Haemodialysis and Transplantation Facilities in South Africa

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SUMMARY

The provision of services in South Africa for patients suffering from chronic renal failure is inadequate in terms of national requirements. A survey of the available facilities made in July 1973 showed that 14 maintenance haemodialysis centres had a total of 39 dialysing stations capable of treating 143 patients. Five centres had established programmes for renal transplantation. The total number of renal failure survivors on treatment included 90 patients on maintenance dialysis and 144 patients with grafts.

S. Afr. Med. J., **48**. 748 (1974).

Maintenance haemodialysis and renal transplantation are by now well established as means of treating and rehabilitating patients suffering from chronic renal failure. Because facilities for such treatment are limited, the doctors concerned have to suffer the agony of selecting patients using strict and artificial criteria. Patients who could have benefited from treatment are thus discarded to die. A well-organised national programme to provide services to deal with this pressing problem is overdue.

Unfortunately no reliable statistics are available of the incidence of renal failure in South Africa. This means that we can only hazard a guess at the true need for treatment. The number of patients who present at the renal clinics established in this country suggests that the incidence must be at least as high as that determined in countries that have valid statistics. Estimates made overseas have suggested figures that vary from 25 to 75 patients per million population per year as being suitable for treatment. Prospective studies in Scotland[1] and Northern Ireland[2] gave figures of 38 and 33/million/year for patients up to the age of 55 years, and 52/million/year for patients up to the age of 65 years. However, these figures are heavily influenced by criteria of suitability. The main reason for exclusion from treatment was the presence of cardiovascular disease, which is certainly not universally regarded as a cause for exclusion from dialysis and transplant programmes. In a recent review[3] Professor D. Kerr suggested that if this and other controversial reasons for exclusion were dropped, and the upper age limit fixed at 65 years, the suitable renal failure patients could be as many as 70 or 80/million/year. It has further been estimated that if all suitable cases were to be treated, an equilibrium state would be achieved after about 12 years of constant conditions.[4] The approximate equilibrium number of dialysis and transplanted patients would be about 6 times the annual admission rate.[3]

By using these criteria the number of patients requiring treatment in South Africa, with a population of 21,45 million as at the 1970 census, can be estimated. Calculated at a low rate of 25 patients/million/year we would require facilities for 536 new patients each year, and the eventual equilibrium number of patients on treatment would be 3 216. Calculated at a high rate of 50 patients/million/year facilities for 1 072 new cases each year and an equilibrium number of 6 432 patients would be on treatment. These are very alarming figures.

In July 1973 a brief survey was made to assess the facilities existing in South Africa, and the number of renal failure survivors on maintenance haemodialysis and with a renal graft. At that time a total of 14 maintenance dialysis centres were already established. These are listed in Table I together with their patient facilities.

In this table a dialysis station refers to a bed-dialyser complex which under ideal circumstances should be able to cater for 4 - 6 patients depending on the duration and frequency of dialyses. However this is not always possible. Shortage of medical, nursing and technical staff may not allow maximum utilisation of a station and its use is then restricted. The 'considered capacity' of each centre listed refers to the restricted number of patients accepted. The actual number of patients on treatment at the time of the survey is also given. However, it is appreciated that this number will vary up to the 'considered capacity' from time to time as patients are accepted onto the programme or depart for any reason. At the time of the survey no patient was being treated by home dialysis.

Five centres had established programmes for renal transplantation. The number of survivors with a graft being cared for at each of these centres is given in Table II.

The national total of both dialysis and transplantation survivors of the main racial groups is given in Table III.

