The risk of developing CKD is at least as high in women as in men, and possibly higher. Yet the number of women receiving dialysis is lower than the number of men, and women are more likely to donate kidneys but less likely to receive transplants.

The March 2018 World Kidney Day theme, “Kidneys & Women’s Health: Include, Value, Empower,” aims to shine a light on issues of equitable healthcare access for women with kidney diseases worldwide. Here, we summarize recent reports providing insights into disparities in CKD care for women in the United States and around the world. We also review basic science findings regarding sex differences in animal models that could lay the groundwork for a variety of preclinical and clinical studies. Investigators are increasingly aware that results found in males do not always hold true in females, and that there are clear differences in the sexes that should be considered when preventing and treating health issues.

Chronic kidney disease affects approximately 195,000 women worldwide and causes close to 600,000 deaths per year. A recent review in *Seminars in Nephrology* looks at patterns of care affecting the burden of CKD among women, noting important effects of sex, referring to biological differences as well as gender, reflecting social differences.

Some biological differences between the sexes are well known but are typically not considered in CKD care. A prime example is anemia: although women typically have lower hemoglobin and hematocrit levels, current CKD guidelines do not include sex-specific targets for anemia. An issue of special importance is the possibility that women and men may have differing responses to erythropoiesis-stimulating agents.

There may also be important differences in calculation of dialysis dosage, with some studies suggesting overestimation of dialysis adequacy in women, as calculated by Kt/V. Other sex-related pathophysiologic differences warrant further study, including the higher rate of noncardiovascular deaths occurring among women, particularly at younger ages, according to study authors Juan-Jesus Carrero, MD, of Karolinska Institute and colleagues.

In an effort to provide a global perspective on CKD, gender, and access to care, the authors review gender-related differences in CKD and access to kidney care around the world, including differences by region in Africa and Asia and by country in Latin America. Women’s access to care for CKD and end stage renal disease (ESRD) is affected by healthcare expenditures and gender social disparities.

But disparities in access to ESRD care are not limited to lower-income countries: women are consistently under-represented in hemodialysis clinics. These differences are not explained by a lower prevalence or incidence of CKD, nor by potential sex bias in estimated glomerular filtration rate.

Some evidence suggests that dialysis is initiated later in women, possibly reflecting lower awareness of kidney disease. Other studies have reported that kidney function declines more rapidly in women than men. However, an alternative explanation is that women have higher mortality on dialysis, or die before initiating dialysis. Thus even in the United States and other high-income countries, the lower rate of dialysis among women may result from “psycho-socioeconomic” rather than biological factors. Studies consistently find that women tend to donate kidneys more often but are less likely to receive kidney transplants. Again, this finding is present in high-income as well as lower-income countries. In the Dialysis Outcomes and Practice Patterns study, 5.6% of US women on dialysis received kidney transplants compared to 7.0% of men. Similar gender disparities may prevail among children with kidney disease.

The assembled evidence highlights suboptimal understanding of biological differences in kidney disease between men and women, while also raising questions about gender-related differences in treatment for CKD and ESRD—including access to dialysis and transplantation—in women and girls.

"Research is needed urgently to elucidate the reasons behind these disparities, as well as to develop CKD treatment strategies tailored to women’s unique healthcare needs," Carrero and colleagues conclude.