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SURVIVAL RATES ARE IMPROVING FOR INDIVIDUALS WITH KIDNEY FAILURE

Advances in dialysis, new medications, and uptake of clinical practice guidelines may have contributed.

Highlights

- In the United States, the excess risk of kidney failure—related death decreased by 12% to 27% over any 5-year interval between 1995 and 2013.
- Decreases in excess mortality over time were observed for all ages and both during treatment with dialysis and during time with a functioning kidney transplant.

Washington, DC (December 14, 2017) — Individuals with kidney failure have a much higher risk of dying prematurely than people in the general population, but a new analysis indicates that this excess risk is falling. The findings, which come from a study appearing in an upcoming issue of the *Clinical Journal of the American Society of Nephrology* (CJASN), are encouraging and suggest that efforts to improve care have resulted in improved survival.

Although rates of early death have decreased over time in patients with kidney failure, it is unknown if improvements merely reflect parallel improvements in the general population. To investigate, a team led by Bethany Foster, MD, MSCE (Montreal Children's Hospital and the Research Institute of the McGill University Health Centre) and Benjamin Laskin, MD, MSCE (The Children's Hospital of Philadelphia) examined changes in the excess risk of early death—over and above the risk in the general population—among people treated for kidney failure in the United States.

The analysis included 1,938,148 children and adults diagnosed with kidney failure from 1995 to 2013. The change over any 5-year interval between 1995 and 2013 in the excess risk of kidney failure–related death varied by age, with decreases from 12% for ≥65 year olds to 27% for 0-14 year olds. Decreases in excess mortality over time were observed for all ages and both during treatment with dialysis and during time with a functioning kidney transplant, with the largest relative improvements observed for the youngest individuals with a functioning kidney transplant. Absolute decreases in excess kidney failure–related mortality were greatest for the oldest patients.

"We showed that all age groups have had significant improvements in mortality risk over the past 22 years. Some of the improvements were due to improved access to kidney transplantation and to longer survival of kidney transplants, but there were also improvements that can only be attributed to improvements in the care provided to people treated with dialysis and to those with kidney transplants," said Dr. Foster. "This is important given the huge investment of resources in caring for these patients; we have shown that these investments have made a difference."

Dr. Foster noted that the investigators expected to find decreased mortality rates for all age groups except those in late adolescence and early young adulthood. This age group often has difficulty adhering to recommended treatments, and there is sometimes a breakdown in the continuity of care when young people are transferred from a pediatric healthcare facility to an adult care facility. "We discovered that young people in this age group had no improvements in mortality risk between 1995 and 2006, unlike all other age groups, but started to have significant improvements after 2006," said Dr. Foster. "This may be because healthcare professionals became more sensitized to these problems in the early 2000s and have changed the way they care for these young people."

Although individuals with kidney failure still have much higher risks of early death than people in the general population, it appears that the gap is gradually closing. "One of the best ways to improve health in people with kidney failure is for them to get a kidney transplant, and the limited supply of suitable organs is still a major impediment to more progress in outcomes for people with kidney failure, Dr. Foster said. "Everyone needs to think about organ donation and sign their organ donor cards."

In an accompanying editorial, Kirsten Johansen, MD (University of California, San Francisco) noted that the study provides a framework for future studies that are needed to examine which changes in practice patterns and clinical care may contribute to changes in mortality rates in patients with ESRD. "Analyses of differences in outcomes over time and across geographic regions are powerful tools we can apply to gain an understanding of the impact of changes or variations in practices on survival," she wrote.

Study co-authors include Mark Mitsnefes, MD, Xun Zhang, PhD, and Mourad Dahhou, MSc.

Disclosures: The authors reported no financial disclosures.

The article, entitled "Changes in Excess Mortality from End-Stage Renal Disease in the United States from 1995-2013," will appear online at http://cjasn.asnjournals.org/ on December 14, 2017, doi: 10.2215/CJN.04330417.

The editorial, entitled "Life Expectancy Gains for Patients with ESRD," will appear online at http://cjasn.asnjournals.org/ on December 14, 2017.

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