

Education of Patients and Relatives

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Consensus conference on patient education

Bagnis et al. NDT 2015

- **Benefits of patient education**

- reduced urgent start of dialysis
- reduced time spent in hospital
- earlier placement of vascular access/ PD catheter
- greater likelihood of choosing self-modality
- extended time to requiring dialysis
- better compliance
- reduce anxiety and fear
- reduced mortality

These proven benefits lead to cost savings!

Consensus conference on patient education

Bagnis et al. NDT 2015

- **Educational team**
 - Minimum: nephrologist and CKD nurse
 - Optimal: multidisciplinary team
 - nephrologist
 - CKD nurse
 - dietician
 - social worker
 - mental health professional
 - physical therapist
 - expert patient

Consensus conference on patient education

Bagnis et al. NDT 2015

- **Suggested teaching materials**
 - One-to-one meetings with staff
 - Written booklets,
 - appropriate to disease stage
 - level of education and
 - cultural/releigious background
 - Multimedia presentation
 - Tours of dialysis facilities
 - Online materials with carefully selected websites
 - Non-mandatory meetings or videos with expert patients
 - Group education sessions

Do you think that most of the chronic renal patients are well informed?

Sociodemographic factors, patient perceptions and attitudes to kidney Tx

Vámos EP et al, NDT 2009

- ▶ **HD patients in Budapest, n=459, <70 year old**
 - sociodemographic factors
 - perceptions regarding dialysis versus Tx
 - information on Tx
 - attitudes to Tx

Results of the questionnaires

Vámos EP et al, NDT 2009

- **71 % of the patients wanted to be transplanted** (regardless of eligibility), more likely
 - younger patients
 - men (56%)
 - employed
 - have higher education
 - have prior Tx
- **35 % believed Tx causes more problems than benefits**
- **46 % had significant fears about Tx surgery and 45 % about immunosuppressive meds**

Results of the questionnaires

Vámos EP et al, NDT 2009

- 25% of patients reported that have not heard about Tx from their doctors
- 56% reported that received insufficient information
- Strongest predictor of positive attitude to Tx:
Perception of transplantation is the best modality of RRT

Suggestions based on the results

Vámos EP et al, NDT 2009

investing resources in creating multidisciplinary clinics for predialysis care and in developing standardized, comprehensible and evidence-based patient information systems to facilitate modality selection and self-management would enhance the standards of care and would likely improve outcomes [25].

This would also be essential to facilitate the utilization of living donor transplantation [18]. Effective patient education would be a key component to the success of a living donor transplant program in Hungary and in countries in a similar situation.

Perceived knowledge among patients cared for by nephrologists about CKD and ESRD therapies

Finkelstein et al. KI 2008

| | |
|---------------------------------|-----|
| No knowledge of HD | 43% |
| No knowledge of CAPD | 57% |
| No knowledge of APD | 66% |
| No knowledge of transplantation | 56% |
| No knowledge of any modality | 35% |

Questionnaires for 676 patients with CKD 3-5

Nephrological care for 4.8 years (median 2 yrs)

Advantages of the multidisciplinary education

MULTIDISCIPLINARY CARE OF PREDIALYSIS PATIENTS

CURTIS BM ET AL, NDT 2005

- **The team:** nephrologist, nurse educator, social worker, dietician, pharmacist, psychologist
- **Interventional group: multidisciplinary care**
 - ~ 1,5h per visit
 - ~ 5 visits/year
- **Control group: standard care:**
 - ~ 0,5h per visit, „regular” nephrological care

MULTIDISCIPLINARY CARE OF PREDIALYSIS PATIENTS

CURTIS BM ET AL, NDT 2005

- **Medical care + education, aimed:**
 - improve compliance
 - more effective dietary and lifestyle prescriptions
 - adherence to medications
 - optimal RRT modality selection

