



Warning to Healthcare Professionals: Recognize the Intricate Connection between Psycho-Social Factors Such as Stress, Resentment, and Violence, in the Development of Cancer

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Dear Editor in Chief

As our understanding of the human body and mind deepens, we are discovering the significant role that psychological and emotional factors play in the onset and progression of serious illnesses such as cancer. This intricate interplay is often triggered by chronic distress, including extreme stress, sorrow, pain, and ongoing resentment. Chronic stressful events, such as life adversities, work pressures, financial difficulties, and ongoing relational conflicts can trigger a series of biological reactions. Resentment, defined as a feeling of indignant displeasure or persistent hostility towards perceived wrongs, insults, or injuries, can contribute to this complex emotional environment. Exposure to violence can also play a role in creating an atmosphere conducive to tumor development and progression (1-3).

Humans respond to environmental threats with a stress response, allowing for physiological adaptation to stressors in order to maintain homeostasis. The hypothalamic-pituitary-adrenal (HPA) axis, mediates the effects of stressors by regulating physiological processes such as metabolism,

immune responses, DNA repair mechanisms, and the autonomic nervous system (ANS) (4).

When faced with a threat, stress hormones such as cortisol, adrenaline, and norepinephrine are released to prepare the body for a "fight or flight" response, increasing energy supply, heart rate, and blood pressure. While acute stress responses are helpful in short-term survival situations, chronic stress reactions can be harmful. Prolonged elevated levels of cortisol can promote inflammation, which is linked to the development of cancer (1, 5).

Feelings of anger and hostility associated with resentment can exacerbate biological reactions. Resentful individuals often experience sympathicotonia, leading to increased sympathetic nervous system activity, vascular constriction, high blood pressure, elevated heart rate, and higher stress hormone levels. Violent environments are associated with greater health disparities, limited healthcare access, and heightened exposure to carcinogens at a societal level. These responses can promote tumor growth, weaken social sup-



port networks, and trigger unhealthy behaviors, increasing the risk of disease (6-8).

Recognizing the profound impact of psychosocial factors, scientists are urging healthcare professionals to consider mental health as an integral part of comprehensive patient care. Mental health care is emphasized in cancer prevention and treatment approaches, with comprehensive psychosocial care leading to better treatment adherence, improved quality of life, and potentially better clinical outcomes. Public health initiatives should focus on community-based strategies to reduce violence, promote mental well-being, and address social inequities contributing to cycles of violence and psychological distress (9, 10).

Professor Dariush Farhud, known as the "father of Iranian genetic science," has confirmed the intricate relationship between psychological and emotional factors and cancer development. Adopting a holistic approach to healthcare is necessary, integrating mental health support, resilience-building, and social interventions into standard medical practice. By addressing psychosocial elements through community-based initiatives, education, and policy reforms, we can create healthier environments that reduce stress-related biological vulnerabilities. Prioritizing mental well-being alongside physical health enhances individual quality of life and serves as a vital strategy in cancer prevention and comprehensive patient care.

Conflict of Interest

The authors declare that there is no conflict of interests.

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