

ORPADT Flanders Survey

Results 2000

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INTRODUCTION



It is a pleasure to present you the ORPADT Flanders Survey 2000. This study is the fifth in its kind, looking back over 13 years of nephrology nursing and treatment (1988-2000).

The observation period was the calendar year 2000. The survey included 2284 chronic renal failure patients. The 2000 data were compared to the 1988, 1991, 1994 and 1997 data, showing tendencies in renal care.

Of the 28 questionnaires, 24 were answered. Within the 24 centres, 16 satellite centres submitted separate data, giving possibilities of a more accurate comparison than in the past.

Giving the fact that the survey was executed electronically for the first time, data processing was smooth and reliable. To every head of dialysis centre, a CD-ROM version of the data will be offered.

We are proud to report you that the ORPADT Flanders survey model will be used in a new ambitious EDTNA/ERCA (European Dialysis and Transplantation Nurses Association / European Renal Care Workers) project, the European Practice Database (EPD).

J-Y. DE VOS (Ronse), project leader of this survey, was assisted by A. DEMOL (Leuven), L. LARNO (Ronse), M. VERMAUT (Aalst), J-P. VAN WAELEGHEM (Antwerpen), P. DUYM (Gent), G. CUYVERS (Genk) – later replaced by L. PICALET (Gent).

Since this fifth edition again had a multidisciplinary dimension, we asked the expertise of health workers from other disciplines than nephrology nursing. So we wish to acknowledge the advice of: M. DE CLERCQ – Dietician and G. SMOLDEREN - Social Worker.

We also thank all collaborating nephrology centres, and in particular all head nurses, for their cooperation in this project, as well as the Ministry of Health Care, involved with ORPADT in a programme of Nephrology Nursing Peer Review and Registration aiming to promote Total Quality Care.

We hope this survey will contribute in optimization of the structure, application and result of our nephrology nursing care.

The ORPADT Flanders board,

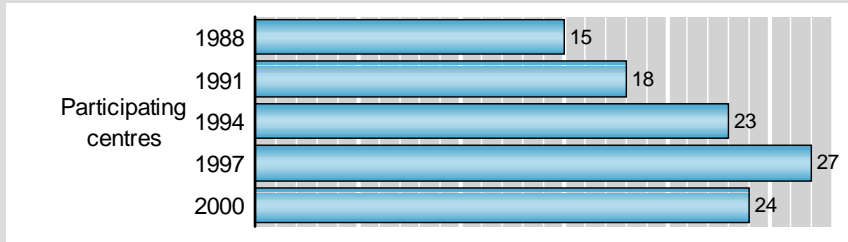
J-P. VAN WAELEGHEM,
President

J-Y. DE VOS
Project leader

REALISATION OF THIS SURVEY

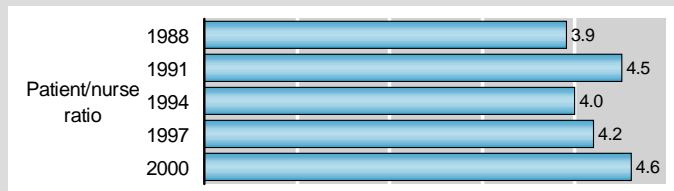
Statistical processing and analysis	Monique Elseviers
Graphical presentation	Dirk De Weerd
Logistic support	Eddy Van Hout

Participating centres

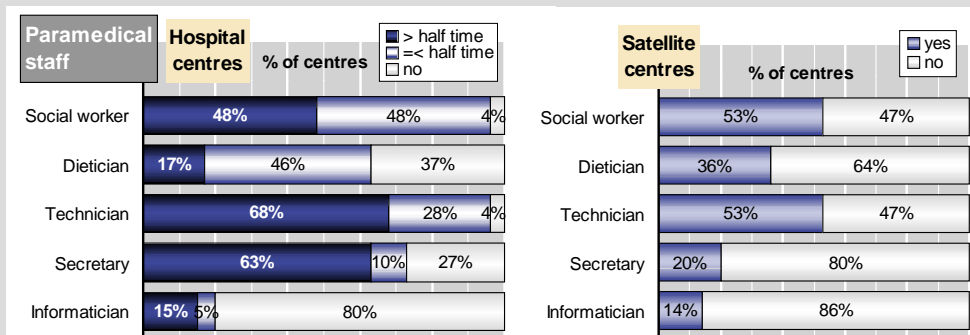


- This survey includes results from 24 out of 27 dialysis centres in Flanders.
- Adhering to the 24 main centres are 16 satellite centres, and 1 pediatric dialysis centre.
- 4 of the 24 centres belonged to a university hospital.

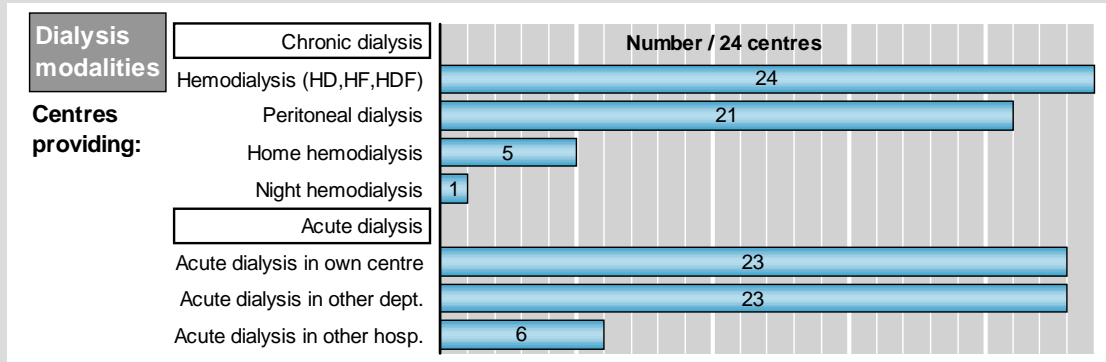
Staff



- The total number of nurses in this 24 centres was 577 full-time equivalents, ranging per centre from 3.25 to 42.
- The mean patient-nurse ratio was 4.6 per centre. The Low Care centres showed a higher patient-nurse ratio (5.5 ± 2.3) than the main centres (4.0 ± 0.7).