MULTIDISCIPLINARY CARE OF PREDIALYSIS PATIENTS

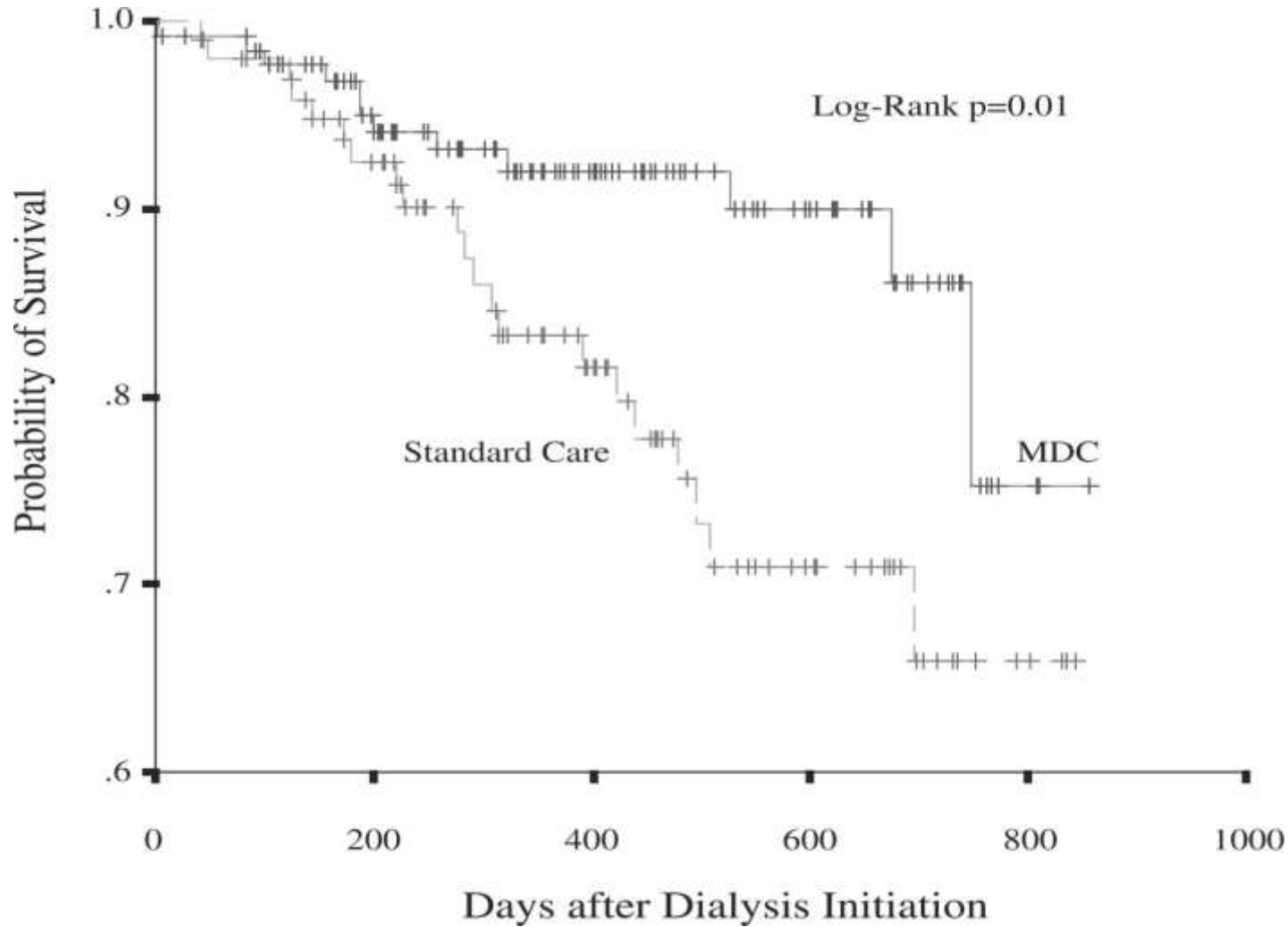
Table 1. Summary demographics at dialysis initiation

| | Entire cohort | Standard nephrologist office care | Nephrologist and multi-disciplinary clinic | <i>P</i> ^a |
|--------------------------|---------------|-----------------------------------|--|-----------------------|
| <i>N</i> (%) | 288 | 156 | 132 | |
| Clinic duration (months) | 41 ± 34 | 43 ± 34 | 40 ± 33 | 0.4 |
| Age (years) | 62 ± 16 | 64 ± 16 | 60 ± 17 | 0.02 |
| Female (%) | 39.9 | 43.6 | 35.6 | 0.2 |
| Diabetes (%) | 33.7 | 33.3 | 34.1 | 0.9 |