From this survey it is obvious that the gap between the available facilities and the national requirements is very wide. Facilities for non-White patients are shamefully inadequate. The advantages of home dialysis are not being exploited and insufficient use is being made of peripheral hospitals as satellite centres for dialysis. In all fairness to the local situation it should be pointed out that no country has yet reached the ideal of being able to supply a total service. However, the need is being officially

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TABLE I. HOSPITAL CENTRES WITH FACILITIES FOR MAINTENANCE HAEMODIALYSIS, JULY 1973

	No. of dialysis stations	Considered patient capacity of centre	No. of patients on treatment
Transvaal			
Johannesburg General Hospital	7	19	19
H.F. Verwoerd Hospital	4	24	16
Johannesburg Non-European Hospital	2	4	3
Baragwanath Non-European Hospital	2	6	4
Transvaal Memorial Hospital	1	2	1
Discoverers Hospital	1	2	2
Krugersdorp Hospital	1	2	2
Total	18	59	47
Cape Province			
Groote Schuur Hospital	6	14	14
Karl Bremer Hospital	3	9	9
Port Elizabeth Hospital	2	4	4
Somerset Non-European Hospital	1	2	2
Livingstone Non-European Hospital	1	2	0
Total	13	31	29
Orange Free State			
National Hospital	3	9	6
Pelonomi Non-European Hospital	2	6	4
Total	5	15	10
Natal			
Addington Hospital	3	8	4
National total	39	113	90

appreciated overseas. Sweden was one of the first countries to make a decision to offer treatment to all medically suitable patients and to plan national provision on that basis,[2] and now other Scandinavian countries are following her lead. In Britain the Ministry of Health has declared that maintenance haemodialysis should be provided under the National Health Service. Home dialysis is officially encouraged and transplant facilities have expanded with direct government support.[3] In the USA the government has agreed to pay for all maintenance haemodialysis that continues for more than 90 days. In spite of differences in planning, methods and difficulties, nearly all countries in North America, Europe and Australasia are now moving towards a common goal—the establishment of integrated dialysis and transplant services so that no suitable patient will be refused treatment on grounds other than medical.

In this country we should be developing our services on similar lines. Up to now the various health services have not been ready to accept the challenge. Haemodialysis and transplantation remain the responsibility of the Pro-

TABLE II. HOSPITAL CENTRES WITH ESTABLISHED RENAL TRANSPLANTATION PROGRAMMES AND SURVIVING PATIENTS WITH GRAFTS, JULY 1973

	No. of survivors with graft
Johannesburg General Hospital	90
Groote Schuur Hospital	26
H. F. Verwoerd Hospital	24
Baragwanath Non-European Hospital	3
Addington Hospital	1
National total	144

TABLE III. HAEMODIALYSIS AND TRANSPLANT SURVIVORS IN SOUTH AFRICA, JULY 1973

	Population (1970 census—millions)	Patients		
		On dialysis	With graft	Total
Whites	3,75	70	136	206
Blacks	15,06	10	3	13
Coloureds	2,02	8	nil	8
Asiatics	0,62	2	5	7
National total	21,45	90	144	234

vincial Hospitals, and as yet no comprehensive national service has been planned. The jealously-guarded provincial autonomy for medical services with unequal budgets and different guiding philosophies for each province inhibits the development of a total service. It should be organised centrally under the Department of Health. A joint committee or commission with representatives from the State Health Department, Provincial Hospital Services, University Medical Schools, South African Renal Society, Southern African Transplantation Society, Medical Association of South Africa, National Kidney Foundation and other interested bodies could do well to review the problem and recommend the best way to provide facilities for chronic renal failure patients in South Africa.

REFERENCES

1. Pendreigh, D. M., Heasman, M. A., Howitt, L. F., Kennedy, A. C., Macdougall, A. I., MacLeod, M., Robson, J. S. and Stewart, W. K. (1972): Lancet, **1**, 304.
2. McGeown, M. G. (1972): *Ibid.*, **1**, 307.
3. Kerr, D. N. S. (1973): Kidney Internat., **3**, 197.
4. Farrow, S. C., Fisher, D. J. H. and Johnson, D. B. (1971): Brit. Med. J., **2**, 671.
5. Alwall, N. (1966): Proc. EDTA., **3**, 149.