

FEATURES OF EPIDEMIOLOGY. PROBLEMS AND DIFFICULTIES OF DIAGNOSING NOSOCOMIAL INFECTIONS IN MODERN ETAP.

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Annotation: An area of medicine called epidemiology includes both epidemics and loggias. develops strategies to treat and avert infectious diseases by researching the causes of their emergence and transmission. The fields of biology, microbiology, virology, genetics, biochemistry, and physics, among others, are all directly related to epidemiology. There is a distinction between public and private epidemiology. Private epidemiology studies the specific history, causative agent, epidemiology, source of infection, ways and means of transmission, and methods of treating and preventing each infectious disease. General epidemiology studies the evolutionary basis of the classification of infectious diseases, the epidemic process, the category, and laws of epidemiology. This article discusses opinions and reflections on the characteristics of epidemiology as well as the challenges and difficulties associated with detecting nosocomial infections in contemporary etap.

Keywords: *epidemiology, features, modern, diagnosis, problems, difficulties, infection, nosocomial.*

The field of epidemiology has a lengthy history. Along with religious and philosophical topics, the Avestan Holy Book of Zoroastrianism discusses medicine, in particular the transmission of infectious diseases and how to prevent them. Early on, it was understood that some diseases are spread by contact with infected animals, that the disease can spread through conversation with the patient, and that the causative agent of the disease can enter the body through the mouth, nose, or genitalia. The Middle Ages saw attempts to scientifically prove infectious diseases in the writings of Hippocrates, Rosie, ibn Sina, and others. Abu Ali ibn Sina, in his "Laws of Tib", commented on the main causes that cause diseases, the factors that trigger them, the symptoms of the disease

and their prevention. It contains information about the invisible pathogens of several dangerous infectious diseases (cholera, plague, chin smallpox, tuberculosis, etc.) and their mechanism, as well as about the fact that external factors such as contaminated water, air play an important role in the occurrence of infectious diseases.

Smallpox and pertussis were diseases that Ar-Rosie described. He was among the first writers to discuss the idea of immunizing healthy individuals against chin smallpox by administering a bone obtained from a patient's smallpox (pustula) blister. By the 17th century, English physician E.D. Jenner had proposed a smallpox vaccination method as a cure. Scientifically, the doctrine of immunity was founded on the findings of the French scientist Pasteur and the German scientist aox, who established the role of a particular causative agent in the origin of infectious diseases, microblarnnt. The research of Mechnikov and his students, the work of Ivanovsky, who first described filtering viruses, became of great importance in epidemiology. As a result of the further development of medical and health work, significant progress was made in the science and practice of Epidemiology. In many countries, including Uzbekistan, a sanitary and epidemiological hitch was organized under the guidance of large epidemiological scientists.

The epidemiology of non-infectious diseases is a recent field that focuses on the occurrence, transmission, and mortality of epidemic diseases. Its major goal is to create preventative measures against them based on data analysis on the etiology and pathogenesis of such diseases, as well as to lower the incidence of fatalities from chronic non-infectious diseases and malignant tumor diseases among the population. The Tashkent Institute for Advanced Training of Doctors houses Departments of Epidemiology, as do all other medical institutes now operating in Uzbekistan.

The history of human development is the history of wars, revolutions and epidemics. Much more people died from infectious diseases than from battlefields. In the Middle Ages, whole cities died from epidemics of plague and smallpox. More than 1,000 people died from the plague every day in Constantinople. During the Crusades, with the migration of people from Asia to Europe, a terrible infectious disease, leprosy, appeared. It was in connection with this disease that anti-epidemic measures were first applied, such as isolation. During Napoleon's campaign in Syria, more soldiers died from the plague than from the war. In 1892, 6 million people died during the plague epidemic in India. The second half of the 20th century was marked by a significant decrease in morbidity and mortality due to infectious diseases. This fact is due to the widespread introduction of antibiotics and the development of vaccinations. However, after a long quiet time, various forms of infectious diseases have grown again: viral infections (influenza, parainfluenza, enterovirus Infections, etc.), intestinal infections (salmonellosis, dysentery, viral hepatitis, etc.), sexually transmitted diseases (syphilis, gonorrhoea, AIDS), various infectious diseases of children.

The deterioration of the situation with infectious diseases necessitates intensifying community-wide preventive efforts. Teachers play a significant role in this area. As a result, the instructor needs to be knowledgeable about infectious diseases, including their microorganisms, sources of spread, symptoms, and prevention. To stop the contagious sickness from spreading, daily interaction between the teacher and the students is essential. If a teacher is familiar with the traits of the children, she or he will be able to spot the early signs of a disease, such as changes in

behavior, mood, health, rash, and skin discoloration. These alterations are particularly obvious to a teacher who interacts with a student on a daily basis. An educated individual engaged in pedagogical activities that promote health and a healthy lifestyle will therefore find it advantageous to have knowledge of epidemiology, clinic, and prevention of infectious diseases.

