Registry review of kidney replacement therapy for children in South Africa

Ethwako Mlia Phiri[1], Razeen Davids[2], Ashton Coetzee[1], Kate Webb[1], Mignon McCulloch[1], Peter Nourse[1]

[1]Red Cross War Memorial Children's Hospital, University of Cape Town, Cape Town, South Africa. [2]Tygerberg Hospital, University of Stellenbosch, Cape Town, South Africa

Abstract

Introduction: The South African Renal Registry (SARR) collects and reports data on adults and children with kidney failure undergoing kidney replacement therapy (KRT) in the public and private healthcare sectors from all nine South African provinces. Annual updates capture and record the type of modality as at 31st December each year and any switch in treatment modality and the dates and reasons for stopping treatment are also recorded.

Aim: To describe the state of KRT for children in South Africa from 1st January 2013 to 31st December 2022.

Methodology: We analysed the South African Renal Registry data to provide information on the incidence, treatment modalities, factors affecting the type of KRT modality and outcome. The data was exported from the SARR database on 10/11/2023 into Microsoft Excel and analysed using SPSS

Results: 361 children £18 years started KRT between 1st January 2013 to 31st December 2022 of which 338 were alive at 1 year. The average incidence rate was 1.7 per million population (pmp). The median age was 14 years, 52.4% were male and 58.4% were black. The main primary kidney disease was glomerular diseases (42.1%) followed by chronic kidney disease (CKD)unknown cause. Kidney transplant was not done in children under 1 year. Children aged between 13-18 had almost 80% less chance of receiving a transplant than children aged 1-5 (OR 0.22, $p<0.001$). There was clear inequity in the access to transplants between provinces with transplant available in only 5/9 provinces. White patients had 8 times more chance of receiving a transplant (OR-8.30, 95%CI-4.27-16.15; $p<0.001$) and the coloured patients had 3 times more chance of receiving a transplant (OR-3.36, 95%CI- 1.93 – 5.85; $p<0.001$) than black patients. These discrepancies persisted despite controlling for the province of origin, age of onset and sector of healthcare. The children who received a transplant had the highest survival rates.

Conclusion: The incidence of children starting KRT in South Africa is low compared to other well-resourced countries. There is clear inequality in access to transplant due to geographic location and demographics.