The Renal Association
UK Renal Registry

Survival and Causes of Death in Adult Patients Receiving Renal Replacement Therapy

Lay summary

For the full annual report chapters click here or visit https://www.renalreg.org/reports/2015-eighteenth-annual-report/

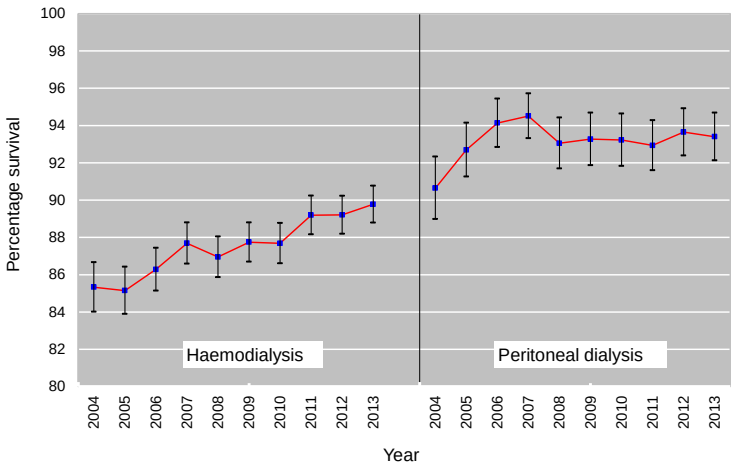
This paper describes some results relating to survival in patients who were either starting or already on renal replacement therapy (RRT) in 2013 and the length of time people starting RRT could be expected to live and the reasons for death.

Patients starting treatment for RRT

For every one million people living in the UK, approximately 109 started dialysis for the first time or went straight to having a kidney transplant in 2013. In most of the results presented, we refer to 'age adjusted survival`, that is survival adjusted to reflect the average age of all RRT patients in the UK. This allows us to compare between different regions and periods of time. We also refer to 'one year and 90 days' as a standard period of time used to compare survival. This is because the risk of dying and the cause of death can be quite different in the first 90 days after starting RRT.

Overall, nine out of 10 patients were alive at one year and 90 days after starting RRT with no difference in survival between men and women. There has been a promising improvement in survival over the last 15 years (Figure 1). This improvement was for both people under 65 years of age (increased from 88% to 94%) and in people over 65 years (increased from 63% to 79%). Patients starting peritoneal dialysis (PD) as a group tend to be younger and fitter and therefore had better survival than those patients starting on haemodialysis (HD) (93% vs 90%).

Figure 1 Trend in one year survival after the first 90 days of starting RRT for patients starting on haemodialysis or peritoneal dialysis

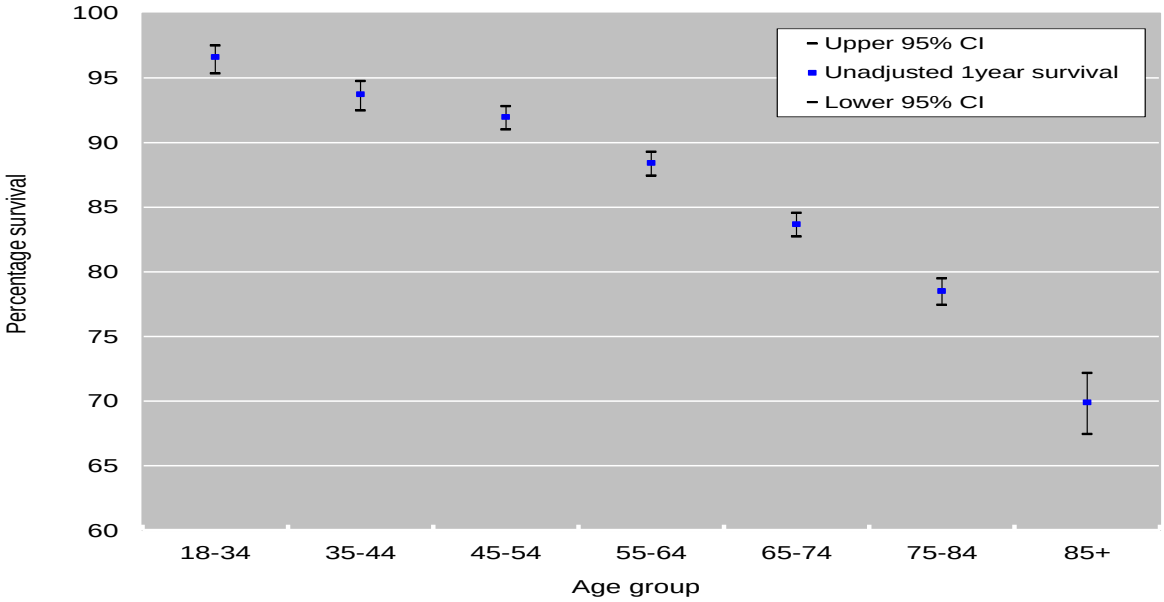


Although survival improved over time in patients that started treatment for kidney failure, the risk of dying increases sharply in older people. In patients who were over 65 years of age, two out of every 10 patients died in the 1st year after 90 days of starting RRT compared to one out of 10 in the under 65 age group. Patients with diabetes who started treatment for kidney failure had a higher risk of dying compared to patients without diabetes.

Patients already receiving dialysis treatment

At the end of December 2013, approximately 27,500 adults in the UK were receiving dialysis treatment for kidney failure. Obviously, the length of time people can be expected to survive decreases as they get older. This was also the case amongst people on dialysis: 97% of patients in the 18-34 year age group survived for 1 year compared to 70% in people over 85 years of age. There was also a large difference (11%) in the one year survival in younger (aged <65 years) dialysis patients compared to older patients (>65 years) (Figure 2).

Figure 2 One year survival of prevalent dialysis patients by age group, 2013 cohort



Risk of death compared to the general population

We compared the risk of death for people receiving treatment for kidney failure with the risk of death for people in the general population of the same age. The risk of death for patients already receiving treatment for kidney failure in the age group 35-39 years was 19 times higher than that of the general population and about 2.5 times higher for patients aged 85 and over.

Causes of death for people receiving RRT

The most common reason for death in people receiving treatment for kidney failure was heart disease, causing 22% of deaths. The next commonest was infection, causing 18% of deaths in patients starting treatment for kidney failure and 20% in patients already receiving treatment.

Conclusion

Although survival for new patients starting treatment for kidney failure and patients already receiving treatment is improving over time, there is still much work to be done to continue to improve the survival time of patients requiring dialysis or kidney transplantation.