Care for chronic renal patients – Role of multidisciplinary approach

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By nephrological care we aim to...

- Prolong time to requiring dialysis
- Reduce hospitalization
- Reduce mortality, extend life expectancy
In spite of our attentive care and modern dialysis technique ..... 

• Life expectancy of our dialyzed patients is very poor

<table>
<thead>
<tr>
<th>Age at dialysis initiation</th>
<th>Mean expected remaining life span</th>
</tr>
</thead>
<tbody>
<tr>
<td>40-44 years</td>
<td>10.7 years</td>
</tr>
<tr>
<td>60-64 years</td>
<td>5.6 years</td>
</tr>
</tbody>
</table>

ERA-EDTA Registry 2010
Chronic renal failure = Low quality of life

- ESRD means
  - lifestyle restrictions
  - decreased independence
  - unemployment
  - financial problems
  - decreased ability to fulfill long-term life goals
  - anxiety, depression

- But! most of the patients feel that quality of life is more important than length of life
SF-36 QoL Scores for subjects with CKD, ESRD and General Population
Perlman et al AJKD 2005

<table>
<thead>
<tr>
<th></th>
<th>ESRD</th>
<th>CKD 3-5 GFR 24ml/min</th>
<th>General Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Component Scale</td>
<td>33</td>
<td>37</td>
<td>50</td>
</tr>
<tr>
<td>Mental Component Scale</td>
<td>47</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>Emotional role</td>
<td>52</td>
<td>70</td>
<td>81</td>
</tr>
<tr>
<td>Social function</td>
<td>62</td>
<td>72</td>
<td>83</td>
</tr>
<tr>
<td>Vitality</td>
<td>43</td>
<td>47</td>
<td>61</td>
</tr>
</tbody>
</table>
The “Solo” nephrologist’s problems

• How much time you have for a single patient?
• Someone has to explain diet, medication, preparing for dialysis, transplantation, etc
• How much a patient can understand and remember after a 15-20 minute check-up?
• Who cares for the psychosocial issues?
Aim of the multidisciplinary approach

To provide

• Optimal medical care

• Education of patients in order to facilitate them for **optimal self-management**

• Individualized psychosocial care
Importance of education

Patient’s understanding of the condition ⇒

- self-management
- shared decision-making

⇒ Improved outcome

- medication adherence – antihypertensive drugs, diabetes management
- keeping the prescribed diet
- avoiding potentially nephrotoxic drugs (e.g. NSAIDs)
- attending medical appointments
- avoiding adverse behaviours (smoking, excess calorie intake, etc)
How should we educate our patients?

- Treat each patient as an individual, with education on his/her level – considering health literacy
- **Health literacy** = the cognitive and social skills which determine the motivation and ability of individuals to gain access to, understand and use information in ways that promote good health.
- 9-32% of US renal patients have limited health literacy (Fraser et al, NDT 2013)
HOW TO EDUCATE?
FOLLOW RECOMMENDATIONS OR DESIGN YOUR WAY OF EDUCATION
Quality standards for predialysis education - Consensus conference 2013
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
• **Suggested teaching materials**
  - One-to-one meetings with staff
  - Written booklets
    - appropriate to disease stage
    - level of education and
    - cultural/relegious background
  - Multimedia presentations
  - Tours of dialysis facilities
  - Online materials with carefully selected websites
  - Non-mandatory meetings or videos with expert patients
  - Group education sessions
# Multidisciplinary Care of Predialysis Patients

