

## STANDARDS OF INFECTIOUS DISEASES: DIAGNOSES AND COUNTERACTION

Sobirov Mukhammadjon Abdurafik o'g'li

Department of infectious diseases

Andijan State Medical Institute

**Abstract:** Infectious diseases have plagued humanity since time immemorial. From the bubonic plague that devastated medieval Europe to the 1918 influenza pandemic that killed tens of millions globally, pathogens have posed a persistent threat to public health. In the modern era, advances in medicine and public health infrastructure have allowed nations to better understand, diagnose, and combat infectious illnesses. However, new diseases continue to emerge while old scourges persist, necessitating constant vigilance and improvement of standards. This paper will examine contemporary standards for the diagnosis and counteraction of infectious diseases, and ways to strengthen global cooperation in these efforts.

**Keywords:** Public health, control, diseases, environment, epidemic, transmissions.

**Introduction:** An irresistible sickness can be characterized as a disease because of a microorganism or its harmful item, which emerges through transmission from a tainted individual, a contaminated creature, or a polluted lifeless thing to a helpless host. Irresistible sicknesses are liable for a colossal worldwide weight of infection that influences general wellbeing frameworks and economies around the world, lopsidedly influencing weak populaces. In 2013, irresistible sicknesses brought about more than 45 million years lost because of handicap and north of 9 million passing's.

Lower respiratory lot contaminations, diarrheal illnesses, HIV/Helps, jungle fever, and tuberculosis (TB) are among the top reasons for in general worldwide mortality. Irresistible illnesses additionally incorporate arising irresistible sicknesses; infections that have recently showed up (e.g., Center East Respiratory Condition) or have existed however are quickly expanding in occurrence or geographic reach (e.g., widely drug-safe tuberculosis (XDR TB) and Zika infection. Irresistible infectious prevention and counteraction depends on an intensive comprehension of the variables deciding transmission.

An exemplary model of irresistible illness causation, the epidemiological group of three, imagines that an irresistible infection results from a blend of specialist (microorganism), have, and ecological elements. Irresistible specialists might be living parasites (helminths or protozoa), growths, or microbes, or nonliving infections or prions. Natural elements decide whether a host will become presented to one of these specialists, and resulting collaborations between the specialist and host will decide the openness result.

Specialist and host collaborations happen in a fountain of stages that incorporate contamination, sickness, and recuperation or demise. Following openness, the initial step is much of the time colonization, the adherence and starting duplication of an illness specialist at a gateway of section like the skin or the mucous films of the respiratory, stomach related, or urogenital plot. Colonization, for instance, with methicillin-safe *Staphylococcus aureus* in the nasal mucosa, doesn't

cause illness in itself. For illness to happen, a microbe should taint (attack and lay out inside) have tissues.

Contamination will constantly cause some disturbance inside a host; however, it doesn't necessarily bring about illness. Sickness shows a degree of disturbance and harm to a host that outcomes in emotional side effects and goal indications of disease. For instance, inactive TB contamination is just contamination - proved by a positive tuberculin skin test or interferon gamma discharge examine - yet with an absence of side effects (e.g., hack or night sweats) or signs (e.g., rales on auscultation of the chest) of sickness. This is as opposed to dynamic pneumonic TB (illness), which is joined by sickness side effects and signs.

Recuperation from disease can be either finished (end of the specialist) or fragmented. Fragmented recuperation can bring about both ongoing diseases and idle contaminations. Persistent contaminations are described by the proceeded with perceivable presence of an irresistible specialist. Conversely, idle contaminations are recognized by a specialist which can stay tranquil in have cells and can later go through reactivation. For instance, varicella zoster infection, the specialist causing chicken pox, may reactivate numerous years after an essential disease to cause shingles. From a general wellbeing point of view, idle contaminations are huge in that they address quiet supplies of irresistible specialist for future transmission.

#### Determinants of Irresistible Sickness:

At the point when a potential host is presented to an irresistible specialist, the result of that openness is reliant upon the powerful connection between specialist determinants of infectivity, pathogenicity, and destructiveness, and natural host determinants of defenselessness to contamination and to illness. Natural variables, both physical and social conduct, are extraneous determinants of host weakness to openness.

Specialist Elements Infectivity is the probability that a specialist will contaminate a host, considering that the host is presented to the specialist. Pathogenicity alludes to the capacity of a specialist to cause sickness, given contamination, and harmfulness is the probability of causing serious infection among those with illness. Destructiveness reflects primary or potentially biochemical properties of an irresistible specialist. Eminently, the harmfulness of an irresistible specialists is because of the creation of poisons (endotoxins as well as exotoxins, for example, the cholera poison that incites a lavish watery the runs. A few exotoxins cause illness free of contamination, with respect to model, the staphylococcal enterotoxins that can cause foodborne infections.

Specialist qualities can be estimated in different ways. Infectivity is much of the time measured with regards to the irresistible portion 50 (ID 50), how much specialist expected to contaminate half of a predetermined host populace. ID50 fluctuates broadly, from 10 creatures for *Shigella* dysenteries to 106-1011 for *Vibrio cholerae*. Infectivity and pathogenicity can be estimated by the assault rate, the quantity of uncovered people who foster sickness (as it very well might be challenging to decide whether somebody has been contaminated in the event that they don't have outward appearances of illness). Harmfulness is much of the time estimated by the case casualty rate or extent of infected people who kick the bucket from the illness.

