

GUIDELINES for Chronic Renal Dialysis



health

Department:
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REPUBLIC OF SOUTH AFRICA

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FOREWORD

End stage kidney disease is increasing amongst South Africans. Dialysis is the first form of intervention to patients affected by kidney failure. If patients do not get kidney donors they can wait for a long time on dialysis and that places a heavy burden on national resources. It also makes it difficult for clinicians to decide who can be accepted onto the program.

The health system in South Africa, like in other countries, is characterized by the existence of both a private and the public sector with different financial and human resources. This has to a large extent contributed to the unequal access to chronic renal dialysis for our people.

The main objective of these guidelines is to assist the clinicians when making decisions particularly on older patients and those affected by HIV taking into consideration the resources available to them.

It is my hope that these guidelines will contribute towards the realization of the goals of the government of improving health service delivery and ensuring a better life for all.



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MINISTER OF HEALTH
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1. INTRODUCTION

It is the aim of the health services of South Africa to provide all South African citizens and permanent residents equitable access to chronic renal dialysis. Dialysis is a method of removing waste products from the body for patients with kidney failure. The settings where dialysis is undertaken are: Hospitals, satellites units and homes.

These guidelines must therefore be used to make efficient use of limited resources and assist clinicians to decide who should be accepted onto the programme and who should not. Patients who do not satisfy these criteria but who are nevertheless accepted on to a chronic renal dialysis programme in the private sector, should remain the responsibility of the private sector. Kidney transplantation is the choice for many patients, about a third is not suitable for transplantation and the supply of donor organs is limited.

However, due to the lack of resources, it has to be accepted that there is a need to set boundaries for medical treatment, including renal dialysis.

1.1 OBJECTIVES:

- The main objectives of the guidelines are as follows:
- To optimize the use of scarce resources.
- To promote cost- effectiveness.
- To promote public/private partnership.
- To improve services to users

2. PRINCIPLES

Unlike the public sector, renal transplantation should not be the major criterion for acceptance for chronic dialysis in the private sector.

Individual patients with diabetes and patients with acceptable co-morbid conditions may be considered for long-term renal dialysis although research shows that they do not respond well in the long term. Patients who satisfy the set criteria and are accepted onto a chronic dialysis programme in the private sector should remain the responsibility of the private sector provider unless there is timeous and specific agreement between the public and private sector to shift the responsibility.

Treatment options for chronic dialysis should be discussed with the patient and the family. They should be allowed to choose the technique that is optimal for the patient with due consideration of medical, social and geographic factors. Treatment that is offered should be cost-effective. In order to make informed choice the potential impact on the patient's life and that of the families should be explained.

Physical and psychological symptoms related to chronic renal dialysis should be treated appropriately and monitored. Public Private Partnerships should be encouraged as a model for service delivery in chronic renal dialysis. The service providers must take reasonable measures, within its available resources, to achieve the progressive realization of the services to be offered.

3. EXCLUSION CRITERIA

Exclusion rather than inclusion criteria should be applied for the selection of a suitable patient.

Before it is decided that dialysis is a suitable option for an individual there should be a full assessment of the patient's healthcare needs such as economic, social, school and work circumstances. The consequences of long- term dialysis are significant on the patient and their families.

3.1 Medical exclusion criteria

- Active, uncontrollable malignancy or with short life expectancy
- Advanced, irreversible progressive disease of vital organs such as:
 - o cardiac, cerebrovascular or vascular disease
 - o advanced cirrhosis and liver disease
 - o medically or surgically irreversible coronary artery disease
 - o lung disease
 - o unresponsive infections e.g, HPV, Hepatitis B and C
- HIV and AIDS are not a medical exclusion criteria provided the patient has access to a comprehensive AIDS treatment plan including antiretroviral treatment and stable for at least six months and the above exclusion factors are absent.

- Age (provided above exclusion factors are absent) is not a contra-indication for chronic renal dialysis. In the UK the median age of starting renal replacement therapy is 63 years and the median age of the population is 54 years.

