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Stress as a Leading Determinant of Psychosomatic Conditions.

Mugisha Samuel

Kampala International University P.O. Box 20000 Kampala

Samuel.mugisha@kiu.ac.ug

ABSTRACT: *Stress has increasingly been identified as a major factor contributing to the development and progression of psychosomatic conditions worldwide. Psychosomatic disorders demonstrate the close relationship between psychological distress and physical health, where emotional strain or unresolved psychological challenges are expressed through bodily symptoms or may aggravate existing medical conditions. Persistent exposure to stress triggers neuroendocrine and autonomic nervous system responses that interfere with normal physiological functioning, leading to systemic imbalance and increased susceptibility to illness. Prolonged activation of stress hormones can weaken immune responses, disturb metabolic processes, and heighten inflammatory reactions, thereby contributing to a wide range of physical and psychological health problems. Recent global evidence indicates a rising prevalence of stress-related somatic symptoms across diverse populations, particularly within healthcare environments, humanitarian operations, and demanding occupational settings. Individuals working in high-pressure contexts frequently experience emotional exhaustion, trauma exposure, and workload demands that increase vulnerability to psychosomatic illness (World Health Organization, 2022; Jiang et al., 2023). These trends highlight the growing need to understand stress not only as a psychological concern but also as a significant public health issue affecting overall wellbeing and productivity. This article therefore explores stress as a primary determinant of psychosomatic conditions by examining current theoretical explanations, underlying biological pathways, common clinical presentations, and practical implications for Mental Health and Psychosocial Support (MHPSS) practice. Emphasis is placed on the importance of integrated and preventive approaches that address both emotional and physical health outcomes.*

Keywords: Stress, Psychosomatic Conditions, Somatic Symptoms, Mental Health, Psychological Distress, MHPSS.

INTRODUCTION

Stress refers to the psychological and physiological reaction that occurs when individuals perceive that environmental pressures or life demands exceed their available coping resources. It represents a complex interaction between cognitive appraisal, emotional responses, and biological functioning. While moderate levels of stress can enhance motivation, alertness, and adaptive performance, persistent or unmanaged stress has significant negative consequences for both mental and physical health. Contemporary neuroscience research demonstrates that chronic stress interferes with emotional regulation systems within the brain, increasing vulnerability to mood disturbances, anxiety-related conditions, and various somatic disorders. Prolonged psychological strain alters neural pathways involved in emotional control and stress processing, thereby contributing to the development of affective and psychosomatic symptoms (McEwen & Akil, 2020).

One of the primary biological mechanisms underlying stress-related illness involves activation of the hypothalamic, pituitary, adrenal (HPA) axis, which regulates the body's hormonal response to perceived threats. During stressful situations, this system releases cortisol and other stress hormones that prepare the body for immediate action. In short-term circumstances, such activation is adaptive and supports survival by enhancing energy mobilization and alertness. However, when stress exposure becomes prolonged or repetitive, the continued release of cortisol disrupts normal physiological balance. Sustained hormonal activation weakens immune functioning, increases susceptibility to infections, contributes to metabolic dysregulation, and promotes inflammatory processes associated with chronic disease. Over time, these biological changes may manifest as psychosomatic conditions, where emotional distress is expressed through physical symptoms such as fatigue, pain, gastrointestinal disturbances, and cardiovascular discomfort (Zhumadilov et al., 2026).

Chronic stress also affects behavioral functioning, often leading to sleep disruption, poor dietary habits, and reduced self-care practices, which further exacerbate physical health problems. Emotional exhaustion and cognitive overload may impair decision-making ability and concentration, thereby reducing an individual's capacity to cope effectively with ongoing stressors. As coping resources diminish, the risk of both psychological and somatic illness increases. These interconnected biological and behavioral processes demonstrate how stress extends beyond emotional discomfort to produce measurable health consequences.