LABORATORY RESULTS AT START OF DIALYSIS, 6 AND 12 MONTHS LATER

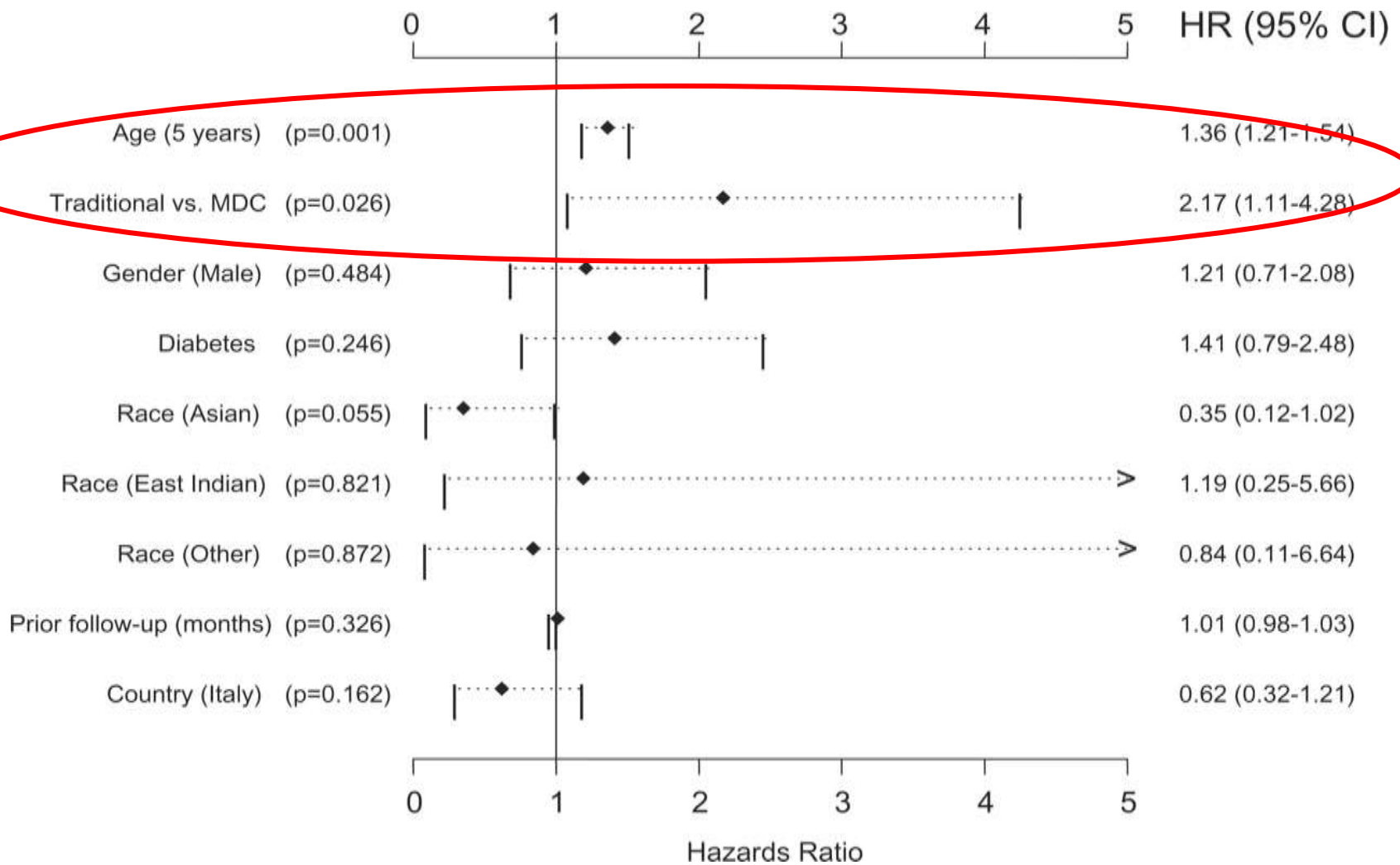
| | Standard nephrologist office care | Nephrologist and multi-disciplinary clinic | <i>P</i> |
|--|-----------------------------------|--|----------|
| Kidney function at dialysis start | | | |
| Creatinine ($\mu\text{mol/l}$) | 707 \pm 188 | 650 \pm 225 | 0.03 |
| GFR ^a (ml/min/m^2) | 7.0 \pm 2.6 | 8.4 \pm 3.8 | 0.001 |
| Haemoglobin (g/l) | | | |
| Dialysis start | 90 \pm 14 | 102 \pm 18 | <0.0001 |
| 6 months | 108 \pm 15 | 116 \pm 16 | <0.0001 |
| 12 months | 110 \pm 17 | 120 \pm 16 | <0.0001 |
| Albumin (g/l) | | | |
| Dialysis start | 34.8 \pm 5.3 | 37.0 \pm 5.4 | 0.002 |
| 6 months | 36.5 \pm 4.5 | 37.0 \pm 4.7 | 0.4 |
| 12 months | 36.9 \pm 4.6 | 37.0 \pm 4.2 | 0.9 |
| Calcium (mmol/l) | | | |
| Dialysis start | 2.16 \pm 0.27 | 2.29 \pm 0.21 | <0.0001 |
| 6 months | 2.33 \pm 0.24 | 2.32 \pm 0.22 | 0.9 |
| 12 months | 2.28 \pm 0.21 | 2.29 \pm 0.17 | 0.6 |
| Phosphate (mmol/l) | | | |
| Dialysis start | 1.73 \pm 0.55 | 1.73 \pm 0.54 | 0.9 |
| 6 months | 1.56 \pm 0.51 | 1.61 \pm 0.43 | 0.4 |
| 12 months | 1.61 \pm 0.47 | 1.59 \pm 0.44 | 0.8 |