3.2 Psychological Exclusion Criteria

- Any form of mental illness that has resulted in diminished capacity for patients to take responsibility to their actions.
- Active substance abuse or dependency including tobacco use.
- Obesity

3.3 Compliance

- Patients with proven habitual non-compliance with dialysis treatment and lifestyle modification will be excluded or removed from chronic renal dialysis programme

APPENDIX

DIALYSIS IN PATIENTS WITH HIV INFECTION

1. Introduction

HIV infection is common in South Africa and presents our society with numerous challenges. HIV can cause chronic kidney disease (CKD) and can contribute significantly to the burden of patients requiring renal replacement therapy (RRT). HIV associated nephropathy (HIVAN) was the third commonest cause of end stage renal failure (ESRF) in black patients in the USA after hypertension and diabetes, and since the availability of antiretroviral therapy (ART) is now in 7th place (USRDS, 2006) Furthermore HIV infection may co-exist with end stage renal failure of any other cause and we have even experienced instances of seroconversion to HIV positive of patients already on dialysis.

In South Africa RRT is not freely available Patients who can afford it or who have medical insurance may be able to receive these expensive therapies in the private sector For the majority, however this service is not freely available and is provided to a select few in some state hospitals Patients are selected for dialysis based on state criteria for acceptance to a transplant programme

Even if patients with ESRF fulfil the state criteria most centres are limited by the availability of 'slots' for dialysis These are defined by the institution based on availability of funds, staff and equipment. Because the optimal form of RRT is renal transplantation, dialysis is seen as a bridge to transplant and the state 'criteria' are underpinned by the 'transplantability' of the patient Any guideline on dialysis would have to keep this approach in mind and the availability dialysis for HIV positive patients will be contingent on our ability to transplant them.

2 Dialysis in HIV positive patients.

In the pre-HAART era the survival of most patients with advanced HIV infection was dismal. Similarly for patients with HIV infection on dialysis the outcome was poor even in the developed world This led some to recommend withholding dialysis from these patients. After the advent of anti-retrovirals however several retrospective studies in Europe and the USA have confirmed survival rates in the short term which are similar to the non-infected non-diabetic population However predictors of poor outcome include

- Low CD4 counts
- High viral loads
- HIVAN as the cause of ESRF
- Absence of HAART
- Opportunistic infections.

Given the finding that survival of HIV positive patients receiving HAART is similar to non-infected dialysis patients it has been recommended by guidelines in both the USA and Britain that dialysis not be withheld from these patients on the basis of their HIV serostatus. However the survival of HIV positive patients on HAART on dialysis is still worse than that of the general HIV positive population

Studies have shown a more rapid progression of HIV infection in patients with kidney failure and the presence of kidney disease either in the form of proteinuria or a raised creatinine portends a poorer outcome for the patient. This has led to the initiation of transplantation in stable HIV positive patients with encouraging early results.

Both haemodialysis (HD) and peritoneal dialysis (PD) have been employed in these patients. Literature review shows that both maintenance HD and PD are effective modes of RRT in HIV patients with ESRD, although there are some points of concern with both modalities

2.1 Haemodialysis

Haemodialysis exposes the dialysis staff to blood products and contaminated needles. The risk of HIV seroconversion after a needle stick injury from an infected patient is estimated to be about 0.3%. In addition, the larger the blood inoculum and the later the stage of HIV infection, the greater the risk of seroconversion. The use of universal precautions is the best form of prevention of nosocomial infection.

Dialysis access in the form of an AV-fistula is the best option for these patients and similar patency rates to the non-infected population have been shown. Some concern has been raised because of higher rates of PTFE graft infection in HIV positive patients especially those with AIDS. This has led some to avoid permanent access if an AVF cannot be successfully created.

However the use of temporary catheters and permaths for long term use often lead to inadequate dialysis, not to mention the risks of infection, vascular occlusion and bleeding. HIV transmission in a dialysis unit has been documented via inadequate sterilization of re-used needles. Other infections have been caused by breaks in universal precautions and infection control procedures. Guidelines for infection control and machine disinfection set by the Association for the Advancement of Medical Instrumentation and CDC should be adhered to at all times.