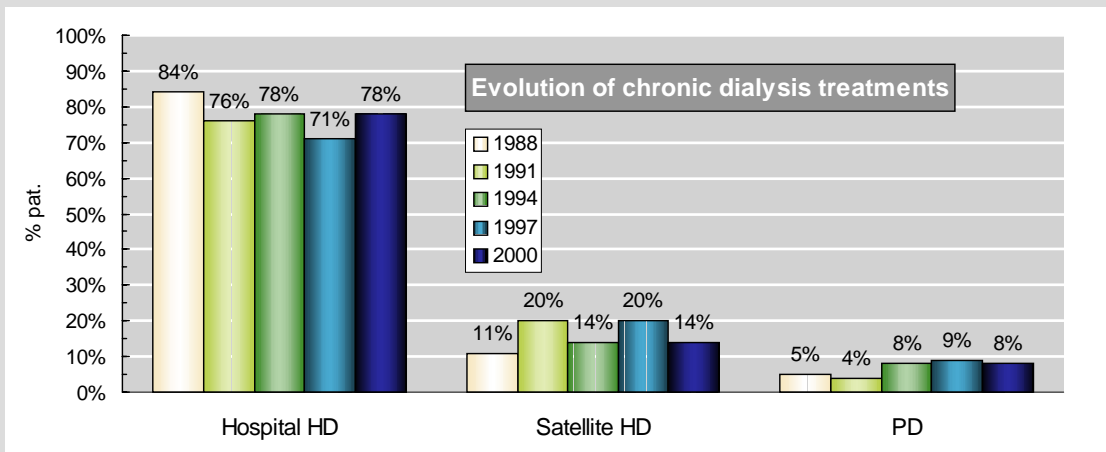


Dialysis Modalities in chronic and acute renal failure

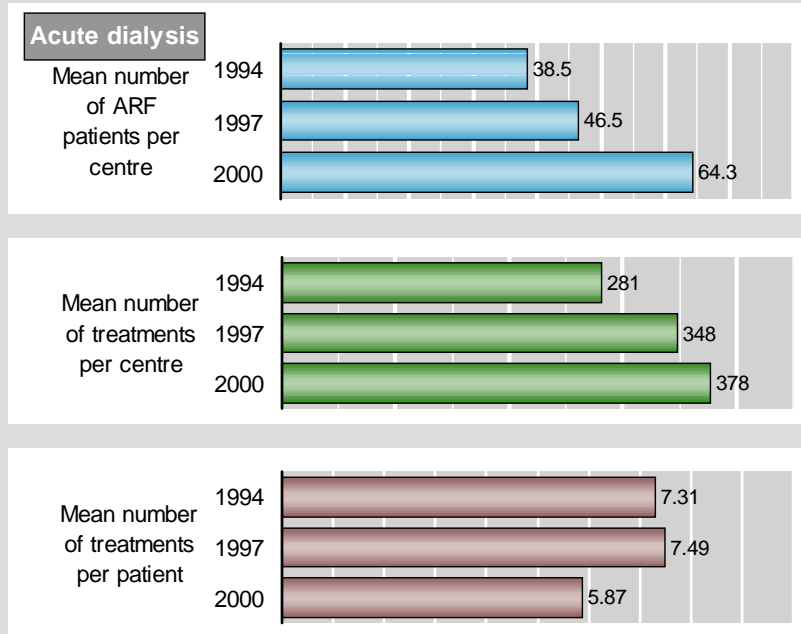


Evolution of chronic dialysis treatments

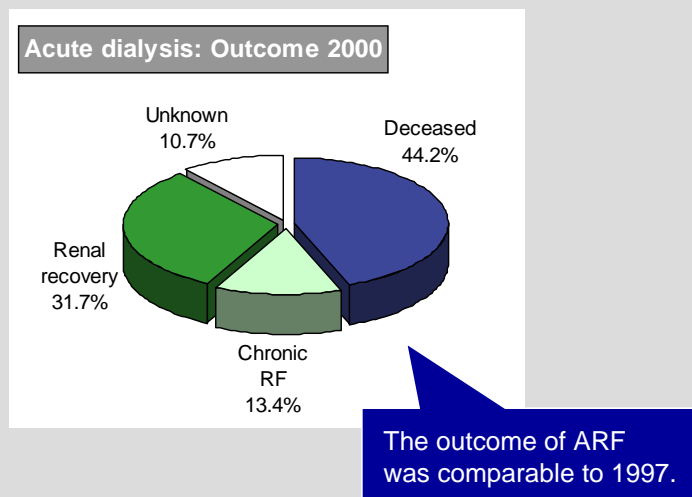
15% of chronic patients were on the waiting list for transplantation, a figure unchanged since 1997.



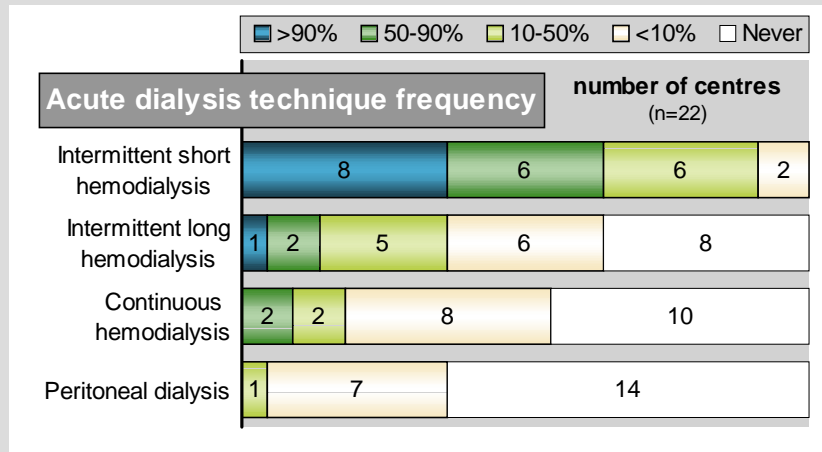
Acute renal failure (ARF) (1)



Acute renal failure (2)



