Respiratory diseases
1. COPD

- chronic obstruction of lung airflow that interferes with normal breathing and is not fully reversible;

- 600 million COPD patients worldwide, with an increase of prevalence among youngsters and women;

- the 5th cause of mortality, worldwide; it is prognosed to become the 3rd by 2020 (Romania: 3rd place in Europe);

- costs: they derive from underdiagnosis and non-compliance and have a high impact on health systems. This is especially the result of frequent hospitalizations, when crises occur (min. 2 / year).
Morfopathology:

Normal lung  COPD
Diagnosis

Cough: it stems from bronchitis and has the following characteristics:
- chronic: > 3 months/year, for > 2 consecutive years;
- often "wet" (with mucous / mucopurulent sputum);
- most often occurs in the morning ("bronchial cleansing").

Dyspnea: is more characteristic to advanced stages of the disease (emphysema):
- can remain unnoticed, as it progresses slowly;
- can not be necessarily proportional to the degree of pulmonary damage (as demonstrated by spirometry).

Smokers tend to minimize symptoms; also, elders neglect quite often the disease episodes ("age-illness stereotype").
Functional tests

Spirometry: FEV1 < 80% of expected value; FEV1/FVC < 70% of expected value.
Behavioral characteristics

Non-compliance:

- most COPD patients take their medication only 6 months / year or less, with only 25% taking the treatment as prescribed;
- 40% do not come for periodic evaluations at the specialized Dr.;
- over 2/3 attend exclusively the GP and only for an extension of their medical prescription;
- most of the patients that attend physicians come from urban areas.

A large number of COPD are incapable of quitting smoking, this being considered a key factor in keeping the prevalence of this disease constantly high in all statistics.
Psychological symptoms

Anxiety: can play a direct pathogenic role in worsening of COPD dyspnea, as it generally leads to a superficial, fast breathing that is not efficient in terms of gas exchange.

Depression: is associated with low compliance and with a high prevalence of risky behaviors.

A high number of COPD patients combine these symptoms with cognitive deficits (such as attention or concentration impairments), as a result of chronic hypoxemia.
Assessing quality of life is a main objective in COPD (as QoL represents for a high number of patients a daily issue).

Instruments for assessing QoL in COPD:

USA: Chronic Respiratory Disease Questionnaire (CRDQ; Guyatt et al., 1987) [ scales: „dyspnea”, „fatigue”, „emotional function” and „ability of environmental control (mastery)” ].

UK: St. George’s Hospital Respiratory Questionnaire (SGRQ; Jones et al., 1992) ( scales: „symptoms”, „activities”, „impact of the disease on daily life” ).
2. Bronchial asthma

- common chronic inflammatory disease of the airways, characterized by variable and recurring symptoms (reversible airflow obstruction and bronchospasm) and by hyperactivity of a series of cells - esp. mastocytes, eosinorphils and T lymphocytes;

- it is characterized most often by wheezing, coughing, chest tightness, and shortness of breath;

- they are associated with a variable limitation of respiratory flow, generally reversible spontaneously or under treatment.
"Morphopathological definition" of asthma:

- inflammation in the airways;

- obstruction of the airflow;

- hyper-reactivity of airways to various normal stimuli (e.g. physical effort);

- airway remodeling (change of normal architecture of bronchioli).
Prevalence (worldwide) = 300 million (around 5% of general population).

Incidence (number of new cases / year) = 2,65-4 / 1000 ppl.) (double at children < 5 years old).

Mortality in asthma = low (2-10 / 100000 ppl.), mainly because of the natural reversibility of symptoms during the crises.
Diagnosis
- recurrent episodes of paroxystic dyspnea, often occurring by night, with a sensation of thoracic constriction, cough and wheezing;
- the presence of risk factors (e.g. allergens) and of various triggers (cold, effort, stress).

Phases
Mild intermittent: symptoms < 2/week, otherwise asymptomatic; night symptoms < 2/month; FEV1 > 80%;

Mild persistent: symptoms > 2/week, < 1/day; night symptoms > 2/month; FEV1 > 80%, but variable (20-30%);

Moderate persistent: daily symptoms / daily use of medication (beta-2 agonists); night symptoms > 1/week; FEV1 = 60-80%;

Severe persistent: daily symptoms, with high limitation of activities; FEV1 < 60%.
Arguments for considering asthma a PS disease

1. the onset and aggravation of asthma crisis can be related to psychogenic mechanisms, such as conditioning (e.g. confronting a kind of stressful event);

   Bronchoconstriction can occur:

   - most often, at the end of the stressful event (when sympathetic stimulation is followed by a parasympathetic rebound). This explains for example the onset of nocturnal asthmatic symptoms, after exposure at daily stressful events.