The result of openness to an irresistible specialist depends, to a limited extent, upon numerous host factors that decide individual powerlessness to contamination and sickness. Defenselessness alludes to the capacity of an uncovered individual (or gathering of people) to oppose contamination or breaking point illness because of their natural cosmetics. Factors affecting powerlessness incorporate both inborn, hereditary factors and gained factors, for example, the particular insusceptibility that creates following openness or inoculation.

The jungle fever obstruction managed the cost of transporters of the sickle cell attribute epitomizes how hereditary qualities can impact weakness to irresistible infection. Weakness is likewise impacted by limits old enough, stress, pregnancy, dietary status, and hidden infections. These last option variables can influence resistance to disease, as outlined by immunologically guileless newborn child populaces, maturing populaces encountering insusceptible senescence, and immunocompromised HIV/Helps patients.

Mechanical and synthetic surface hindrances, for example, the skin, the flushing activity of tears, and the catching activity of bodily fluid are the main host obstructions to contamination. For instance, wound disease and optional sepsis are serious complexities of extreme consumes which eliminate the skin boundary to microbial section. Lysozyme, emitted in spit, tears, milk, sweat, and bodily fluid, and gastric corrosive have bactericidal properties, and vaginal corrosive is microbicidal for some specialists of physically sent contaminations (STIs).

Microbiome-occupant microorganisms (a.k.a. commensal microorganisms, ordinary vegetation) can likewise give have insurance by utilizing accessible supplements and space to keep pathogenic microscopic organisms from taking up home.

The natural and versatile insusceptible reactions are basic parts of the host reaction to irresistible specialists. Every one of these reactions is done by cells of a particular hematopoietic immature microorganism heredity: the myeloid genealogy leads to intrinsic resistant cells (e.g., neutrophils, macrophages, dendritic cells) and the lymphoid genealogy leads to versatile invulnerable cells (e.g., Lymphocytes, B cells). The intrinsic invulnerable reaction is a quick, vague reaction to general gatherings of microorganisms.

Conversely, the versatile insusceptible reaction is at first created over a time of 3-4 days, it perceives explicit microbes, and it comprises of two fundamental branches: Lymphocyte interceded invulnerability (a.k.a. cell-intervened resistance) and B cell-intervened invulnerability (a.k.a. humoral or counter acting agent intervened resistance). The natural and versatile reactions additionally vary in that the last option has memory, though the previous doesn't. As an outcome of versatile insusceptible memory, in the event that an irresistible specialist makes a second endeavor to contaminate a host, microorganism explicit memory Lymphocytes, memory B cells, and antibodies will mount an optional safe reaction that is substantially more fast and extraordinary than the underlying, essential reaction and, subsequently, better ready to repress contamination and illness.

Safe memory is the reason for the utilization of immunizations that are given trying to invigorate a person's versatile invulnerable framework to produce microorganism explicit insusceptible memory. Of note, at times the reaction of the insusceptible framework to an irresistible specialist can add to sickness progress. For instance, immunopathology is believed to be liable for the serious intense sickness that can happen following contamination with a dengue infection that is stereotypically unmistakable from that causing starting dengue disease.

**Conclusion:**In conclusion, standardized diagnostic criteria and surveillance systems coupled with robust containment strategies are essential for effectively tackling infectious diseases. While medical sciences have made immense progress, pathogens will remain a risk as long as root causes like socioeconomic inequities persist globally. Upholding high standards through sustained investment in public health and multilateral cooperation is therefore imperative to safeguard populations against both current and future health security threats. With coordinated action, the international community can strengthen defenses against infectious diseases and work towards a more equitable and secure world.

### References:

1. Azziz-Baumgartner E., Lindblade K., Gieseke K., Rogers H.S., Kieszak S., Njapau H., Schleicher R., McCoy L.F., Misore A., Decock K., Rubin C., Slutsker L. Case-control study of an acute aflatoxicosis outbreak, Kenya, 2004. *Environ. Health Perspect.* 2005; 113:1779–1783.
2. Bell B.P., Goldoft M., Griffin P.M., Davis M.A., Gordon D.C., Tarr P.I., Bartleson C.A., Lewis J.H., Barrett T.J., Wells J.G. A multistate outbreak of *Escherichia coli* O157:H7-associated bloody diarrhea and hemolytic uremic syndrome from hamburgers. The Washington experiences. *JAMA.* 1994; 272:1349–1353.
3. Black R.E., Morris S.S., Bryce J. Where and why are 10 million children dying every year? *Lancet.* 2003; 361:2226–2234.
4. Cann K.F., Thomas D.R., Salmon R.L., Wyn-Jones A.P., Kay D. Extreme water-related weather events and waterborne disease. *Epidemiol. Infect.* 2013; 141:671–686.
5. CDC Morbidity and mortality surveillance in Rwandan refugees–Burundi and Zaire, 1994. *MMWR Morb. Mortal. Wkly. Rep.* 1996; 45:104–107.
6. Dowdle W.R. The principles of disease elimination and eradication. *Bull. World Health Organ.* 1998;76(Suppl. 2):22–25.