Screening for depression: only one piece of the puzzle

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ABSTRACT

In this issue of NDT, van den Beukel et al. from the Netherlands suggest that a 5-item survey questionnaire might be used to replace the Beck Depression Index to screen patients with chronic kidney disease (CKD) for depression. The nephrology community is at a tipping point in terms of the assessment of outcomes, especially among patients on dialysis. Indeed, the entire healthcare community has begun to shift its focus to patient-reported outcomes (PROs), including quality of life, patient satisfaction and the psychosocial determinants of health. Beyond depression, there are a myriad of aspects of psychological distress that include anxiety, worrying, fear of progression of kidney disease and the fear of the future in general, death and dying, hopelessness, questions around the meaning of life and the experience of recurrent psychological and physical trauma through the CKD trajectory. We encourage the community and its researchers to embrace and research PROs, with the aim to create a holistic, patient-centered model of care for patients at all stages of CKD, including those on chronic dialysis and after transplantation, keeping the whole person—and their families—in mind.

In this issue of NDT, van den Beukel et al. from the Netherlands suggest that a 5-item survey questionnaire might be used to replace the Beck Depression Index (BDI) to screen patients with chronic kidney disease (CKD) for 'depression' [1]. The topic is timely, and the implications for the future of kidney care are important.

The nephrology community is at a tipping point in terms of the assessment of outcomes, especially among patients on dialysis. Traditionally, outcome assessment has focused on the achievement of biochemical and hematological targets related to monthly blood work, for individual patients, for facilities and for larger group comparisons. Despite a strong focus on these outcomes, improvements in the quality of dialysis treatments, and an increasing use of many novel pharmacological agents to treat complications of CKD patients in Stages 3, 4, 5 and 5D, hard clinical outcomes, such as survival and hospitalization rates, have not improved as much as desired over time [2]. Dialysis remains an imperfect and burdensome therapy.

More recently, the healthcare community has begun to shift its focus to patient-reported outcomes (PROs), including quality of life (QOL), patient satisfaction and psychosocial determinants of health [3–6]. For nephrologists, this is both a challenge and an opportunity. QOL of our patients is very low, indeed one of the lowest among all chronic medical conditions [7, 8]. Although certain aspects of QOL may improve with home dialysis [9, 10], the hypothesis, that home dialysis modalities provide better QOL in general, than in-center dialysis, is a difficult one to test because of inevitable patient selection imbalances. Newer developments in dialysis technology, such as high-flux, ‘biocompatible’ membranes, higher dialysis dose within the framework of the traditional thrice weekly dialysis schedule [11] or the use of convective transport with hemodiafiltration have not improved health-related QOL (HRQOL) meaningfully [12, 13]. This is perhaps not surprising in light of the fact that psychosocial factors seem to be the strongest correlates of HRQOL [14]. Furthermore, according to a recent article by Davison, 61% of patients on chronic dialysis reported that they regret starting dialysis [15], indicating that overall patient-centered outcomes are not satisfactory, either.
There are many obstacles faced by nephrology in designing and conducting large-scale, hard outcome (like mortality), randomized, controlled, clinical trials [16, 17]. The few such trials focused on hematological and/or biochemical risk factors have yielded results that are usually either negative or ambiguous [18–21]. Perhaps, a shift in focus to PROs would find more easily modifiable risk factors amenable to empirical trials, and lead to meaningful innovation in dialysis patient care by improving various aspects of QOL, mental health and well-being. It is important to emphasize that these outcomes are perhaps more meaningful to our patients than the traditionally used clinical outcomes, which are usually considered more interesting from the healthcare professionals’ perspective.

In our opinion, one of the biggest challenges in focusing on PROs in modern dialysis units is the ever-increasing size of the units and the increase in patient-to-caregiver ratios [22]. Ideally, well-trained psychiatrists, social workers, nephrologists and/or nephrology nurses would provide personalized and detailed care for each patient in every unit. However, the modern hemodialysis unit has come to resemble a factory [22], and one-to-one, personal, private psychosocial assessments seem unlikely to be delivered on a large scale. Hence, there is value if validated short questionnaires can screen dialysis patients for psychosocial and mental health problems, including depression. Positive responses to these questionnaires would then trigger more personal and more detailed psychosocial assessments and interventions.

Van den Beukel et al. compared results obtained with the 5-item Mental Health Inventory (MHI) (subscale) of the 36-item Short-Form Health Survey Questionnaire to scores obtained with the BDI to determine if the MHI would be an appropriate tool to screen for depression among patients on maintenance dialysis. Based on their results, the authors conclude that the MHI may be an appropriate screening tool for depression among patients on dialysis, and they also define an optimal cutoff value. As with any important article, the Van den Beukel et al. research points to several important questions.