SURVIVAL AFTER STARTING CHRONIC DIALYSIS THERAPY



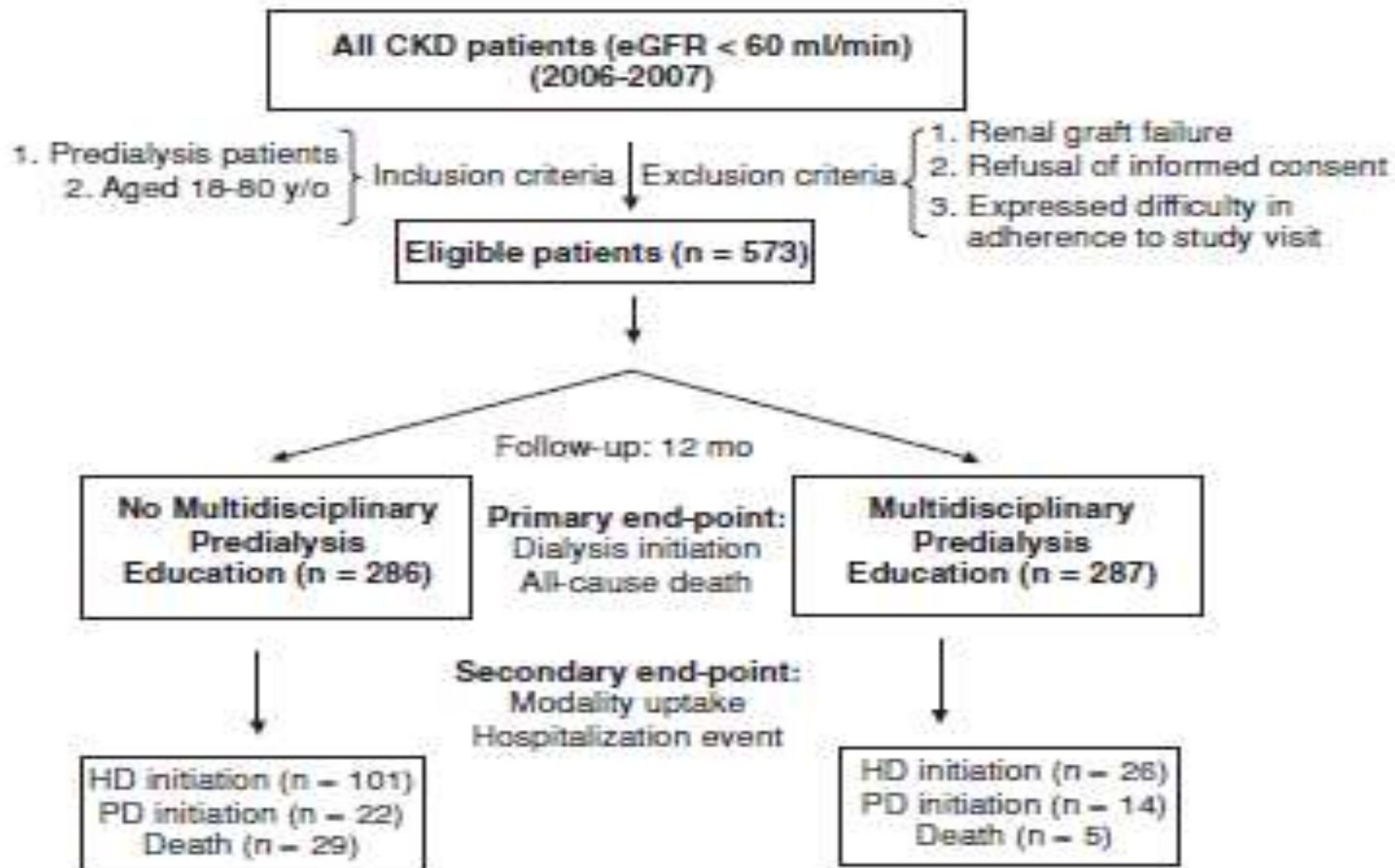
Curtis B M et al. Nephrol. Dial. Transplant.
2005;20:147-154