Recent global studies conducted among healthcare workers during and after the COVID-19 pandemic provide strong evidence of the growing impact of chronic stress on psychosomatic health. Healthcare professionals were exposed to prolonged work demands, fear of infection, moral distress, and emotional exhaustion associated with caring for critically ill patients. Surveys conducted across multiple countries revealed significant increases in perceived stress levels accompanied by a rise in psychosomatic complaints, including persistent fatigue, sleep disturbances, headaches, and unexplained musculoskeletal pain (Jiang et al., 2023). These findings highlight how occupational stress, particularly

in high-risk and humanitarian environments, can accelerate the development of stress-related somatic symptoms.

Stress represents a multidimensional process involving psychological perception, biological activation, and behavioral adaptation. When exposure becomes chronic and coping mechanisms are overwhelmed, the body responds through physiological dysregulation that contributes to psychosomatic illness. Understanding these mechanisms is essential for early identification, prevention, and the development of integrated mental health interventions that address both emotional wellbeing and physical health outcomes.

CONCEPTUALIZING STRESS

Stress can be understood as the psychological and physiological reaction that occurs when individuals perceive environmental demands as exceeding their ability to cope effectively. Contemporary neuroscience evidence indicates that prolonged exposure to stress interferes with emotional regulation processes and increases vulnerability to both emotional disorders and physical health problems (McEwen & Akil, 2020). Under conditions of chronic stress, continuous activation of the hypothalamic–pituitary–adrenal (HPA) axis leads to sustained secretion of cortisol. While this hormonal response is beneficial for short-term adaptation and survival, persistent activation disrupts normal body functioning by weakening immune responses, contributing to metabolic imbalance, and promoting inflammatory processes associated with psychosomatic illness (Zhumadilov et al., 2026). Furthermore, recent international studies conducted among healthcare workers during and following the COVID-19 pandemic reported markedly elevated levels of perceived stress, which were closely linked to increased psychosomatic symptoms such as persistent fatigue, sleep disturbances, and unexplained bodily pain (Jiang et al., 2023).

PSYCHOLOGICAL AND BIOLOGICAL MECHANISMS LINKING STRESS AND PSYCHOSOMATIC CONDITIONS

Chronic stress contributes to psychosomatic conditions through interconnected psychological and biological mechanisms that disrupt normal body functioning. Persistent activation of the stress response system leads to neuroendocrine imbalance, particularly prolonged cortisol exposure, which has been associated with cardiovascular disease, chronic fatigue, and weakened immune functioning (McEwen & Akil, 2020). Similarly, dysregulation of the autonomic nervous system, characterized by sustained sympathetic activation, elevates heart rate and blood pressure while impairing gastrointestinal processes, thereby increasing the risk of hypertension and digestive disorders commonly observed among individuals exposed to prolonged occupational stress (Zhumadilov et al., 2026). Cognitive and emotional processes further influence symptom development, as maladaptive coping strategies such as rumination and emotional suppression heighten bodily symptom awareness, whereas emotional flexibility serves as a protective factor against stress-related illness (Hofmann & Hayes, 2020). Behaviourally, stress disrupts sleep patterns, promotes substance use, and reduces self-care practices, indirectly increasing vulnerability to somatic disease (Taylor, 2021). Clinically, stress-related psychosomatic conditions manifest through a wide range of physical symptoms including chronic headaches, gastrointestinal disturbances, cardiovascular discomfort, musculoskeletal pain, fatigue, weakened immunity, and dermatological reactions such as eczema or psoriasis, with stressful life events strongly predicting psychosomatic syndromes among individuals experiencing chronic pain (Ghiggia et al., 2025). Psychological manifestations commonly include anxiety, burnout, depressive symptoms, and irritability, while cognitive difficulties such as poor concentration, memory impairment, and mental fatigue are also frequent. Behavioural indicators may involve social withdrawal, reduced occupational functioning, appetite disturbances, and increased substance use. Evidence further indicates that adolescents, young adults, healthcare trainees, and humanitarian workers exposed to prolonged emotional demands demonstrate higher levels of somatization and stress-related symptom severity (Mahirah et al., 2025; Sperling et al., 2025).