<table>
<thead>
<tr>
<th></th>
<th>Entire cohort</th>
<th>Standard nephrologist office care</th>
<th>Nephrologist and multidisciplinary clinic</th>
<th>( P^a )</th>
</tr>
</thead>
<tbody>
<tr>
<td>( N \ (%) )</td>
<td>288</td>
<td>156</td>
<td>132</td>
<td></td>
</tr>
<tr>
<td>Clinic duration (months)</td>
<td>41 ± 34</td>
<td>43 ± 34</td>
<td>40 ± 33</td>
<td>0.4</td>
</tr>
<tr>
<td>Age (years)</td>
<td>62 ± 16</td>
<td>64 ± 16</td>
<td>60 ± 17</td>
<td>0.02</td>
</tr>
<tr>
<td>Female (%)</td>
<td>39.9</td>
<td>43.6</td>
<td>35.6</td>
<td>0.2</td>
</tr>
<tr>
<td>Diabetes (%)</td>
<td>33.7</td>
<td>33.3</td>
<td>34.1</td>
<td>0.9</td>
</tr>
</tbody>
</table>

*CURTIS BM ET AL, NDT 2005*
SURVIVAL AFTER STARTING CHRONIC DIALYSIS THERAPY

PREDICTORS OF SURVIVAL: AGE AND TYPE OF EDUCATION

Multidisciplinary care for CKD in Taiwan
Chen et al NDT 2013

- 1056 patients with CKD stages III-V
- Standard care versus MDC (according to NKF-K/DOQI guidelines)
- Propensity matched cohorts, 3 years follow-up

Results in the MDC group
- Better medication profile, less secondary hyperparathyroidism
- More patients had permanent dialysis access
- More patients choose PD
Probability of hospitalization for infection in the MDC group and usual care group

Probability of dialysis in the MDC group and usual care group
Patient survival in the MDC group and usual care group

- Multidisciplinary care
- Usual care
Self-management support
Chen et al NDT 2011

Aim

• Active participation of patients in the effective management of CKD

Program

• Well organized educational sessions
• Telephone-based support
• Aid of a support group

Results

• Decreased progression of the renal function
• Fewer hospitalization events
Home-based group education to support informed decision-making
Massey et al NDT 2016

**Aim**
- To increase the knowledge about dialysis and renal transplantation (preemptive Tx, donation, etc)

**Program**
- Protocolized group education sessions held in the patient’s home by social workers
- Patients invited members from their social network to attend

**Results**
- 49 patients commenced RRT at 2 years follow-up
- 34 living donor Tx, 5 cadaver Tx, 10 HD
Our Hungarian educational project
EDUCATION AND LIFE STYLE CAMPS FOR PATIENTS AND THEIR RELATIVES IN DIÓSJENŐ

- Organizer and leader of the education: Dr. Kálmán Polner, nephrologist, St. Margit Hospital, Budapest
- Voluntary registration
  The only „requirement”: **bring one of the relatives!**
- All the expenses are covered by our St Margit Hospital Kindey Foundation
- Education for one week duration, groups for
  - predialysis patients
  - CAPD pts
  - HD pts
- 2007-2016: **13 groups, 135 pts, 145 relatives participated**
MULTIDISCIPLINARY TEAM

NEPHROLOGISTS,
EDUCATIONAL NURSE,
DIETICIAN,
SOCIAL WORKER,
PSYCHOLOGIST,
REHABILITATION SPECIALIST,
TAI-CHI- AND PHYSIOTHERAPEUTIST,
CASE PRESENTATIONS BY PATIENTS
EDUCATIONAL TOPICS

Basic function of the kidneys
Fluid and electrolyte balance
Normal and abnormal laboratory results
Importance of diet
Importance of drug treatments
Modality selection
Kidney transplantation (living or cadaver donor Tx)
Major comorbidities
Assistance of social problems, rehabilitation, psychosocial issues
Legal rights of the patients
Alleviation handicap
Modality choice of the patients on RRT (n=16)

PD: 56%
HD: 44%

Hungarian registry data (2010):
wait-listed 10.7%, living related transplantation 8.5%, PD penetrance 12.8%.
Transplanted patients in the groups

Patients with educational intervention

- Live/cadaveric Tx: 3/5 (2 further donations were offered)
- 8 patients (32%)

Controls

- Live/cadaveric Tx: 0/2
- 2 patients (4%)

*p = 0.003
ROLE OF THE PSYCHOSOCIAL FACTORS
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 coping with the altered condition $\Rightarrow$ compliance $\Rightarrow$ QoL $\Rightarrow$ survival
PREDICTING MORTALITY FROM COMPLIANCE AND PSYCHOSOCIAL FACTORS

Kimmel et al. KI 1998.