   - at the very beginning of certain stressful events that trigger passive resistance and / or self-esteem decrease.
2. there are higher chances for asthma to occur if the patient has a mixed vulnerability (psychological and somatic):

   - in terms of psychological vulnerability, this is higher at patients with certain personality types (A, C, obsessional, hipocondriac) or at those who practice noxious behaviors (e.g. smoking);

   - in terms of somatic vulnerability, the risk is higher at persons that respond intensively through broncho-constriction in stressful circumstances, even if this response is not sufficient at the beginning to trigger an asthma attack.
3. Asthmatic patients associate quite often several psychiatric disorders, which argue in favor of their higher psychological fragility:

(a) Anxiety:

- Occurs more often at asthmatic children compared to adults, and is directly proportional with the severity of asthma;

- It can worsen the prognosis of an asthma attack, as it triggers (1) tachypnea and the subsequent aggravation of dyspnea, and (2) disorganised behavior, leading to poor compliance.

- It can get chronic, via unrealistic, distorted cognitive evaluations of the possibility of asthma crises.
- probability of anxiety is proportional with the impact of asthma on one’s quality of life;

- asthmatic patients who are anxious are often characterized as “over-perceivers” of own symptoms (Lehrer et al., 2002);

- anxiety (panic) symptoms can be easily misidentified as asthma symptoms, this leading to the risk of overdosage of asthma medication at unidentified anxious patients, or of anxious medication at unidentified asthmatic patients.
Depression:

- can trigger asthmatic crises through:
  - noxious behaviors (such as smoking);
  - immune depression;
  - non-compliance, which is frequent at depressive patients.

- can stem from asthma:
  - asthma is often characterized by high somatic discomfort, low quality of life, and decrease of self-esteem, following the impossibility to fulfill daily activities. and social roles.
4. there is a proven record of successful psychotherapy use in bronchial asthma (e.g. relaxation, family therapy, CBT).

Indications:

- non-compliance;

- patients with psychiatric comorbidity (anxiety, depression);

- those with a traumatic history of dealing with medical institutions;

- patients with a high response to stressful circumstances;

- other problematic patients (e.g. with cognitive deficits, with a dysfunctional family or with a personality disorder).
Noncompliance in asthma: 30-46%

Causes:

- patients’ expectations (higher than the willingness to take responsibilities);

- lack of understanding about the importance of medication or of PEF monitoring;

- “steroid phobia” (which often comes on the background of false information regarding corticosteroids side effects);

- or, oppositely, avoiding inhaled drugs and preferring instead the oral ones (especially corticosteroids), then being thereafter unpleasantly surprised by their side effects;

- the frequency, perceived as too high, of taking control medication;

- the cost, perceived as too high, of some medication.
3. TB

Tuberculosis represents the disease caused by the presence of Koch (tuberculous) bacillus and by the reactions of the host to its multiplication.
Morbidity: More than 8 million new cases are discovered annually.

Over 90% of these cases come from under-developed countries, where there are higher chances for an accumulation of risk factors: HIV / AIDS, alcoholism, precarious life conditions, domicile in endemic areas, immune depression, professional exposure.

Mortality: TB is currently the cause of more than 3 million deaths annually.
Symptoms:

Very polymorphic, can mimic a lot of other diseases.

Beside the lungs, it can affect a lot of organs:

Pulmonary TB

Clinic: long lasting dry cough, fatigue, low fever, night sweats, weight loss.

Lab: presence of KB in sputum, typical radiological images, bronchoscopy (bronchoalveolar lavage).
Typical radiological aspects in TB:

- Primary complex
- Miliary (disseminated)
- Cavitary lesion
Non-compliance in TB

Represents a major problem, being largely responsible for the high prevalence in certain geographic areas.

Some contributing factors are represented by:
- long duration of the treatment;
- daily intake of pills;
- side effects (true or imaginary);
- status of the patient: low SES, alcoholic/drug addict, poor education, lack of perceived social support, stigma;
- lack of immediate consequences if the daily doses are skipped.

Way out: the DOT strategy.
Multi-drug resistant TB (MDR-TB)

Non-compliance favors in TB the selection of multi-drug resistant strains.

