratory disease (ARI)" and issued a certificate of incapacity for work for 5 days.

However, during this time, patient K.'s condition did not improve. Upon returning to the doctor, K. was found to have an enlarged liver and spleen and severe jaundice of the sclera. A clinical blood test (after 2 days) of patient K. indicated anemia of unknown etiology. In this regard, patient K.

blood smears were examined for malaria, and Pl was detected. vivax. As a result, a diagnosis of three-day malaria was made. The patient was hospitalized.

Over the course of several days (July 15, 17, 19, 20, 2000), 5 people (local residents of the city of N.) came to the clinic with fever and severe malaise, which they had observed over the previous 2-3 days. During the epidemiological investigation, it was found that all the sick people lived in the same entrance of a typical five-story building No. 3 on Makarova Street, none of them had left the city for the last three years, one was a regular blood donor. As it turned out, businessman K lives in the same house. Pl was found in the blood of all sick people. vivax.

Every year in the area of the city of N., 10-15 cases of three-day malaria were noted, which were the result of importation, while in the city of N. no local cases of malaria were registered over the past 7 years.

On the outskirts of the city of N. there is a small reservoir, which is a breeding ground for mosquitoes. According to the city's entomological service, in May-June 2000 there was a significant increase in the number of the vector (mosquitoes of the genus Anopheles).

Name and explain which cases (according to the classification of malaria cases) the illness of entrepreneur K can be attributed to.

Sample answer:

The case of malaria in entrepreneur K. is classified as an imported case, since he arrived 2 weeks ago from Azerbaijan, the territory of which is endemic for three-day malaria.

Task 54.

On June 25, 2000, businessman K., who had returned 2 weeks ago from Azerbaijan, where he was on a long business trip, came to the district clinic in the city of N. with complaints of chills, fever, and malaise. After examination, the doctor diagnosed “Acute respiratory disease (ARI)” and issued a certificate of incapacity for work for 5 days.

However, during this time, patient K.’s condition did not improve. Upon returning to the doctor, K. was found to have an enlarged liver and spleen and severe jaundice of the sclera. A clinical blood test (after 2 days) of patient K. indicated anemia of unknown etiology. In this regard, blood smears were examined for malaria in patient K., and Pl was detected. vivax. As a result, a diagnosis of three-day malaria was made. The patient was hospitalized.

Over the course of several days (July 15, 17, 19, 20, 2000), 6 people (local residents of the city of N.) came to the clinic with fever and severe malaise, which they had observed over the previous 2-3 days. During the epidemiological investigation, it was found that all the sick people lived in the same entrance of a typical five-story building No. 3 on Makarova Street, none of them had left the city for the last three years, one was a regular blood donor. As it turned out, businessman K lives in the same house. Pl was found in the blood of all sick people. vivax.

Every year in the area of the city of N., 10-15 cases of three-day malaria were noted, which were the result of importation, while in the city of N. no local cases of malaria were registered over the past 7 years.

What should be done regarding those who become ill?

Sample answer:

Patients with three-day malaria should be hospitalized and treated (radical treatment with primaquine). During the malaria (epidemiological) season of malaria transmission in endemic areas, the patient must be absolutely protected from mosquito bites with the help of a canopy.

Task 55.

On June 25, 2000, businessman K., who had returned 2 weeks ago from Azerbaijan, where he was on a long business trip, came to the district clinic in the city of N. with complaints of chills, fever, and malaise. After examination, the doctor diagnosed “Acute respiratory disease (ARI)” and issued a certificate of incapacity for work for 5 days.

However, during this time, patient K.’s condition did not improve. Upon returning to the doctor, K. was found to have an enlarged liver and spleen and severe jaundice of the sclera. A clinical blood test (after 2 days) of patient K. indicated anemia of unknown etiology. In this regard, blood smears were examined for malaria in patient K., and Pl was detected. vivax. As a result, a diagnosis of three-day malaria was made. The patient was hospitalized.

Over the course of several days (July 15, 17, 19, 20, 2000), 7 people (local residents of the city of N.) came to the clinic with fever and severe malaise, which they had observed over the previous 2-3 days. During the epidemiological investigation, it was found that all the sick people lived in the same entrance of a typical five-story building No. 3 on Makarova Street, none of them had left the city for the last three years, one is a regular donor

blood. As it turned out, businessman K lives in the same house. Pl was found in the blood of all sick people. vivax.

Every year in the area of the city of N., 10-15 cases of three-day malaria were noted, which were the result of importation, while in the city of N. no local cases of malaria were registered over the past 7 years.

Make a list of anti-epidemic measures in the outbreak, aimed at the 2nd link of the epidemic process.

Sample answer:

To carry out focal disinsection in the premises where the sick people lived: apartments, entrances, basements, utility rooms and attics of a five-story residential building must be treated with insecticides from the group of organophosphorus compounds (OPCs) or pyrethroids. Disinsection is indicated in the infectious diseases hospital where the patient is hospitalized, in endemic areas during the malaria season of malaria transmission.

Task 56.

12.08 at 14:00 Moscow time, administration of the Black Sea port of N. received a radiogram about the arrival at 21 o'clock of a ship on board of which there was a patient with suspected plague. The ship, belonging to one of the Asian states with endemic plague, left the port of departure on July 18.

What specialized medical units are deployed when a patient with suspected plague is identified.

Sample answer:

If a patient with suspected plague is identified, in accordance with the current plan for sanitary protection of the territory in the city where the specified Black Sea port is located, the following medical units are repurposed and deployed:

- specialized infectious diseases hospital for plague patients (from 1 to 5 beds);

- insulator for contacts;

- provisional hospital for patients with signal clinics epidemiological signs of plague.

Task 57.

12.08 at 14:00 Moscow time, administration of the Black Sea port of N. received a radiogram about the arrival at 21 o'clock of a ship on board of which there was a patient with

suspected of plague. The ship, belonging to one of the Asian states with endemic plague, left the port of departure on 08.11.

Upon the ship's arrival at the port, in which infectious diseases department is a patient with suspected plague hospitalized, what measures are taken in relation to the ship's crew members.

Sample answer:

Upon the ship's arrival at the port, a patient with suspected plague is hospitalized in a fully developed specialized infectious diseases hospital. Team members who had close and prolonged contact with a plague patient, and persons who were in conditions similar to the plague patient in terms of the risk of infection, are placed in a deployed isolation ward for contacts. They are placed under medical observation for 6 days and given emergency prophylaxis with antibiotics.

Task 58.

28.07 to the leadership of the territorial administration in the field of consumer rights protection and human well-being in the transport of the city of T. at 10 o'clock Moscow time a telegraph message was received that in the fast train No. 9, car No. 5, coming from a cholera-prone country, a patient with diarrhea in serious condition was identified. The patient is in a compartment car; during the journey he visited the restaurant car. The train arrives in the city of T. at 13:00.

What specialized medical units are deployed when identifying a patient with suspected cholera in a specific situation.

Sample answer:

If a patient with suspected cholera is identified, in accordance with the current plan for sanitary protection of the territory in the city of T, the following medical units are repurposed and deployed:

- specialized infectious diseases hospital for cholera patients (from 1 to 5 beds);

- insulator for contacts;

- provisional hospital for patients with diarrhea and vomiting Task 59.

28.07 to the leadership of the territorial administration in the field of consumer rights protection and human well-being in the transport of the city of T. at 10 o'clock Moscow time a telegraph message was received that in the fast train No. 9, car No. 5, coming from a cholera-prone country, a patient with diarrhea in serious condition was identified.

The patient is in a compartment car; during the journey he visited the restaurant car. The train arrives in the city of T. at 13:00.

What initial measures should a health worker take in relation to contact persons when identifying a patient with suspected cholera along the route?

Sample answer:

The medical worker, together with the train crew, carries out the following activities:

Passengers from the compartment where the patient is located are transferred to the next one, previously cleared of other passengers, the latter are placed in the same carriage;

- close the doors of the carriage, prohibit the boarding and exit of passengers until special orders, passengers walking around the carriage and into other carriages

- carry out explanatory work among passengers about the importance of ongoing activities and personal prevention measures;

- compile lists of passengers traveling in the carriage who communicated with the patient,

paying special attention to identifying passengers who had contact with the patient in the dining car and service personnel who had contact with the patient.

Task 60.

28.07 to the leadership of the territorial administration in the field of consumer rights protection and human well-being in the transport of the city of T. at 10 o'clock Moscow time a telegraph message was received that in the fast train No. 9, car No. 5, coming from a cholera-prone country, a patient with diarrhea in serious condition was identified. The patient is in a compartment car; during the journey he visited the restaurant car. The train arrives in the city of T. at 13:00.

What must a health worker do in relation to the sick person as part of the initial measures when identifying a patient with suspected cholera along the route?

Sample answer:

The medical worker, together with the train crew, carries out the following activities:

- the patient is left alone in the compartment in which he was located.

The patient is provided with medical care. It is provided with separate utensils for drinking and eating, as well as containers for collecting and disinfecting secretions.

- Measures are being taken to hospitalize a patient with suspected disease cholera in the city of T upon the train's arrival in this city, where a specialized infectious diseases hospital should be set up.

Task 61.

28.07 to the leadership of the territorial administration in the field of consumer rights protection and human well-being in the transport of the city of T. at 10 o'clock Moscow time a telegraph message was received that in the fast train No. 9, car No. 5, coming from a cholera-prone country, a patient with diarrhea in serious condition was identified. The patient is in a compartment car; during the journey he visited the restaurant car. The train arrives in the city of T. at 13:00.

What initial disinfection measures must a health worker take when identifying a patient with suspected cholera along the route?

Sample answer:

The medical worker, together with the train crew, carries out the following activities:

- in the compartment where the patient is, as well as in other compartments, corridors and toilets the carriage is undergoing ongoing disinfection;

- one of the toilets is allocated for collecting and disinfecting the patient's secretions, The toilet in it is closed, containers (buckets) with lids are installed. The second toilet is used by the rest of the carriage passengers. Toilets are provided with hand sanitizer. A rag moistened with a disinfectant solution is placed near the toilet and compartment of the patient to wipe his feet;

- after hospitalization of the patient in the carriage, the final disinfection.

Task 62.

In a general somatic hospital with 600 beds, an infectious diseases department is being organized, and as a result, class B medical waste appears in the hospital. This justifies the need for licensing of medical activities. In addition, the hospital generates waste of classes A, D and D. Waste of class A (epidemiologically safe, similar in composition to solid waste) is moved from the departments of functional departments to waste containers located on container sites located at a distance of more than 25 m from the medical buildings and are transferred by agreement to improved landfills. Class B waste – epidemiologically hazardous (live vaccines, waste from microbiological clinical diagnostic laboratories working with microorganisms of pathogenicity groups 3–4, pathological and anatomical

operational waste) are disinfected in sealed containers with chloramine and transported under an agreement to improved landfills. Class G waste (mercury-containing items, devices and equipment) is stored in a separate room in sealed metal containers. The room is equipped with mechanical ventilation. According to the schedule, class G waste is removed for disposal by a licensed organization under a contract. Class D waste (radioactive) is stored in the same room with class G waste, after which it is removed for disposal by a licensed specialized organization under a contract.

Provide a complete classification of medical waste generated in organizations engaged in medical activities.

Sample answer:

Medical waste, depending on the degree of its epidemiological, toxicological and radiation hazard, as well as negative impact on the environment, is divided into five hazard classes:

- **Class A – epidemiologically safe waste, similar in composition to household solid waste (hereinafter referred to as MSW).**
- **Class B – epidemiologically hazardous waste.**
- **Class B – extremely epidemiologically hazardous waste.**
- **Class G – toxicologically hazardous waste of hazard classes 1–4.**
- **Class D – radioactive waste.** Task

63.

In a general somatic hospital with 600 beds, an infectious diseases department is being organized, and as a result, class B medical waste appears in the hospital. This justifies the need for licensing of medical activities. In addition, the hospital generates waste of classes A, D and D. Waste of class A (epidemiologically safe, similar in composition to solid waste) is moved from the departments of functional departments to waste containers located on container sites located at a distance of more than 25 m from the medical buildings and are transferred by agreement to improved landfills. Class B waste

– epidemiologically hazardous (live vaccines, waste from microbiological clinical diagnostic laboratories working with microorganisms of pathogenicity groups 3–4, pathological and anatomical surgical waste) are disinfected in sealed containers with chloramine and transported under an agreement to improved landfills. Class G waste (mercury-containing items, devices and equipment) is stored in a separate room in sealed metal containers. Room

equipped with mechanical ventilation. According to the schedule, class G waste is removed for disposal by a licensed organization under a contract. Class D waste (radioactive) is stored in the same room with class G waste, after which it is transported for neutralization by a licensed specialized organization under a contract. Is the neutralization of class B waste organized correctly? Give a rationale

Sample answer:

No, after hardware methods of disinfection using physical methods and a change in the appearance of the waste, excluding the possibility of their reuse, class B waste can be accumulated, temporarily stored, transported, destroyed and buried together with class A waste. The packaging of disinfected medical waste of class B must have marking indicating that the waste has been disinfected.

Task 64.

In a general somatic hospital with 600 beds, an infectious diseases department is being organized, and as a result, class B medical waste appears in the hospital. This justifies the need for licensing of medical activities. In addition, the hospital generates waste of classes A, D and D. Waste of class A (epidemiologically safe, similar in composition to solid waste) is moved from the departments of functional departments to waste containers located on container sites located at a distance of more than 25 m from the medical buildings and are transferred by agreement to improved landfills. Class B waste - epidemiologically hazardous (live vaccines, waste from microbiological clinical diagnostic laboratories working with microorganisms of pathogenicity groups 3-4, pathological and anatomical surgical waste) is disinfected in sealed containers with chloramine and transported under an agreement to improved landfills. Class G waste (mercury-containing items, devices and equipment) is stored in a separate room in sealed metal containers. The room is equipped with mechanical ventilation. According to the schedule, class G waste is removed for disposal by a licensed organization under a contract. Class D waste (radioactive) is stored in the same room with class G waste, after which it is removed for disposal by a licensed specialized organization under a contract.

What methods should be used to neutralize Class B waste within a medical institution?

Sample answer:

Autoclaving, electromagnetic irradiation, thermal destruction, radiation methods.

Task 65.

In a general somatic hospital with 600 beds, an infectious diseases department is being organized, and as a result, class B medical waste appears in the hospital. This justifies the need for licensing of medical activities. In addition, the hospital generates waste of classes A, D and D. Waste of class A (epidemiologically safe, similar in composition to solid waste) is moved from the departments of functional departments to waste containers located on container sites located at a distance of more than 25 m from the medical buildings and are transferred by agreement to improved landfills. Class B waste - epidemiologically hazardous (live vaccines, waste from microbiological clinical diagnostic laboratories working with microorganisms of pathogenicity groups 3-4, pathological and anatomical surgical waste) is disinfected in sealed containers with chloramine and transported under an agreement to improved landfills. Class G waste (mercury-containing items, devices and equipment) is stored in a separate room in sealed metal containers. The room is equipped with mechanical ventilation. According to the schedule, class G waste is removed for disposal by a licensed organization under a contract. Class D waste (radioactive) is stored in the same room with class G waste, after which it is removed for disposal by a licensed specialized organization under a contract.