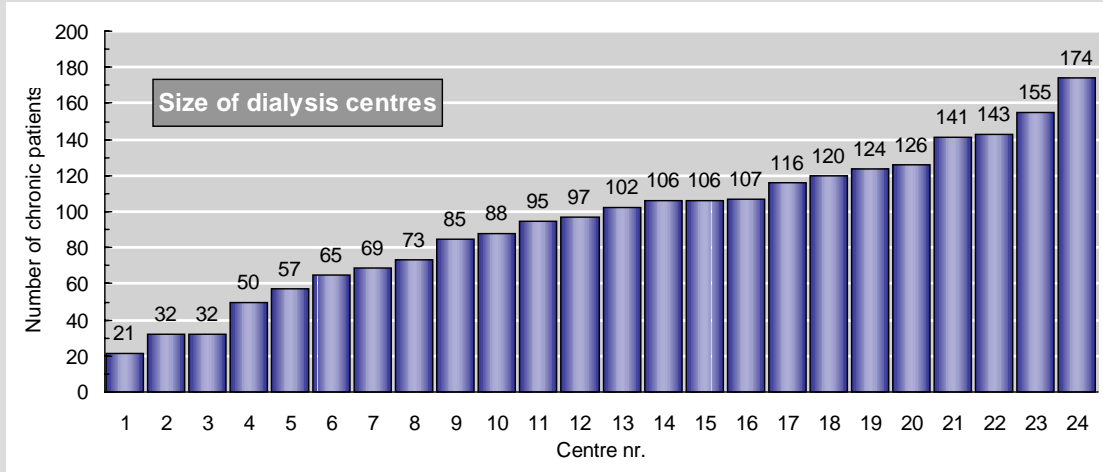
Acute renal failure (3)



Acute renal failure (4): intermittent long dialysis (n= 15 centres)

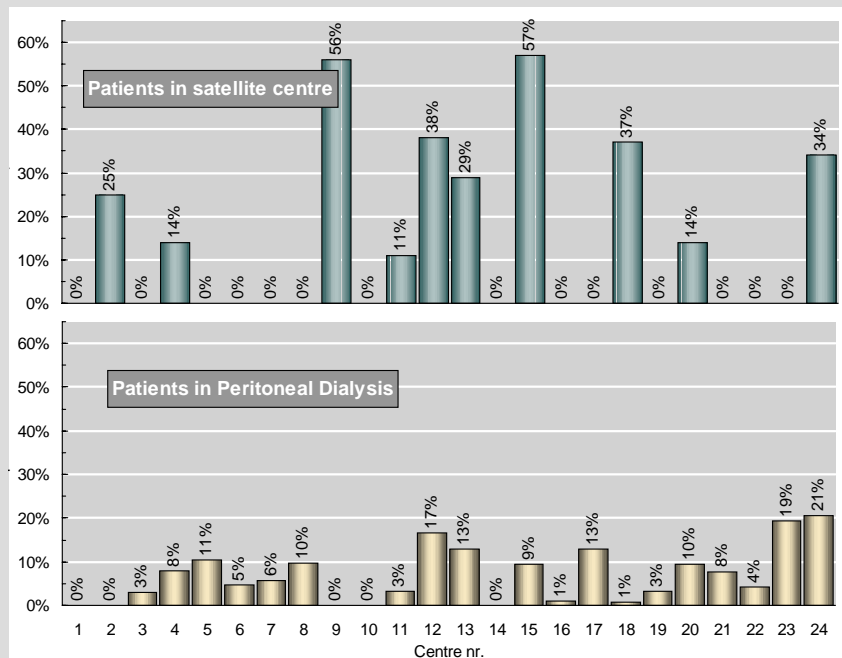
- **First week: median 36 hours of dialysis (range 10 – 60)**
- **Dialysate flow:**
 - range 50 – 600
 - most used: 500 ml/min (n= 8/15)
 - 300 ml/min (n= 4/15)
- **Blood flow:**
 - range 80 – 350
 - most used: 150 ml/min (n= 5/15)
 - 200 ml/min (n= 3/15)
 - 250 ml/min (n= 3/15)

Dialysis centres: total chronic patients



Dialysis centres: patients in satellite centre and PD patients

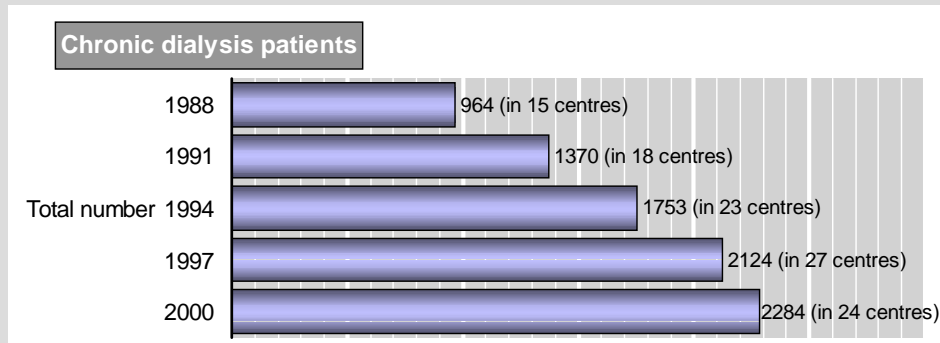
There was no relation between the size of a centre and the percentage of patients in satellite centres or peritoneal dialysis.



centres arranged according to centre size

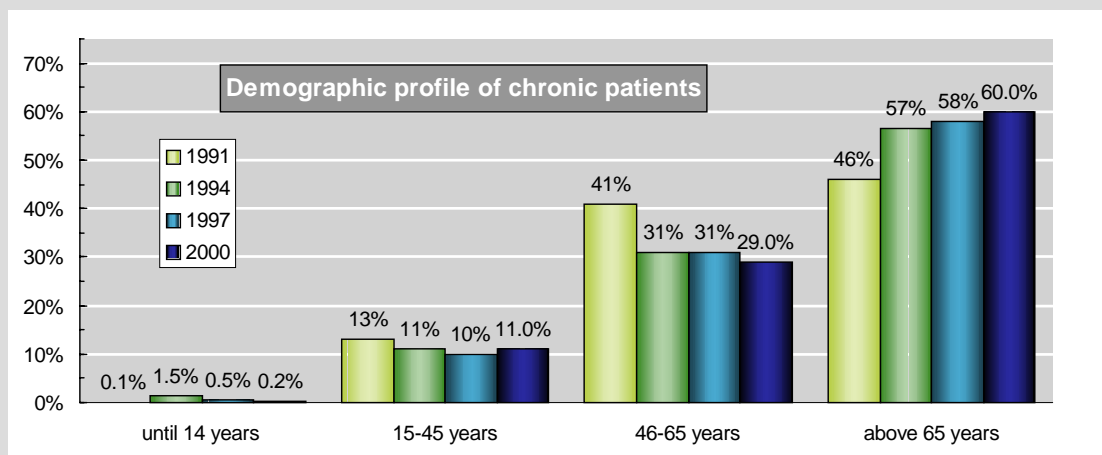
Chronic dialysis: Demography (1)

- The total number of chronic dialysis patients in the 24 centres was 2284.
- The mean per centre was 95.2 (range 21-174) chronic patients.
- Main centres had a mean of 80.9 patients (range 18-145), while satellite centres had in mean 19.7 patients (range 5-60).

