Kidney Medicine

Measuring and Modifying Psychological Distress in CKD: New Insights and Next Steps

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Psychological distress, defined as a condition that exceeds the emotional and behavioral resources of an individual, is common among patients with kidney disease, affects perceptions of quality of life, and results from a complex interplay of biological, psychological, spiritual, and socioeconomic factors.[1,2] Psychological distress is multidimensional and encompasses not only depression, but also anxiety, stress, and panic.[3] Depression, anxiety, and other components of psychological distress are common in chronic illness, and although studies have demonstrated adverse outcomes associated with these conditions among those receiving hemodialysis, far less is known regarding those with non–dialysis-dependent chronic kidney disease (CKD).[4,5] Evidence of associations between depression and adverse outcomes in CKD have prompted randomized controlled trials aimed to alleviate depression in this patient group, but the causes and consequences of other components of psychological distress in CKD remain unexplored.[6,7] Thus, we know little of modifiable determinants that could serve as nonpharmacologic targets to alleviate distress and improve adverse outcomes in CKD.

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Economic strain is a potentially modifiable structural determinant of psychological distress in chronic illness. Though financial instability is common among patients with CKD, whether measures of economic strain are associated with psychological distress in CKD is unknown.[8,9] Thus, there is a need for additional evidence to support the development of interventions and policy changes to improve the financial strain of patients with CKD and ultimately help alleviate their psychological distress.

In this issue of *Kidney Medicine*, Choi et al[10] begin to address some of these knowledge gaps. The authors used data from 2013 to 2017 collected as part of the National Health Interview Survey (NHIS), a tool that has been used to gather information for demographics, health status, and health care access among noninstitutionalized US populations since 1957.[11] In their study, Choi et al tested for associations between psychological distress and barriers to health care access among the subset of 3,923 adults in the NHIS who self-reported a diagnosis of CKD within the preceding year. Barriers to health care access were defined as a lack of health insurance, lack of a usual source of health care, and financial barriers to obtaining health care, such as difficulty affording medications or seeking subspecialist care.

Notably, this dataset moves beyond depressive symptoms and measures a broader spectrum of psychological distress. Psychological distress was assessed using the Kessler-6 (K6), a 6-item measure that asks individuals to report, on a 5-point ordinal scale, their frequency of depressive symptoms, nervousness, hopelessness, restlessness, and inability to perform daily activities over a preceding 30-day period.[12] Choi et al divided the K6 into 3 categories of distress: none (scores of 0-7), mild to moderate (scores of 8-12), and serious (scores of 13-24), the latter of which is associated with a high probability of having a debilitating mental illness.[13] The authors hypothesized that individuals with CKD who had a higher prevalence of barriers to health care access would also self-report the greatest frequency of distress, even after adjusting for demographic characteristics and comorbid conditions.

According to the study's results, patients with CKD with the highest K6 scores had the most annual visits to the emergency department as well as the greatest frequency of hospitalizations. Multivariable logistic regression analyses revealed that financial barriers to subspecialty care, inadequate prescription drug coverage, and a family income < 200% of the poverty line were each associated with higher odds of both mild to moderate and severe psychological distress. In contrast, employment during the preceding year was associated with lower odds of psychological distress.

Choi et al's analysis is novel for a number of reasons. It leverages information from a publicly available data set that lends itself well to analyses involving psychosocial variables, as interviews were mostly conducted in-person and used computer-assisted testing. The dataset includes measures not often found in other large databases, such as an individual's self-reported difficulty managing medical comorbid conditions and medication affordability, and it uniquely uses the K6 to assess psychological distress among its participants. Choi et al are also the first to test for and ultimately uncover associations between socioeconomic barriers to health care access and psychological distress in the CKD population. These results are consistent with prior work that points to delays in health care access, financial strain, a lack of insurance coverage, and increased health care utilization among adults with serious psychological distress and comorbid chronic illnesses.[14,15]

Do these findings support the need for policy changes aimed to alleviate financial burden and ultimately improve distress among patients with CKD? Prior studies in chronic illness have highlighted the sizable economic burden of

poor mental health, and Medicaid expansion under the Affordable Care Act appears to have improved psychological distress among low-income adults, but we need additional theory-based analyses to adequately answer this question.[16,17]

Encouragingly, Choi et al's study fits into an existing theoretical framework of psychological distress that incorporates an individual's socioeconomic background. This framework, known as Pearlin's Stress Process Model, identifies relationships among 3 conceptual domains of psychological stress: its sources (life events and economic life strains), its mediators (coping behaviors and social support), and its manifestations (outcomes related to disease progression and mental health).[18] Though Choi et al acknowledge that their study's associations between financial strain and psychological distress are correlational and cannot be used to demonstrate causality, frameworks such as Pearlin's suggest that causal relationships between economic strain and distress may be apparent in future longitudinal work.

The lack of well-timed longitudinal analyses of mental health is a key gap in the existing kidney disease literature. Psychological distress and perceptions of quality of life vary according to critical time points in an individual's kidney disease trajectory, such as near the start of hemodialysis and posttransplantation, yet most studies are limited to cross-sectional analyses.[19,20]

Which came first for individuals with CKD in the NHIS data set: psychological distress or barriers to health care access? We must move toward longitudinal analyses to adequately address the ever-present question of reverse causality in studies of psychological distress.[21] Additionally, to develop a mechanistic explanation of the causes and effects of psychological distress, characteristics of an individual's life that may act as moderators or mediators of distress also need to be assessed. Pearlin's framework and original analysis point to a potential role of coping behaviors and social support as mediators between economic strain and depression, and future work in this area may benefit from incorporating validated measures of these variables.

The study has other limitations, most notably that characterizing an individual with a K6 score of 6 as having "no distress" may underestimate the true prevalence of poor mental health in this patient group. This may partially explain why individuals with CKD in this category were still frequently hospitalized during the preceding year. Additionally, although the questionnaires in Choi et al's analysis uniquely asked patients to self-report their degree of difficulty managing clinical comorbid conditions, including depression, results from such measures may have been more informative if combined with a qualitative semi-structured interview.

Ideally, future studies of psychological distress in CKD must use psychometrically validated measures that capture the full spectrum of distress, specifically include patients at stressful time points along their disease trajectory, be longitudinal in design, use mixed-methods analyses involving qualitative interviews, and test for mediational effects using theory-based, time-varying covariates. Studies should also make efforts to distinguish between disease-specific adjustment disorder, generalized anxiety disorder, major depressive disorder, and changes in mood that result from cognitive decline, physical fatigue, or alterations in the uremic milieu.

Importantly, Choi et al's work points to previously unexplored potentially modifiable determinants of psychological distress that may be able to be addressed with targeted interventions or policy changes. Assessing and addressing psychological distress in kidney disease in an impactful way will require thoughtfulness, time, advocacy, and resources, but given its prioritization by patients and associations with adverse outcomes, it cannot be ignored.

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