Are the hygienic requirements for the conditions of collection and storage of waste of classes D and D met? Give a rationale

Sample answer:

Not complied with, since waste of classes D and D must be accumulated and stored in separate premises and transported by different organizations.

Task 66.

The nurse collects Class B sharps medical waste (needles) into disposable soft packaging (bags).

Does the correct handling of medical waste meet the requirements of regulatory documents? What regulatory documents should

be guided when organizing the storage of honey. waste in health care facilities?

Sample answer:

To collect sharp medical waste of class B, the organization must use disposable, puncture-proof, moisture-resistant containers (containers), which must have a tight-fitting lid to prevent spontaneous opening. When organizing the storage of honey. waste in health care facilities should be guided by SanPiN 2.1.3684-21, section X. Requirements for waste management

Task 67.

Nurse, 26 years old. Has a 2-time vaccination against measles, a full course of immunization against hepatitis B, rubella, revaccination with ADS-M 2 years ago, vaccinated against influenza and COVID-19.

Does the quality of vaccination of medical personnel meet the established requirements?

Sample answer:

The quality of vaccination of medical personnel meets established requirements

Task 68.

When checking the clinic by an epidemiologist at the Center for Hygiene and Epidemiology in December 2022. It was established that the medical administrator, a 35-year-old man, did not have measles and was not vaccinated against measles, was vaccinated against hepatitis B (received 3 doses of the vaccine), and was vaccinated with ADS-m 12 years ago. What violations of the established requirements for routine vaccination of medical personnel occur in this situation?

Sample answer:

The medical administrator must receive 2 vaccinations against measles, the next booster vaccination with ADS-m was missed 2 years ago, there is no vaccination against Covid-19 and a pre-season flu vaccination.

Task 69.

When checking the clinic, an epidemiologist from the Center for Hygiene and Epidemiology found a large amount of paper and plastic packaging in a bag of class B waste in the treatment room.

Does the correct handling of medical waste meet the requirements of regulatory documents? What regulatory documents should be followed when organizing the storage of honey? waste in health care facilities?

Sample answer:

Mixing medical waste of different classes in a common container is unacceptable. When organizing the storage of honey. waste in health care facilities should be guided by SanPiN 2.1.3684-21 "Sanitary and epidemiological requirements for the maintenance of territories of urban and rural settlements, for water bodies, drinking water and drinking water supply, atmospheric air, soils, residential premises, operation of industrial, public premises, organization and carrying out sanitary and anti-epidemic (preventive) measures" section X. Requirements for waste management.

Task 70.

When checking the clinic in December 2022, an epidemiologist at the Center for Hygiene and Epidemiology found that a nurse, 25 years old, had a 1-time vaccination against measles, a full course of immunization against hepatitis B, and received the next revaccination with ADS-m at the age of 14 at school.

Does the quality of vaccination of medical personnel meet the established requirements? What vaccinations should be given to medical personnel and what regulatory documents should be followed?

Sample answer:

Quality of vaccination medical personnel Not corresponds established requirements, honey. my sister did not receive all the necessary vaccinations. When carrying out vaccinations, medical personnel should be guided by SanPiN 3.3686-21 Sanitary and epidemiological requirements for the prevention of infectious diseases and the National Vaccination Calendar, according to which medical personnel must be vaccinated against measles and rubella (2 times), receive a full course of immunization against hepatitis B, COVID -19, revaccinated every 10 years with ADS-m, annually in the pre-epidemic period - against influenza.

Task 71.

When examining the vaccination room of the clinic, it was found that the disposable yellow bags (soft packaging) contained used syringes with needles; the bag was not marked.

Are these honey storage conditions appropriate? waste to the requirements of regulatory documents?

What regulatory documents should be followed when organizing the storage of honey? waste in health care facilities?

Sample answer:

To collect sharp medical waste of class B, the organization must use disposable, puncture-proof, moisture-resistant containers (containers), which must have a tight-fitting lid to prevent spontaneous opening. When organizing the storage of honey. waste in health care facilities should be guided by SanPiN 2.1.3684-21 "Sanitary and epidemiological requirements for the maintenance of territories of urban and rural settlements, for water bodies, drinking water and drinking water supply, atmospheric air, soils, residential premises, operation of industrial, public premises, organization and carrying out sanitary and anti-epidemic (preventive) measures" section X. Requirements for waste management.

Task 72.

When checking the clinic by an epidemiologist at the Center for Hygiene and Epidemiology in December 2022. It was established that the general practitioner is 30 years old, V.V. Petrov. has a 2-time vaccination against measles, a full course of immunization against hepatitis B, and was revaccinated with ADS six months ago. What other routine vaccinations should a pediatrician undergo and what regulatory documents should be followed?

Sample answer:

The general practitioner should be vaccinated against influenza and Covid-19

Task 73.

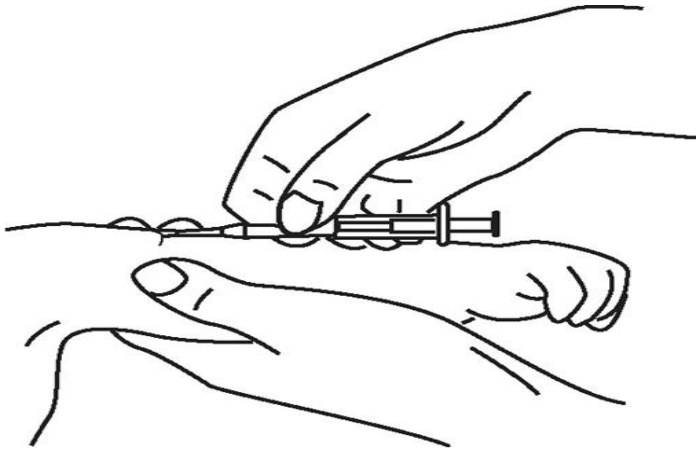
Based on the photograph presented, evaluate whether the safety of vaccination for medical professionals meets the established requirements. worker and patient, correct position of the patient during vaccination?

Sample answer:

Safety of vaccination for medical professionals. the employee is provided with: honey. sister in a robe, gloves, mask. Safety requirements for the patient are not ensured: during immunization the patient stands, whereas he should be in a sitting or lying position.

Task 74.

Based on the presented figure, evaluate the correctness of the administration of the measles vaccine, have the vaccination safety requirements for a medical worker been met?



Sample answer:

The safety requirements for vaccination for a medical worker are not met - there are no gloves. The figure shows the intradermal method of administration, while the measles vaccine is administered subcutaneously, with the needle at an angle of 45.

Task 75.

At the end of summer, an outbreak of enterovirus infection occurred in the village of R. region. The diagnosis was confirmed by isolation of the Coxsackie A virus from throat washings, feces, and cerebrospinal fluid. In some patients, an increase in antibody titer by 4 times or more was detected.

36 patients aged from 4 months to 54 years were under observation. The patients were distributed by age as follows: from 4 to 12 months – 3 children, from 1 year to 3 years – 5 children, from 3 years to 7 years – 11, from 11 to 14 years – 10 patients, six adult patients from 19 to 26 years, one woman 54 years old. Patients were admitted from August 2 to August 10, mainly on days 1 and 3 of illness. Only three patients were admitted on days 5–7 of illness.

Localized forms of the disease were diagnosed in 24 patients, and combined forms of the disease were diagnosed in 12 children. Among the localized form, 21 patients, including seven adults aged 19 to 54 years, had serous meningitis, two had herpangina, and one had diarrhea. Combined forms of enterovirus infection were registered in 12 children. Five children had manifestations of serous meningitis, herpangina, exanthema and diarrhea

syndrome, one child had serous meningitis and foot-and-mouth-like syndrome, six children had exanthema, herpangina and diarrhea.

Who among the contacts in the outbreak of EVI is subject to medical supervision?

Sample answer:

The following are subject to medical supervision: those in contact with patients with EVI in organized groups of children at food industry enterprises and similar ones, water supply facilities; contacts from households: children of preschool age and adults from the category of persons working in institutions and organizations whose activities are related to the production, transportation and sale of food products and drinking water, with the upbringing and education of children, serving the sick, with public utilities and consumer services population.

PC - 4

Closed type tasks: ***TOTAL25 tasks.***

Task 1. Instructions: Choose one correct answer. The physical method of disinfection includes the use of: 1. steam chambers

2. oxidizing agents

3. chloroactive compounds

4. phenols

*Sample answer:*1. steam chambers

Task 2. Instructions: Choose one correct answer. For industrial sterilization of medical products, the following are used: 1. installations with a radioactive radiation source

2. air sterilizers

3. Glasperlene sterilizers

4. solutions of chemicals

*Sample answer:*1. installations with a radioactive radiation source

Task 3. Instructions: Choose one correct answer. They have a sporicidal effect:

1. chlorine-containing disinfectants

2. Quaternary ammonium compounds

3. alcohols

4. guanidines

*Sample answer:*1. chlorine-containing disinfectants

Task 4. Instructions: Choose one correct answer.

To detect traces of detergent on medical instruments, use: 1. phenolphthalein test

2. azopyram test

3. biotest

4. peroxide test

*Sample answer:*1. phenolphthalein test

Task 5. Instructions: Choose one correct answer.

To detect traces of blood on medical instruments, use: 1. azopyram sample

2. biotest

3. phenolphthalein test

4. peroxide test

*Sample answer:*1. azopyram test

Task 6. Instructions: Choose one correct answer. The disadvantage of air sterilization is:

1. Possibility of damage to thermolabile instruments

2. long exposure

3. corrosive effects

4. the need to package products

*Sample answer:*1. Possibility of damage to thermolabile instruments

Task 7. Instructions: Choose one correct answer. The disadvantage of steam sterilization is:

1. corrosive effects

2. long exposure

3. Possibility of damage to heat-labile instruments

4. impossibility of sterilizing the dressing material

*Sample answer:*1. corrosive effects

Task 8. Instructions: Choose one correct answer.

The use of activated solutions of a number of disinfectants makes it possible to:

1. reduce concentration and reduce action time

2. reduce the toxicity of drugs

3. reduce environmental impact

4. increase the stability of solutions

*Sample answer:*1. reduce concentration and reduce action time

Task 9. Instructions: Choose one correct answer. The action of larvicides is aimed at the development of arthropods in the stage: 1. larvae

2 eggs

3. imago

4. nymphs

*Sample answer:*1. larvae

Task 10. Instructions: Choose one correct answer. The action of ovicides is aimed at the development of arthropods in the stage: 1. eggs

2. larvae

3. imago

4. nymphs

*Sample answer:*1. eggs

Task 11. Instructions: Choose one correct answer.

The groups of insecticides classified according to the chemical structure of the active substances include:

1. pyrethroids

2. fumigants

3. acaricides

4. pesticides

*Sample answer:*1. pyrethroids

Task 12. Instructions: Choose one correct answer.

Preparations for repelling arthropods are: 1. repellents

2. attractants

3. disinfectants

4. raticides

*Sample answer:*1. repellents

Task 13. Instructions: Choose one correct answer.

Disinsection methods include:

1. chemical, physical, biological

2. spraying and dusting

3. burning, boiling, ironing

4. chamber using dry hot air, water steam *Sample answer:*1.

chemical, physical, biological

Task 14. Instructions: Choose one correct answer

The greatest feasibility in the fight against infections is provided by a classification of diseases based on:

1. ecological-etiological principle
2. etiological principle
3. clinical signs
4. morphological characteristics
5. localization of the pathological process in the body of sources of infection

Response standard: 1. ecological-etiological principle

Task 15. Instructions: Choose one correct answer Main components of the epidemic process:

1. three interconnected links
2. three different pathogens
3. transmission of diseases from one to another
4. transmission routes
5. transmission factors

*Sample answer:*1. three interconnected links

Task 16. Instructions: Choose one correct answer The second link of the epidemic process:

1. transmission mechanism

2. source of infection

3. susceptible organism

4. infectious agent

5. susceptible population *Sample answer:*1.

transmission mechanism

Task 17. Instructions: Choose one correct answer

Infectious diseases with an aerogenic transmission mechanism include: 1.

diphtheria

2. toxoplasmosis

3. viral hepatitis E

4. malaria

5. erysipeloid

*Sample answer:*1. diphtheria

Task 18. Instructions: Choose one correct answer. The mechanism of transmission of the infectious agent depends on:

1. from the primary localization of the pathogen

2. depending on the type of pathogen

3. from the virulence of the pathogen

4. depending on the severity of the disease

5. from stability in the external environment

*Sample answer:*1. from the primary localization of the pathogen

Task 19. Instructions: Choose one correct answer

Natural foci of infectious diseases can form: 1. migratory birds

2. poultry

3. pets

4. synanthropic rodents

5. people

*Sample answer:*1. migratory birds

Task 20. Instructions: Choose one correct answer.

Transmission factors are:

1. elements of the external environment that ensure the transfer of a pathogen from one organism to another; elements of the external environment that ensure the transfer of a pathogen from one organism to another

2. an evolutionarily developed mechanism that provides the parasite with a change of individual organisms of a specific host to maintain the biological species

3. elements of the external environment or their combinations that ensure the transfer of the pathogen from one organism to another in specific conditions of an epidemic situation

*Sample answer:*1. elements of the external environment that ensure the transfer of a pathogen from one organism to another; elements of the external environment that ensure the transfer of a pathogen from one organism to another

Task 21. Instructions: Choose one correct answer

Transmission routes are:

1. elements of the external environment or combinations thereof that ensure transfer from one organism to another in specific conditions of an epidemic situation
2. an evolutionarily developed mechanism that provides the parasite with a change of individual organisms of a specific host to maintain the biological species

3. elements of the external environment that ensure the transfer of the pathogen from one organism to another

*Sample answer:*1. elements of the external environment or combinations thereof that ensure transfer from one organism to another in specific conditions of an epidemic situation

Task 22. Instructions: Choose one correct answer. The mechanism of transmission of infection corresponds to:

1. main localization of the pathogen in the host body
2. characteristics of the source of infection
3. ways of spreading infection
4. stability of the pathogen in the external environment

*Sample answer:*1. main localization of the pathogen in the host body

Task 23. Instructions: Choose one correct answer The concept of "transmission mechanism" is applicable:

1. anthroponoses
2. zooanthroponoses
3. zoonoses
4. sapronoses

*Sample answer:*1. anthroponoses

Task 24. Instructions: Select several correct answers.

Transmission mechanisms include:

1. aerosol
2. fecal-oral
3. transmission
4. contact
5. airborne droplet
6. food
7. contact-household

*Sample answer:*1, 2, 3, 4

Task 25. Instructions: Choose several correct answers

The transmission routes

include: 1. transmission

2. airborne droplet

3. food

4. contact-household

5. aerosol

6. fecal-oral

7. pin

*Sample answer:*1, 2, 3, 4

Open type tasks: ***TOTAL75 tasks***

Task 1. Table. “Annual dynamics of HAV in the Pervomaisky district”

Months	1	2	3	4	5	6	7	8	9	10	eleven	12	Behind year
Number cases	21	17	15	15	eleven	17	21	16	31	28	31	22	245

Average monthly number of diseases: 245:12=20.4

Using the data in the table, name the months of the seasonal rise in HAV in the Pervomaisky district, and calculate the seasonality index.

