CHAPTER 11

THE BURDEN OF END STAGE RENAL DISEASE (ESRD) AMONG INDIGENOUS PEOPLES IN AUSTRALIA AND NEW ZEALAND

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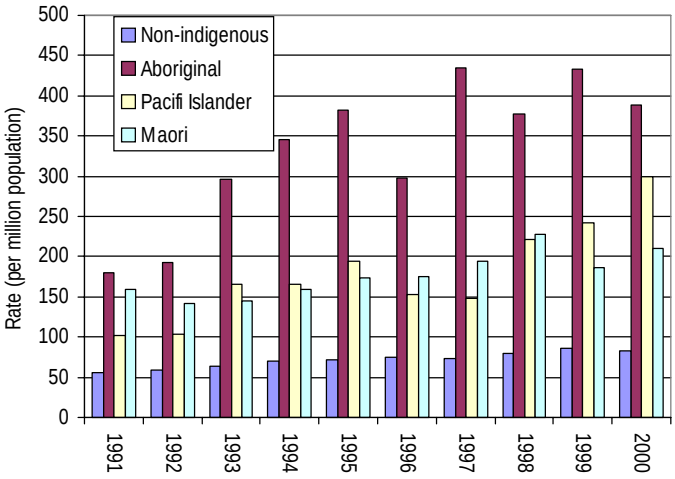
ESRD Incidence Rates

ESRD incidence among all groups in Australia & New Zealand are rising steadily over time, but the excess among indigenous groups has remained. These differences are more dramatic when the ages of indigenous people commencing ESRD treatment are considered (fig 11.1).

The aetiology of renal disease among indigenous people in Australia and New Zealand is different to the non-indigenous group. Rates of "diabetic nephropathy" are much higher especially among Maori (63% vs 17% in non-indigenous).

Figure 11.1. Incident ESRD rates for indigenous people for Australia & New Zealand. Not age-adjusted.

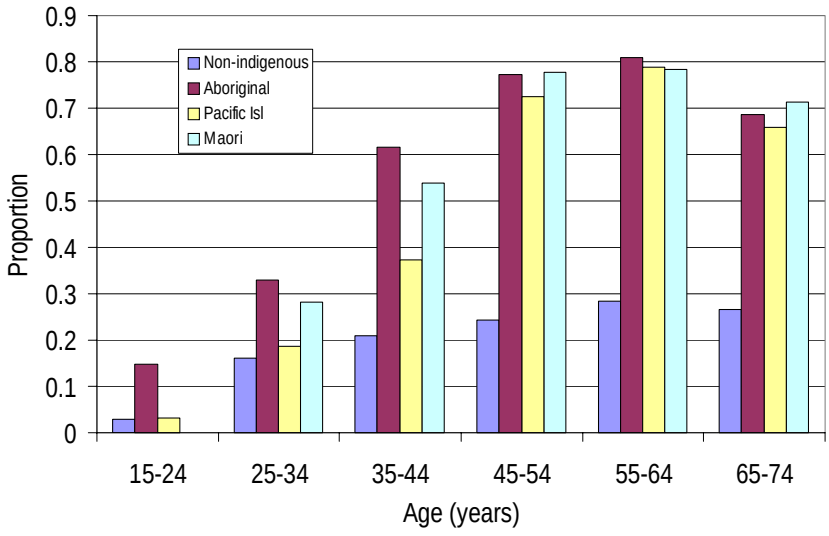


ESRD Treatment Patterns

Around 60% of Maori and Pacific Islander people receive treatment by peritoneal dialysis, consistent with practice for the non-indigenous groups in the North Island of New Zealand. For Aboriginal / Torres Strait Islanders, crude figures suggest they are less likely to be treated with peritoneal dialysis (OR 0.77 [0.67-0.88]) but when adjusted for variation between States there is no significant diffference.

Access to transplantation is lower for indigenous groups. The proportion of patients 15-65 years receiving dialysis treatment who have been listed (at least once) on the active waiting list for renal transplantation is lower among indigenous patients (31% for Australian Aboriginal, 34% for Maori and Pacific Islanders, compared to 59% in non-indigenous groups, all comparisons $p<0.0001$). These differences are not explained by differences in prevalence of co-

Figure 11.2. Proportion of ESRD entrants in Australia and New Zealand 1991-2001 with diabetes (at time of ESRD entry).



morbidities; when the adjusted OR for listing on the active list for indigenous people compared to non-indigenous is 0.48 [0.42-0.54], p<0.0001).

Once on the active transplant waiting list, indigenous people are less likely to receive a graft, (overall OR for receiving graft once on waiting list for indigenous person 0.35 [0.29-0.43], p<0.0001). For those on the cadaveric waiting list, indigenous people receive fewer grafts allocated on the basis of matching rather than waiting time (OR for receiving cadaveric graft with 0 or 1 mismatches is 0.69 [0.47-0.98], p=0.03 for indigenous vs non-indigenous people).

ESRD Outcomes

Overall mortality rates among those receiving renal replacement therapy are higher in indigenous than non-indigenous patients, even when adjusted for reported co-morbidities. For those on dialysis treatment, mortality rates for the Maori and Aboriginal/Torres Strait Islander groups are significantly higher. This difference applies when adjusted for age category, gender and comorbidity; hazard ratios (HR) for death on dialysis relative to the non-indigenous group are 1.41 [1.24-1.60] (p<0.001) for Aboriginal Australians, 1.48 [1.30-1.68] (p<0.001) for Maori and 0.80 [0.65-1.00] (p=0.05) among Pacific Islanders.

For transplant recipients, there is a similar excess in mortality rates, and also of graft loss (censored for death). Nevertheless, there is a clear mortality benefit when graft recipients are compared with those on the waiting list.

Discussion

The excess of ESRD among indigenous groups in Australia and New Zealand is striking, and has increased greatly over the past decade.

Not only do these indigenous groups suffer greatly increased rates of ESRD, but the mortality rates on treatment are considerably higher, further emphasising the burden of disease this imposes.

Although there is the appearance of a "plateau" in the rates among Aboriginal Australians in Figure 11.1, this needs to be seen in the context of a rapid increase in the proportion of the Australian population counted by the Census as Aboriginal. This increase is in excess of that accounted for by birth rates. An increased propensity to self-identify as Aboriginal is the cause, seen particularly in areas around the capital cities [1]. As rates of renal disease are lower among indigenous people in these areas [2], this will bias the overall Australian indigenous rate downward relative to previous years.

References

1. Australia Bureau of Statistics: *Experimental estimates of the Aboriginal and Torres Strait Islander Population, Australia, 1998*. Canberra, ABS Cat. No. 3230.0, 1998

2. Cass A, Cunningham J, Wang Z, Hoy W. "Regional variation in the incidence of end-stage renal disease in Indigenous Australians." Med. J Aust 2001:175:24-7.