

## Psychological Flexibility: A Novel Risk Factor for Depression in Kidney Disease



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As anyone who frequents a dialysis unit knows, it is extremely hard to be a patient with kidney disease. Chronic kidney disease (CKD) has high mortality and often is accompanied by multiple other comorbid conditions.<sup>1</sup>

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For those with kidney failure, the dialysis treatment itself also may have a tremendously negative impact on an individual's physical and mental health. The physical toll, time commitment, and seemingly unending number of required tasks all combine to affect quality of life and psychological well-being. Unsurprisingly, there is an unacceptably high rate of depression among patients with CKD and dialysis patients, with estimates that depression affects 20% of prevalent patients.<sup>2</sup> Unfortunately, there are only limited data on treatment for depression in patients with kidney disease. Use of antidepressant medications is recommended and appears efficacious but is often underused.<sup>3</sup> Psychosocial interventions such as cognitive behavioral therapy (CBT) also appear to improve depression<sup>4,5</sup> but have not been routinely deployed within dialysis units. Additional therapies are desperately needed to not only treat depression but also to prevent its development.

Psychological flexibility is a concept that encompasses a number of abilities related to identifying and adapting to demands, changing strategies when demands affect personal or social functioning, choosing behaviors based on personal values, and being present in the current moment regardless of unpleasant feelings.<sup>6</sup> Psychological flexibility is often diminished or absent in many psychopathologic states, including depression.<sup>6</sup> The 7-item Acceptance and Action Questionnaire (AAQ-II) is a commonly used brief survey that attempts to capture psychological flexibility using a 7-point Likert scale.<sup>7</sup> Low scores are associated with depression in other chronic disease states such as inflammatory bowel disease.<sup>8</sup> More importantly, improvements in scores after undergoing CBT are associated with clinical improvement in depression.<sup>9</sup> Unfortunately, there has previously been no evidence on how psychological flexibility affects patients with CKD despite the potential for this to be a modifiable risk factor for depression.

In this issue of *Kidney Medicine*, Iida et al<sup>10</sup> present a multicenter study of participants from Japan, including individuals with advanced (stages 3-5) CKD and with end-stage kidney disease (ESKD) requiring dialysis. Using the 7-item AAQ-II described, they assessed psychological flexibility in more than 600 individuals, two-thirds with

non-dialysis-dependent CKD and one-third with ESKD. Depression was assessed using the Center for Epidemiological Studies of Depression (CES-D) survey, with a score  $\geq 16$  defining depression. The researchers examined the baseline factors associated with psychological flexibility, finding that participants with ESKD (both peritoneal dialysis and hemodialysis) had lower AAQ-II scores compared with participants with CKD not requiring dialysis, consistent with dialysis patients having less psychological flexibility. Furthermore, lower AAQ-II scores were associated with a greater likelihood of having depression at baseline. In longitudinal analyses that excluded participants with depression at baseline, lower baseline AAQ-II score was associated with a greater incidence of depression after 1 year.

There are several limitations of the study that should be noted. First, the CES-D, while often used in research settings, is not the gold standard for the diagnosis of depression. Formal psychological evaluation by a trained professional remains the standard of care for confirming depression and should therefore still be considered in patients with kidney disease who appear to be experiencing depression. Additionally, one cannot ignore the high dropout rate after 1 year, which although common in studies of kidney disease due to high mortality and morbidity nonetheless may affect the observed findings. Finally, it is unclear whether the results in this study conducted in Japan are fully generalizable to other countries, which have different economic and social models for the care of patients with kidney failure.

Despite these drawbacks, this study provides novel information on an intriguing modifiable risk factor for depression in patients with kidney disease. Although the findings may not be entirely surprising, confirmation that the same relationship that is seen in the general population extends to those with kidney disease is a crucial step in developing new interventions to treat depression. The logical future direction would be to study whether measures that can improve psychological flexibility, such as broader use of CBT, can be used to improve the unacceptably high rates of depression in CKD and ESKD.

CBT is a well-established psychotherapy technique that focuses on modifying behaviors and thoughts that are believed to perpetuate depressive symptoms. Notably, there are several studies in patients with ESKD that have examined the impact of CBT on depression and on quality of life and dialysis adherence measures. A randomized trial by Cukor et al<sup>5</sup> administered CBT in the dialysis unit to maintenance hemodialysis patients with depression using a delayed crossover design. Those who received CBT

experienced fewer depressive symptoms, had greater improvement in quality of life, and had less interdialytic weight gain. A recent trial by Mehrotra et al<sup>4</sup> randomly assigned hemodialysis patients with depression to either treatment with sertraline or 12 weeks of CBT. Both groups showed improvements in depressive symptoms, though the sertraline treatment group had overall modestly better scores.

Interestingly, neither study focuses on psychological flexibility, which may be one of the mechanisms by which CBT exerts its beneficial impact on depression. Based on prior research on CBT, improved psychological flexibility could also conceivably improve dialysis and medication adherence, as well as quality of life, issues that are of critical importance in trying to self-manage a challenging chronic illness. Furthermore, efforts to improve psychological flexibility should be studied as a proactive method to prevent the onset of depression in this vulnerable population. As we increasingly focus on patient-centered outcomes, psychological flexibility should be at the forefront of our mission to improve the dialysis experience.

## ARTICLE INFORMATION

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