Sample answer:

The months of rise in this case include September, October, November and December; in January and July, a slight excess of the annual average level was registered.

The seasonality index is the ratio of the number of diseases in the rising months to number diseases in the remaining months of the year, seasonality index: (21+21+31+28+31+22):(17+15+15+11+17+16)=1.7

Task 2. Table. “Annual dynamics of HAV in the Pervomaisky district”

Months	1	2	3	4	5	6	7	8	9	10	eleven	12	Behind year
Number of cases	21	17	15	15	eleven	17	21	16	31	28	31	22	245
Extensive index (%)	8.6	7.0	6.1	6.1	4.5	7.0	8.6	6.5	12.6	11.4	12.6	9.0	100

Using the data in the table, name the months of the seasonal rise in HAV in the Pervomaisky district, and calculate the seasonality index.

Sample answer:

The months of rise in this case include September, October, November and December; in January and July, a slight excess of the annual average level was registered.

The seasonality index is the ratio of the number of diseases in the rising months to number diseases in the remaining months of the year, seasonality index: (21+21+31+28+31+22):(17+15+15+11+17+16)=1.7

Task 3. Table. “Annual dynamics of HAV in the Pervomaisky district”

Months	1	2	3	4	5	6	7	8	9	10	eleven	12	Behind year
Number cases	21	17	15	15	eleven	17	21	16	31	28	31	22	245
Number of days in month	31	28	31	thirty	31	thirty	31	31	thirty	31	thirty	31	365
Medium daytime number diseases	0.7	0.6	0.5	0.5	0.4	0.6	0.7	0.5	1.0	1.0	1.0	1.0	0.70
Index seasonal fluctuations	101, 5	89, 5	71, 6	74, 6	52, 2	85, 0	101, 4	77, 6	153, 7	134, 3	153, 7	104, 4	-

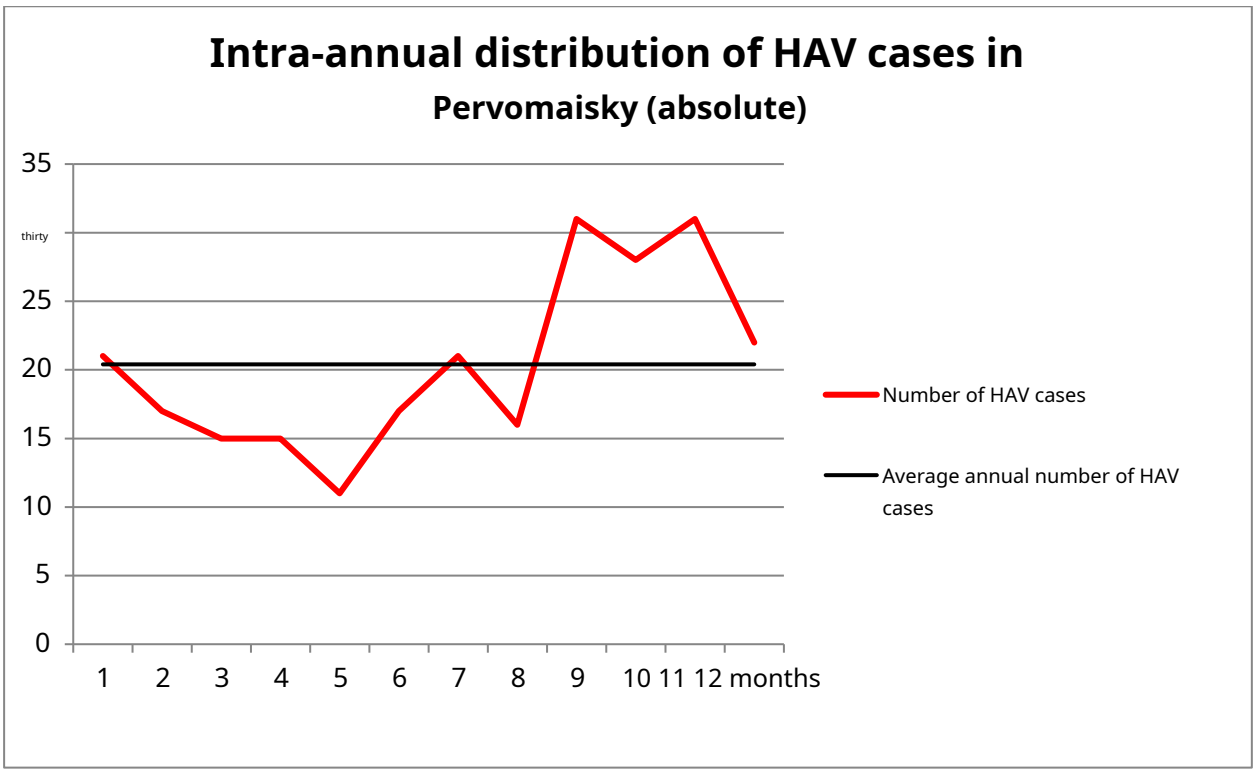
Using the data in the table, name the months of the seasonal rise in HAV in the Pervomaisky district, and calculate the seasonality index.

Sample answer:

The months of rise in this case include September, October, November and December; in January and July, a slight excess of the annual average level was registered.

The seasonality index is the ratio of the number of diseases in the rising months to number diseases in the remaining months of the year, seasonality index: (21+21+31+28+31+22):(17+15+15+11+17+16)=1.7

Task 4.



Schedule. "Intra-annual distribution of HAV cases in Pervomaisky (abs.)"

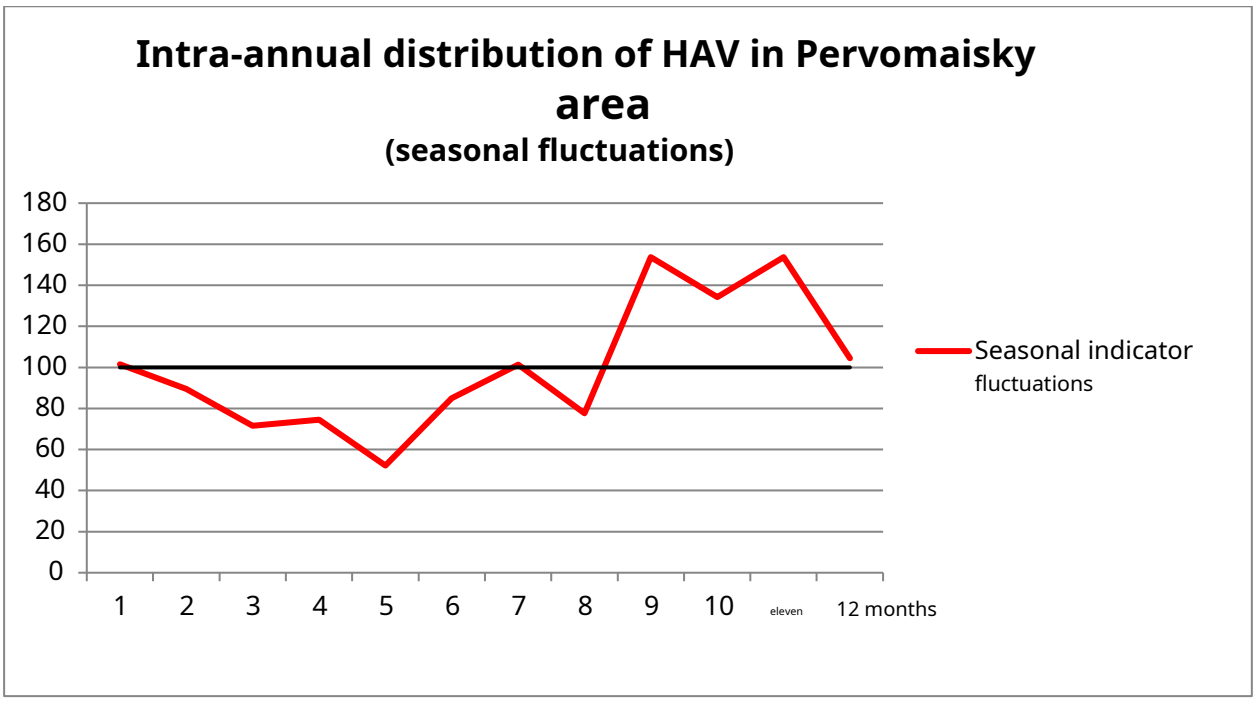
How are the months of the seasonal rise determined? How is the monthly average determined?

Based on the data presented in the graph, determine the months of the seasonal rise in HAV in the Pervomaisky district.

Sample answer:

Rising months are considered to be months with a higher number of diseases average monthly level, average monthly level =A, where A ~~is~~ the number of diseases per year. The months of rise in this case include September, October, November and December; in January and July, a slight excess of the annual average level was registered.

Task 5.



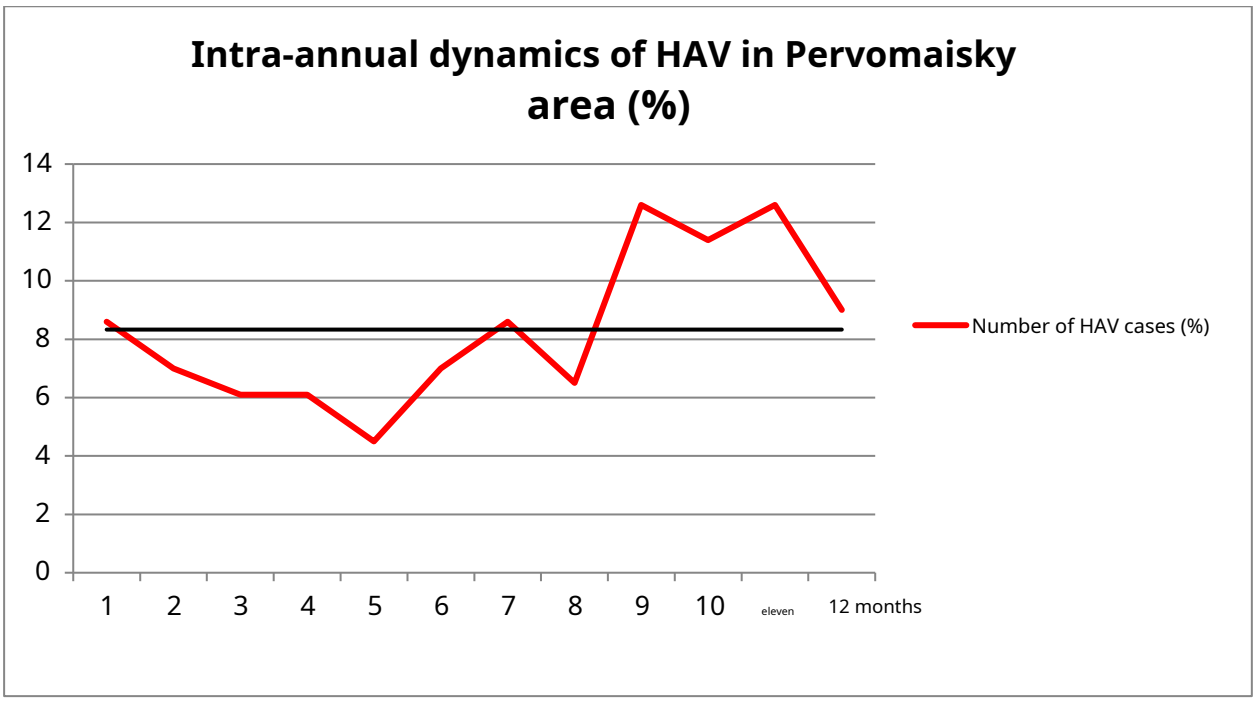
Schedule. “Intra-annual distribution of HAV in the Pervomaisky district”

Based on the data presented in the graph, determine the months of the seasonal rise in HAV in the Pervomaisky district.

Sample answer:

The months of rise in this case include September, October, November and December; in January and July, a slight excess of the annual average level was registered.

Task 6.



Schedule. "Intra-annual dynamics of HAV in the Pervomaisky district (%)"

How are the months of the seasonal rise determined? How is the monthly average determined? Based on the data presented in the graph, determine the months of the seasonal rise in HAV in the Pervomaisky district.

Sample answer:

Months of rise are conventionally considered months with the number of diseases above the average monthly level; when calculating the average monthly level in extensive indicators, the sum of diseases per year (A) is taken as 100%, i.e. formula

calculating the average monthly number of diseases: A = % = 8.33

The months of growth in this case include September, October, November and December; in January and July, a slight excess of the average annual level was registered.

Task 7. Table. "Annual dynamics of dysentery in the Proletarsky district"

Months	1	2	3	4	5	6	7	8	9	10	eleven	12	Behind year
Number cases	6	eleven	8	eleven	6	8	23	15	12	14	5	2	121

Average monthly number of diseases: 121:12=10.1

Using the data in the table, name the months of the seasonal rise in dysentery in the Proletarsky district, and calculate the seasonality index.

Sample answer:

The months of growth in this case include July, August, September and October, in addition to February and April, when some excess of the annual average level was also observed.

The seasonality index is the ratio of the number of diseases in the rising months to number diseases in the remaining months of the year, Seasonality Index = (11+11+23+15+12+14):(6+8+6+8+5+2) = 2.5

Task 8. Table. "Annual dynamics of dysentery in the Proletarsky district"

Months	1	2	3	4	5	6	7	8	9	10	eleven	12	Behind year
Number of cases	6	eleven	8	eleven	6	8	23	15	12	14	5	2	121
Extensive index (%)	5.0	9.1	6.6	9.1	5.0	6.6	19.0	12.4	9.9	11.6	4.1	1.7	

Using the table data, name the months of the seasonal increase in dysentery in the Proletarsky region, how to calculate the seasonality coefficient, determine its value based on the data presented.

Sample answer:

The months of growth in this case include July, August, September and October, in addition to February and April, when some excess of the annual average level was also observed.