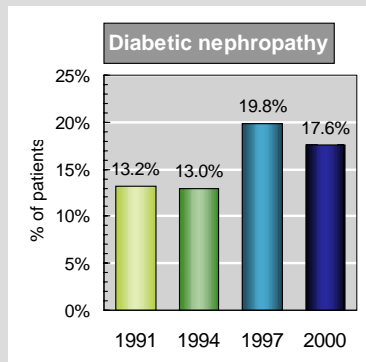


Chronic dialysis: Demography (2)

- The relation male/female was 53/47 (in 1994: 49/51).
- 11% of the total population was above 80 years (in 1997: 9%).
- Of the PD patients, only 38% were more than 65 years.

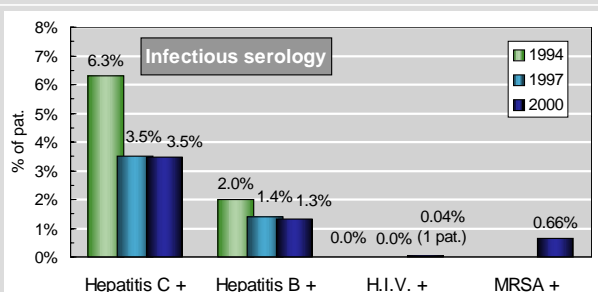


Diabetic nephropathy



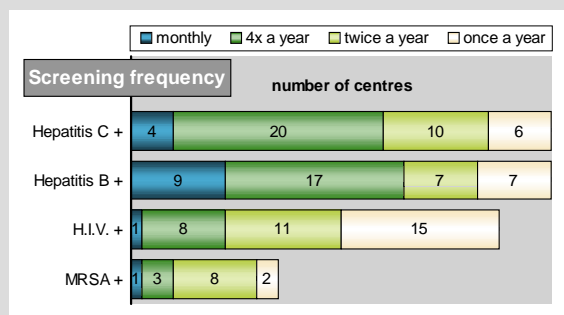
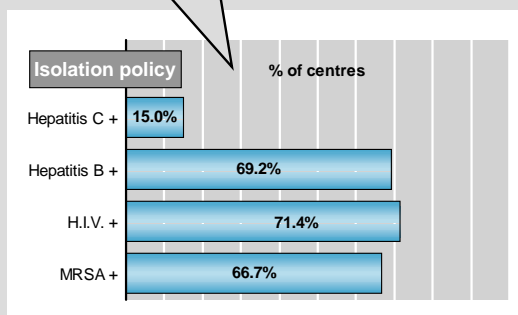
- The prevalence of diabetic nephropathy varied from 8 to 42% per centre.
- Out of 402 diabetic patients, 191 (47.5%) showed serious diabetic complications, resulting in 8.4% of the total dialysis population to be highly comorbid diabetic patients (in 1997: 40.8% resp. 8.1%).
- 14.9% of the diabetic patients are on the transplant waiting list (percentage comparable with non-diabetic patients).
1/5 of them waited for a combined kidney/pancreas transplantation.

Infectious serology

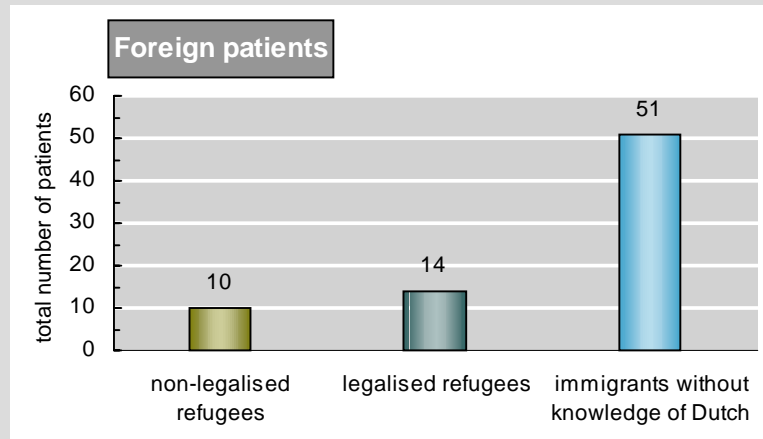


Year	Hepatitis C +	Hepatitis B +	H.I.V. +	MRSA +
centres without infection (2000)	59%	28%	97%	72%
infected patients: range per centre	1 - 9	1 - 9	1 - 1	1 - 3

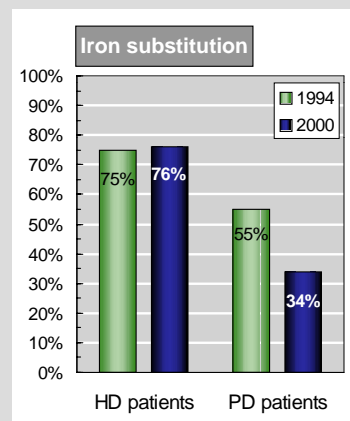
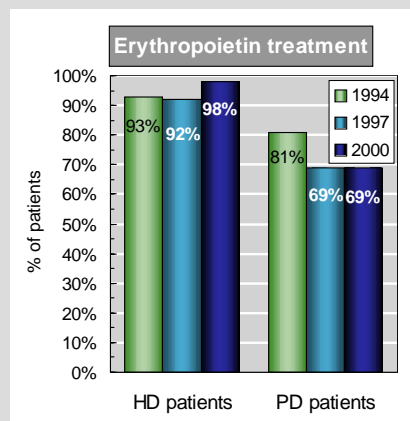
Separate nurse in half of centres with patient isolation