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

295 HD patients, 26.4±12.8 months follow-up
Event-related distress in kidney disease patients
Ramer et al NDT 2012

One hundred and three of 181 subjects reported stressors on the Impact of Event Scale

<table>
<thead>
<tr>
<th>Category</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal health</td>
<td>51 (49.5)</td>
</tr>
<tr>
<td>Family relationship</td>
<td>12 (11.7)</td>
</tr>
<tr>
<td>Occupational/financial</td>
<td>10 (9.7)</td>
</tr>
<tr>
<td>Multiple stressors</td>
<td>10 (9.7)</td>
</tr>
<tr>
<td>Miscellaneous/unknown</td>
<td>9 (8.7)</td>
</tr>
<tr>
<td>Family member health</td>
<td>8 (7.8)</td>
</tr>
<tr>
<td>Death</td>
<td>3 (2.9)</td>
</tr>
</tbody>
</table>
Event-related distress and Depressive Symptoms

Mean PHQ-9 score by event-related distress level; n = 177; P < 0.001 in ANOVA; P < 0.05 for no stressor versus high event-related distress and low event-related distress versus high event-related distress.
Event-related distress and Dialysis Symptom Index (physical and emotional symptom burden)

Mean DSI score by event-related distress level n = 176; P = 0.002 in ANOVA; P < 0.05 for no stressor versus high event-related distress and low event-related distress versus high event-related distress.
Employment, Education, Income, Marital status, Substance abuse

Kaplan–Meier survival curves of subjects with CKD stage 2–5 by the SAI quintile in the entire study population (A), subjects with stage 2 CKD (B) and subjects with CKD stage 3–5 (C).
Social support predicts survival in dialysis patients (Thong et al NDT 2007)

<table>
<thead>
<tr>
<th>Discrepancy</th>
<th>Mean</th>
<th>Crude RR</th>
<th>95% CI</th>
<th>Adjusted RR</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Perceiving that not enough social support is received</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social companionship (range: 5–15)</td>
<td>7.26 ± 2.50</td>
<td><strong>1.113</strong></td>
<td><strong>1.055–1.174</strong></td>
<td><strong>1.068</strong></td>
<td><strong>1.004–1.135</strong></td>
</tr>
<tr>
<td>Daily emotional support (range: 4–12)</td>
<td>5.55 ± 2.06</td>
<td><strong>1.093</strong></td>
<td><strong>1.023–1.168</strong></td>
<td><strong>1.098</strong></td>
<td><strong>1.020–1.183</strong></td>
</tr>
<tr>
<td>Emotional support with problems (range: 8–24)</td>
<td>10.98 ± 4.04</td>
<td><strong>1.042</strong></td>
<td><strong>1.007–1.078</strong></td>
<td><strong>1.033</strong></td>
<td><strong>0.997–1.071</strong></td>
</tr>
<tr>
<td>Total support (range: 17–51)</td>
<td>23.79 ± 7.89</td>
<td><strong>1.028</strong></td>
<td><strong>1.010–1.045</strong></td>
<td><strong>1.022</strong></td>
<td><strong>1.003–1.042</strong></td>
</tr>
</tbody>
</table>
Impact of psychosocial characteristics on treatment satisfaction (Robinski et al NDT 2016)
Summary

• Patients with CKD have low QoL and short life expectancy
• Compliance can be increased by patient’s education
• Multidisciplinary education decreases mortality
• Renal patients have profound psychosocial difficulties
• Psychosocial care has to be included in the treatment of the patients with chronic renal failure

⇒ in order to increase their quality of life and survival.
Thank you for your attention!