**The increasing need for chronic dialysis in Europe:**

**How to solve this costly problem?**

More than 10% of the population suffers from chronic kidney disease (CKD), which can be diagnosed by the loss of albumin in the urine and/or by an impaired kidney function (the function of the kidney to remove waste products from the body). CKD is a disease with much higher incidences in the elderly (<50 pmp [per million population] in age 20-44 yr, ±50pmp in age 45-64 yr, ±350 pmp in age 65-74 yr, and > ±500 pmp in age>75yr).

If CKD progresses the end result is the need for kidney replacement therapy, that is either dialysis (reimbursement costs generally 40,000-80,000 €/year per individual, depending on the country and the strategy) or kidney transplantation (costs roughly identical to dialysis the first year, and less than 40% of that amount the years thereafter). Medically the prognosis is better after kidney transplantation than on dialysis. In most countries transplantation is however, not done any longer for a patient >75 years of age. For that individual dialysis is then the only option.

As we presently in many European countries face the post-World War II baby boom, we should realize that the absolute number of individuals of 65-74 yr and of >75 yr increases about 1.5 fold in 2025 as compared to 2010, and to even more than 2-fold in those >75 years in 2030-40. This implies that soon the dialysis units are not anymore able to dialyse the patients >75 years of age.

There are options to overcome this problem. It requires a coordinated action by politicians, health care workers, and patients.

1. Most patients with CKD are not yet known to have CKD, as CKD only leads to complications at a phase that the subject is not far away from the need for kidney replacement therapy. Detection of CKD in an early phase is quite easy: it requires only a simple urine sample and/or a tube of blood for a central lab facility to measure its albumin content. Such screening procedures have been found effective in various European countries.

   ➢ **Screening programs for CKD should be implemented.**

2. Subjects detected to have CKD should be followed and given conservative care with special attention to lowering blood pressure, prevention of overweight, and treatment of diabetes, if present. These are measures that could be implemented by general practitioners or assistant supported health centres, with the aid of simple computer programs. These measures thus far have only been implemented yet in nephrology practices. It is stimulating to see how this resulted since 2008 in a 10% drop in new cases for kidney replacement programs in the Netherlands (Data of Renine: registration of renal replacement therapy in the Netherlands).

   ➢ **Programs to prevent progression of CKD should be implemented in general practice.**

3. Politicians should put more emphasis on preventing the availability of high salt products. For example bakeries should be urged to gradually lower the salt content of freshly baked bread. The availability of high caloric drinks at schools and shops should be restricted.

   ➢ **The availability of high salt products and high caloric drinks should be limited.**

4. Efforts should be undertaken to inform the individual with CKD, what he or she can do to prevent progression. Specific teaching and motivation programs are required to address this topic.
Public awareness programs should be encouraged.

5. If these preventive efforts fail to halt the progression of CKD, and the patient ultimately reaches the need for kidney replacement therapy, we should encourage kidney transplantation as much as possible for those <75 yr. This can be performed either by offering a post mortem kidney or by offering a living donor kidney. Clinical practices in this respect vary highly between European countries. The best programs provide a combination of both post mortem and living (either related or unrelated) kidney donation. It is important to evaluate the differences in these programs around Europe and to benefit more from the successes that in individual countries are achieved with the various options.

Transplantation programs should be stimulated, realizing that dialysis in those <65 yr should be limited to people with contraindications for transplantation

6. The patient and graft survivals are better after living donation than after post mortem donation. Living donation moreover, offers the opportunity to perform pre-emptive transplantation (transplantation done before the patient had entered a dialysis program). It has also been shown that the prognosis of a patient after transplantation is even better when it is done pre-emptively.

Both post mortem and living donation campaigns should be promoted

Pre-emptive transplantation should be promoted

7. Since it will never be possible to offer transplantation to all patients, dialysis will still be needed as a second option for renal replacement therapy for a substantial proportion of patients with advanced kidney disease. Since labour becomes more and more expensive, dialysis strategies which necessitate less personnel such as peritoneal dialysis, self-care hemodialysis and home hemodialysis become more and more attractive.

Incentives should be taken to promote alternative, less expensive and less labour intensive dialysis strategies

Dialysis reimbursement should be harmonized throughout Europe

Simple dialysis strategies appropriate for the application outside the hospital should be stimulated

The European Kidney Health Alliance (EKHA) is an Alliance of not-for-profit organisations who represent the key stakeholders in kidney health issues in Europe. For more information please see www.ekha.eu