PREDICTORS OF SURVIVAL: AGE AND TYPE OF EDUCATION

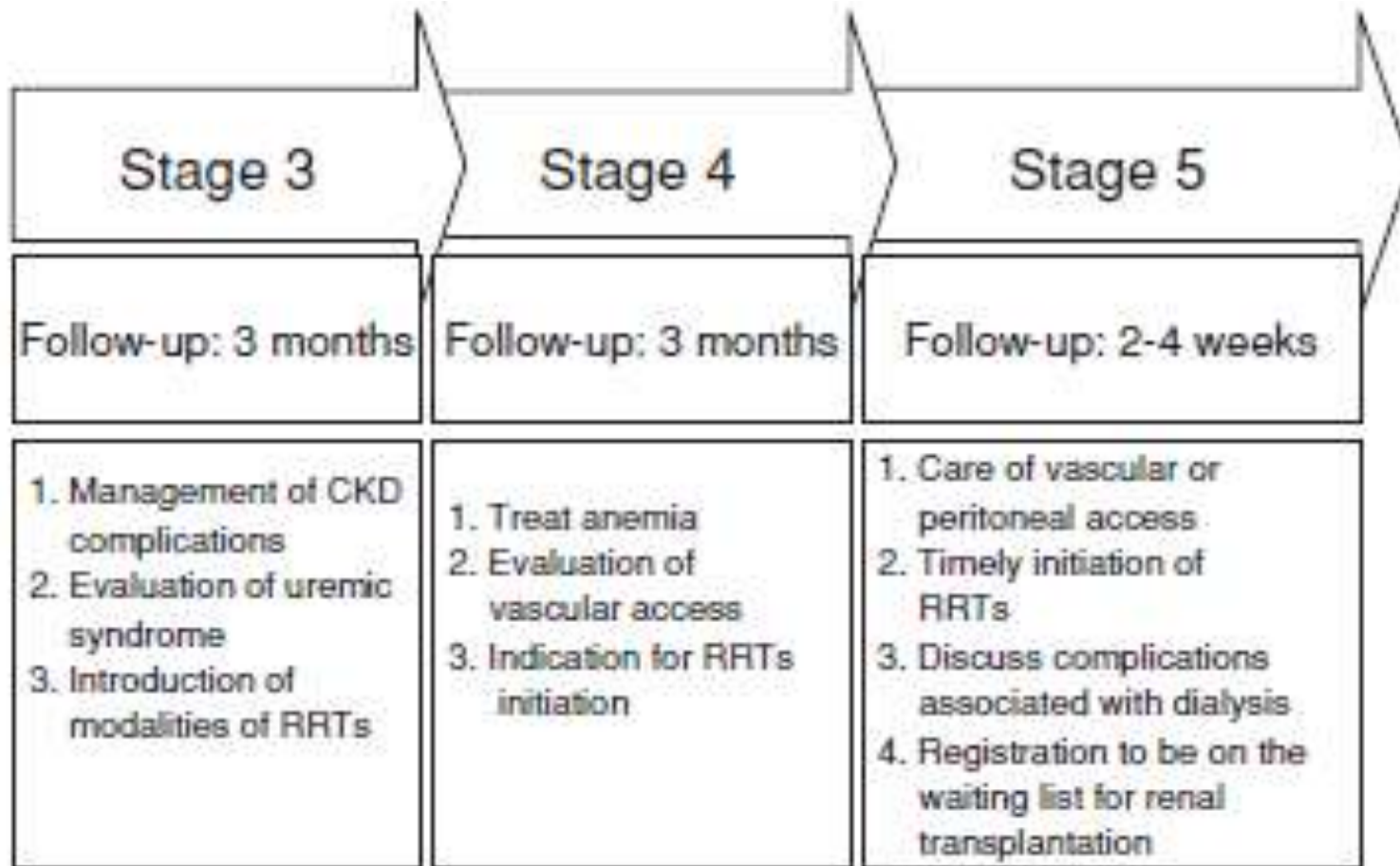


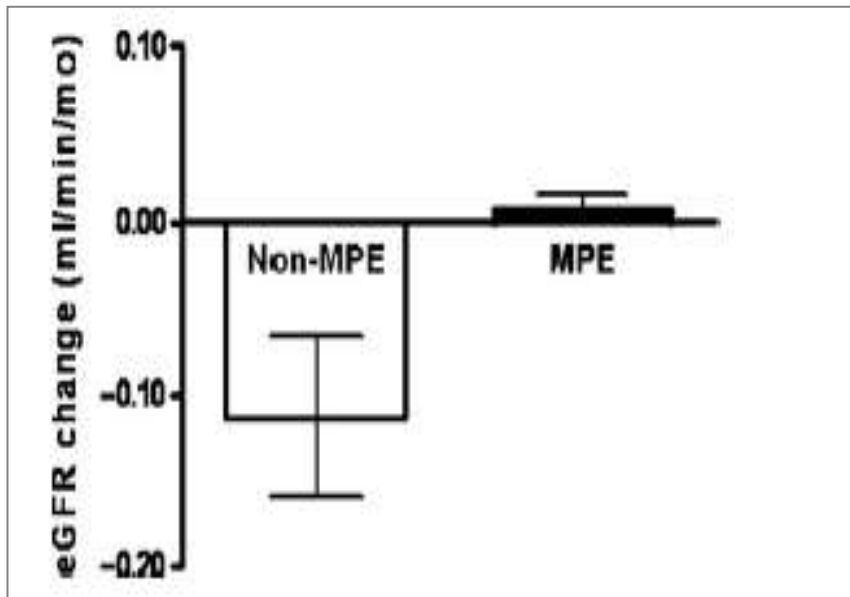
Multidisciplinary care in Taiwan

Wu et al. NDT 2009



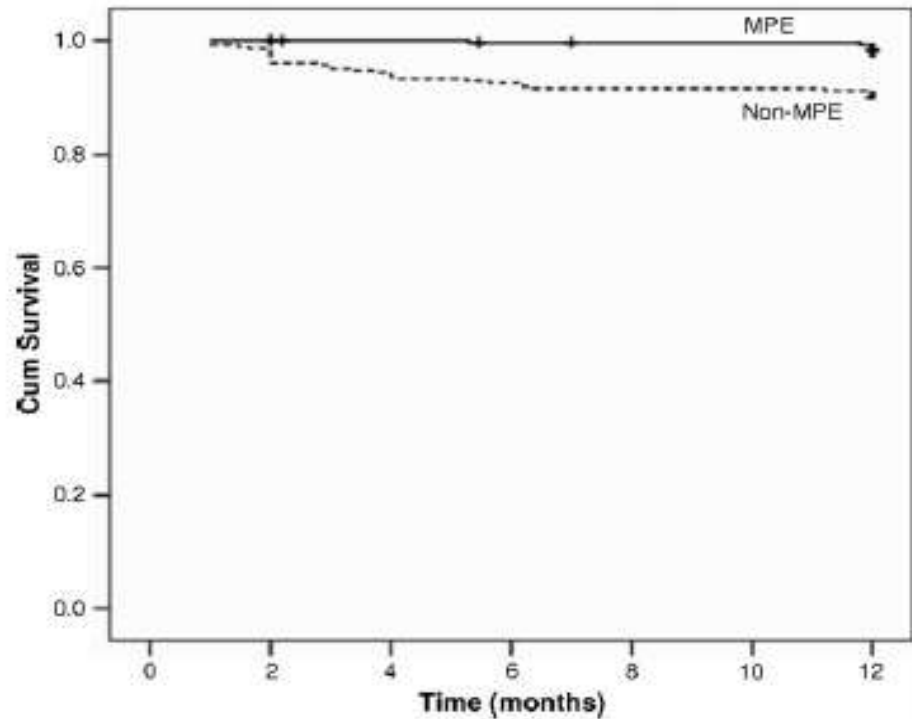
Standardized multidisciplinary education