Foreign patients in Flemish dialysis centres

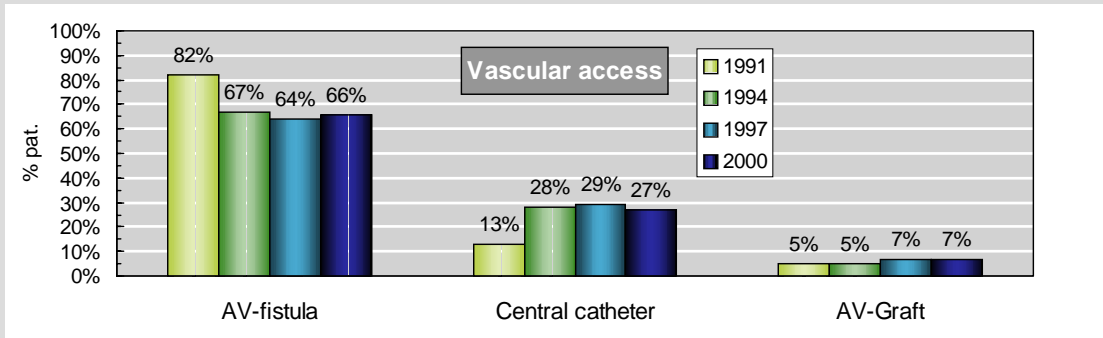


Treatment of anemia



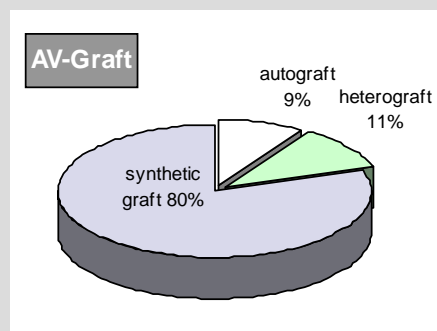
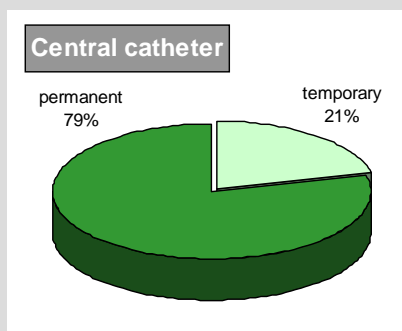
- 6 out of 10 HD patients got EPO *intravenously*, the others *subcutaneously*.
- In PD patients EPO was always administered *subcutaneously*.
- Almost all HD patients got iron substitution *intravenously*.
- Out of 10 PD patients on iron substitution, 8 received it *orally*.

HD: Vascular access (1)



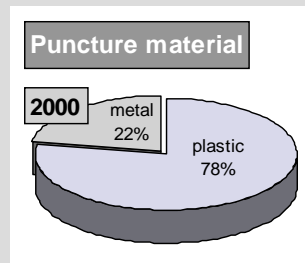
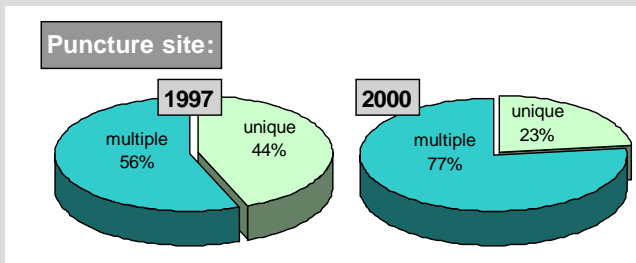
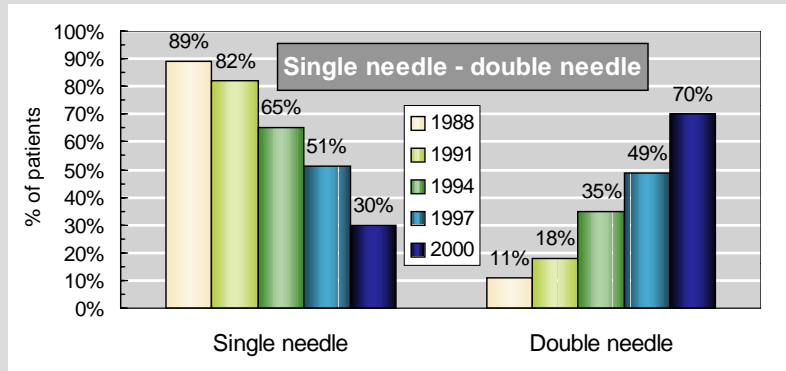
- The use of central catheters ranged from 10 to 50%. Four centres used central catheters in more than 40% of their patients.
- 49 patients were dialysed with a combination of AV-fistula and catheter.

HD: Vascular access (2)

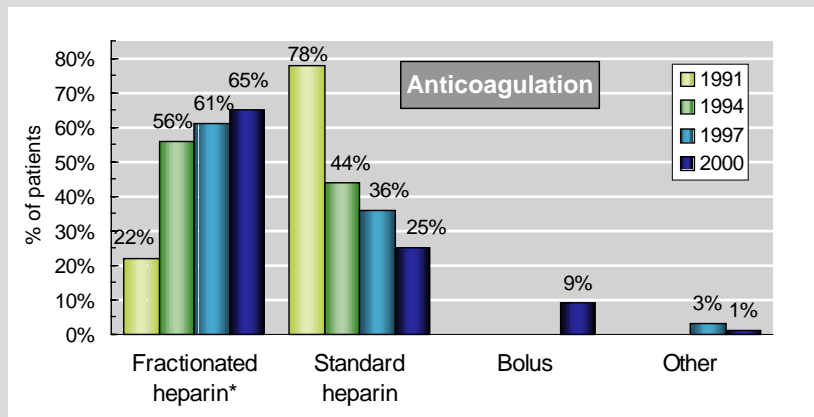


The temporary catheters were mainly placed in the subclavian vein (86%). The permanent catheters on the other hand were equally divided in subclavian and jugular vein.

HD: Puncture technique



HD: Anticoagulation therapy

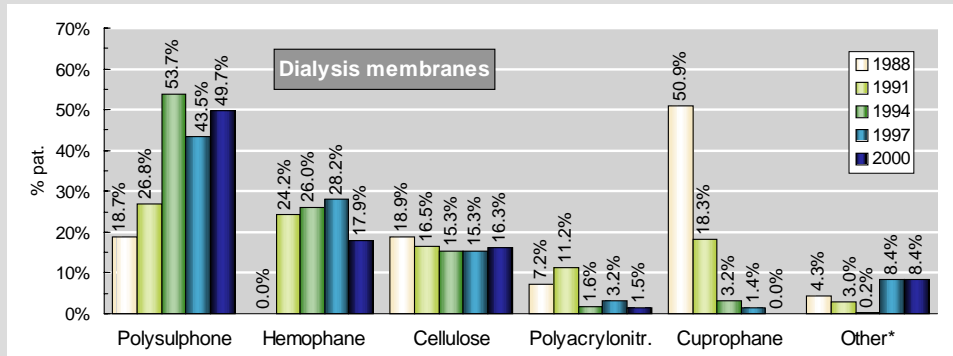


*= Low Molecular Weight heparin

- 22% of patients received extra oral anti-coagulation (17% in 1997).