The essence of infectious diseases is the influence of the external environment (for example, low air temperatures contribute to the spread of influenza and other respiratory infections, and high temperatures prevent the occurrence of the disease) due to the interaction of two independent biosystems of macroorganism (human body) and microorganisms. Infectious disease:

1. phuman diseases caused by atogenic viruses and bacteria
2. the penetration of viruses, bacteria and protozoa into the human body.

The most important microorganism properties can cause an infectious process:

1. Pathogenicity,
2. Viruslik,
3. Invasiveness,
4. Toxicity.

Pathogenicity or pathogenicity is the ability of a particular type of microbe to cause disease. The presence or absence of this property makes it possible to classify microorganisms. Pathogenos. it can cause disease in humans, conditionally pathogenic - it is able to provoke the disease only under favorable conditions (for example, people have a sharp decrease in immunity) and non-pathogenic (saprophytes), which will never cause disease in humans. For different organisms, different microorganisms are pathogenic - for example, distemper viruses are for dogs, and saprophytes for humans. Viral disease is a measure of pathogenicity, i.e. how many germs must enter the body for the disease to occur .. Invasiveness (aggressiveness) associated with virulence of microorganisms, i.e. the ability to penetrate tissues and organs and spread to them. This ability is explained by the presence of factors of distribution in microbes, which include enzymes that help the body to spread and spread.

The ability of the human body to store and release harmful microbial poisons is what causes toxicity. Endotoxins and ECZO are the two different categories of toxins. Exotoxins are protein substances with a high level of specificity of action due to their chemical makeup. They are secreted by microorganisms during the course of their vital activity and target specific organs and tissues for damage. Endotoxins are only released when the microorganism cell is dead and gone because they are strongly associated to it. A person must consume the proper infectious dose, which varies from person to person and is equal for each pathogen, in order for a person to become ill, or for an infectious process to occur.

In order to stop epidemic outbreaks of infectious illnesses, therapeutic and preventative institutions (DPM) that provide medical care to the populace are crucial. Because even though the DPM's technological background, supply chain, and equipment are all enhanced, infectious disease transmission through the DPM is still documented. "Intra-hospital infection" or "Nosocomial infection" refers to a disease that is spread to a client while they are in the hospital or receiving

another type of referral to a DPM who has not yet developed an infectious disease or has no symptoms of an infectious disease at all.

An infection that occurs within a hospital is referred to as intra-hospital if it is typically discovered after 48 hours in a patient. Microorganisms (staphylococci, enterococci, enterobacteria, viruses, parasites, etc.) that are widespread in the population and refer to a disease of moderate severity or minor incidence compared to hospital patients are the genesis of intra-hospital infections. Nearly every nation in the world experiences intra-hospital infections, which also contribute to the length of patient stays, the need for additional testing and medications for treatment, an increase in the prevalence of infectious diseases, and hospital-related deaths.

According to the World Health Organization, an average of 8.7 percent of patients admitted to the hospital may be carriers of the causative agents of nosocomial infections. In the world, 1.4 million people suffer due to diseases they have contracted in the intra-hospital environment. The widespread use of antimicrobial drugs, especially antibiotics, in the treatment of patients or the prevention of certain infectious diseases in the DPM causes the pathogens of intra-hospital infections to remain stagnant to most disinfectants, which is why they are also called "hospital strains". With intra-hospital infections, not only patients can be infected, but also medical personnel, at the origin of which patients or medical personnel carrying the virus (virus or bacteria) and the external environment contaminated with bacteria, viruses and parasites in the intra-hospital environment are the source of the disease.

The main factor is the state of the microorganism, the patient's age, the state of the immune system, the predisposition to productive diseases and the presence of concomitant or chronic diseases (cancer, leukemia, diabetes mellitus, renal failure, etc.) in the origin of intra-hospital infections, as well as diagnostic, therapeutic (biopsy, catheterization, endoscopic examination, intubation), surgical and other procedures and the ability. Intra-hospital infections can be caused in a hospital environment at the expense of a microorganism that has been infected from another patient (interacted), or at the expense of a microorganism present in the patient himself (endogenous), or by microorganisms that have been infected from objects of the external environment contaminated by bacteria-carrying individuals.

Individuals, patients or medical personnel who have contracted infectious diseases or who have been infected with HIV, including a carrier of bacteria and viruses, may be the source of the disease at the origin of nosocomial infections. Since the disease cannot be detected in a patient or medical worker who has contracted the disease in an intra-hospital setting during the hospital stay, the disease can cause the disease to spread widely among the population after leaving the hospital. Intra-hospital infections can be transmitted through airborne droplets, parenteral, direct communication and alimentary pathways. Through airborne droplets, the lower respiratory tract and surgery, and through direct communication and alimentary tract, gastrointestinal and other diseases can be transmitted. The transmission of infectious diseases with a violation of the integrity of the skin and mucous membrane is called "parenteral transmission". Through the Parenteral route, mainly HIV infection, types V and C of viral hepatitis are transmitted.

