

COMORBIDITY, RESILIENCE, AND EPIGENETICS IN PSYCHIATRY FROM THE PERSPECTIVE OF PREDICTIVE, PREVENTIVE AND PERSON-CENTERED MEDICINE

COMORBIDITIES AND SYNDEMICS IN THE COVID-19 AGE: CHALLENGES AND OPPORTUNITIES FOR BRINGING SEPARATED BRANCHES OF MEDICINE CLOSER TO EACH OTHER

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The Corona Virus Disease 2019 (COVID-19) as a unique disaster has stressed the extreme importance of the three challenging issues for medicine, society and humanity in general: comorbidity, pandemic and syndemic. There are many reasons why the study of comorbidities and syndemics of COVID-19 is of great importance for researchers, clinicians and health policy makers who are responsible for health care organization and funding in a bid to develop more effective and efficient prevention and treatment. Thinking about COVID-19 through a syndemics concept and taking biological, psychological, social and spiritual dimensions into account, physicians could be more effective in clinical practice and community-based interventions. The outcome of SARS-CoV-2 infection is determined by the virus-host interaction, with pathogenicity of SARS-CoV-2 being related to the presence of comorbid diseases. The risk for severe COVID-19 clinical manifestations and death increases with age of patients and comorbidity. General mechanisms of multi-system dysfunction and multi-organ damage reported in COVID-19 are probably related to ubiquitous expression of angiotensin-converting-enzyme-2 (ACE2) in many tissues and its important role in the renin-angiotensin-aldosterone system (RAAS) functioning. Physicians all over the world should be aware of COVID-19 related comorbidities, multisystem disorders and syndemics, as well as treatment and preventive strategies. COVID-19 age is a right time to reconsider the state of science and practice in comorbidity medicine field from the both epistemological and treatment perspective. Comorbidities and multimorbidities are indifferent to medical specializations, so the integrative and complementary medicine is an imperative in the both education and practice. Shifting the paradigm from vertical and mono-morbid interventions to comorbidity, multimorbidity and multi-system disease approaches enhances effectiveness and efficiency of human resources utilization. The aim of this review is to summarize the theoretical concepts and clinical experience and research regarding comorbidity in general, and specifically related to the COVID-19 pandemic, syndemics and infodemic.

Key words: comorbidity - multimorbidity - epigenetics - SARS-CoV-2 - COVID-19 - multi-system disorders - diseases interactions - syndemics

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COMORBIDITY FROM A NEUROPSYCHIATRIC PERSPECTIVE

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Comorbidity in neurology and psychiatry involves the onset of a mental illness with the simultaneous presence of a neurological disorder or other illness. The degree of comorbidity of mental and neurological disorders is unexpectedly high. In addition to the direct connection and simultaneous occurrence of mental and neurological illness, the indirect impact of mental illness on the occurrence of neurological problems is even more significant. This link is realized through the influence of mental illness on risk factors for the development of cerebrovascular and cardiovascular diseases. Their incidence is higher in the psychiatric population than in the general population. Numerous studies have confirmed that risk factors for cerebrovascular disease (hypertension, hyperlipidemia, diabetes mellitus, etc.) are more common among patients with mental disorders than in the general population. Also, research shows that patients with mental disorders are less frequently controlled, have less control over risk factors, and that numerous comorbidities are detected later or remain undetected. Given that cerebrovascular and cardiovascular diseases represent one of the most important public health and socioeconomic problems of today, both in the world and in Croatia, this problem should not remain in the shadow.

Key words: comorbidity - neurological diseases - mental disorders - epidemiology - somatic disorders

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EMOTIONAL STRESS IN MYASTHENIA GRAVIS- THE BRIDGE BETWEEN THYMUS AND HEART

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Clinical and scientific evidence points towards the connection between emotional stress and immunity. This review article explains the association of immunological response and stress with emphasis on a specific autoimmune disease myasthenia gravis (MG) and its connection with broken heart syndrome. Predisposing genetic and environmental factors as well as sex hormones have a role in MG induction. Research has demonstrated that stress can increase or suppress immunological response depending on different genetic and epigenetic characteristics. Effect of glucocorticoids and catecholamines on immunological processes can differ in systemic and local response. Experimental model of myasthenia gravis has shown that increased share of Th1 and Th17 cells contributes to MG development while increased share of Th2 and regulatory T cells mitigates it. Takotsubo cardiomyopathy (TTC) is among most frequent cardiological complications of myasthenia gravis and is usually associated with thymoma or thymic hyperplasia. Although there isn't an unambiguous explanation of TTC pathophysiological mechanism, evidence points to the excessive sympathetic and catecholaminergic stimulation. Takotsubo cardiomyopathy is dominantly described in women which points to the importance of the role sex hormones have in TTC during MG or myasthenic crisis. We emphasize the significance of interdisciplinary approach in treating myasthenia gravis patients which includes evaluation and teaching of stress management techniques.

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COMORBIDITIES IN PATIENTS WITH MULTIPLE SCLEROSIS IN CROATIA

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Background: Comorbidities in multiple sclerosis (MS) have a big role in management of this chronic demyelinating neurodegenerative disorder.

The aim of this study was to evaluate comorbidities in patients with MS in Croatia.

Subjects and methods: This was a prospective cross-sectional study carried out in an out-patient setting at a tertiary healthcare centre over 10 months, which included 101 consecutive patients with MS