HD: Dialysis membranes

- Almost all kidneys were capillary. Only 2.3% (48 patients) was dialysed by plate kidneys.



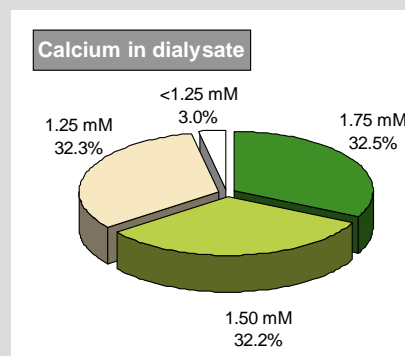
* in 2000, 6.2% was polyamide membrane

Reuse of kidneys: In 4 of 42 centres, kidneys were reused in more than 80% of patients. The frequency of reuse was between 3 and 6. The technique of reuse was mostly performed by a nurse.

HD: Dialysate

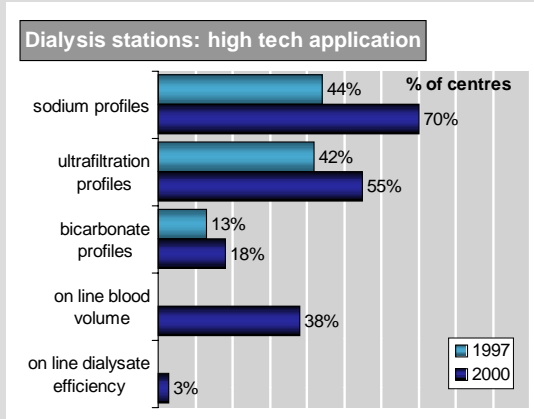
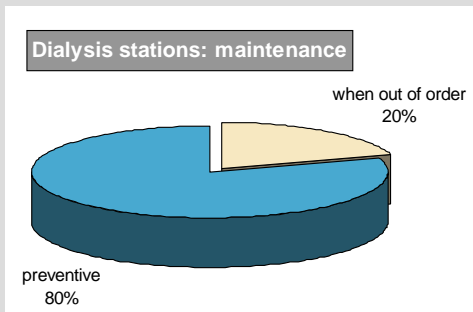
Bicarbonate buffer was used in 98.5% of patients.

- Remarkably equal numbers of patients were treated with either 1.25, 1.50 or 1.75 mM Ca.
- The high calcium (>1.75 mM) has disappeared.
- The use of low dialysate temperature (<36°) has almost been abandoned (3%).



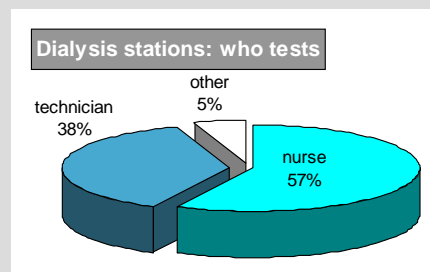
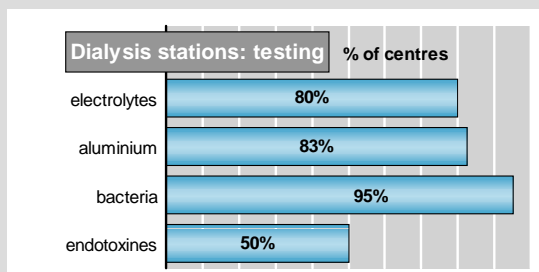
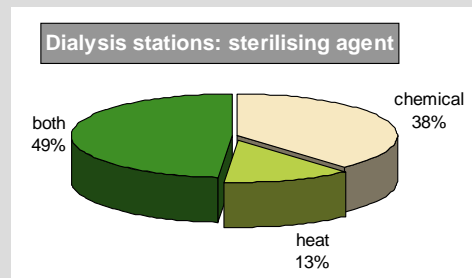
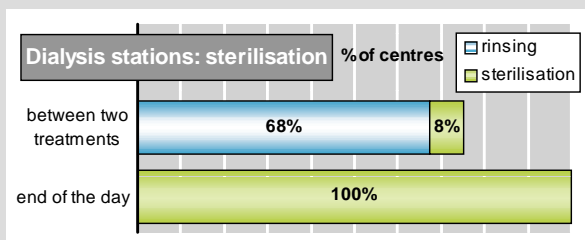
- More than 9/10 of centres purchased bicarbonate concentrates from manufacturers (in 1997: 2/3). Bicarbonate was purchased in 92.5%, acid concentrate in 94.7% of cases.
- Central distribution of bicarbonate concentrate was done in 38% of centres (1994: 21%; 1997: 37%).

HD: Dialysis stations maintenance and monitoring



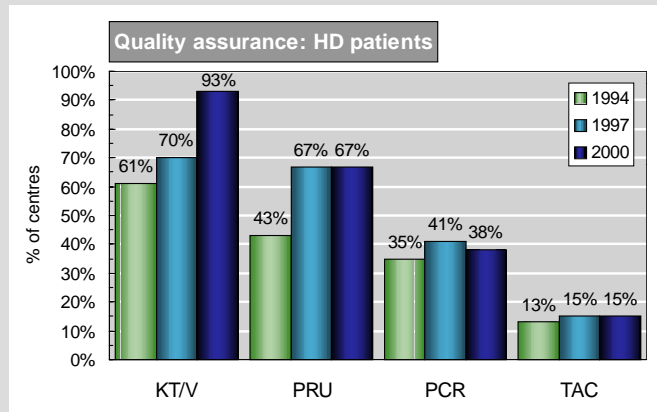
- 80% of stations were equipped with bacteria/endotoxin filter (only 30% in 1997).

HD: Dialysis stations sterilisation and testing



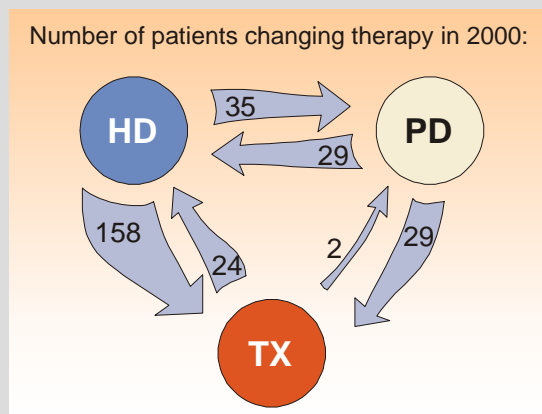
most used testing frequency is monthly, except for aluminium.