Depression is one of the most frequent psychological problems identified in patients with advanced CKD [23–27]. Diagnosing depression could be challenging in this patient population, in part due to the overlapping somatic symptoms of uremia and depressive disorders, including loss of appetite, sleep disruption, fatigue and lack of energy. Furthermore, other medical comorbidities such as sleep apnea and congestive heart failure might contribute to these symptoms as well [28, 29]. We suspect that diagnosing and treating occult sleep apnea might improve many of the above symptoms.

When aiming to diagnose or screen for any condition, we need to carefully define the specific condition at hand. When we read about depression among the chronically medically ill (including patients with CKD), several conditions are treated as if they were synonymous. Mostly for practical reasons, major depression, dysthymia and depressive symptoms are assessed frequently and discussed as depression, but clinically, we also see general psychological distress, anxiety, fear of death and dying, anhedonia, demoralization, difficulties of adaptation, failure to cope and losing the will to live with CKD and dialysis. Several PROs, including the BDI and the Patient Health Questionnaire (PHQ), have been validated against clinical interviews or physician diagnosis of major depression and certain cutoff values have been determined in those analyses, specifically in the context of major depression [30–32]. It is very important to emphasize, however, that in chronically medically ill populations, the whole spectrum of depressive conditions are present, and all those conditions will impact on QOL and well-being [14, 33, 34]. Therefore, in our opinion, we need to identify patients with any of those psychological problems (and also with others, such as anxiety, chronic fatigue etc.) when these problems are clinically significant and occur in patients who would accept help/treatment for those conditions.

In this regard, the MHI may be a reasonable choice, because it has been originally designed to assess anxiety, depression, loss of behavioral or emotional control and psychological well-being [35]. At face value, the content of three of the five questions would target finding depression, whereas the other two (‘Have you been a very nervous person?’ and ‘Have you felt calm and peaceful?’) target the other problems. It would be of interest to learn if an even shorter three-question version screened patients at risk of depression as well as the 5-question subscale, or if the full five-question version, finds subtle hints beyond just depression.

Van den Beukel et al. report the specificity, sensitivity, negative and positive predictive value of the MHI as compared with the BDI as a reference standard (MHI ≤70 had 77% sensitivity, 72% specificity, 44% PPV and 91% NPV, compared with BDI). They also report the results of several sensitivity analyses, which confirm the main concept of their article, that is, the MHI measures something similar to the BDI. Although these parameters are not unusually low for a screening instrument and the area under the curve for their suggested cutoff value [0.82 (95% confidence interval 0.74–0.90)] is quite impressive, the main question, whether to use the BDI or the MHI to screen patients on dialysis, remains somewhat unanswered. It would have been more convincing to compare both the BDI and the MHI to a standard clinical interview and to define the accuracy of each respective instrument against a more accepted ‘gold standard’ in a head-to-head comparison. It would have also been instructive to demonstrate a scenario in which an actual dialysis unit would implement the policy of screening for depression using the suggested instrument. In that scenario, the question of what happens to patients identified by the screening instrument would also needed to be answered, because screening is only justifiable if there is a treatment for the condition and if resources for diagnosis and treatment are available [36].

We, as well as the authors, strongly believe that screening is not enough, but very little evidence is out there to guide us about the most effective treatment options for the several conditions, which we identify with our screening tools [37, 38]. Both the nephrology and psychiatric communities need to focus more on the challenges of treating mood disorders in patients with CKD. Pharmacotherapy trials with antidepressants so far have been carried out with small sample sizes (for recent review, see [38]). Previous articles suggest that cognitive behavioral therapy seems to be a promising modality [39, 40], but other psychotherapies as well as other
nonpharmacological treatment modalities need to be studied further. Multidisciplinary work, integrated care models and stepped care approaches need to be tested for feasibility and cost-effectiveness.

Finally, as mentioned above, the focus on depression may be too narrow in terms of determining the whole picture of the patient experience. Beyond depression, there are a myriad of aspects of psychological distress that include anxiety, worrying, fear of progression of kidney disease and fear of the future in general, death and dying, hopelessness, questions around the meaning of life, the experience of recurrent psychological and physical trauma through the disease trajectory, just to name a few. End of life questions and palliative care considerations need to be addressed in a systematic way as well. We also need a better understanding of the role of transcultural issues, spirituality, religion and social support.