2.2 Peritoneal dialysis (CAPD)

Theoretically there is less exposure of staff to HIV with PD than with HD because peritoneal fluid is much less infectious than blood, there is less likelihood of needle stick, and the nature of staff to-patient contact is different. HIV was shown to survive in PD effluents at room temperature for up to seven days and in PD exchange tubings for up to 48 hours. Both sodium hypochloride 50% (Amukin), and household bleach 10% solutions, in dilutions of 1:512, are effective in killing HIV in dialysate

Patients need to be educated on the need to properly dispose of these fluids Peritoneal dialysis patients should be instructed to pour dialysis into the home toilet and to dispose of dialysate bags and lines by tying them in plastic bags and disposing of the plastic bags in conventional home garbage.

CAPD may aggravate the malnutrition and hypoalbuminemia in HIV patients with severe wasting syndrome. The rate of peritonitis has also been higher in patients with low CD4 counts in the pre-HAART era. Both gram positive infections and Pseudomonas infection as well as fungal infections have been reported as being more common.

Overall, given the fact that outcome does not seem to depend on modality of dialysis the choice of RRT in HIV-infected patients should be based on an individual patient's lifestyle, preferences and availability of family and other support, and not on HIV seropositivity. In South Africa the dialysis modality offered will be further restricted by availability.

The substantial population prevalence of HIV infection (estimated at 6 million), even at a best case scenario of prevalence of HIVAN at 1% of the infected population would mean that 60 000 individuals would face this condition that rapidly progresses to ESRF without appropriate care. That comes to almost 1200 patients per nephrologist! If only (conservatively again) 10% progressed to ESRF this would mean an additional 6000 individuals requiring dialysis -this is more than the current dialysis population in South Africa.

3 Challenges and Recommendations

- Early detection of CKD and prevention of progression to ESRF is of prime importance. The importance of routine screening for kidney disease and appropriate early referral cannot be stressed enough. Evidence indicates that treatment with HAART, ACE-inhibitors and possibly steroids may slow or arrest the progression to ESRF[6]. Early detection also allows for counselling and preparation of patients for RRT. This includes early initiation of HAART, exploring options for RRT, allowing patients to acquire a medical aid, pre-emptive transplantation and access creation.
- Co-infection of these patients with Hepatitis B and C may contribute to the burden of renal disease and also complicates therapy. Adequate diagnosis will allow for treatment
- Drug rollout issues-To allow adequate access to dialysis the availability of ARVs to patients with ESRF must be prioritized.
- Opportunistic infection's and malignancies in patients with extremely low CD4 may preclude transplantation. This is especially so with certain infections like cryptococcosis or disseminated Kaposi's sarcoma.

- Based on current data we cannot justify excluding patients with HIV infection from receiving dialysis. Patients who are stable on HAART at the time of ESRF should not be treated any differently to other patients whatever the cause of the ESRF. Similarly, patients in whom HIV infection is coincidental should be started on HAART as soon as possible and dialysis should not be withheld. Patients with advanced HIV disease who present acutely ill will need to be assessed on an individual basis to determine if dialysis will be offered. This will depend on the following considerations
 - o Does the patient have acute reversible renal failure?
 - o What is the short term prognosis of the patient?
 - o What is the availability of treatment at the centre?
 - o Would the patient be able to re-constitute his immune system?

This may depend on several things including CD4 count, previous HAART, compliance and disease complications.
 - o Does the patient have a contraindication to renal transplantation e.g. lymphoma

ACRONYMS

CKD	Chronic Kidney Disease
RRT	Renal Replacement Therapy
HIV	Human Immunodeficiency Virus
HIV AN	HIV Associated Nephropathy
ESRF	End Stage Renal Failure
HAART	Highly Active-Anti-Retro Viral Treatment
HD	Heamodialysis
PD	Peritoneal Dialysis
CAPD	Continuous Abdominal Peritoneal Dialysis
ARV	Anti Retro Viral
PTFE	Poly Tetra Floro Ethelin
USRDS	United States Renal Data



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