HD: Quality assurance



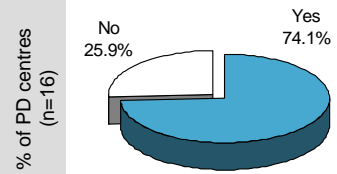
- In hemodialysis, KT/V and PRU were the most common quality assurance indicators.
- The most used frequency of determination was monthly.
- Additionally, in 77% of centres, an EMG was performed, 1 or 2 times a year.

Change in therapy



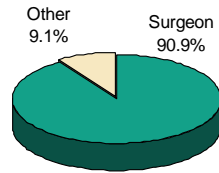
Peritoneal dialysis (1)

Special PD nurse?



% of PD centres (n=16)

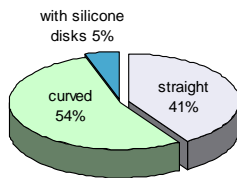
Who places PD catheter?



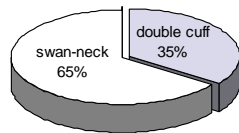
% of PD patients

PD catheters

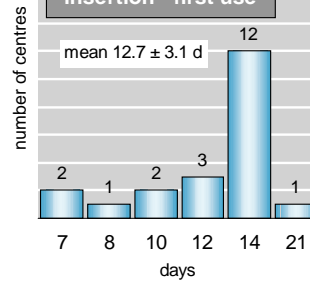
INTRAPERITONEAL



EXTRAPERITONEAL



Waiting time catheter insertion - first use

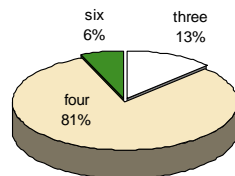


Peritoneal dialysis (2)

% of PD centres (n=16)

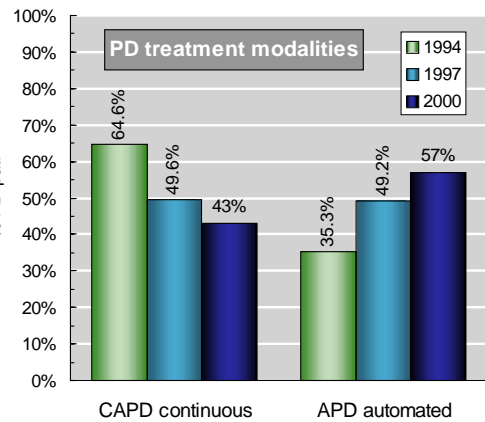
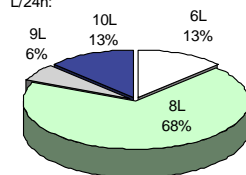
CAPD prescription

number of exchanges per 24h:



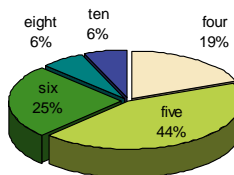
CAPD total treatment volume

L/24h:



APD prescription

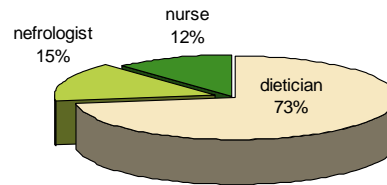
number of exchanges per 24h:



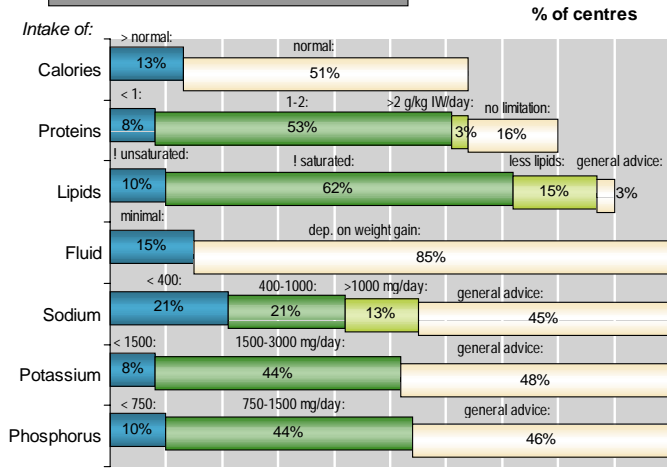
Use of non-glucose solutions:
CAPD: 69% of centres
APD: 63% of centres

Dietary advice (1)

Who provides dietary advice?

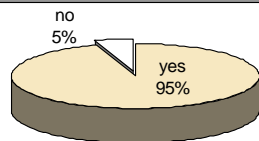


Dietary advice to new HD patients

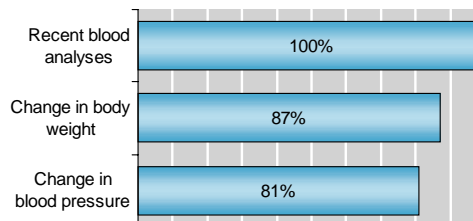


Dietary advice (2)

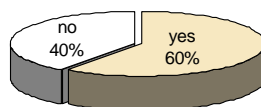
Readjustment of dietary advice during dialysis treatment



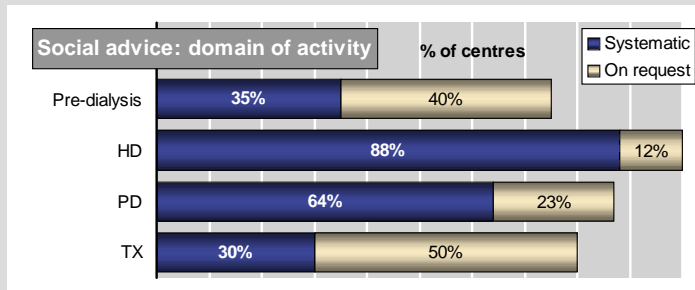
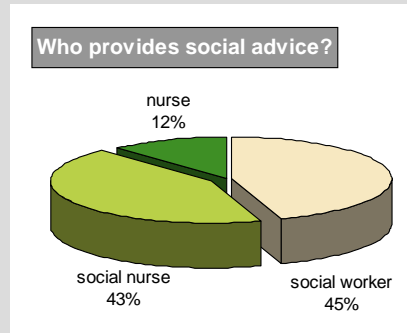
Readjustment because of: % of centres