These concepts are important for medically severely ill patients and their families, and should be identified, leading to effective interventions if required. Models of patient-centered approaches, such as ‘narrative medicine’, ‘mind-body medicine’ or ‘whole person care’ would reflect the biopsychosocial-spiritual aspects of the patient’s experience with the illness. Practical approaches such as stress management training (e.g. mindfulness meditation) and enhancing communication with staff and social support of patients and caregivers would be an important component of mental health services supporting patients with CKD. In our experience, there is also a need for more training of dialysis nurses—who have the most frequent contact with patients—in mental health issues and brief interventions that they can employ to decrease distress. Nephrologists would also need more training in the assessment and treatment of psychosocial problems and mood disorders, which are very prevalent among patients with advanced CKD.

Certainly, implementing systematic distress screening in routine clinical care would be an important first step, which should be carried out in conjunction with providing appropriate psychosocial interventions. There is an emerging interest to assess distress in medically ill patients with other chronic disease states. Cancer care guidelines are a good example of this awareness. Short, easy to use psychosocial instruments could be an invaluable addition to routine clinical care.

As a model for consideration, in Canada, distress screening is an accreditation requirement for all hospitals caring for patients with cancer [41], and Cancer Care Ontario mandates standardized distress screening for all cancer-treatment centers [42]. Most cancer control agencies now include recommendations for routine distress screening in clinical practice guidelines and standards [43, 44]. Assessing emotional distress has been incorporated into the expected role competencies for oncology nurses. Integrating psychosocial-spiritual aspects of patients’ experience into routine clinical oncology care is seen as an essential step to improve quality of care. [45–47] Screening tools, such as the Distress Assessment and Response Tool (DART) system, have been shown to be helpful clinical tools for screening and managing distress in patients with cancer (Madeline Li, personal communication). Similar approaches could be implemented in the care of patients with CKD.

We congratulate our Dutch colleagues for contributing this piece of the puzzle and for stimulating the renal community to consider more fully the psychosocial aspects of the patient experience on dialysis. We encourage the community and its researchers to move further along the spectrum to embrace and research PROs, with the aim to create a holistic, patient-centered model of care for patients with CKD, for those on chronic dialysis and after transplantation, keeping the whole person—and their families—in mind.

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CONFLICT OF INTEREST STATEMENT

None declared.

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Defining AKI: closer to getting the math right

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In this issue of the journal, Wang et al. describe a novel approach for assessing risk for inpatient mortality using different definitions of acute kidney injury (AKI). The authors use absolute changes in serum creatinine (SCr) instead of changes in stages as defined by KDIGO AKI guidelines, and demonstrate that the net reclassification index (NRI) for mortality risk is almost 10%, and therefore likely useful in clinical practice. The findings require validation in an external dataset, but are certainly promising.

This paper and area of research is important on a number of counts. First, it heralds the commitment of the scientific community to generate research to get the definitions ‘right’ of common entities. The need to practically evaluate definitions within the context of clinical care cannot be overstated. These authors, as have others, pursue the need for precision and practical application of detecting AKI in hospitalized patients. Secondly, it confirms previous concepts that small changes in SCr confer risk, and that use of first hospital SCr as baseline SCr performs well in this context. Previous authors have worked out complex methods to ascertain ‘baseline SCr’, so the validation that a delta SCr within the same admission is of value in predicting outcomes will be a welcome simplification to previous propositions. The improved ability to predict important events is critical if we are to design clinical trials, and do so with appropriate sample size calculation.

Acute kidney injury remains an important event in patients with and without chronic kidney disease (CKD). Despite recent advances in understanding AKI pathophysiology including discovery of novel biomarkers, and in the role of renal replacement therapy in an AKI setting, AKI still affects more than 60% of patients depending of context and definitions, and is associated with in-hospital mortality reaching almost 60% for dialysis-requiring AKI in an intensive care unit (ICU) setting [1]. As a syndrome, caused by diverse etiologies, with variable severity, it requires consistent definition. Choosing an AKI definition necessarily influences estimates of AKI incidence or outcomes, and design of future research. Therefore, differences and implications for each potential AKI definition should be well evaluated. However, applying a single AKI definition across all studies and in all settings is impossible. For example, precise time frame for SCr measurements (e.g. 48 h) is easy to comply with in a randomized-controlled trial taking place in an ICU, but may be much more difficult to apply in a retrospective observational outpatient study where SCr measurements are not pre-specified.

Before 2004 when Risk of renal dysfunction, Injury to the kidney, Failure of kidney function, Loss of kidney function and End-stage renal disease (RIFLE) was proposed, more than 30 definitions were used in the literature [2, 3]. While RIFLE and subsequent definitions do have limitations, they were beneficial for the clinical and research communities, and have great strengths. As consistent attempts at quantifying the elements of acute kidney damage (changes in SCr and urine output), the definitions have proved useful. The development of the definitions was consensus-based, involving multidisciplinary experts from around the world. This led to uptake of those definitions due to wide acceptance, which greatly improved homogeneity and comparability of AKI studies.