

Pathogenicity and immunology; host resistance and the immune response



**ASSIGN
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Pathogeni and Immunology Pathogeni and Immunology Identify three characteristics that you consider to be of significant importance when identifying diseases which would place those persons in a community at greater risk. (Some diseases pose a greater threat to persons likely to be exposed as a function of the characteristics presented above than other diseases.) Therefore, another perspective on this question is as follows: " If you were exposed to a disease, which of the above characteristics would be of greater concern to you as an individual."

People living in communities can face several problems at the hands of microorganisms because of the different characteristics that they possess. The virulence, resistance and the antigenicity of the microorganism are the most important in my view to determine the spread and severity of the disease that it may cause

2. Justify your position on selecting the three characteristics of a disease agent that you believe place those exposed to it at a greater risk.

Virulence of an agent is very important when determining the infection that a certain microorganism is able to cause. Certain agents are highly virulent whereas some of them not virulent because of which they do not cause diseases that can be life threatening. In a community it is necessary that measures are taken by the authorities to ensure that the highly virulent strains do not harm the people in anyway.

The resistance of an agent which causes disease is also important in determining its effect on the human beings. If an agent is resistant to environmental conditions then it is possible that it can survive the latest of the antibiotics and this would cause havoc in the human society. Diseases can get severe and life threatening if the resistance of a strain is high. Some <https://assignbuster.com/pathogenicity-and-immuneology-host-resistance-and-the-immune-response/>

of the strains of agents get resistant to antibiotics and adverse environmental conditions because of the continuous exposure to them and hence the authorities should ensure that this practice does not prevail in the community.

Lastly the antigenicity of an agent is a factor which helps to determine whether an agent would be able to cause the same disease in the community or not. Some strains have a high antigenicity because of which they can be destroyed immediately while some of the strains have low antigenicity. It is important to determine the antigenicity of an agent so that it can be confirmed that the disease may or may not be caused again. If the antigenicity of an agent is low then the authorities should enhance the passive immunity of the people so that their immune system can fight off the agent.

3. Briefly discuss why the remaining three characteristics of infectious disease pathogens were not considered by you to be as significant as those you identified above.

Infectivity is a measure of the ability of an agent to multiply and cause a disease. It is not considered to be important because it does not account for deaths and lethality in a community. Many strains have a higher rate of infectivity but these can be eliminated with the right guidance and medications.

Pathogenicity is somewhat similar to infectivity as it is also a measure of the ability of a strain to cause disease. It also does not indicate any lethality or virulence about the strain and hence it cannot be an important marker in the community to measure great risks for the people.

Lastly the toxigenicity of the agent is also not related to the risks that can be <https://assignbuster.com/pathogenicity-and-immuneology-host-resistance-and-the-immune-response/>

posed to the people. The ability of the agents to produce a toxin does not highlight that these toxins can be eliminated. Moreover these agents can be removed with the help of medications and hence they would not be able to put the community at greater risks.

References

Levinson, W., & Levinson, W. (2008). Review of medical microbiology and immunology. New York: McGraw-Hill Medical.

Rao, P. V. Ramana. Essentials of Microbiology. CBS Publisher, 2004.