RISK FACTORS AND VULNERABLE POPULATIONS

Certain populations are particularly vulnerable to psychosomatic illness due to prolonged and cumulative exposure to stressors. Humanitarian workers, healthcare professionals, caregivers, and individuals affected by conflict, displacement, or emergencies frequently experience sustained psychological strain that increases the likelihood of stress-related somatic symptoms (Inter-Agency Standing Committee, 2021). Additional risk factors such as socioeconomic hardship, inadequate social support, and demanding workplace environments further heighten vulnerability to psychosomatic disorders (World Health Organization, 2023). Effective assessment therefore requires collaborative engagement between psychologists and medical practitioners to ensure comprehensive evaluation of both psychological distress and physical health concerns. The *DSM-5-TR* emphasizes the importance of assessing psychological factors alongside medical examination when diagnosing somatic symptom and related disorders (American

Psychiatric Association, 2022). A thorough assessment should explore an individual's stress exposure history, trauma experiences, coping resources, occupational stressors, and availability of social support networks, as integrated screening approaches enhance early identification while minimizing unnecessary medical investigations. Management of psychosomatic conditions requires a biopsychosocial approach incorporating evidence-based psychological interventions such as Cognitive Behavioural Therapy, trauma-informed psychotherapy, structured stress management programs, and psychoeducation on mind–body interactions. Contemporary therapeutic approaches that promote emotional regulation flexibility have demonstrated effectiveness in reducing stress-related symptoms (Hofmann & Hayes, 2020). Preventive and lifestyle strategies including sleep hygiene, regular physical exercise, and mindfulness-based stress reduction further support recovery by lowering physiological stress reactivity and somatic distress. Equally important are social and occupational interventions such as workplace mental health policies, peer support systems, workload adjustments, and appropriate leave utilization, as organizational responsibility plays a central role in mitigating occupational stress (WHO, 2023). Within Mental Health and Psychosocial Support practice, psychosomatic symptoms often represent culturally expressed emotional distress rather than purely biomedical illness; therefore, integrating psychological services into primary healthcare systems enhances early detection and improves treatment outcomes (WHO, 2022). Trauma-informed and culturally responsive psychosocial interventions are especially essential in humanitarian and emergency settings where exposure to adversity is high.

CONCLUSION

Stress continues to be a significant determinant in the development and progression of psychosomatic conditions due to the complex interaction between psychological processes, biological responses, and behavioural patterns. Prolonged exposure to stress disrupts emotional regulation, alters neuroendocrine functioning, and influences lifestyle behaviours, all of which contribute to the emergence or worsening of physical symptoms. When individuals experience chronic stress without adequate coping mechanisms or support systems, the body often manifests distress through somatic complaints such as pain, fatigue, cardiovascular discomfort, and gastrointestinal disturbances. These symptoms are not merely medical in nature but reflect the close relationship between mental and physical health.

Recent global research highlights a growing prevalence of psychosomatic symptoms among populations exposed to demanding occupational environments and humanitarian crises. Healthcare workers, humanitarian responders, caregivers, and individuals affected by conflict or displacement frequently encounter repeated emotional strain, trauma exposure, and high workloads, placing them at increased risk of stress-related illness. Organizational pressures, limited social support, and socioeconomic challenges further compound vulnerability, particularly in low-resource and emergency contexts where access to mental health services may be limited.

Addressing psychosomatic conditions therefore requires early recognition and timely psychological intervention. Integrating mental health services within primary healthcare systems can improve assessment, reduce stigma, and ensure that psychological distress is managed alongside physical symptoms. Multidisciplinary collaboration among psychologists, medical practitioners, and social support systems is essential to provide comprehensive care. In addition, organizations play a critical role in prevention through the implementation of workplace mental health policies, supportive supervision, workload management, and promotion of work–life balance. Strengthening stress prevention strategies at individual, community, and institutional levels ultimately supports holistic wellbeing, enhances resilience, and contributes to sustainable health outcomes across diverse populations.

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