CHRONIC KIDNEY DISEASE AND MENTAL HEALTH

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OVERVIEW OF MENTAL HEALTH AMONG CKD PATIENTS

In this section we will answer questions including how common are mental health problems among chronic kidney disease (CKD) patients and what are the implications of these mental health issues among CKD patients. Here we will also present a recent report from the US that analyzed the incidence of mental illness in CKD and the biology behind the occurrence of mental health illness among CKD patients.

MANAGEMENT OF MENTAL HEALTH PROBLEMS IN CKD

In this section, we will present to you aspects of management of mental health issues among CKD patients, from prevention strategies to management of overt psychiatric disorders in CKD requiring pharmacologic intervention. Finally, we will present some of our company's undertakings in terms of research and other initiatives regarding mental health in dialysis patients.

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FRESENIUS MEDICAL CARE

OVERVIEW OF MENTAL HEALTH AMONG CKD PATIENTS

CKD is a lifelong illness which can consequently affect mental health. A study in the US showed that adults reporting CKD were more likely than adults reporting no chronic conditions or HTN/DM to have any mental illness (27% vs. 17% or 20%, respectively) or severe mental illness (7% vs. 4% or 5%, respectively). [1] Another study in South Korea (N=70,079) among kidney failure patients reported 28.3% incidence of mental health problems. [2] Depression, anxiety disorder and cognitive impairment (prevalence in advanced CKD: 23%, 25-34% and 60% respectively) are very common psychiatric comorbidities in CKD. These affect help-seeking behavior, lifestyle, medication adherence resulting to poor outcomes. [3] Also, those not receiving adequate support will make them not suitable candidates for transplant or home dialysis treatment, leading to increased cost of treatment and diminished caregiver and patient flexibility. [1] Various reports have also demonstrated that mental health problems and psychologic distress in CKD is associated with economic and financial factors such as low income and high out-of-pocket expenditure hence the importance of providing social and financial support among CKD patients. [4-7]

Uremic toxins, anemia, and hemodynamic changes, either directly cause or is closely linked with brain damage. Certain CNS disorders such as migraine and traumatic brain injury, are independent risk factors for CKD. The increased levels of inflammatory molecules, reactive oxygen species and angiotensin II also contribute to kidney-brain interactions. [8] (Figure 1)

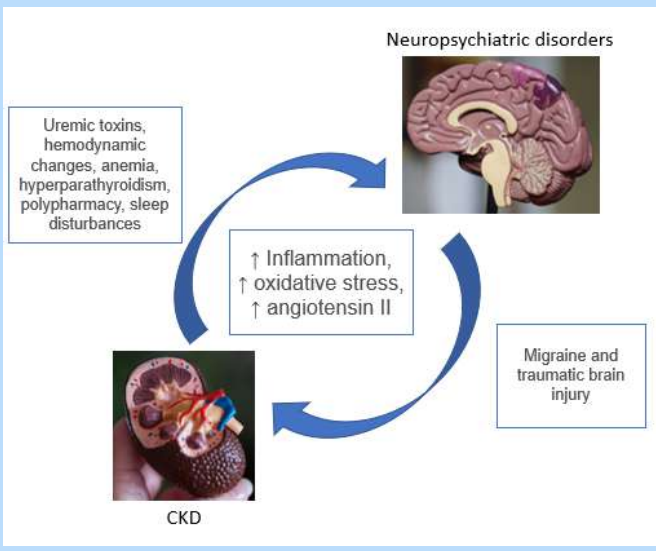

Figure 1. Factors linking chronic kidney disease and neuropsychiatric disorders. Adapted from Front Pharmacol 2019;10:932.

MANAGEMENT OF MENTAL HEALTH PROBLEMS IN CKD

Mental health is of paramount importance to our overall health, thus it is important to help CKD patients cope with existing mental health problems and the need for prevention should be reiterated. To prevent and cope with mental health problems, we can focus on several aspects, such as addressing symptoms and life impacts, empowering patients with strengths-based approach, and improving kidney functions via clinical strategies. The World Kidney Day Joint Steering Committee has declared 2021 the year of "Living Well with Kidney Disease" to increase education and awareness on the important goal of patient empowerment and life participation. [9] (Figure 2) There are also reports that people with CKD should be assessed for psychological distress, treated as needed, and offered case management and social services to help them navigate the health care system and alleviate personal stressors and that talking to people about their wellbeing and providing information relevant to kidney health improve wellbeing amongst people on dialysis. [4,10]