Seasonality coefficient is the ratio of the number of diseases in the months of growth to the number of diseases in the whole year, expressed as a percentage, seasonality coefficient = (11+11+23+15+12+14): 121×100% = 71.1%

Task 9. Table. "Annual dynamics of dysentery in the Proletarsky district"

Months	1	2	3	4	5	6	7	8	9	10	eleven	12	Behind year
Number cases	6	eleven	8	eleven	6	8	23	15	12	14	5	2	121
Number of days in a month	31	28	31	thirty	31	thirty	31	31	thirty	31	thirty	31	365
Medium daytime number diseases	0, 19	0.39	0.26	0.37	0.19	0.27	0.74	0.48	0.40	0.45	0.17	0.06	0.33

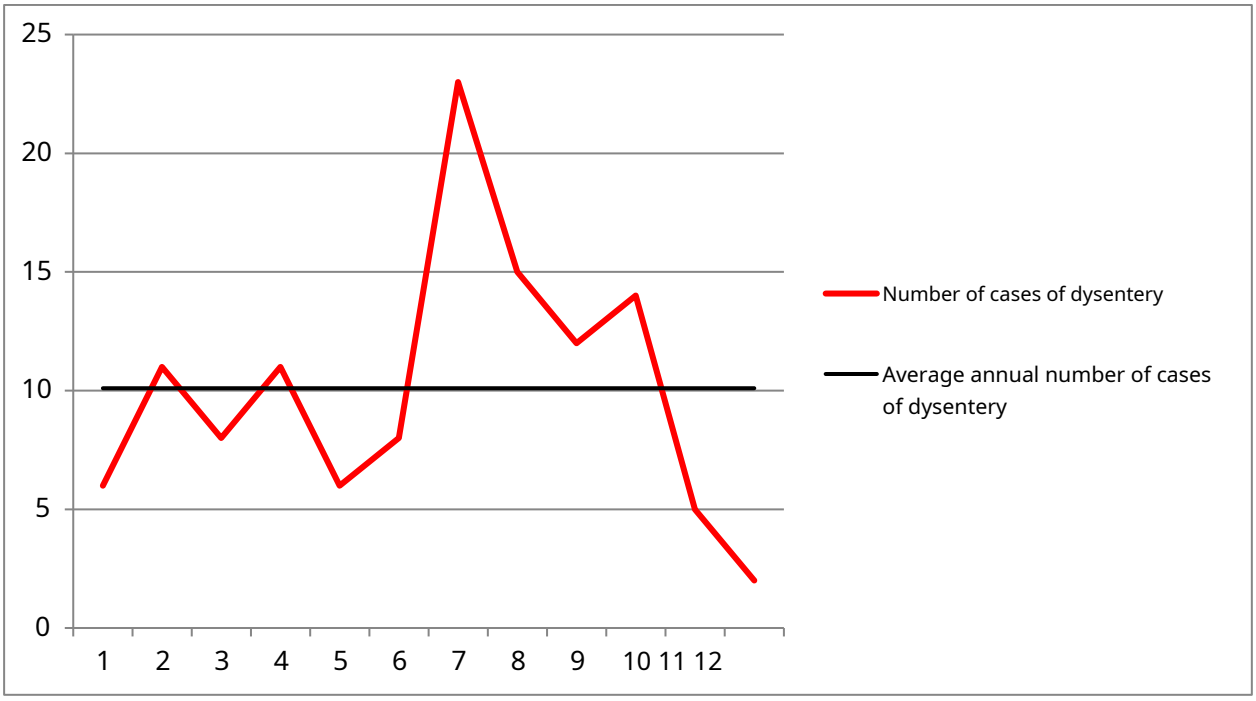
th													
Index seasonal fluctuations	57, 6	118, 2	78.8	112, 1	57.6	81, 8	224, 2	145, 5	121, 2	136, 4	51.5	18.2	

How is the seasonal variation index calculated and how does it help assess the influence of seasonal factors on morbidity? Based on the data in the table, determine in which months there was a significant influence of seasonal factors on the intra-annual dynamics of dysentery in the Proletarsky district.

Sample answer:

Seasonal indicator fluctuations calculated How attitude average daily monthly number of diseases to the average daily annual number, as a percentage. If the monthly seasonal fluctuation rate is less than 100%, then the influence of seasonal factors on morbidity is absent or minimal. When exceeding 100%, the influence of seasonal factors is significant. According to the table, a significant influence of seasonal factors on the intra-annual dynamics of dysentery was noted in February, April and from July to October.

Task 10.



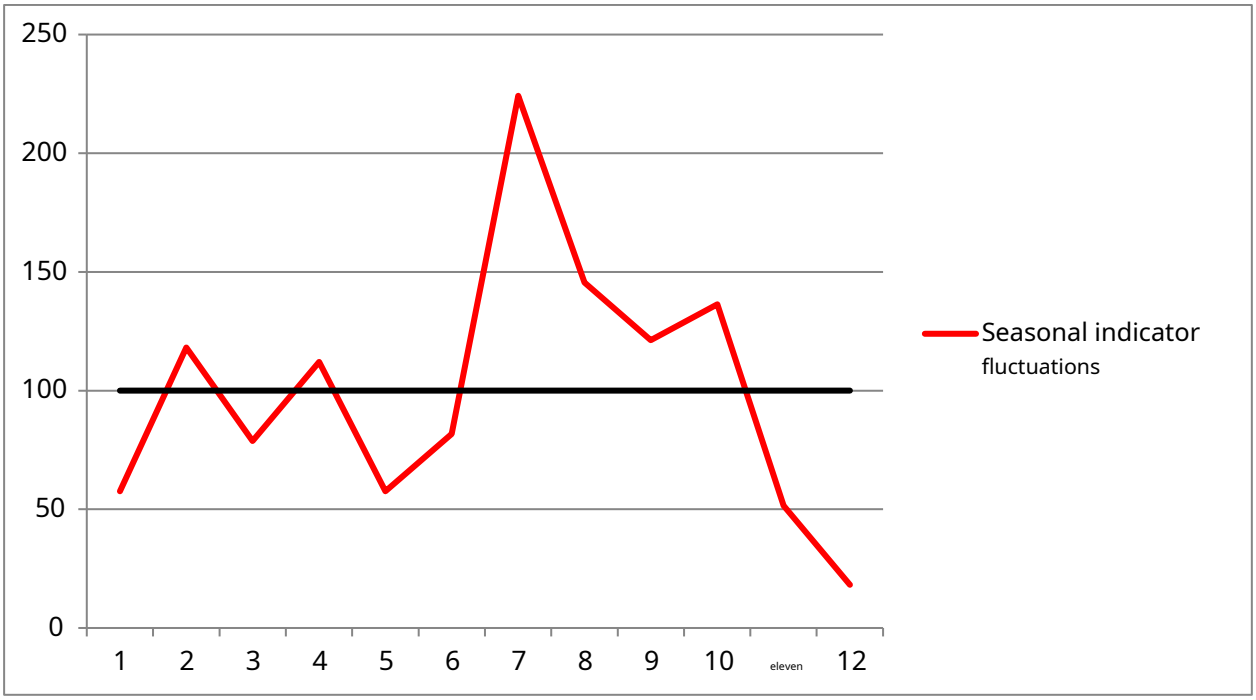
Schedule. "Intra-annual distribution of dysentery cases in the Proletarsky district (abs.)"

How are the months of the seasonal rise determined? How is the monthly average determined? Based on the data presented on the graph, determine the months of the seasonal increase in dysentery in the Proletarsky region.

Sample answer:

Rising months are considered to be months with a higher number of diseases average monthly level, average monthly level =A, where A ~~is~~ the number of diseases per year. The rising months in this case include July, August, September and October, as well as February and April.

Task 11.



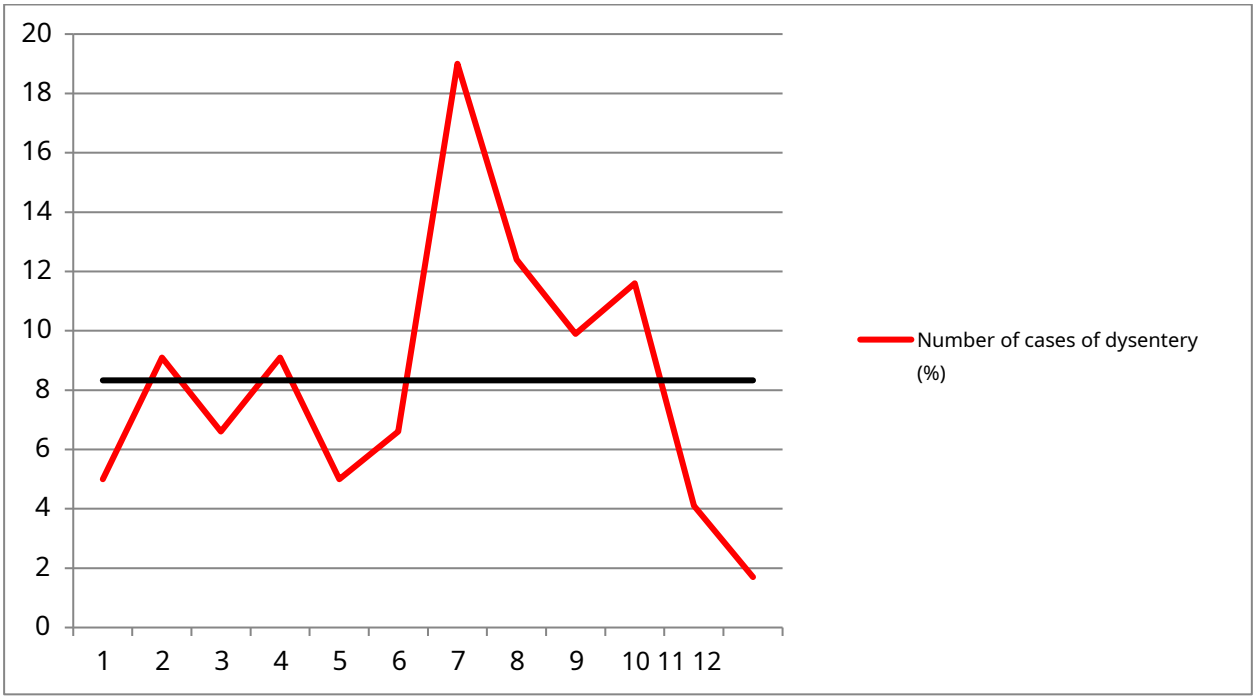
Schedule. "Intra-annual distribution dysentery V Proletarsky area (seasonal fluctuation indicators)"

How does the seasonal fluctuation indicator assess the influence of seasonal factors on morbidity? Based on the graph data, determine in which months there was a significant influence of seasonal factors on the intra-annual dynamics of dysentery.

Sample answer:

If the monthly seasonal fluctuation rate is less than 100%, then the influence of seasonal factors on morbidity is absent or minimal. When exceeding 100%, the influence of seasonal factors is significant. According to the graph, a significant influence of seasonal factors on the intra-annual dynamics of dysentery was noted in February, April and from July to October.

Task 12.



Schedule. "Intra-annual dynamics of dysentery in the Proletarsky district (%)"

How are the months of the seasonal rise determined? How is the monthly average determined? Based on the data presented on the graph, determine the months of the seasonal increase in dysentery in the Proletarsky region.

Sample answer:

Months of rise are conventionally considered months with the number of diseases above the average monthly level; when calculating the average monthly level in extensive indicators, the sum of diseases per year (A) is taken as 100%, i.e. formula

calculating the average monthly number of diseases: A = % = 8.33

The rising months in this case include July, August, September and October, as well as February and April.

Task 13. Table. "Annual dynamics of HAV in the Oktyabrsky district"

Months	1	2	3	4	5	6	7	8	9	10	eleven	12	Behind year
Number cases	15	8	8	2	5	6	6	eleven	23	14	eleven	12	121

Average monthly number of diseases: 121:12=10.1

Using the table data, name the months of the seasonal rise in HAV in the Oktyabrsky district, and calculate the seasonality index.

Sample answer:

The rising months in this case include January, August, September, October, November and December.

The seasonality index is the ratio of the number of diseases in the rising months to number diseases in the remaining months of the year, Seasonality Index = (15+11+23+14+11+12):(8+8+2+5+6+6) = 2.5

Task 14. Table. "Annual dynamics of HAV in the Oktyabrsky district"

Months	1	2	3	4	5	6	7	8	9	10	eleven	12	Behind year
Number of cases	15	8	8	2	5	6	6	eleven	23	14	eleven	12	121
Extensive index (%)	12.4	6.6	6.6	1.7	4.1	5.0	5.0	9.9	19.0	11.6	9.1	9.9	

Using the table data, name the months of the seasonal increase in HAV in the Oktyabrsky district, calculate the seasonality coefficient.

Sample answer:

The rising months in this case include January, August, September, October, November and December.

Seasonality coefficient is the ratio of the number of diseases in the months of growth to the number of diseases in the whole year, expressed as a percentage, seasonality coefficient = (15+11+23+14+11+12): 121×100% = 71.1%

Task 15. Table. "Annual dynamics of HAV in the Oktyabrsky district"

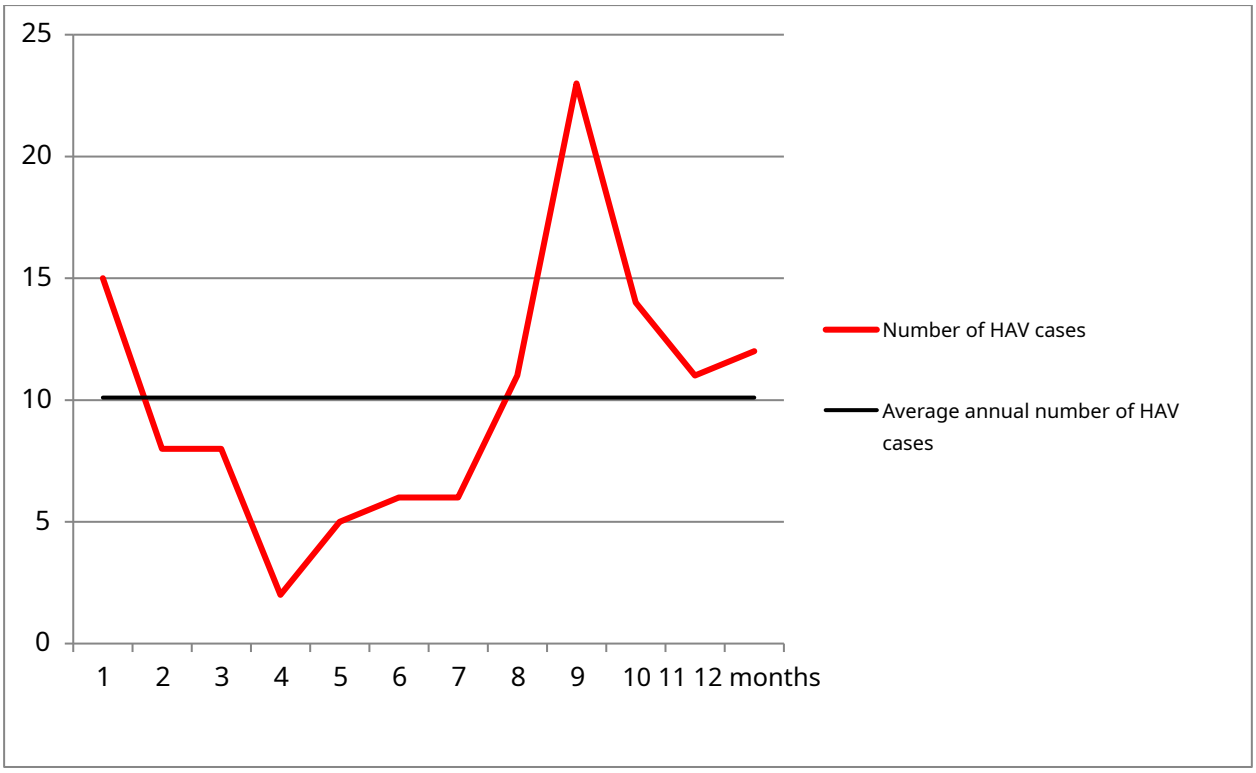
Months	1	2	3	4	5	6	7	8	9	10	eleven	12	Behind year
Number cases	15	8	8	2	5	6	6	eleven	23	14	eleven	12	121
Number of days in month	31	28	31	thirty	31	thirty	31	31	thirty	31	thirty	31	365
Medium daytime number diseases	0.48	0.29	0.26	0.07	0.16	0.20	0.19	0.35	0.77	0.45	0.37	0.39	0.33
Index seasonal fluctuations	145, 5	87, 9	78, 8	21, 2	48. 5	60, 6	60, 6	106, 1	233, 3	136, 4	112, 1	118, 2	100

How is the seasonal variation index calculated and how does it help assess the influence of seasonal factors on morbidity? Based on the table data, determine in which months there was a significant influence of seasonal factors on the intra-annual dynamics of IAV

Sample answer:

Seasonal indicator fluctuations calculated How attitude average daily monthly number of diseases to the average daily annual number, as a percentage. If the monthly seasonal fluctuation rate is less than 100%, then the influence of seasonal factors on morbidity is absent or minimal. When exceeding 100%, the influence of seasonal factors is significant. According to the table, a significant influence of seasonal factors on the intra-annual dynamics of IAV was noted in January, August, September, October, November and December.

