Renal diseases
Kidney roles

- blood cleansing of metabolites and toxic substances;

- maintenance of the hidro-electrolytic and acido-basic balance;

- synthesis and activation of important hormones, such as erythropoietine and vitamins (such as vitamine D);

- regulation of blood pressure and blood flow, via hormones (e.g. renine) and other substances active on vessels (e.g. endothelie, prostaglandines, kalikreine);

- regulation of growth (EGF / HGF / IGF-1).
Quality of life (QoL) = affected in chronic kidney disease:

- the biggest problems = related to dialysis (recurrent somatic symptoms, unpleasant treatment, demands on changing the lifestyle (e.g. diet restrictions), uncertainty related to the prognosis, changes in work relationships;

- a problem for the Dr = lack of previous reports about QoL before illness (many patients neglect their disease).
Psychiatric comorbidity

Anxiety = high at patients subject of dialysis, both also at patients who were transplanted a new kidney (lack of certitude about graft acceptance);

Depression = stems from the lack of independence, physical abilities, losses in performing one's social and professional roles, ineffective coping mechanisms.
The vicious circle
somatic symptoms → psychiatric comorbidity → poor compliance → aggravation of somatic symptoms can be interrupted only through dual action:

- medical – on those symptoms that could hurry up the onset of psychological symptoms, e.g. uremia;
- psychological – on anxiety and depression.
Modulating factors
1. Social and family support

Can influence the intensity of depressive symptoms, perception of the consequences of the disease, the satisfaction about daily life. These can be influenced by optimism and agreeableness (= the pleasure in relationships; negative example: type D).
Examples of difficulties

- one of the spouses is obliged to become a supportive person, this predisposing him / her on a long run to suffer from depression or hostility;
- the patient can lose a bigger or smaller part of his / her ability to work, this becoming an extra load on the spouse;
- the patient can feel frustration towards the spouse;
- the sexual life can be significantly affected by the disease, this decreasing intimacy and love perceived by both spouses.
2. Poor socioeconomic status: is associated not only with a low income, but also with poor education, risky neighborhood, difficult access to healthy services and discrimination.
3. Cultural background: can significantly influence lifestyle, as diet, physical exercise, preoccupation towards body image and functioning are deeply culturally rooted and shaped. This can explain the variable prevalence of renal diseases in various community settings.
4. Disease perception: „the half empty vs. half full glass“. Can influence negatively the perceptions of treatment efficiency, of symptom mastery, the understanding of the disease's gravity and its treatment.
Clinical examples

A. Renal lythiasis

B. Urinary tract infections

C. CKD (chronic kidney disease) / Renal failure
A. Renal lithiasis

- "kidney stones'';
- solid crystal deposits at the level of the urinary tract;
- associated to modern lifestyle: 5-10% of US caucasian population (> 2.1 billion $ / year);
- most common symptom = pain;
- risk influenced by inappropriate diet, alcohol consumption, low liquid intake, lack of exercise.
Psychological symptoms

Most common: anxiety (the stones can move and trigger pain at sudden efforts). Can evolve into panic attacks.

Depression: is associated with a longer evolution of the disease and with tight dietary restrictions.

Recurrent pain can lead to non-compliance: importance of a continuous monitoring of the gain - losses balance, seen from the patient (see the HBM model).
B. Urinary tract infections

- second most common infection type (majority of cases in women, children and elderly).

In elderly, UTI are often associated to a decrease of cognitive and self-management abilities, and is less reported by patients.
Psychological symptoms

UTI can represent a redoubtable stress (associated to anxiety and depression), via the intense physical discomfort generated by symptoms themselves:
- polakiuria (frequent urination);
- disuria (sensations of burning or incomplete bladder emptying);
- (possibly) hematuria;
- back / local pain,

but also via their assessment (e.g. helplessness-hopelessness in chronic infections).
C. CKD / renal failure

Uremic syndrome: glomerular filtration rate (GFR) < 10%:
- can directly trigger cognitive impairment, via accumulated toxins that cannot be eliminated:
  - sudden decline, not congruent to patient's age)
  - decrease of memory, concentration and ability of planning can at its turn influence the ability of the patient to understand the treatment or follow it appropriately;
- associated to personality changes: e.g. reluctance, voluntary non-compliance.
Temporary psychological reactions (independent of GFR):
- denial;
- rebellion (at the onset of CKD);
- anxiety;
- depression.

Can be influenced by cultural factors, personality type, age.

**TABLE 3**

**MOST COMMON SCREENING INSTRUMENTS OF DEPRESSION VALIDATED IN PATIENTS WITH END-Stage CKD**

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Description</th>
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<tbody>
<tr>
<td>Beck Depression Inventory (BDI)</td>
<td>21-item, self-report, assess the severity of depression.</td>
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  *Cutoff scores in CKD:*                        |                                                                             |
|  • >15<sup>96</sup>                             |                                                                             |
|  • >16<sup>97</sup>                             |                                                                             |
|  • >14<sup>97</sup>                             |                                                                             |
| Center for Epidemiologic Studies Depression Scale (CES-D)<sup>92</sup> | 20-item, self-report, cutoff score in CKD: >18<sup>97</sup>                |
| Patient Health Questionnaire-9<sup>98</sup>     | Self-report, indicates the presence of depressive symptoms and the necessary of treatment cutoff score in CKD >10<sup>93</sup> |

Psychological intervention

1. personalized education:

- offers information about the disease;
- contributes at preventing relapses (e.g. UTI);
- (in chronic renal diseases) guarantees early enrollment of the patient in a program of support/treatment, thereby preventing the progress towards renal failure.
Psychotherapy

Objectives (examples):

- feeling of loss (or threat about a possible loss) in body functioning;

- perception of dependence (persons, devices);

- death threat;

- incapacity to construct future plans;

- inadequate expressions of rage or frustration.
Cognitive-behavioral therapy

- contributes to the treatment / easing of psychological symptoms (e.g. anxiety, depression), addresses cognitive distortions (e.g. negative "automatic" thoughts);

- can improve therapeutic compliance and help in assuming lifestyle restrictions;

- can improve patient's mood, his / her perceptions regarding the disease, the feeling of control, the ability to cope with problems in the future.