Living Well with Kidney Disease Conceptual Framework			
Life Participation			
Education, Engagement, Empowerment			
Addressing Symptoms and Life Impacts			
Symptoms	**Life Impacts**	**Strengths-based Approach**	**Clinical Strategies**
Fatigue	Ability to work	Communication and education	Preserve kidney function
Mobility	Ability to travel	Build resilience	Patient-friendly lifestyle and diet
Pain	Ability to study	Strengthen social connections	Pharmacological management
Stress/Anxiety	Impact on family and friends	Increase awareness and knowledge	Delay dialysis start if possible
Depression	Financial impact	Access to support	Incremental transition to dialysis
Cognitive impairment	Dialysis-free time	Build confidence and control with self-management	Patient-centered dialysis prescriptions
Sleep problems	Dietary restrictions		Preserve residual kidney function
Cramps	Lifestyle changes		
Restless legs	Social activities		
GI symptoms			

*GI= gastrointestinal

Figure 2. Conceptual framework of 'Living Well with Kidney Disease'. Adapted from Hong Kong Med J 2021;27:97-8.e1-6.

Summary of safety of common psychotropic medications in CKD	
Antidepressants	Use with caution: SSRIs, SNRIs, Bupropion, Mirtazapine, Agomelatine, TCAs
Antipsychotics	Safe: Haloperidol, Aripiprazole, Asenapine; Use with caution: Phenothiazine group, Olanzapine, Risperidone, Quetiapine, Clozapine
Mood stabilizers	Safe: Lamotrigine; Use with caution: Valproate, Oxcarbazepine
Sedative and hypnotic agents	Safe: Eszopiclone, Zopiclone, Zolpidem; Use with caution: All Benzodiazepines
Antidementia drugs	Safe: Donepezil; Use with caution: Memantene, Rivastigmine
Others	Safe: Buprenorphine, Methylphenidate; Use with caution: Acamprosate, Naltrexone, Disulfiram, Atomoxetine, Sildenafil

SSRI=Selective serotonin reuptake inhibitors; SNRI=Serotonin and norepinephrine reuptake inhibitors; TCA=Tricyclic antidepressants

Table 1. Summary of safety of common psychotropic medications in CKD. Adapted from Dalal P, et al, Indian J Psychiatry 2022;64(Suppl 2):S394-S401.

Psychiatric disorders are also prevalent among patients with CKD, those on dialysis and renal transplantation and include psychosis, mood disorders, anxiety disorders, neurocognitive disorders, substance use disorders, childhood psychiatric disorders and others like sleep and psychosexual disorders. In prescribing psychotropic medications for CKD patients, one must consider the interaction of these drugs with medications commonly used in CKD, alteration of renal physiology, impact of these medications on renal function, and dialysis clearance of psychotropic medications. For instance, patients with CKD and depression should be treated with special precaution. Cognitive behavioral therapy (CBT) was reported to be commonly practiced and an effective treatment option for depression in CKD patients. A summary of medications that can be used safely or with precaution in psychiatric disorders in CKD is summarized in Table 1. [3]

COMPANY INITIATIVES

A study on the influence of depression and anxiety on HD patients and utilization of digital behavioral health solutions

A multicenter prospective cross-sectional study carried out in Fresenius Medical Care clinics in Cordoba, Spain that recruited 186 dialysis patients demonstrated factors that are related to affective disorders (depression and anxiety) in HD patients. Serum albumin (depression: OR [odds ratio] 0.1; anxiety: OR 0.2; $p<0.01$), decreased calcium (depression: OR 0.5; anxiety: OR 0.4; $p<0.05$) and sodium levels (depression: OR 0.9; $p<0.05$) were associated with altered mental status suggesting the association between affective symptoms and the nutritional status of HD patients. Analysis also revealed that impaired quality of life (depression: OR 1.4; anxiety: OR 1.2; $p<0.01$) and psychological inflexibility (depression: OR 1.3; anxiety: OR 1.2; $p<0.01$) were also associated with affective conditions. Moreover, worse quality of life (OR 1.3; $p<0.001$) predicted depression whereas marital status (with a partner; OR 0.3; $p=0.025$) and albumin levels (OR 0.1; $p= 0.027$) were reported to be protective factors. The authors of the study highlighted the relevance of well-trained multidisciplinary HD units to control these factors associated with the presence of depression/anxiety, and thus, their impact on the patient outcomes. [11]

Fresenius Medical Care North America (FMCNA) partnered with a company specializing in digital behavioral health solutions for a first-of-its-kind pilot study. The pilot study's goal is to integrate the digital behavioral health solution platform into FMCNA's clinical workflow in order to help identify patients with behavioral health issues. FMCNA's care team will proactively assess the behavioral health status of its patients, then aim to better coordinate the most appropriate care for those who screen positive for behavioral health conditions. [12]

References:

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