Task 16.



Schedule. "Intra-annual distribution of HAV cases in the Oktyabrsky district (abs.)"

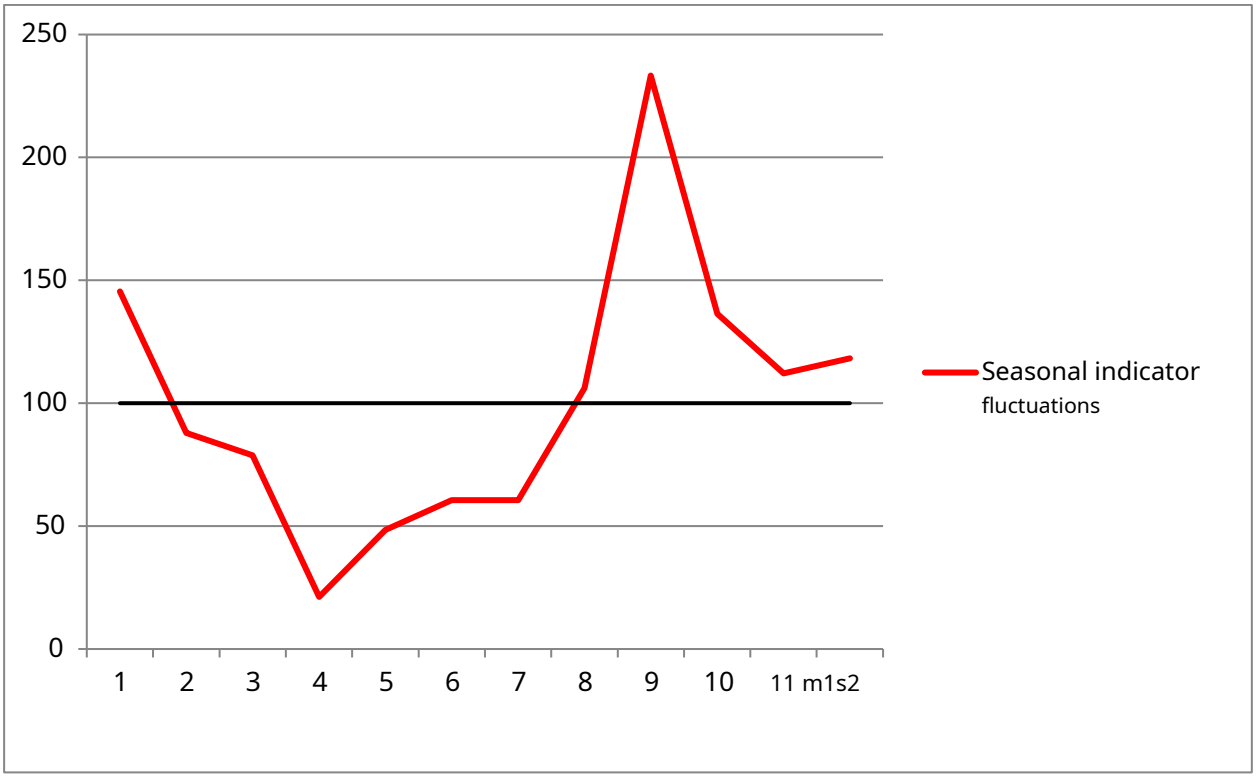
How is the monthly average determined? How are the months of the seasonal rise determined? Based on the data presented in the graph, determine the months of the seasonal rise in HAV in the Oktyabrsky district.

Sample answer:

Rising months are considered to be months with a higher number of diseases average monthly level, average monthly level =A, where A ~~is~~ the number of diseases per

year. The rising months in this case include January, August, September, October, November and December.

Task 17.



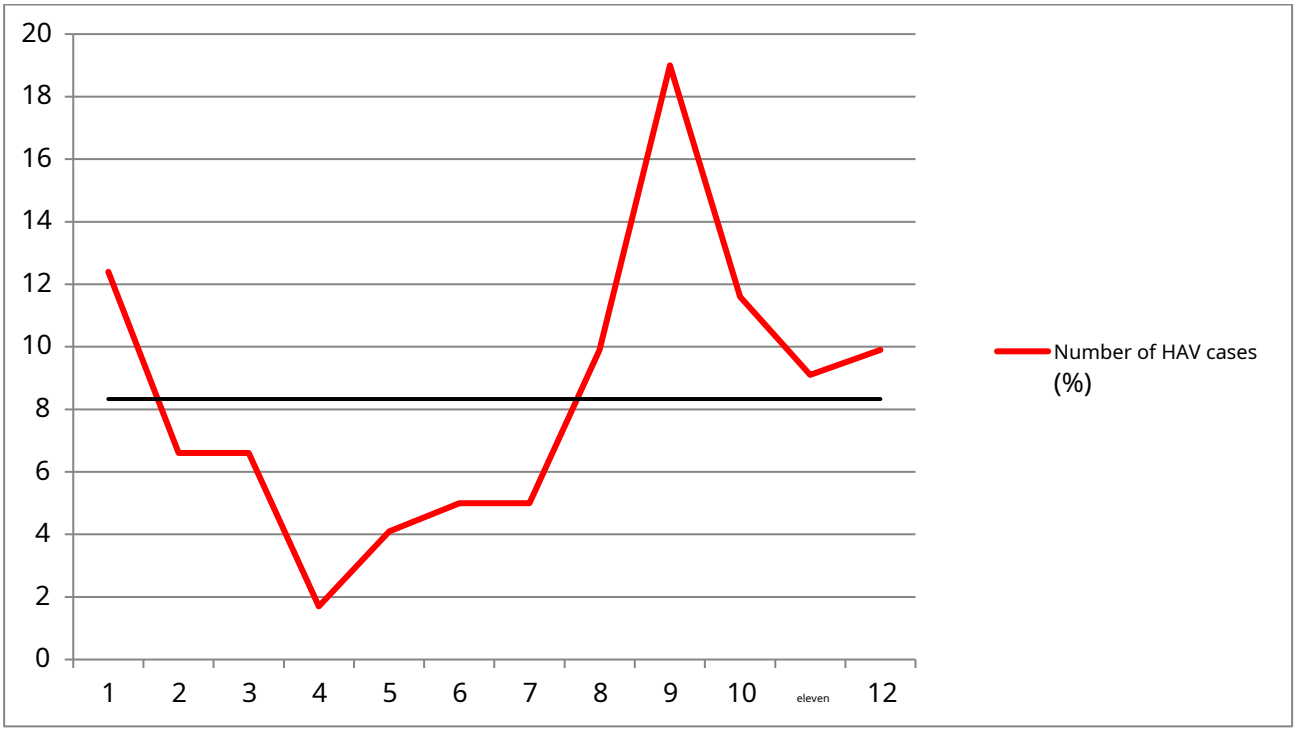
Schedule. "Intra-annual distribution HAA V Oktyabrsky area (seasonal fluctuation indicators)"

How does the seasonal fluctuation indicator assess the influence of seasonal factors on morbidity? Based on the graph data, determine in which months there was a significant influence of seasonal factors on the intra-annual dynamics of IAV.

Sample answer:

If the monthly seasonal fluctuation rate is less than 100%, then the influence of seasonal factors on morbidity is absent or minimal. When exceeding 100%, the influence of seasonal factors is significant. According to the graph, a significant influence of seasonal factors on the intra-annual dynamics of IAV was noted in January, August, September, October, November and December.

Task 18.



Schedule. "Intra-annual dynamics of HAV in the Oktyabrsky district (%)"

How are the months of the seasonal rise determined? How is the monthly average determined? Based on the data presented in the graph, determine the months of the seasonal rise in HAV in the Oktyabrsky district.

Sample answer:

Months of rise are conventionally considered months with the number of diseases above the average monthly level; when calculating the average monthly level in extensive indicators, the sum of diseases per year (A) is taken as 100%, i.e. formula

calculating the average monthly number of diseases: A = % = 8.33

The rising months in this case include January, August, September, October, November and December.

Task 19.

In the village of D. (with a total population of 1,435 people), an epidemiological investigation was carried out, the results of which suggested that the factor in the transmission of pathogens of acute intestinal infections (AEI), in most cases, was water from the local water supply. It is known that during the year in the village of D., 361 people fell ill, and 1074 residents did not report any cases of AEI. 659 people drank raw water, of which 219 became ill, and 440 remained healthy. The rest of the village residents drank only boiled water.

1. Calculate the incidence rates of acute intestinal infections in the village of D. (in terms of 1000 inhabitants) among those who used raw and boiled water for drinking

2. To calculate risks, create a four-field table. Give the formula calculation of absolute risk.

3. Calculate the absolute risk and interpret the results obtained. *Sample answer:*

The incidence rate of acute intestinal infections in the village of D among those who drank raw water was 330 per 1000.

The incidence rate of acute intestinal infections in the village of D among those who drank boiled water was 180 per 1000.

	Got sick	**Healthy**
Drank raw water	**219** **A**	**440** **b**
Drank boiled water	**142** **c**	**634** **d**

Absolute risk (Re)

=A a+ = = , **(incidence among those who consumed raw water)**

= = = , + **(incidence among those who consumed boiled water)**

The absolute risk R associated with a potential risk factor (Re) measures the probability of the outcome being studied (disease, death, etc.) in individuals exposed to this factor (exposed to it). Absolute risk in the absence of exposure to a given risk factor (Rne) reflects the probability of the outcome being studied (disease, death, etc.) in individuals who are not exposed to this factor (not exposed to it).

Re > Rne – means the active factor (consumption of raw water) increases the risk of disease

Task 20.

In the village of D. (with a total population of 1,435 people), an epidemiological investigation was carried out, the results of which suggested that the factor in the transmission of pathogens of acute intestinal infections (AEI), in most cases, was water from the local water supply. It is known that during the year in the village of D., 361 people fell ill, and 1074 residents did not report any cases of AEI. Raw water for

659 people drank, of which 219 became ill, and 440 remained healthy. The rest of the village residents drank only boiled water.

To calculate risks, create a four-field table. Give the formula for calculating relative risk.

Calculate the relative risk and interpret the results obtained. *Sample answer:*

	Got sick	**Healthy**
Drank raw water	**219** **A**	**440** **b**
Drank boiled water	**142** **c**	**634** **d**

Relative risk (RR)

= = — A: — = — : — = —, – **Emergence**

disease may be associated with the action of a factor that shows how many times the risk of disease is higher for those who drank raw water than for those who drank boiled water.

Task 21.

In the village of D. (with a total population of 1,435 people), an epidemiological investigation was carried out, the results of which suggested that the factor in the transmission of pathogens of acute intestinal infections (AEI), in most cases, was water from the local water supply. It is known that during the year in the village of D., 361 people fell ill, and 1074 residents did not report any cases of AEI. 659 people drank raw water, of which 219 became ill, and 440 remained healthy. The rest of the village residents drank only boiled water.

To calculate risks, create a four-field table. Give a formula for calculating attributable risk.

Calculate the attributable risk and interpret the results obtained. *Sample answer:*

	Got sick	**Healthy**
Drank raw water	**219** **A**	**440** **b**
Drank boiled water	**142** **c**	**634** **d**

Attributable risk (AR) (risk difference indicator -)

= − =A− = − = , , = ,

Shows the absolute increase in morbidity due to the effect of the factor.

Task 22.

In the village of D. (with a total population of 1,435 people), an epidemiological investigation was carried out, the results of which suggested that the factor in the transmission of pathogens of acute intestinal infections (AEI), in most cases, was water from the local water supply. It is known that during the year in the village of D., 361 people fell ill, and 1074 residents did not report any cases of AEI. 659 people drank raw water, of which 219 became ill, and 440 remained healthy. The rest of the village residents drank only boiled water.

To calculate risks, create a four-field table. Give the formula for calculating the odds ratio

Calculate the odds ratio and interpret the results obtained. *Sample answer:*

	Got sick	**Healthy**
Drank raw water	**219** **A**	**440** **b**
Drank boiled water	**142** **c**	**634** **d**

Odds ratio (OR)

= =

: = * = = ,

OR>1, which means the occurrence of the disease is associated with the consumption of raw water. Task 23.

A case of tick-borne encephalitis was registered in a three-year-old child. June fell ill 5 while on vacation in the village. Hospitalized. The parents deny the bite of a tick and the child's visit to the forest, but note the girl's consumption of raw goat's milk, bought from the owner of the house in which they live. The parents and the second child did not drink milk for 5 years. The owner has 2 goats, grazing on a pasture in the undergrowth. When collecting an epidemiological history, it was found out that on June 3, the child's father, while fishing on a forest lake, discovered an attached tick, which he removed independently and threw away. The patient was asked to conduct a blood test or biopsy from the site

tick suction using PCR method.

All family members are recommended to consume goat milk only after boiling. In the future, before traveling to areas where tick-borne viral encephalitis is endemic, carry out vaccination prophylaxis. When visiting the forest, wear special clothing.

The village is located on the territory of the V. region, where more than 15 cases of tick-borne encephalitis are registered annually. More than 2,000 people seek help regarding tick bites. Cases of tick-borne encephalitis associated with the consumption of raw goat milk are periodically identified in the region.

What is the purpose of the study proposed to the father of a sick child? In what case will emergency specific prophylaxis be recommended for him?

Sample answer:

The study is carried out with the aim of early indication of the infectious agent in the patient's body; depending on the result obtained, the issue of emergency prevention of the disease is decided. In case of receiving a positive blood test result or biopsy from the site

If a tick has been bitten by the PCR method, emergency specific prophylaxis is indicated: the administration of a specific immunoglobulin no later than 4 days after the tick has been bitten.

Task 24.