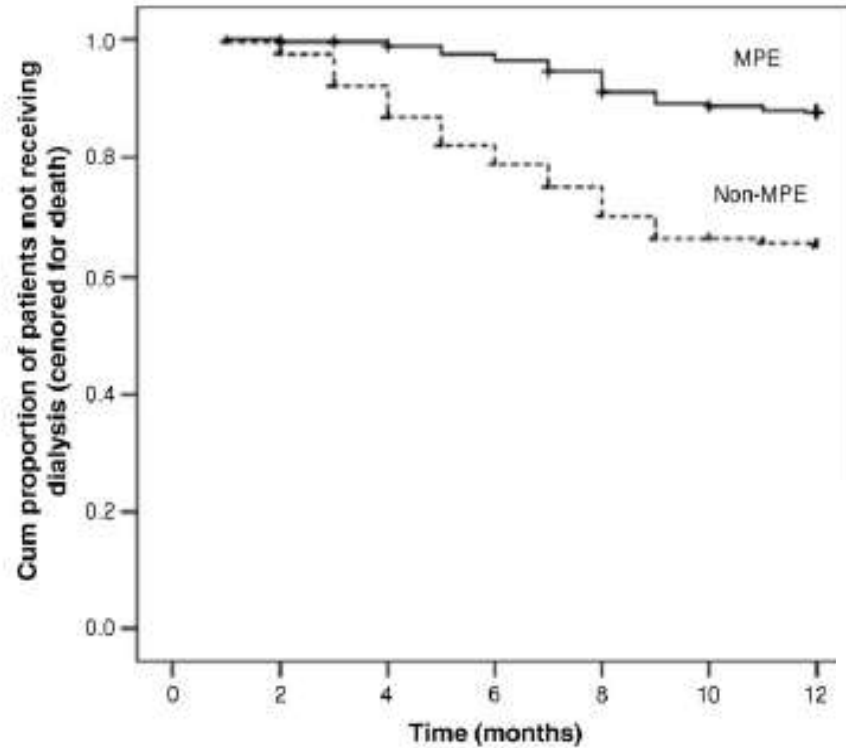


Change of eGFR

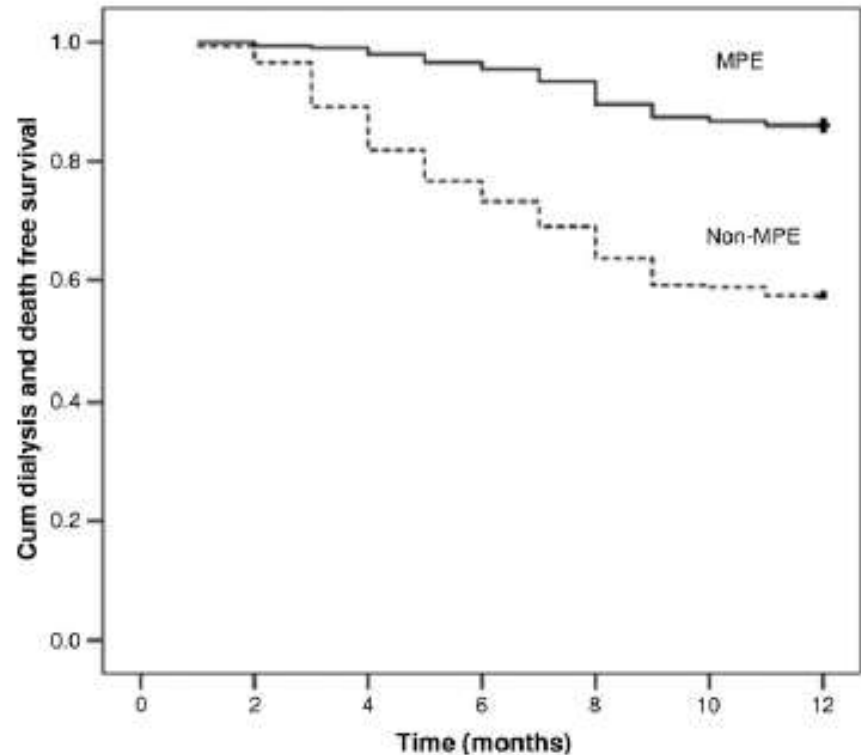
Cumulative survival



No need for RRT



Composite end points of dialysis and death free survival



Role of education in choice of dialysis modality

Marrón et al. PDI 2005

- 621 patients starting dialysis in Spain
- Multidisciplinary v.s. standard nephrological care
- Dialysis initiation with access: 73 % versus 26 %
- Choice of peritoneal dialysis: 31 % versus 8 %

Education – the more the better

Educational intervention and plans to initiate self-care dialysis

Manns et al. KI 2005.

RCT in 70 patients on MDC

- Phase 1 of education: written material +video
- Phase 2: interactive educational sessions

| | Standard care | Education intervention + standard care |
|---|---------------|--|
| Proportion planning to start self-care dialysis (%): Baseline | 17/35 (48.6%) | 20/35 (57.1%) ^a |
| Proportion planning to start self-care dialysis (%): Post-phase 1 | N/A | 20/30 (66.7%) ^b |
| Proportion planning to start self-care dialysis (%): Study completion | 17/34 (50%) | 23/28 (82.1%) ^c |

A PATIENT FROM OUR EDUCATIONAL AND LIFE STYLE CAMP - ROLE OF THE COMPLIANCE

61 years old male

1989 Type II DM and HTN

1998 on insulin, not on diet (neither his wife!)