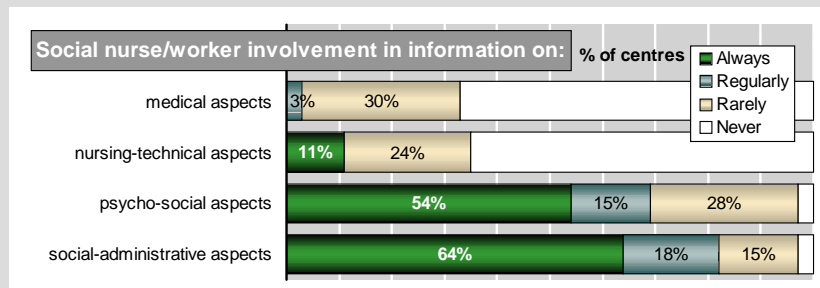
Oral food supplements



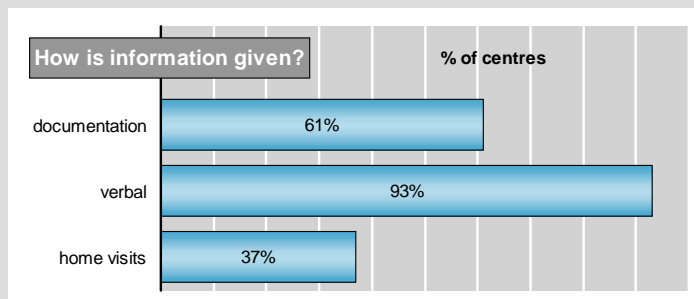
Social advice (1)



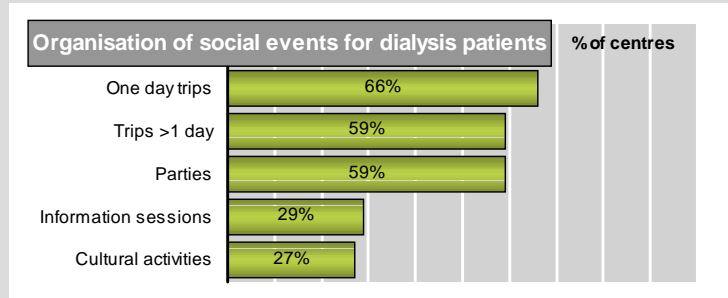
Social advice (2) for new dialysis patients



In 73% of centres, multidisciplinary staff sessions were organised. In 2/3 of these, the social nurse/worker participated. Social aspects of patients were a regular item.

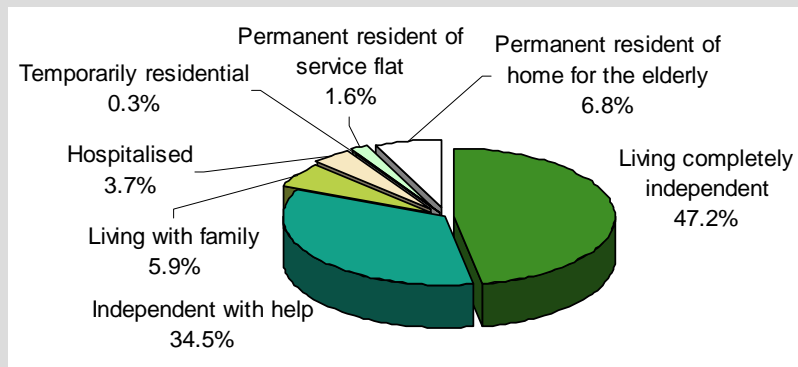


Social activities



In 43% of centres, the social nurse/worker was involved in the organisation of these activities.

Housing of chronic patients



SUMMARY

- 24 out of 27 dialysis centres in Flanders took part in this survey. Attached to the 24 main centres were 16 satellite centres and 1 pediatric dialysis centre. For the first time, the satellite centres submitted separate data.
- 577 full-time equivalent nurses were employed in these Flemish dialysis centres, with a mean patient/nurse ratio of 4.0 in main centres and 5.5 in satellite centres.
- In 2000 a mean of 64 acute renal failure patients per centre were treated, being only 38 in 1994. Mortality was unchanged at 44%.
- By the end of 2000, 2284 chronic dialysis patients were treated in the 24 centres. Centres had between 21 and 174 chronic dialysis patients, with a mean of 81 in main centres and 20 in satellite centres.
- 60% of chronic dialysis patients were above 65 years old, and 11% above 80 years. The prevalence of diabetic nephropathy was 18%.
- Hepatitis B and C positivity was equal to 1997 showing a prevalence of respectively 1.3 and 3.5% positive patients. About 70% of centres had a policy of isolation for hepatitis B, HIV and MRSA. For hepatitis C positivity, only 15% of centres had an isolation policy.
- 98% of HD patients was treated with EPO, 76% as well with iron substitution. In PD, EPO and iron were given to respectively 69 and 34% of patients.
- There was very low evolution in the kind of chronic treatment applied: 92% was HD-treated of whom 14% in a satellite centre, only 8% was PD-treated.
- As HD vascular access mainly AV-fistulae were used (66%), followed by central catheters (27%) and AV-grafts (7%). The use of single needle declined to 30%. Plastic needles were still used in 78% of patients.
- In comparison with 1997, much more dialysis stations were equipped with *high tech* applications. 80% of stations had a bacteria/endotoxin filter, being only 30% in 1997.
- Quality monitoring of HD treatments was improved, showing an increased regular use of KT/V (93% of centres).
- For peritoneal dialysis, the use of APD raised to 57%. PD catheters were mainly placed by surgeons. In Flanders most centres waited for two weeks before using a catheter.
- At start of dialysis, most HD patients received a comprehensive dietary advice. However, the content of this advice was very variable from centre to centre. Oral food supplements were given in 60% of centres.
- In most centres, social advice was systematically given to HD patients. Pre-dialysis and post-transplantation, this advice was mostly confined to requesting patients. In most centres, the social nurse/worker was actively involved in multidisciplinary staff sessions.
- Only 47% of dialysis patients were living completely independently, 41% needed help care at home and 12% were hospitalized or in a home for the elderly.

ABBREVIATIONS USED

ARF	Acute renal failure
APD	Automated peritoneal dialysis
AV	Arteriovenous
CAPD	Continuous ambulatory peritoneal dialysis
EMG	Electromyocardiogram
EPO	Erythropoietin
HD	Hemodialysis
HDF	Hemodiafiltration
HF	Hemofiltration
HFPD	High-frequency peritoneal dialysis
HIV	Human immune deficiency virus
KT/V	Membrane clearance capacity x time of treatment / distribution volume
MRSA	Methicillin-resistant Staphylococcus aureus
RF	renal failure
PC	Personal computer
PCR	Protein catabolic rate
PD	Peritoneal dialysis
PRU	Percent reduction of urea
TAC	Time averaged concentration
TX	Transplantation