In the hospital psychoneurological dispensary arose flash epidemic typhus. In total, 14 people fell ill. The first case of the disease was registered in a nurse who worked in a dispensary and was hospitalized in serious condition in an infectious diseases hospital, where the diagnosis was made. When examining the patients at the psychoneurological dispensary who had contact with her, the remaining patients were identified: elderly people, mostly over 70 years old, who had been in the dispensary from several months to several years. When investigating the outbreak, an epidemiologist revealed a gross violation of the living conditions of the patients: the water supply to the dispensary was intermittent, the patients had not washed for a long time, the bed linen had not been changed for weeks, the beds were very close to each other.

Due to the lack of diagnosis, patients with typhus were not hospitalized. Body lice were found on the clothes and linen (in seams, folds, collars) of sick people and in the premises of the dispensary. After hospitalization of the sick, medical disinfestation was carried out in the outbreak.

Name the carriers of typhus pathogens.

Sample answer:

The carriers of typhus pathogens are head and body bugs.

lice.

Task 25.

When checking clinics to assess the quality of the organization immunoprophylaxis by an epidemiologist at the Center for Hygiene and Epidemiology in December 2022. It has been established that the vaccine against measles and mumps is stored in the refrigerator on the top shelf (close to the freezer) at a temperature of +5°C.

Do the vaccine storage conditions meet the established requirements?

Sample answer:

Yes, the storage conditions for vaccines comply with the established vaccine requirements - stored at a temperature of +2 - +8 °C.

Task 26.

Analyze the entries in the “Refrigeration Equipment Temperature Log”:

Дата	Время	Показания термометров		Показания термоиндикаторов			
		N 1	N 2	N 1		N 2	
				Идентификационный номер	Показания	Идентификационный номер	Показания
16.03	9.00	+5	+5	123	Норма	325	Норма
	17.00	+5	+5	123	Норма	325	Норма
17.03	9.00	+5	+5	123	Норма	325	Норма
	17.00	+5	+5	123	Норма	325	Норма

Does the temperature regime for storing vaccines meet the established requirements?

Sample answer:

Yes, the temperature regime for storing vaccines meets the established requirements - vaccines are stored at a temperature of +2 - + 8 °C.

Task 27.

According to an epidemiological study examining the effect of excess weight on the risk of developing type 2 diabetes mellitus, conducted in the village of N., it was found that over the course of a year, 108 people out of 7,660 residents fell ill with type 2 diabetes mellitus. Among the residents of the village, 1,321 people are overweight, of which 36 people have diabetes. 72 of the sick people have normal weight.

1. Calculate the incidence rates of type 2 diabetes mellitus in the village of N. (measured per 1000 inhabitants) among residents with normal and overweight

2. To calculate risks, create a four-field table. Give the formula calculation of absolute risk.

3. Calculate the absolute risk and interpret the results obtained. *Sample answer:*

	Got diabetes	**Healthy**
overweight people	**36** **A**	**1321** **b**
People **Withnormal** **weight**	**72** **c**	**6148** **d**

Absolute risk (Re)

=A= =$\frac{}{a'+}$**(inc~~id~~ence among overweight people**)

= = = , $\frac{}{+}$**(in~~cid~~~~en~~ce among people of normal weight)**

The absolute risk R associated with a potential risk factor (Re) measures the probability of the outcome being studied (disease, death, etc.) in individuals exposed to this factor (exposed to it). Absolute risk in the absence of exposure to a given risk factor (Rne) reflects the probability of the outcome being studied (disease, death, etc.) in individuals who are not exposed to this factor (not exposed to it).

Re > Rne – means the active factor (excess weight) increases the risk of disease.

Task 28.

According to an epidemiological study examining the effect of excess weight on the risk of developing type 2 diabetes mellitus, conducted in the village of N., it was found that over the course of a year, 108 people out of 7,660 residents fell ill with type 2 diabetes mellitus. Among the residents of the village, 1,321 people are overweight, of which 36 people have diabetes. 72 of the sick people have normal weight.

To calculate risks, create a four-field table. Give the formula for calculating relative risk.

Calculate the relative risk and interpret the results obtained. *Sample answer:*

	Got diabetes	**Healthy**
overweight people	**36** **A**	**1321** **b**
People **Withnormal**	**72**	**6148**

weight	**c**	**d**

Relative risk (RR)

= = — A: = — : — = =— , — **– Emergence**

The disease may be associated with the action of a factor that shows how many times the risk of disease is higher for overweight people than for people with normal weight.

Task 29.

According to an epidemiological study examining the effect of excess weight on the risk of developing type 2 diabetes mellitus, conducted in the village of N., it was found that over the course of a year, 108 people out of 7,660 residents fell ill with type 2 diabetes mellitus. Among the residents of the village, 1,321 people are overweight, of which 36 people have diabetes. 72 of the sick people have normal weight.

To calculate risks, create a four-field table. Give a formula for calculating attributable risk.

Calculate the attributable risk and interpret the results obtained. *Sample answer:*

	Got diabetes	**Healthy**
overweight people	**36** **A**	**1321** **b**
People **Withormal** **weight**	**72** **c**	**6148** **d**

Attributable risk (AR) (risk difference indicator -)

= – =A– = – = , — , — , — —

Shows the absolute increase in morbidity due to the action of the factor.

Task 30.

According to an epidemiological study examining the effect of excess weight on the risk of developing type 2 diabetes mellitus, conducted in the village of N., it was found that over the course of a year, 108 people out of 7,660 residents fell ill with type 2 diabetes mellitus. Among the residents of the village, 1,321 people are overweight, of which 36 people have diabetes. 72 of the sick people have normal weight.

To calculate risks, create a four-field table. Give the formula for calculating the odds ratio.

Calculate the odds ratio and interpret the results obtained.

Sample answer:

	Got diabetes	**Healthy**
overweight people	**36 A**	**1321 b**
People with normal weight	**72 c**	**6148 d**

Odds ratio (OR)

= =

: = * = = ,

OR>1, which means the occurrence of the disease is associated with excess weight.

Task 31.

The percentage of seronegative individuals among the "indicator" groups for serological monitoring of the state of collective immunity to diphtheria in the city of N.

Evaluate the results of serological monitoring of the state of collective immunity to the causative agent of diphtheria in the city of N.

«Индикаторные» группы	1-2 года	3-4 года	9-10 лет	16-17 лет	20-29 лет	в т.ч. 25-29 лет	30-39 лет	в т.ч. 30-35 лет	40-49 лет	50-59 лет
% серонегативных лиц	-	1%	-	1%	1%	-	1%	-	1%	-

:

Sample answer:

The detection in each group of children and adolescents of no more than 5% of persons with a titer of diphtheria antibodies less than 1:20 and no more than 10% of persons with the absence of protective titers of diphtheria antibodies in the group of adults serves as an indicator of sufficient protection from diphtheria and tetanus. Serological monitoring in groups 1-2 years, 9-10 years, 25-29 years, 30-35 years is not carried out. In the age groups 3-4 years, 16-17 years, 20-29 years, 30-39 years, 40-49 years and 50-59 years, the state of collective immunity is satisfactory.

Task 32.

«Индикаторные» группы	1-2 года	3-4 года	9-10 лет	16-17 лет	20-29 лет	в т.ч. 25-29 лет	30-39 лет	в т.ч. 30-35 лет	40-49 лет	50-59 лет
% серонегативных лиц	-	2%	-	3%	3%	-	5%	-	7%	-

Percentage of seronegative individuals among the "indicator" groups for serological monitoring of the state of collective immunity to the hepatitis B virus in city N

Evaluate the results of serological monitoring of the state of collective immunity to the hepatitis B virus in the city of N.

Sample answer:

The criterion for epidemiological well-being for hepatitis B is the identification of no more than 10% of seronegative individuals in each "indicator" group. Serological monitoring in groups 1-2 years, 9-10 years, 25-29 years, 30-35 years and 50-59 years is not carried out. In the age groups 3-4 years, 16-17 years, 20-29 years, 30-39 years, 40-49 years, the state of collective immunity is satisfactory.

Task 33.

An intercity bus driver (41 years old) injured in a car accident was brought to the traumatology department with burns and lacerations and an unknown vaccination history. He underwent emergency immunological control using RPHA, according to which the titer of tetanus antitoxin in the blood serum was 1:160. Does the victim need emergency tetanus prophylaxis?

What medications and in what dosage should a bus driver be prescribed?

Sample answer:

The bus driver does not need emergency tetanus prophylaxis. Task 34.

An intercity bus driver (41 years old) injured in a car accident was brought to the traumatology department with burns and lacerations and an unknown vaccination history. He underwent emergency immunological monitoring using RN, according to which the titer of tetanus antitoxin in the blood serum was higher than 0.1 IU/ml. Does the victim need emergency tetanus prophylaxis?

What medications and in what dosage should a bus driver be prescribed?

Sample answer:

The bus driver does not need emergency tetanus prophylaxis. Task 35.

A 22-year-old girl injured in a car accident was brought to the traumatology department with 3rd degree burns; there is no vaccination documentation. She underwent emergency immunological control using RPGA, according to which the titer of antitetanus antitoxin in the blood serum was 1:40. Does the victim need emergency tetanus prophylaxis?

What medications and in what dosage should the girl be prescribed?

Sample answer:

Yes, she does, she should be given 0.5 ml of

AS. Task 36.

A 22-year-old girl injured in a car accident was brought to the traumatology department with 3rd degree burns; there is no vaccination documentation. She underwent emergency immunological control using a neutralization reaction, according to which the titer of tetanus antitoxin in the blood serum was 0.01. Does the victim need emergency tetanus prophylaxis?

What medications and in what dosage should the girl be prescribed?

Sample answer:

Yes, she does, she should be given 0.5 ml of

AS. Task 37.

It is necessary to resolve the issue of emergency tetanus prophylaxis for a migrant worker from Tajikistan who went to the emergency room with a 2nd degree burn on the left hand. He presented a certificate of two-time vaccination with AS with an interval of 60 days, carried out 6 years ago. He underwent emergency immunological control using RPGA, according to which the titer of antitetanus antitoxin in the blood serum was less than 1:20.

What drugs and in what dosage should be administered to the victim?

Sample answer:

He should be given 1 ml of AC and 250 IU of PSCI (or PSS at a dose of 3000 IU).

Task 38.

It is necessary to resolve the issue of emergency tetanus prophylaxis for a migrant worker from Tajikistan who went to the emergency room with a 2nd degree burn on the left hand. He presented a certificate of two-time vaccination with AS with an interval of 60 days, carried out 6 years ago. He underwent emergency immunological control using a neutralization test, according to which the titer of tetanus antitoxin in the blood serum was less than 0.01.

What drugs and in what dosage should be administered to the victim?

Sample answer:

He should be given 1 ml of AC and 250 IU of PSCI (or PSS at a dose of 3000 IU).

Task 39.

Patient P., 25 years old, intern, pediatrician, in June this year. g. went to the district clinic with complaints of weakness, fever, and cough. During the examination, a diagnosis of “focal pulmonary tuberculosis, infiltration phase, MBT “+” was made. Family contacts with the patient were examined in

PTD for two weeks: adults underwent a fluorographic examination, no pathology was detected, a 2-year-old child underwent a Mantoux test, the result was 5 mm. According to the results of a routine tuberculin diagnosis carried out a year ago, the size of the infiltrate was 6 mm. The child was vaccinated in the maternity hospital with the BCG-m vaccine.

How do you evaluate the results of the Mantoux test? What is the etiology of tuberculin allergy in a child?

Sample answer:

The infiltrate size of 6 and 5 mm is assessed as a positive result, indicating the presence of tuberculin allergy. Mantoux's positive reaction this year and last year was a consequence of the vaccination.

Task 40.

Patient P., 25 years old, intern, pediatrician, in June this year. g. went to the district clinic with complaints of weakness, fever, and cough. During the examination, a diagnosis of “focal pulmonary tuberculosis, infiltration phase, MBT “+” was made. Those who had contact with the patient in the family were examined at the PTD for two weeks: the adults underwent a fluorographic examination, no pathology was detected, a Mantoux test was performed on a 3-year-old child, the result was 22 mm. According to the results of a routine tuberculin diagnosis carried out a year ago, the size of the infiltrate was 2 mm. The child was vaccinated in the maternity hospital with the BCG-m vaccine, but a scar did not form at the site of its administration.

Can BCG vaccination be assessed as successful? How do you evaluate the results of the Mantoux test? What is the etiology of tuberculin allergy in a child?

Sample answer:

After the BCG-m vaccination, a scar did not form, which indicates the failure of vaccination: immunity has not been formed. The size of the infiltrate of 22 mm is assessed as hyperergic, which indicates infection with Mycobacterium tuberculosis.

Task 41.

The pregnant woman was first examined for markers of viral hepatitis C when registering an outbreak of CHC three years ago. The results of initial and subsequent laboratory tests for hepatitis C markers are negative.

When registering for pregnancy, the woman underwent an in-depth clinical and laboratory examination. At 11-12 weeks of pregnancy, anti-HCV IgG was first detected in a woman. There was also a moderate increase in activity

aminotransferases. Additional special studies for the presence of markers of hepatitis C did not reveal the presence of hepatitis C virus ribonucleic acid in the blood serum.

A pregnant woman is observed at her place of residence by a gynecologist and an infectious disease specialist, and follows their recommendations aimed at maintaining pregnancy and preventing the intensification of the infectious process.

What clinical forms of hepatitis C are currently subject to recording and registration in the epidemiological surveillance system.

Sample answer:

In the epidemiological surveillance system, the following are currently subject to recording and registration: acute hepatitis C and chronic hepatitis C.

Task 42.

The pregnant woman was first examined for markers of viral hepatitis C when registering an outbreak of CHC three years ago. The results of initial and subsequent laboratory tests for hepatitis C markers are negative.

When registering for pregnancy, the woman underwent an in-depth clinical and laboratory examination. At 11-12 weeks of pregnancy, anti-HCV IgG was first detected in a woman. A moderate increase in aminotransferase activity was also observed. Additional special studies for the presence of markers of hepatitis C did not reveal the presence of hepatitis C virus ribonucleic acid in the blood serum.

A pregnant woman is observed at her place of residence by a gynecologist and an infectious disease specialist, and follows their recommendations aimed at maintaining pregnancy and preventing the intensification of the infectious process.

Name the routes of transmission of the hepatitis C virus. Indicate the most likely routes of infection for a pregnant woman living in a CHC outbreak.

Sample answer:

Natural routes of transmission (perinatal, sexual, household contact) and artificial/artificial routes of transmission (parenteral, transfusion, transplantation, etc.). The most likely routes of infection for a pregnant woman living in a CHC outbreak are through sexual contact and household contact.

Task 43.

In the epidemiological focus of diphtheria, a serological examination of contact persons with an unknown vaccination history was carried out. According to the results of RPGA, it was established that in 1 of them, Peter M., the titer of anti-diphtheria antibodies was 1:20.

Should he be given emergency immunization against diphtheria and with what drug?

Sample answer:

Yes, he should be given ADS-M at a dose of 0.5

ml. Task 44.