2007 proteinuria, se-creatinine: 143 umol/l

2009 nephrol. care: creat:296umol/l, GFR:21ml/min

refuses keeping diet, takes medications irregularly

2011 creat:546 umol/l, plan:create fistula and start HD

2011 July participates in Education and Life Style Camp

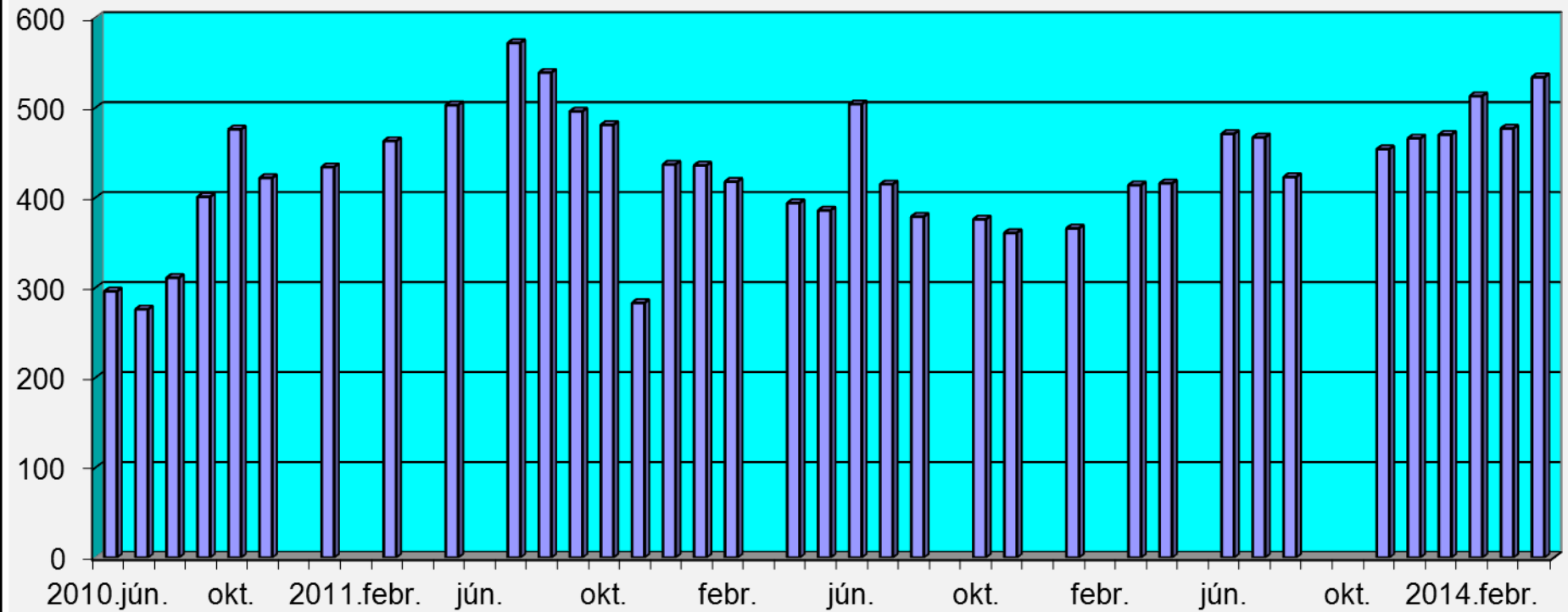
After the education he changed his opinion

- accepts dietary restrictions,
- measures his BP, takes his meds regularly

Se-creatinine levels between Jan 2009–May 2014

se-creat (umol/l)

D.J.



