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Impact of Sunlight on Parasites and Parasitic Diseases

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ABSTRACT

In this article effect of UV light on parasites and other microorganisms will be discussed. The host's defense mechanism is greatly affected when it is exposed to sunlight because it enhances vitamin D production levels, which eliminates the barriers. Nonetheless, some species of parasites have developed a solar-resistant defensive mechanism initiating concurrence for supplies. This article reveals how this vector-based behavior can be influenced by UV rays and how this behavior influences the worldwide dissemination of infectious conditions like malaria and dengue fever.

Introduction:

The transmission of parasites is reduced due to exposure to sunlight, and it is particularly for strains that originate from the lakes. The UV rays inhibit the growth of parasites and induce programmed cell death. The late stages of parasites are more severely effective than early stages.

Sunshine as an antibiotic

Studies have shown that extended exposure to direct sunlight could cause damage to certain microorganisms, in a way that sunlight inhibits the multiplying process of parasites and eliminate them. Sunlight, especially in the case of aquatic organisms, can be used to prevent some disorders in aquatic organisms. UV rays disrupt these cycles by interrupting the growth of parasites and fertilized eggs, which decreases the level of replication of viral infections in humans as well as animals. Environmental changes play a vital part. These parasites are very sensitive to UV radiation. Exposure to sunlight can decrease the disease. The sunlight is important for the sterilization of humans and animals. Sunlight also helps in the purification process of water because it helps to remove or inhibit the growth of parasitic organisms (2).

Host's immune modulation

UV rays not only negatively affect parasitic species but also enhance the immune system of the host. Direct exposure to sunlight increases the amount of UV ray-sensitive vitamin D produced by the epidermis and vitamin D is known to have anti-inflammatory actions.

Resistance against sunlight

Many species of parasites are developing defensive mechanisms that are resistant to UV rays. The information on these methods might help in promoting in-depth apprehensions of Darwinism and the struggle between hosts and microorganisms (3).

Sunlight and vector-borne disease

UV radiations are harmful to parasites and vector structures when it comes to diseases carried by vectors, such as those spread by insects like mosquitoes. Sunlight consumption can change the behaviors and lifespan of transmission vectors, thereby facilitating the global spread of parasitic diseases such as dengue. Vector-borne disease is an infection that is transmitted to animals especially humans by the bite of a mosquito. The ticks and mosquitos carry different types of pathogens that can increase within their bodies and can also transfer to new hosts by biting. This disease causes mortality and global morbidity rates. The tropical and sub-tropical climates are the most favorable conditions for vector-borne disease as they promote the growth of vectors. Currently, 212 million cases are reported annually due to dengue (5).

Conclusion

There are offensive and defensive viewpoints on the connection between illnesses and UV radiation. Parasites may be controlled by sunlight like of antibiotics, although these organisms also acquire new defenses. Although using antibiotics that are prescribed in exposure to sunlight might regulate parasites, these microscopic creatures are developing new ways to defend themselves to cope with them.

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