In the epidemiological focus of diphtheria, a serological examination of contact persons with an unknown vaccination history was carried out. According to the results of RPGA, it was established that in 1 of them, Ivan N., the titer of anti-diphtheria antibodies was 1:80. Should he be given emergency immunization against diphtheria and with what drug?

Sample answer:

No, Ivan is not undergoing emergency immunization; he is subject to routine immunization according to the vaccination calendar.

Task 45.

The table shows the incidence rates of dysentery for 2011-2021 in the city of R.

Year	Incidence rate	Absolute increase
2011	56.4	-
2012	88.9	+ 32.5
2013	101.3	+ 12.4
2014	87.0	- 14.3
2015	42.0	- 45.0
2016	104.5	+ 62.2
2017	245.6	+ 141.1
2018	285.9	+ 40.3
2019	204.5	- 81.4
2020	270.9	+ 66.4
2021	196.5	- 74.4

How to calculate the total absolute increase?

Calculate the total absolute increase for the observation period presented.

Sample answer:

The total absolute increase (decrease) is calculated as the sum of absolute increases in the series or the difference between the final and initial levels:

S=∑ △У =U **-**U **,where S is the total absolute increase;△ У – amount absolute growth,**U **– final level,**U **- First level.** U **=74.4**

U **=+32.5**

The overall absolute increase (decrease) was 41.9

Task 46.

The table shows dysentery incidence rates for 2017 -2021 in the city of R.

Year	Incidence rate	Absolute increase
2017	245.6	
2018	285.9	
2019	204.5	
2020	270.9	
2021	196.5	

How to calculate the absolute growth rate?

Calculate the absolute growth values for the presented observation period

Sample answer:

The absolute growth rate is calculated as the difference between the next and previous levels of the series.

Year	Incidence rate	Absolute increase
2017	245.6	-
2018	285.9	**+ 40.3**
2019	204.5	**- 81.4**
2020	270.9	**+ 66.4**
2021	196.5	**- 74.4**

Task 47.

The table shows dysentery incidence rates for 2017-2021 in the city of R.

Year	Index morbidity	Absolute increase	Pace growth (decrease) with a chain base, %
2017	245.6	-	
2018	285.9	+ 40.3	
2019	204.5	- 81.4	
2020	270.9	+ 66.4	
2021	196.5	- 74.4	

How to calculate the growth rate with a chain base?

Calculate the chain-based growth rate for the observation period presented.

Sample answer:

The growth (decrease) rate is the ratio of this level to the previous one, expressed as a percentage (the growth rate with a chain basis).

Year	Index	Absolute increase	Growth rate (decrease)

	morbidity		with a chain base, %
2017	245.6	-	**-**
2018	285.9	+ 40.3	**116.4**
2019	204.5	- 81.4	**71.5**
2020	270.9	+ 66.4	**132.5**
2021	196.5	- 74.4	**72.7**

Task 48.

The table shows dysentery incidence rates for 2017-2021 in the city of R.

Year	Index morbidity	Absolute growth	Pace growth (decrease) at chain base, %	Pace growth (loss), %
2017	245.6	-	-	
2018	285.9	+ 40.3	116.4	
2019	204.5	- 81.4	71.5	
2020	270.9	+ 66.4	132.5	
2021	196.5	- 74.4	72.7	

How to calculate the rate of growth (loss)?

Calculate the rate of growth (loss) for the presented observation period.

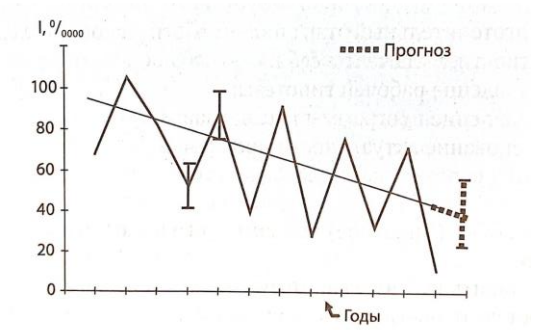
Sample answer:

The rate of growth (loss) is the ratio of absolute growth (loss) to the previous level, expressed as a percentage. The growth rate can also be calculated using the formula: growth rate – 100%.

Year	Index morbidity	Absolute growth	Pace growth (decrease) at chain base, %	Pace growth (loss), %
2017	245.6	-	-	**-**
2018	285.9	+ 40.3	116.4	**+ 16.4**
2019	204.5	- 81.4	71.5	**- 28.5**
2020	270.9	+ 66.4	132.5	**+ 32.5**
2021	196.5	- 74.4	72.7	**- 27.3**

Task 49.

Annual incidence rates of the entire population of city A. with disease B for 12 years (I, 0/0000) (confidence limits I±2m).



Study the chart and draw conclusions about the direction of the trend and the nature of the cyclicity.

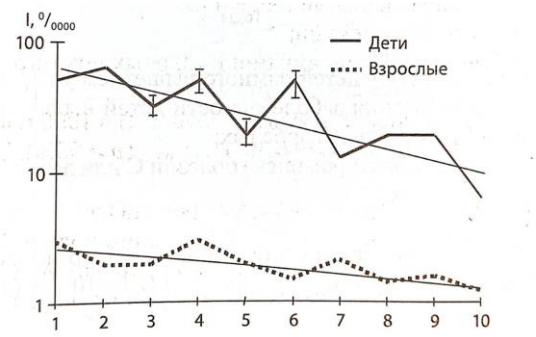
Sample answer:

There is a downward trend in incidence;

There is a pronounced cyclicity with a period of 2-3 years

Task 50.

Annual incidence rates for 10 s with disease A in the city of N. for years (I,0/0000) (confidence limits I



Study the graph and give a comparative assessment of the rate of decline in the incidence of children and adults. In the dynamics of the incidence of which of the presented population groups is cyclical, determine the duration of the cycles.

Sample answer:

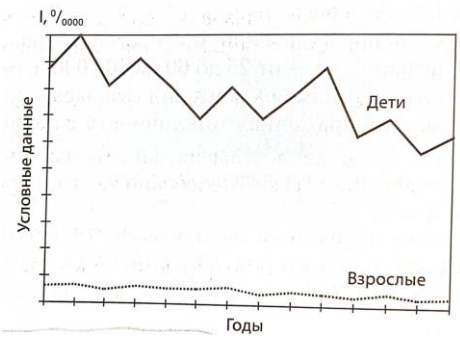
The rate of decline in the incidence of children is higher than that of adults;

In the dynamics of morbidity in children, a pronounced cyclicity was revealed with a period of mainly 2 years;

Task 51.

Annual incidence rates of children under 14 years of age and adults in the city of N. with S. disease

14 years old.



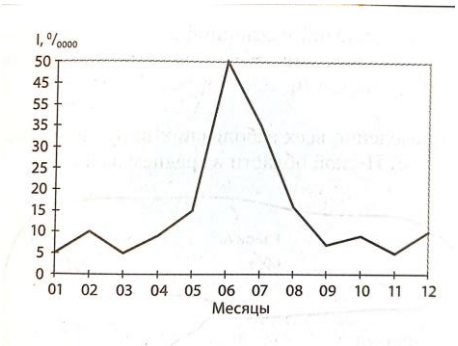
Using the presented graph, estimate for whom the risk of contracting C.'s disease is higher - for children or adults.

Sample answer:

The risk of getting sick in children is much higher than in adults;

Task 52.

Monthly dynamics of incidence Since 1995. In the city of A. (I,0/0000).



Is it possible to determine the seasonal rise period from the presented graph? When approximately did the rise in incidence begin?

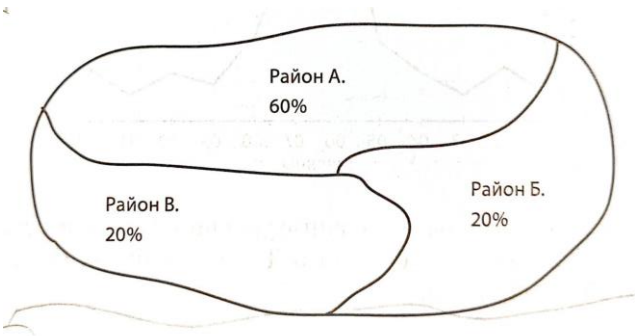
Sample answer:

The data does not allow us to determine the period

The rise in incidence begins around

Task 53.

The cartogram shows the distribution of three hepatitis A districts of the N region on average over 3 years.



Based on the cartogram data, determine in which area there are registered patients with viral hepatitis A.

Sample answer:

The largest number of patients with viral hepatitis A has been registered

Task 54.

The table presents the results of a 5-year observation of two groups of healthy individuals, susceptible (experience) and not susceptible (con putative risk factor F1 for disease A. The samples are representative.

Контингент	F1	Показатель инцидентности	Годы				
			1	2	3	4	5
Здоровые, 2800 человек	Есть	I, $^0/_{00}$	0,7	1,1	2,8	5,4	7,8
Здоровые, 1100 человек	Нет	I, $^0/_{00}$	0,9	0,9	1,8	2,7	3,6

Is it possible to draw a final conclusion about the action based claim F1 on the given data?

Sample answer:

A final conclusion cannot be drawn, because, in part, the no rating reliability of the differences in the data obtained.

Task 55.

The table presents the results of a 5-year observation of groups orcish of healthy individuals susceptible (experience) and not susceptible to influence the putative risk factor F2 for disease A. Representative samples

Контингент	F2	Общий (за 5 лет) показатель инцидентности на 1000 обследованных	Критерий *t*
Здоровые, 2000 человек	Есть	12,7	2,0
Здоровые, 1500 человек	Нет	6,5	

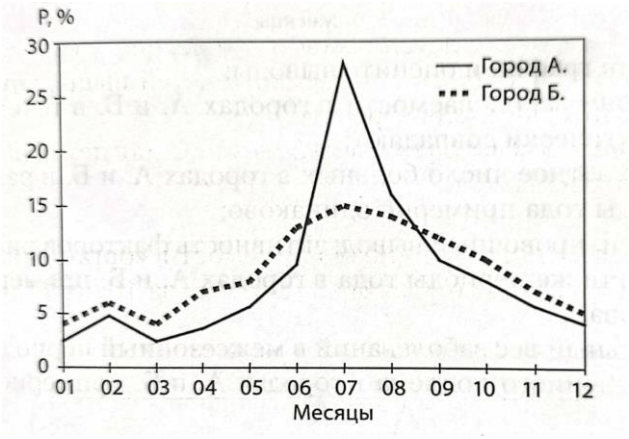
Is it possible to draw a conclusion about the effect of the putative risk factor F2 based on the data presented?

Sample answer:

A tentative conclusion is that F2 is a risk factor for disease A, because there are significant differences in the frequency of diseases identified over 5 years in the experimental and control groups.

Task 56.

Average long-term (typical) monthly distribution of cases of schoolchildren with disease D in the cities of A. and B. for 10 years



Which city has a higher proportion of off-season diseases?

Sample answer:

The proportion of off-season diseases in city B is higher than in city A.

Task 57.

Average long-term (typical) annual incidence rates (I,0000) disease O of the entire population of three regions over 10 years. The population of these regions is the same. There is no information about the quality of detection and diagnosis of patients in different areas.

Область	I, $^{0}/_{000}$
1-я	800,3
2-я	300,5
3-я	150,2

Distribute the locations of the regions depending on the level of morbidity. Is it possible to conclude that the differences in incidence rates in the three regions are statistically significant? Is it possible to assess the activity of risk factors in different areas based on the information presented?

Sample answer:

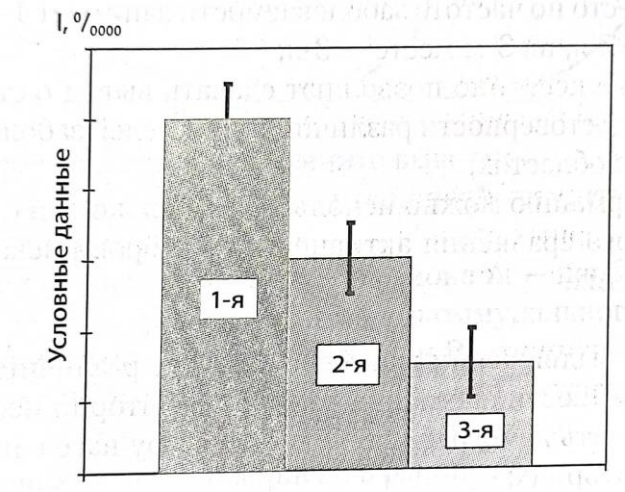
The 1st region in terms of incidence rate is occupied by the 1st region, 2nd by the 2nd region, and in the 3rd place by the 3rd region;

The data indirectly allows us to draw a conclusion about the statistical significance of the differences in morbidity rates in the three regions;

The information can only be used for indicative comparison of risk factor activity in different areas

Task 58.

The incidence of disease A in three population groups of the city of N. in 2000 (confidence limits I ± 2m). The quality of identification and diagnosis of patients from different population groups is approximately the same.



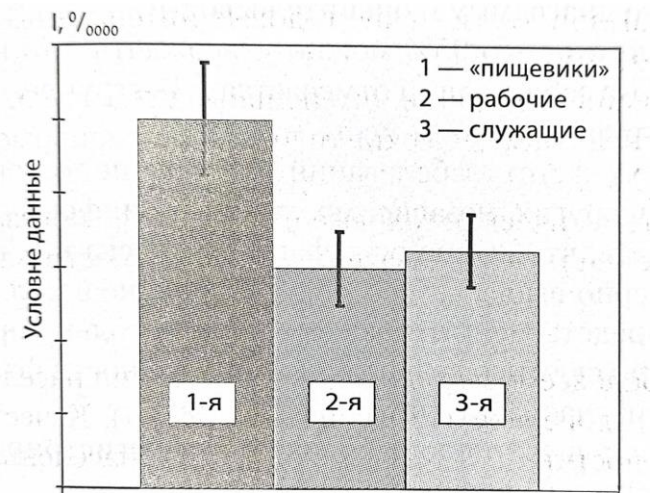
In which group is the activity of the risk factor the greatest, and in which is the least?

Sample answer:

The activity of risk factors is greatest in group 1, least in group 3.

Task 59.

Average long-term annual incidence rates of bacterial dysentery for three occupational groups (confidence limits I±2m).



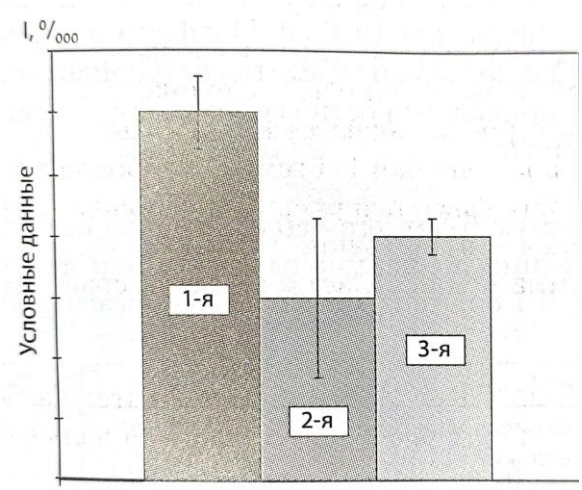
Based on the presented diagram, can we conclude that the incidence of illness among food workers is reliably higher than among workers and employees?