YOUNG PATIENT FROM OUR EDUCATIONAL AND LIFE STYLE CAMP - Quality of life

Male patient, born in 1970

1981 NS, steroid treatment

1989 kidney biopsy: MPGN – immunosuppression

1990-2009 attends pediatrician nephrologist
irregularly

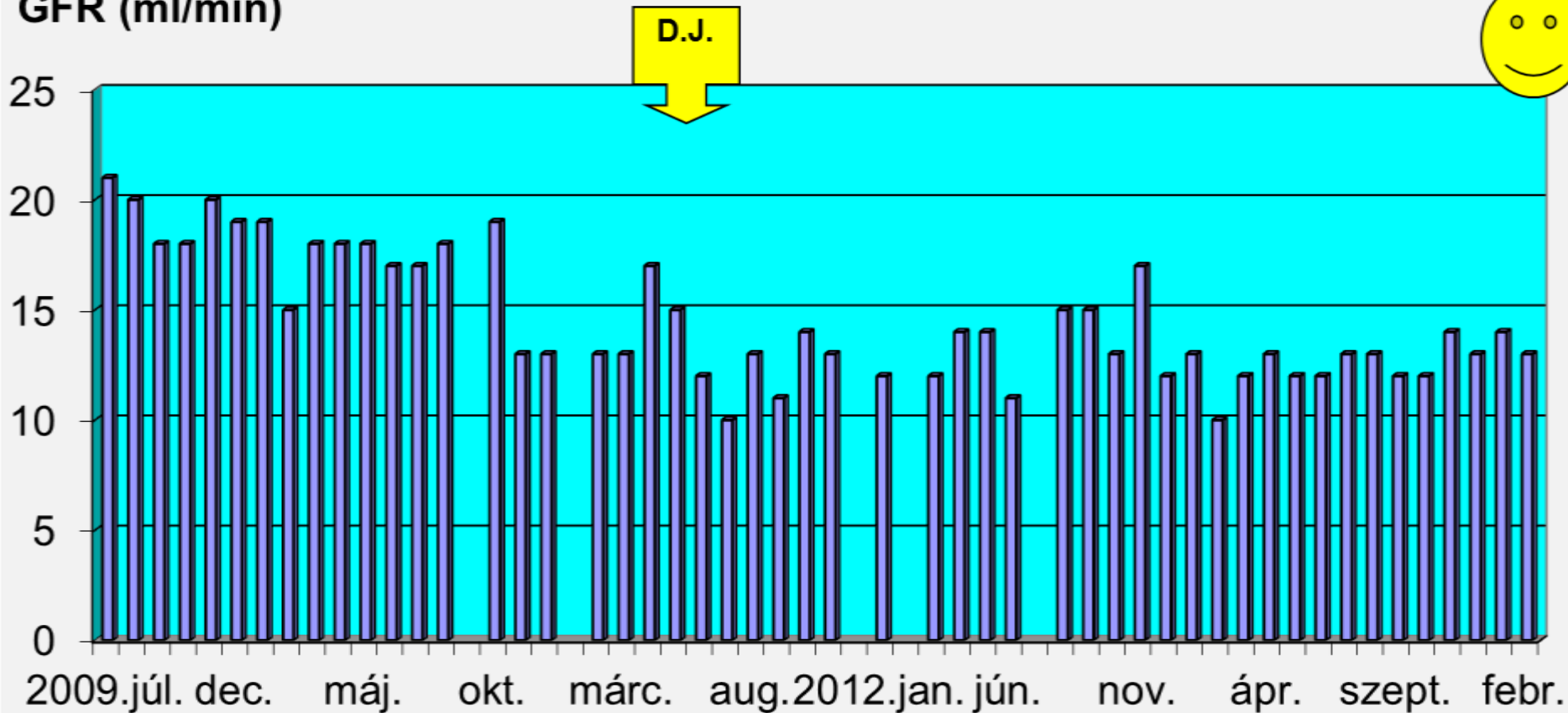
2009 July: St. Margit Hospital:
se-creat: 396umol/l, GFR 21ml/min
Depressed, has 5 children

2011 July: Participates in our Educational Camp
Significantly improved compliance
Full time employment (translator)
Transplant wait-listed

2014 March: successful kidney Tx (full match)

GFR values between 2009–2014 (Educational Camp: July, 2011)

GFR (ml/min)



Role of the psychosocial care

WHY ARE PSYCHOSOCIAL FACTORS IMPORTANT?

- Patient's **perception of well-being** and **Perception of burden of illness**
 - patient's assessment, how the disease interferes with his life in personal, social, familial, and occupational contexts -
 - significantly **affect QoL**

WHY ARE PSYCHOSOCIAL FACTORS IMPORTANT?

- **Social support**
- **Socioeconomic conditions**
- **Psychosocial factors**
- All of these influence the ability of **cop**ing with the altered condition \Rightarrow **compliance** \Rightarrow **QoL** \Rightarrow **survival**

PREDICTING MORTALITY FROM COMPLIANCE AND PSYCHOSOCIAL FACTORS

Kimmel et al. KI 1998.

| Risk factors | Adjusted RR (95% C.I.) | <i>P</i> |
|-------------------------------|---------------------------|----------|
| % Time compliance | 0.76 (0.62, 0.91) | <0.0001 |
| % Attendance | 0.87 (0.72, 1.05) | 0.15 |
| % Total time compliance | 0.79 (0.66, 0.95) | 0.01 |
| Beck Depression Inventory | 1.05 (0.87, 1.27) | 0.59 |
| Cognitive Depression Index | 1.03 (0.85, 1.26) | 0.73 |
| Illness Effects Questionnaire | 1.23 (1.00, 1.51) | 0.05 |
| Social Support (MSP) | 0.80 (0.65, 0.98) | 0.03 |
| Satisfaction with Life Scale | 0.83 (0.66, 1.04) | 0.10 |

295 HD patients, 26.4±12.8 months follow-up

Non-compliance and psychosocial factors in HD and PD patients

Kutner et al. NDT 2002

- **Indicators of non-compliance (\cong 30%)**
 - skipped or shortened HD sessions
 - missed PD exchanges
 - serum phosphate level >2.4 mmol/l
- **Psychosocial predictors of non-compliance**
 - depression
 - perceived global self-health care
 - little perceived control over future health
 - perceived effects of disease on daily life
 - lower income

Association of kidney transplantation and psychosocial factors

- **Psychosocial factors influencing patients' decisions about getting wait-listed**
 - education
 - lack of information, cultural beliefs
 - depression
 - lack of trustful patient-physician relationship
 - social background

Importance of involving the family members

Factors related to accepting living donation among kidney transplant candidates

Zimmerman et al. NDT 2006

- **Patients: assessed for living donor kidney Tx (n=61)**
Controls: wait-listed patients for cadaveric Tx
- **Willingness to accept living kidney donation** was associated with knowledge of the facts, that
 - recipient would live longer
 - donor's perioperative complication is low
 - greater perceived appropriateness of asking a family member to donate

Conclusions of the investigators

- Majority of patients perceived a greater need for information (in spite of availability of internet, teaching materials, etc.)
- Improvement of educational strategy is necessary for **both the patients and their family members.**

Thank you for your attention!