In the Prevention of intra-hospital infections, it is important to timely identify the source of the disease among hospitalized patients and for this to fully collect an epidemiological Anamnesis from them, carry out disinfection, sterilization and full compliance with anti-epidemic rules in treatment and preventive institutions, systematically increase the level of knowledge of medical personnel for the Prevention of intra-hospital infections Based on these circumstances, increasing medical literacy, any innovations in medicine, articles, brochures, various video rollers, advertising, documentary films, strengthening propaganda in school, kindergarten institutions, open dialogues about diseases, open lessons, practical training are effective ways to prevent infectious, parasitic and nosocomial infections among healthy generations, citizens growing through tactical training.

Any illness that occurs in a hospital or other healthcare facility is referred to as a nosocomial infection. Infections in hospitals have been a significant global health issue since the middle of the 20th century. Numerous characteristics of their causal agent allow them to successfully survive and proliferate in medical settings. Up to 8% of patients in the Russian Federation, or 2-2.5 million individuals annually, are said to contract hospital infections each year, according to government data. But since statistical accounting is not accurate, many academics believe that real morbidity is ten times higher than reported.

Bacteria, viruses, and fungus all contribute to nosocomial infections. Only a small portion of them are pathogenic bacteria; opportunistic microorganisms hold greater significance. They often reside on the skin and mucous membranes of a person and only cause illness when the immune system is compromised. The presence of opportunistic flora in the body is only weakly influenced by immunity because its antigens are known to it and do not result in the production of potent antibodies. Most frequently, pathogens associate with various strains of bacteria, viruses, and fungi.

As a rule, they have several transmission routes, some are able to live and reproduce outside a living organism. The smallest particles of viruses are easily transported throughout the hospital through ventilation systems for a short time to infect many people. Excessive accumulation, close contact, weakened patients - all this contributes to the onset of the epidemic and keeps it for a long time. Bacteria and fungi are less contagious, but they are very resistant to the external environment: it is impossible to act disinfectants, ultraviolet radiation. Some of them form spores that do not die even with prolonged boiling, soaking in disinfectants or freezing. Free-living bacteria successfully multiply in a humid environment (in sinks, humidifiers, disinfectant containers), they retain the activity of the nosocomial infection site for a long time.

Infectious sources are sick people and asymptomatic carriers of the pathogen. Often they are found among patients, a little less often among employees, and very rarely, hospital visitors become a source. The role of the latter is insignificant due to the restriction of going to the hospital, the organization of meeting places in the foyer, and not in the hospital departments. The spread of pathogens occurs in different ways: a) natural methods of distribution: horizontal: fecal-oral; contact; in the air; air dust; food. Vertical-from mother to fetus along the placenta. b) artificial (artificial) methods of distribution: associated with Parenteral interventions (injections, blood

transfusions, organ and tissue transplantation). Associated with medical and diagnostic invasive procedures (artificial ventilation lung, endoscopic examination of body cavities, laparoscopic intervention).

According to the definition of the World Health Organization, "infection within a hospital (infection within a hospital) is any clinically identified infectious disease that affects a patient as a result of hospitalization or treatment, or an infectious disease due to the hospital employee's activities in that area, regardless of whether symptoms of the disease appear during or after hospital stay. Infection within the hospital includes not only cases of illness resulting from infection in outpatient clinics, but also during treatment and diagnostic procedures by medical personnel at home. Infections within the hospital around the world, including in our country, are an urgent problem of modern medicine. At least 5% of hospitalized patients are exposed to Nosocomial Infection. In hospitals of different profiles, epidemics of nosocomial infections appear from time to time. Etiology, pathogens, depending on the degree of pathogenicity, are divided into mandatory pathogenic and conditionally pathogenic.

In the occurrence of nosocomial infections, obligatory pathogenic microorganisms play a relatively minor influence. Therefore, a number of nosological forms produced by pathogens in this category have been documented in non-infectious hospitals, including viral hepatitis B, C, and D, HIV infection, influenza and other ARVI, herpes infection, and acute intestinal viral infections. The conditionally pathogenic microorganisms aureus and epidermal staphylococci, streptococci, enterococci, klebsiellas, escherichia, enterobacter, proteus, and others are the most frequent causes of nosocomial infections. Hospital microorganisms, which have high pathogenicity, high resistance to antibiotics and chemotherapeutic treatments, and high resilience to unfavorable environmental variables, play a particularly important role in the etiology of intra-hospital infections (drying, exposure to ultraviolet rays, disinfectants). The widespread use of antibiotics promotes the establishment of disease strains that are resistant to them.

In conclusion, the artificial transmission of disease pathogens to health institutions is associated with a violation of the regime of sterilization and disinfection of medical equipment, instruments, non-compliance with the aseptic rules of personnel, the administration of infected blood products to patients. In connection with the widespread use of invasive interventions in the examination and treatment of patients, there are more and more cases of infection of patients as a result of damage to the integrity of the mucous membranes and skin cover when using contaminated equipment and equipment. The spread of nosocomial infections is facilitated by: the creation of large multidisciplinary hospital centers with a high density of patients and medical workers who have constant and close contact with each other; the formation of a strong artificial (artifact) factor for the administration of infection associated with invasive interventions, treatment and diagnostic procedures. The constant presence of infectious sources in patients and medical personnel - carriers of pathogens, as well as patients with erased forms of the disease, the formation of hospital strains of pathogens resistant to high pathogenicity and polyantibiotics.

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