Psychosocial and Quality of Life Issues in Women With End-Stage Renal Disease

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There are differences in the way men and women experience end-stage renal disease (ESRD). Women are more likely to shoulder much of the burden of adapting family environments to accommodate life with ESRD. Issues such as fertility and conception are different from women in the general population. In the ESRD population, women express more depressive affect, anxiety, and personality disorder than men. Several psychosocial parameters have been found to be linked with differential survival between men and women such as social support and marital satisfaction. Women are more likely to serve as living donors for kidney transplantation yet less likely to be recipients of a cadaveric or living kidney transplant. We review the available literature on gender differences in ESRD with a focus on chronic hemodialysis.

Index Words: Psychosocial; Quality of life; Women; End-stage renal disease; Dialysis; Transplantation

Although there have been significant advances in the medical care of end-stage renal disease (ESRD) patients, they continue to suffer from a substantially poorer quality of life (QOL) compared with the general population. The importance of assessing QOL in patients with ESRD has been increasingly recognized over the past 2 decades. Indeed, health-related QOL in hemodialysis (HD) patients has recently been shown to be a significant predictor of mortality and hospitalization.[1] Gender differences in patients experiencing kidney failure and renal replacement therapies are likely and may be important in the care of these patients. Illness may impair libido and sexual and reproductive function. Diminished reproductive capacity may be an important stressor for young women of reproductive age with kidney disease. Furthermore, because women traditionally bear a disproportionate burden of homemaking, child-rearing, and caretaking activities in the family, they may be at increased risk for psychosocial impairment when burdened with chronic illness.

Gender differences in the development of ESRD, survival with ESRD, access to each renal replacement modality, withdrawal from dialysis, and QOL in patients with ESRD have been studied and will serve as the basis of this review. Specifically, we will review psychosocial and quality of life issues in female ESRD patients. The scope of the article will be limited to female patients treated with in-center HD and kidney transplantation. Far less is known regarding psychosocial issues and QOL that are unique to women treated with peritoneal dialysis, home HD, or nocturnal dialysis.

Epidemiology

The population with ESRD has grown rapidly in the United States over the past 30 years. The prevalent population treated with dialysis was 335,963, and an additional 136,136 patients had a functioning kidney transplant by the end of 2004.[2] Women comprise a lower percentage of the incident and prevalent population with ESRD. The incident population for 2004 was 46,777 women and 57,553 men. The prevalent population by the end of 2004 was 209,773 women compared with 262,288 men. Furthermore, the prevalent population of female and male patients with a functioning kidney allograft was 55,537 and 80,594, respectively.[2]

These observed differences in the ESRD population may be attributed to differences in the development of kidney disease and progression to kidney failure in men versus women. Gender differences in the development of kidney disease are known for a number of diseases. IgA

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nephropathy, Fabry's disease, acquired immune deficiency syndrome nephropathy and obstructive nephropathy are more common in males, whereas lupus nephropathy is more prevalent in females.[2] The incidence of the most common causes of ESRD in the United States, namely hypertensive nephrosclerosis and diabetic nephropathy, do not appear to be significantly different between genders.[2] There has been considerable effort to elucidate gender differences in the progression of kidney disease. Several studies indicate a reduced rate of decline in kidney function in female patients with chronic kidney disease.[3-6] Hormonal differences and the impact of estrogen on renal pathophysiology have been implicated as important factors for these observations.[7-12]

It appears that female patients with ESRD have better survival than males. In the dialysis population, the risk of death is high and accentuated in males (v female) and white (v black) subgroups.[2] By using the United States Renal Data System as a source, the causes of death between males and females as well as between whites and blacks, adjusting for age, cause of ESRD (diabetic v nondiabetic), dialysis modality, and time on dialysis (<1 year v >1 year) were analyzed. A total of 42,372 deaths occurred over 170,700 patient years at risk. Males had a 22% higher risk of death than females ($P < .001$), attributed acute myocardial infarction (relative death rate ratio [RR] = 1.48, $P = .001$), all other cardiac causes (RR = 1.3, $P = .001$), and malignancy (RR = 1.59, $P < .001$).[13] Although a much smaller patient population was analyzed, it is important to note that the HEMO trial did not show a gender difference in mortality in this randomized controlled trial involving 1,846 chronic HD patients.[14] Differences in baseline characteristics of incident ESRD patients may account for the reported differential survival between the genders.

Psychiatric Disorders

Depression has been regarded as the most common psychiatric abnormality in ESRD HD patients.[15-21] Although this may be expected in patients with substantial burden of illness, it is important to note recent findings that depressed affect has been associated with risk of hospitalization and death in HD patients.[22] It has long been recognized that ESRD patients with a functioning kidney transplant have a better QOL than that of HD patients.[23] Not surprisingly, depression is seen in patients returning to HD, especially after a short duration of graft function.[24] However, the presence of depression has not been related to gender in the transplant population.

Typically, women express depressive affect more commonly and at higher levels than men.[25] In an early, small study, women HD patients scored higher on an anxiety/depression scale than men.[26] In an analysis of 176,398 HD patients in the United States, the most common psychiatric disorder was depression and affective disorders, with dementia and organic brain syndromes constituting another large category of psychiatric complications, expected in an elderly, chronically ill, uremic population.[27-30] Furthermore, hospitalization rates for patients with a primary diagnosis of depression are higher in ESRD patients compared with Medicare patients with other chronic disease and equal to patients with diabetes mellitus.[17,31] There was no difference between the risk of hospitalization with a diagnosis of mental disorder, depression, organic disorders, and dementia or schizophrenia and other psychoses in men and women. However, women were less likely than men to be admitted with a diagnosis of substance abuse, whereas women are more likely to be admitted with a primary diagnosis of anxiety or personality disorder.[31]

Fertility and Conception

Fertility and conception among women on dialysis are not promising. Although the majority of women treated with dialysis are above the childbearing age range, for those younger patients, ovulation is less likely to occur because the normal estradiol-stimulated luteinizing hormone surge does not occur.[32,33] Another factor associated with decreased conception is reduced sexual activity and interest in the ESRD population. This may be mediated by hormonal alterations associated with uremia as well as comorbid illnesses, functional status, and body image.[34] Nevertheless,