Psychological effects of kidney disease: Risks and related factors

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ABSTRACT

Introduction: Kidney disease is influenced not only by physical health factors but also by psychological factors. However, the specific psychological risk factors contributing to kidney disease and the mechanisms by which various psychological states can impact kidney function anatomically and physiologically remain insufficiently understood. This literature review aims to identify common psychological illnesses that may exacerbate or predispose individuals to kidney disease, determining what physiological mechanisms are involved in that process and how are they inter-related. This information will help to identify gaps of mental health problem detection among this vulnerable population, while enhancing awareness among healthcare personnels in managing such cases. **Materials and Methods:** This literature review was accomplished using the electronic databases like Google Scholar, PubMed and EBSCOhost and the keywords used included combinations "depression", "anxiety", "kidney deterioration", "inflammation" and "mental health intervention". Inclusion criteria were applied which are only papers available only in English language and available for free in full text and limited to articles published within the last five years. 15 papers were included after meeting final inclusion criteria. **Results:** Psychological factors such as depression, anxiety and stress are not only prevalent among individuals with kidney disease but may also contribute to disease progression and reduced quality of life. A recent study reported that as much as 37.7% of CKD patients experienced moderate to severe depression symptoms. Evidence suggests that psychological states can influence kidney function through various physiological mechanisms including neuroendocrine and inflammatory pathways. Key inflammatory cytokines such as interleukin-1 beta (IL-1β), IL-3 and IL-9 are inter-connected in the pathophysiology of depression and may serve as a biological link to renal deterioration. Psychological distress may disrupt kidney function through dysregulation of the hypothalamic-pituitary-adrenal (HPA) axis, increased sympathetic activity and heightened systemic inflammation, leading to pro-inflammatory status of the body. Depressive and anxiety disorders are frequently overlooked in clinical settings often due to a focus on physical symptoms and a lack of integrated psychosocial care. It is also estimated that 23–29% of patients with ESKD are more likely to have depressive symptoms than those with CKD and patients experiencing depressed symptoms are 1.5 times more likely to die compared to those who are having ESKD without depressed symptoms. Despite growing awareness, mental health concerns in this population remain underrecognized and undertreated. **Conclusion:** Comprehensive management of kidney disease should extend beyond physical treatment to include psychological evaluation and support. This study only identified the relationship between kidney conditions with psychological illnesses and related physiological pathways that are involved. It further highlights the gaps in screening and interventions to mitigate the issue. Future research and clinical practice can prioritize the development of accessible, multidisciplinary screening and interventions that address both the mental and physical health needs of this vulnerable population.

Keywords: Depression; anxiety; kidney disease; inflammation; mental health intervention