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How Depression Impacts the Immune System

While the majority of ordinary people consider the immune system and mental health as different and disconnected phenomena, the truth is that they are closely linked. Depression, which in this context usually appears as the result of loneliness, leads not only to an inflammatory disease but impacts the ability to fight against viruses as a whole. The awareness of these insights obtains a high importance in the context of health care due to its prevention, treatment, and healing process.

The first thing to remember is that chronic stress and depression impair the immune system, appearing as drivers of inflammatory disease. According to the research conducted by Miller, depression not only makes people more vulnerable to getting an illness, but can also weaken the immune system's ability to provide responses to its own anti-inflammatory signals that are triggered by specific hormones, which in turn are likely to alert the course of an inflammatory disease (531). Therefore, depression appears as one of the causes of excessive inflammation, which results from an impaired immune system.

In addition, the time frames are of utmost importance when assessing the influence of depression on human health. According to the study conducted by McGuire and colleagues, not the severity but the length of time of depression is a factor that affects a person's immunity

(192). For the record, in case of aging, the impact of this factor becomes even more severe.

Therefore, even mild depression requires appropriate intervention, since it is critical to ensure the healthy state of the immune system.

Also, while considering the effects of depression, it is worth remembering that it is a relatively wide category that includes a variety of different symptoms. Miller and colleagues in their article “Chronic Psychological Stress and the Regulation of Pro-Inflammatory Cytokines: A Glucocorticoid-Resistance Model” highlighted that depression does not seem to operate as a mediator, while it is worth reviewing such aspects as anxiety, intrusive thoughts, feeling of helplessness, or even a lack of sleep (531). The researchers also determined that social support and loneliness are factors defining the risks for depression. As a result of their study, Pressman and colleagues revealed that social isolation and feelings of loneliness independently impair first-year students' immunity by weakening responses (American Psychological Association). In this way, chronic feelings of loneliness are considered to be a variable that can help predict someone's health status.

To add, a depressive environment, including the feeling of loneliness, affects gene expression, and contemporary technologies allow measuring these effects in more detail. In their study, Cole and Cacioppo pinpointed the type of immune cell that exhibited changes in gene activity (as cited in Azor 32). On one side, the genes that were overexpressed in chronically-lonely people are found in a “myeloid” line of immune cells, which are ancient in evolutionary terms, ensuring body scans for damaged tissue and creating inflammatory responses as the body's first line of defense against infections (Azor 32). On the other hand, genes in B-lymphocytes, which are cells that typically fight off viruses and are evolutionarily recent, were

less active (Azor 32). As a result, it is possible to conclude that such changes at the genetic level make people strong in the face of bacterial infections but less vulnerable in case of viruses.

Naturally, these results lead to the idea that depression and the feeling of loneliness contribute to one's immune system's ability to fight against diseases. However, Cole highlights that switching from one type of immune battle to another is not a good practice for the immune system, and once the system is primed to fight off a bacterial infection, it is harder for it to switch gears to fight off a virus and vice versa (as cited in Azor 32). Therefore, the fact of having depression or being lonely explains why people can overcome the flu but die from pneumonia.

The awareness of all of these arguments about the impact of depression and loneliness on the immune system is highly important. It allows people to expand knowledge about stress management, interpersonal relations, and the treatment of a wide spectrum of diseases. In light of these insights, numerous spheres of human activity can be revised. For instance, these findings suggest a mechanism through which psychological stress can impact the onset and progression of conditions that involve excessive inflammation, like allergic, autoimmune, cardiovascular, infectious, and rheumatic illnesses (Miller 531). On the other side, they strengthen the theory that relates to the role of friends and dear ones not only in healing but preventing diseases. Therefore, the field of investigation dedicated to the effects of depression on the immune system deserves active scholarly attention due to its practical implications.

Summing up, it is clear that depression affects the immune system in a dramatic manner, creating the preconditions for inflammatory disease. The feeling of loneliness, which is the determinant of depression, reduces the ability of the immune system to combat viruses, posing a great challenge for human health. Being aware of this causation allows creating and improving

existing preventions, treatments, and healing options and therefore, increasing the quality of health care as a whole.

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