



Epidemiology of Infectious Diseases

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Description

Written by Dr. Irwan SKM. the author hope that this book can become one of the additional reading materials information in the field of epidemiology, especially for courses of epidemiology of infectious diseases for health faculty student's community and other health students. Development of science and technology in the medicine field encourages experts to always carry out research against various diseases, one of which is contagious disease in order to overcome the incidence of suffering and death as a disease result. Definition of epidemiology according to the origin of the word, if reviewed the origin of the word epidemiology comes from the Greek word consisting from 3 basic words, namely Epi which means on or about, demos which means inhabitants and the last word is Logos which means Science. So epidemiology is a science that studies about residents. Meanwhile in the modern sense at the time this is a science that studies frequency and distribution (spread) and determinants of health problems in a group of people or society and their determination (factors that influence it). Infectious diseases arise as a result of the operation of various factors either from the agent, parent or the environment. This shape is depicted in terms that are widely known today. Namely multiple causes as opposed to a single cause. In the efforts of experts to collect knowledge regarding the emergence of disease, they have done controlled experiments to test the extent to which the disease can occur to prevent it so that it can improve the sufferer's standard of living.

In epidemiology there are three factors that can explain the spread of the disease or health problems, namely person, place and time. This information can be used to illustrate the differences in exposure and vulnerability. This difference can be used as a clue about the source, agent responsible for the transition and spread of a disease. A state of mutual influence between disease agents, humans and the environment together and the situation mutually aggravate each other, thereby facilitating disease agents either indirectly or directly into the human's body, for example contamination of well water by human waste can cause water borne diseases. A disease can be transmitted from one person to another are determined by the three factors mentioned above, namely agent factor or cause of disease agent is a role holder important in epidemiology which is the cause of disease. Agents can be grouped into virus classes, for example influenza, trachoma, smallpox and so on, Rickettsia group, for example typhus, Group of bacteria, for example dysentery, Group protozoa, for example malaria, filaria, schistosoma and so on. The extent of the

host's capabilities within facing the invasion of infectious microorganisms, speaking about endurance. For example, someone's immunity. Disease transmission can be seen of the potential for infection to be transmitted. The infection is transmitted has the potential for an outbreak or not. Characteristics of infectious diseases in general have clinical symptoms vary according to the causal factors of the disease. Source of infection is a medium that causes a disease can spread to someone. These sources include sufferers, carriers of germs, sick animals, plants/objects. Disease can attack a person with several ways including, direct contact, by air, through food/drink, through vectors and the condition of the sufferer. The cause of the disease is very dependent on a person's body condition/immunity. The weaker a person becomes then it is very easy to suffer from disease. This condition consists of general condition, immunity, nutritional status, heredity, method of exit and how to enter source.

Disease-causing germs can attack someone through several methods, namely mucosa/skin, digestion channels, respiratory tract, urogenital tract, injections bite, wounds, placenta, interaction between disease and sufferer. Germs or diseases that have managed to enter the body cannot react directly, but it occurs within the body itself a protective reaction consisting of infectivity is the ability of the causal element/agent to enter and reproduce and produces infection in the host body and pathogenesis is the ability to produce disease with all clinical characteristics clear and virulence is the proportion of sufferers with symptoms clear clinical signs for all sufferers with clear clinical symptoms. Immunogenicity is the ability to produce immunity. Infectious diseases can move from one place to another. This can happen very quickly to develop into an epidemic or endemic in certain areas. There are some ways in which infectious diseases first move directly which is the process of disease transmission from one human to another human directly without an intermediary, for example transmission through fine droplets scattered from sick humans like saliva, sneezing on TB disease. The second transfer model is indirect transmission which is the process of transferring disease through intermediaries. These intermediaries can come from bacteria, insects, and can also come from dirt. For example, cholera, dysentery and dengue hemorrhagic fever [1].

References

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