Sample answer:

Yes, the incidence of illness among food workers is reliably higher than among workers and employees.

Task 60.

Average long-term annual incidence rates of disease A in three different age groups of the population of the city of N. (confidence limits I+2m).



Compare the incidence rates in the groups presented. For which age groups can we say with 95% reliability that the incidence of diseases is significantly different from the same indicator in another (other) groups?

Sample answer:

With 95% reliability, it can be stated that the highest incidence of diseases is observed in group 1. The 3rd group is in 2nd place, and the 2nd group is in 3rd place, but there are no significant differences between them.

Task 61.

Frequency of occurrence of putative risk factors (F) in the anamnesis of a sample group of 120 patients with disease A. The sample is representative.

Предполагаемый фактор риска	F1	F2	F3	F4
Частота фактора риска в анамнезе больных болезнью А, %	10,0	25,0	50,0	80,0

Based on the data presented, can it be confirmed that all the studied factors are risk factors?

Sample answer:

The data do not allow us to make even tentative conclusions about the belonging of all studied factors to risk factors.

Task 62.

Frequency of occurrence of putative risk factors F1 and F2 in the anamnesis of two sample groups: patients with disease K (experience) and patients with other diseases (control). The samples are representative.

Группы	Численность групп	Фактор F1		Фактор F2	
		Частота в анамнезе (%)	Критерий t	Частота в анамнезе (%)	Критерий t
Больные болезнью Д	140	43,7	1,4	48,7	3,4
Больные другими болезнями	120	35,5		28,4	

Based on the data presented, determine which factor is responsible for the incidence of disease K.

Sample answer:

Affected the incidence of disease K. factor

Task 63.

Results of assessing the effectiveness of a new drug for treatment. Experimental group - patients with disease A who received a new drug. K patients with disease A who received traditional treatment.

Группы больных	Удельный вес вылеченных больных (%)						Критерий t
	Дни болезни						
	1–2	3–4	5–6	7–8	9–10	Всего за 10 дней	
Опытная, 55 чел.	0,0	0,0	3,6	30,9	45,5	80,0	3,4
Контрольная, 60 чел.	0,0	0,0	1,7	13,3	21,7	51,7	

Has the effectiveness of the new drug been proven? Can the conclusion drawn be considered final?

Sample answer:

The effectiveness of the new drug has been proven, but the conclusion about the effectiveness of the new drug can be considered only as indicative, since the specifics of organizing control when prescribing and taking new and traditional drugs are unknown.

Task 64.

In Moscow in 1998, nurse V.Yu., an employee of one of the Moscow hospitals, while disconnecting the IV from a seriously ill patient T., who, as it turned out later, was infected with Plasmodium falciparum, pricked herself with an injection needle at the base of her thumb. The nurse took a number of general preventive measures against infection: she took off her glove, squeezed the blood out of the wound, washed the wound under running water and soap, treated it with 70° alcohol, tincture of iodine, and sealed it with an adhesive plaster. Despite these measures, 10 days after the injection, V.Yu. the temperature increased to 38.7°C. Took

analgesics, without attributing your discomfort to an accidental needle prick. Two days later she called an ambulance; On the advice of the visiting doctor, I started taking Ampicillin. The temperature continued to rise, and 6 days after the start of antibiotic therapy, V.Yu. sought advice at her place of work, where the emergency department doctor suspected tropical malaria. Plasmodium falciparum was detected in the blood taken from V.Yu. in the emergency department

Is focal disinsection against mosquitoes needed in the departments of this hospital and why?

Sample answer:

Focal disinsection against mosquitoes in the departments of this hospital is not advisable, since the natural vector-borne mechanism of transmission of tropical malaria in this territory (Moscow) cannot be implemented due to the lack of vectors.

Task 65.

On June 25, 2000, businessman K., who had returned 2 weeks ago from Azerbaijan, where he was on a long business trip, came to the district clinic in the city of N. with complaints of chills, fever, and malaise. After examination, the doctor diagnosed “Acute respiratory disease (ARI)” and issued a certificate of incapacity for work for 5 days.

However, during this time, patient K.’s condition did not improve. Upon returning to the doctor, K. was found to have an enlarged liver and spleen and severe jaundice of the sclera. A clinical blood test (after 2 days) of patient K. indicated anemia of unknown etiology. In this regard, patient K.'s blood smears were examined for malaria, and Pl was detected. vivax. As a result, a diagnosis of three-day malaria was made. The patient was hospitalized.

Over the course of several days (July 15, 17, 19, 20, 2000), a person (local residents of the city of N.) came to the clinic with a fever and severe malaise, which they had observed over the previous 2-3 days. During the epidemiological investigation, it was found that all the sick people lived in the same entrance of a typical five-story building No. 3 on Makarova Street, none of them had left the city for the last three years, one was a regular blood donor. As it turned out, businessman K lives in the same house. Pl was found in the blood of all sick people. vivax.

Every year in the area of the city of N., 10-15 cases of three-day malaria were noted, which were the result of importation, while in the city of N. no local cases of malaria were registered over the past 7 years.

On the outskirts of the city of N. there is a small reservoir, which is a breeding ground for mosquitoes. According to the city's entomological service, in May-June 2000 there was a significant increase in the number of the vector (mosquitoes of the genus Anopheles).

How did the patients become infected with 3-day malaria in this case?

Sample answer:

All patients got infected three-day malaria transmission transmission mechanism, that is, through mosquitoes of the genus Anopheles. Patient K. became infected in an endemic area (Azerbaijan) through mosquitoes, and 5 patients became infected in the city of N. from patient K. through local mosquitoes of the genus Anopheles.

Task 66.

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On the outskirts of the city of N. there is a small reservoir, which is a breeding ground for mosquitoes. According to the city's entomological service, in May-June 2000 there was a significant increase in the number of the vector (mosquitoes of the genus Anopheles).

Name and explain what cases (according to the classification of malaria cases) the disease can be attributed to in five patients who fell ill with malaria from July 15 to July 20.

Sample answer:

Cases of malaria in five patients who fell ill from July 15 to July 20 are classified as secondary to imported cases, since they live in the same house with the source of infection (entrepreneur K.), from whom they became infected through local mosquitoes. The incubation period corresponds to the time of formation of sporozoites after sucking the blood of a malaria patient.

Task 67.

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On the outskirts of the city of N. there is a small reservoir, which is a breeding ground for mosquitoes. According to the city's entomological service, in May-June 2000 there was a significant increase in the number of the vector (mosquitoes of the genus Anopheles).

Insecticidal preparations of which chemical groups should be used for anti-mosquito treatments of premises and other objects? Name 2 groups of insecticidal drugs.

Sample answer:

Apartments, entrances, basements, utility rooms and attics of a five-story residential building where people with malaria lived must be treated with insecticides from the group of organophosphorus compounds (OPS) or pyrethroids.

Task 68.

On June 25, 2000, businessman K., who had returned 2 weeks ago from Azerbaijan, where he was on a long business trip, came to the district clinic in the city of N. with complaints of chills, fever, and malaise. After examination, the doctor diagnosed “Acute respiratory disease (ARI)” and issued a certificate of incapacity for work for 5 days.

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Every year in the area of the city of N., 10-15 cases of three-day malaria were noted, which were the result of importation, while in the city of N. no local cases of malaria were registered over the past 7 years.

On the outskirts of the city of N. there is a small reservoir, which is a breeding ground for mosquitoes. According to the city's entomological service, in May-June 2000 there was a significant increase in the number of the vector (mosquitoes of the genus Anopheles).

How long does a person with malaria remain a source of infection? At what time period after sucking the blood of a person suffering from 3-day malaria does a mosquito become dangerous to humans?

Sample answer:

The infectiousness of a person with malaria to vectors remains as long as erythrocyte schizogony continues.

When mosquitoes are infected with Plasmodium vivax, the insect becomes dangerous after 7 days.

Task 69.

Patient N., 78 years old, a resident of the city of Saratov, sought medical help on November 9 due to fever up to 39°C and chills. Primary diagnosis of malaria?

From the anamnesis it is known that patient N. did not travel to the tropics. From October 7 to November 9, he was hospitalized in one of the hospitals in the city of Saratov, where he repeatedly received blood transfusions. When examining blood products, Pl rings and gametocytes were found in the patient. falciparum. Diagnosis of tropical malaria.

How could patient N. become infected with tropical malaria? Is a transmissible transmission route possible in this case and why?

Sample answer:

In this case, patient N. was infected with tropical malaria through a transfusion of infected blood (parenteral transmission), the vector-borne route is excluded, since specific vectors of tropical malaria do not live on the territory of the Russian Federation

Task 70.

Patient N., 78 years old, a resident of the city of Saratov, sought medical help on November 9 due to fever up to 39°C and chills. Primary diagnosis of malaria?

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repeatedly received blood transfusions. When examining blood products, Pl rings and gametocytes were found in the patient. falciparum. Diagnosis of tropical malaria.

Is it necessary to carry out chemoprophylaxis for tropical malaria for contact hospital staff?

Sample answer:

It is not necessary to carry out chemoprophylaxis for tropical malaria for all hospital staff (those who have or have not had contact with a patient with tropical malaria).

Task 71.

Patient N., 78 years old, a resident of the city of Saratov, sought medical help on November 9 due to fever up to 39°C and chills. Primary diagnosis of malaria?

From the anamnesis it is known that patient N. did not travel to the tropics. From October 7 to November 9, he was hospitalized in one of the hospitals in the city of Saratov, where he repeatedly received blood transfusions. When examining blood products, Pl rings and gametocytes were found in the patient. falciparum. Diagnosis of tropical malaria.

Explain whether focal disinsection against mosquitoes is needed in the departments of this hospital.

Sample answer:

Focal disinsection against mosquitoes in the departments of this hospital is not advisable, since the natural vector-borne mechanism of transmission of tropical malaria in this territory (Saratov) cannot be realized

Task 72.

On December 5, a local pediatrician was called to the home of a 4-year-old child due to the boy having a runny nose and an increase in body temperature to 38°C. Upon examination, hyperemia of the oropharyngeal mucosa, Filatov spots, and conjunctivitis were revealed. A preliminary diagnosis of measles was made.

What method of laboratory diagnosis verification is used as a standard test and what methods can be used in addition to it?

Sample answer:

As a standard test, the determination of immunoglobulin class M (IgM) antibodies by enzyme-linked immunosorbent assay (ELISA) is used; in addition to the detection of class M antibodies, simultaneous testing of two blood sera for IgG can be carried out to determine a fourfold increase in the level of specific IgG antibodies and a molecular genetic research method .

Task 73.

On December 5, a local pediatrician was called to the home of a 4-year-old child due to the boy having a runny nose and an increase in body temperature to 38°C. Upon examination, hyperemia of the oropharyngeal mucosa, Filatov's spots, and conjunctivitis were revealed. A preliminary diagnosis of measles was made. Laboratory examination revealed IgM to the measles virus in the patient.

What additional research should be carried out if IgM to the measles virus is detected in a sick person? What degree of increase in IgG titers in the blood serum is the basis for making a diagnosis of measles?

Sample answer:

In addition to the detection of class M antibodies, simultaneous testing of paired blood sera for IgG can be carried out. A fourfold or more increase in the level of specific IgG antibodies is the basis for a diagnosis of measles.

Task 74.

On March 26, 20... in the city of N., a 30-year-old man who returned from a business trip to China fell ill with measles. The next day after returning home - March 23, the patient felt unwell, his body temperature increased to 38.6°C, he had a sore throat and photophobia. On March 26, the temperature rose to 39.5°C, and a pinpoint rash appeared on the body. The man called an ambulance. The emergency doctor diagnosed measles? and suggested that the man contracted measles in China.

What laboratory test should be ordered for a sick person to confirm an “imported” case of measles?

Sample answer:

To confirm "imported" case measles necessary use a molecular genetic research method that will determine the genotype of the virus.

Task 75.

When studying the correlation between the incidence of acute intestinal infections in young children and the percentage of non-standard samples of dairy products, the calculated value of the correlation coefficient was: r = +0.78, the value of the average error m = ±0.15.

Does the incidence of acute intestinal infections in children depend on the quality of the dairy products they consume? Evaluate the value of the correlation coefficient and evaluate the degree of its reliability.

Sample answer:

Yes, the incidence of acute intestinal infections in children depends on the quality of the dairy products they consume, as evidenced by the correlation coefficient r = +0.78, indicating the presence of a strong direct connection between the incidence of acute intestinal infections in children and the % of non-standard samples of dairy products.

The resulting correlation coefficient is reliable with a probability of more than 99.9%, since it exceeds the average error by more than 3 times: t = 0.78: 0.15 = 5.1

CRITERIA for assessing competencies and rating scales

Grade "unsatisfactory" (not accepted) or absence formation competencies	**Grade "satisfactorily" (passed) or satisfactory (threshold) level of development competencies**	**Rated "good" (passed) or sufficient level development competencies**	**Excellent rating (passed) or high level development competencies**
failure to student on one's own demonstrate knowledge when solving assignments, lack independence in application of skills. Absence availability confirmation formation competencies indicates negative development results academic discipline	student demonstrates independence in application of knowledge skills and abilities to solve educational tasks in full According to sample given teacher, by tasks, solution of which there were shown teacher, it should be considered that competence formed on satisfactory level.	student demonstrates independent application of knowledge, skills and abilities when deciding tasks, tasks similar samples that confirms Availability formed competencies for higher level. Availability such competence on sufficient level indicates sustainable fixed practical skill	student demonstrates ability to full independence in choosing a method solutions non-standard assignments within disciplines with using knowledge, skills and skills, received as in development progress of this discipline, and adjacent disciplines should count competence formed on high level.

Criteria for assessing test control:

percentage of correct answers	Marks
91-100	Great
81-90	Fine

70-80	satisfactorily
Less than 70	unsatisfactory

When grading tasks with multiple correct answers, one error is allowed.

Criteria for assessing situational tasks:

Mark	**Descriptors**			
	understanding Problems	**analysis situations**	**skills solutions situations**	**professional thinking**
Great	complete implication problems. All requirements, submitted to adania, completed	high benefit analyze situation, draw conclusions	high benefit select method solutions problems, faithful solution skills situation	high level professional thoughts
Fine	complete implication problems. All requirements, submitted to adania, completed	benefit analyze situation, draw conclusions	benefit select method solutions problems faithful solution skills situation	residual level professional thoughts. drops one or two precision in the answer
satisfactory really	astastic implication problems. majority requirements declared to adania, completed	satisfactory 1st ability analyze situation, draw conclusions	satisfactory e skills solutions situations, falsity with choosing a method solutions to the problem	residual level professional thoughts. falls more a bunch of inaccuracies in answer or there is an error in the sequence solutions
will not satisfy really	misunderstanding problems. legs requirements, submitted to I hope not completed. No Tveta. Did not have experiments to solve hello	izkaya benefit analyze situation	insufficient solution skills situation	missing