Draft: Stress and Cancer

Today’s environment is proving to be the great contributor to stress, as a result of which a considerable increase in cancer patients has been observed. The already published literature also support the statement that ‘chronic stress is related to cancer (Derrow, 2018).’ Also, the discussion is of great importance as stress leaves an adverse impact on the human health wellness, as well as human life. Thus, the purpose of this study is to evaluate how chronic stress leads to the cancer in human body.

Cancer occurs as a result of number of mutations are acquired in a cell in genes, involved in cell division regulation, programmed cell death, and proliferation (Derrow, 2018). It simply means that multiple genes get affected before a cell turn cancerous, and when the genes controlling distribution of cells are disabled, a cancer cell is free to divide endlessly. Under normal circumstances, the body prevents the hits leading to cancer and keeps the cell mutation regular. However, in some cases the body functioning disorder turns the cell mutation into tumors. One of such processes is performed when immune system of the body doesn’t work well. As immune system helps the body to kill invading viruses or mutating cells, thus it is responsible to regulate the cell mutation process. When the body is under chronic stress, it disrupts the immune system leading to uncontrolled growth of the mutated cells, causing cancer (Paddock, 2013).

Moreno-Smith, Lutgendorf, & Sood (2010) presented a study in which they discussed the influence of psychoscocial factors on the progression and the development of cancer. The study discussed that today’s enviornment is the real contributor to the stress, as a result of which several physical and psychological changes occur in human body. These changes contribute to the uncontrollable growth of the tumor cells, activation of specific signaling pathways in tumor microenviornment. Now, the only way to control such growht of the tumor cells is to control the increasing stress in the environment. The researchers (Moreno-Smith, Lutgendorf, & Sood, 2010) not only just presented their finding in a hypothetical manner, but proved it with the evidence from last 30 years link between chronic stress, social isolation, depression, and cancer progression (Moreno-Smith, Lutgendorf, & Sood, 2010). Paddock (2013) also presented a findings supporting the study’s thesis statement that ‘stress leads to the cancer in the human body.’ The study discussed that uncontrollable growth of the tumore cells is not just a process of days or weeks. The tumor is supported by the multiple genes, affected by human stress. Anxiety or stress affects the human psychology, as a result of which the genes of the human body get affected and cells growth distribution becomes disabled. Also, the stress leave an adverse impact on the immune system of the human body, as a result of which it does not support the controllable mutation of cells. Thus disabled or uncontrollable growth, and disturbance in the cell mutation or immune system supports the cancerous cells, spreading cancer in human body (Paddock, 2013).

Saplakoglu & Writer (2019) presented a study in which they discussed that chronic stress causes the worsen cancer in this fast-paced world. The study highlighted that the human stress leaves adverse impact on the human heart racing, vague sense of agitation, and knots in the stomach, which are unavoidable parts of the human body. In other words, the stress causes the heart to work more hard, affect the immune system in worst way, and disturbs the digestion process of the human body. These all functions harm the body and contributes to several chronic diseases, such as cardiometabolic disease, cancer, and hypertension. Shalley Tworoger in the study (Saplakoglu & Writer, 2019), *the professor of Population Science at Moffitt Cancer Center in Tampa*, also said that stress influence the cancer development in several ways, such as by affecting the immune system, genes of the human body, and controlled growth of the cell. Thus, the study concluded that stress is the real contributor of the uncontrollable growht of the tumorous cells (Saplakoglu & Writer, 2019). Not only this, but also the ‘American Institute of Stress presented their report regarding perspective of Dr. Paul. According to the study, several emotional factors contribute to the tumorous growth of cells, including stress. Dr. Paul discussed that the link between the stress and cancer is not new, instead the physicians of ninteenth century had emphasized the influencial relation between emotional factors and growth of breast tumors. The study also showed that the cervix cancer is more common in frustrated, stressed, and sensitive women. Not only breast or cervix cancer, but stress is the real contributor to the uncontrollable growth of cells, resulting different type of cancers. The study not only relied on the human research but also performed several experiments on animals. The clinical and animal research process also confirmed that stressful emotions influences the development and progression of different diseases, including cancer or malignant growth (AIS, 2019).

To complete the research process, the researcher relied only on the secondary resources, and thus conducted a qualitative research process. The researcher initially used database, such as Google, to search the most related and most recently published articles. After collecting data, the researcher analyzed each study separately and applied inclusion and exclusion criteria to select the appropriate sample size for the study analysis. Only those studies were selected which were published within last ten years, and were most related to the relationship between stress and uncontrollable growth of the tumorous cells or the cancerous cells. The selected studies were further analyzed and the useful information was extracted to make strong conclusion. The meta-analysis of the studies helped the researcher to evaluate the impact of stress on the human body cell mutation process, leading to cancer.

The analysis of the collected studies showed that under normal circumstances, the body prevents the hits leading to cancer and keeps the cell mutation regular. With the increasing stress, the human body’s functioning and role of genes get affected, resultantly turns the cell mutation into tumors (Paddock, 2013). The statistical analysis also showed that stress if found to be the real contributor to several chronic diseases, such as cardiometabolic or heart diseases, cancer, strokes, and others. The statistical findings are shown in the figure below, with which it becomes clear that the stress is found to be the real influencing factor to heart diseases, and cancer.

Figure Stress Leading Chronic Diseases.

The literature analysis revealed that the tumor is supported by the multiple genes. The human stress or anxiety directly influence the cells growth distribution becomes disabled. Also, the stress leave an adverse impact on the immune system of the human body, as a result of which it does not support the controllable mutation of cells. Thus disabled or uncontrollable growth, and disturbance in the cell mutation or immune system supports the cancerous cells, spreading cancer in human body (Paddock, 2013).

Conclusively, it is expected that the researcher will support the hypothesis of the study that ‘chronic stress is found to be the contributing factor to the uncontrolled growth of cancerous cells in human body.’ However, the qualitative analysis of the already published literature revealed that uncontrollable growth of the tumore cells is not just a process of days or weeks, instead it is a slow process supported by several factors. Out of these all factors, stress is found to be the prominent reason of tumorous growing cells. Anxiety or stress affects the human psychology, as a result of which the genes of the human body get affected and cells growth distribution get disturbed. Normally, the cell growth depends on the body requirements and stops when the demand of the cells is completed. In case of tumorous growth the cell mutation process gets out of control, causing uncontrollable growth of cells. Also, the immune system of the human body is found to be a responsible function to control and demand for the cells mutation process. The literature analysis helped the researcher to explore that the stress leave an adverse impact on the immune system of the human body, as a result of which it does not support the controllable mutation of cells. Thus disabled or uncontrollable growth, and disturbance in the cell mutation or immune system supports the cancerous cells, spreading cancer in human body (Paddock, 2013). Thus, conclusively chronic stress affects the cell mutation process, immune system of the human body, and cell growth, and thus is found to be the contributing factor to the uncontrolled growth of cancerous cells in human body (AIS, 2019; Derrow, 2018; Moreno-Smith, Lutgendorf, & Sood, 2010; Paddock, 2013; Saplakoglu & Writer, 2019).

References

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