Their increase can have serious epidemiological consequences, as typically their eradication require higher financial resources which are not available especially in the affected areas.
Psychological variables that may be important for a better management of all chronic respirator diseases

1. The information / education provided to the patient:

- symptom recognition can be problematic for some patients, especially if the disease had an atypical, slow onset (e.g. in elders) (they can also have a poorer access to information and / or cognitive deficits that worsen the prognosis).
2. Low personal motivation:

- can be the result of the patient's erroneous representations about the costs / benefits of seeking help and taking the treatment (HBM). Also, it can stem from additional factors (such as the age, or the absence of immediate consequences of not taking the medication).
3. Marginal social role:

- can be the result of a low socio-economic status (SES), or of the insufficient ability / desire of the patient to look for social support.

It is frequently associated to non-compliance (e.g. through a poorer access to medical services, the delay in coming at the Dr, early resignation, stigmatization)...

...but also with an unhealthy lifestyle, abundant in noxious behaviors, which have a direct effect on worsening the prognosis (massive tobacco impregnation, alcoholism).
4. Family role:

- can influence the prognosis, via the degree of cohesion or, inversely, via the potential of conflict.

E.g.1: in problematic marriages, stressful situations and discussions were proven to trigger bronchoconstriction and to worsen the prognosis, through the increase of anxiety;

Ex.2: family can create noxious models (e.g. alcohol or drug consumption).
5. Psychiatric comorbidity:

- co-existence of other psychiatric, even mild, afflictions can significantly influence the attitude towards the disease and the prognosis.
6. Abnormal cognitive style:

- can influence the way the symptom is perceived, but also patient’s compliance.

E.g.1 (+): patient’s conviction in the potentially bad consequences of the disease, if untreated, can encourage healthy behaviors and higher compliance;

Ex.2 (-): negative expectations, distrust in own abilities to cope with the disease (low self-efficacy, external locus of control), projection the blame on others, underestimation of disease consequences encourage noxious behaviors, passivity and non-compliance.
4. Psychotherapeutic intervention in respiratory diseases

1. Patient education
2. CBT
3. Relaxation psychotherapies
4. Biofeedback
5. Family therapy
6. Hypnosis
1. Patient education

Objectives:

- offering to the patient and to his/her family the necessary information for a better self-management of the disease;
- better understanding of the therapy;
- increasing satisfaction with care;
- increasing trust;
- increasing decision autonomy of the patient;
- discussing patient's expectations and worries;
- encouraging expression of patient's concerns, related to his/her disease;
- developing an authentic Dr-Pt partnership.
The individual self-management plan aims to tailor the treatment and dietary indications to the psychological characteristics of the patient and to his/her basic values.
E.g. „The 5 R of asthma education” (Kolbe, 2000)
1. "Relevance"
(of information given to the patient)

It should be adapted to his/her cultural level and medical knowledge, as well as to his/her core beliefs and interests.
2. "Realistic goals"

The objectives of the treatment plan should be similar and accessible to both the doctor and the patient.
3. "Readily available"

At the beginning of a therapeutic program one should not omit the objective costs of the treatment for the patient.
4. "Reinforcement"

Aims the consolidation of healthy behaviors, through analysis, within the medical consultation, of the consequences of all behaviors.
5. "Refinement over time"

The self-management program of asthma should be adapted to the feedback given by the patient.
2. CBT

Aims:

- changing the irrational thoughts and representations about the disease; discouraging the sick role;

- replacing the maladaptive behaviors with alternative, more realistic behaviors.

Typical indication: in the treatment of anxiety and depression, and for reducing the perceived stress.
3. Relaxation
   (e.g. Schultz's autogenic training)

Exercises for respiration are used in all the three phases of the therapy.

Benefits: increasing confidence in healing, diminishing anxiety and other inadequate emotions, increasing motivation and discipline, re-establishing the normal sleep pattern.

Advantage: accessible, easy to perform and understand. Does not imply "losing one's control".

Efficient in asthma and COPD (average increase of FEV1 = 15-25%).
4. Biofeedback

Targets:

- control of the breathing rhythm;

- relaxation of the muscles that have in COPD and asthma an additional role in the onset of the symptoms of thoracic constriction and suffocation.
5. Family therapy

It aims to remove the family triggers of respiratory symptoms, low compliance and risky (noxious) behaviors.

6 hours of family therapy per week, for 4 months ➔ durable improvement of critical functional respiratory parameters (FEV1, PEF), increase of compliance and quality of life.
6. Hypnosis

Objectives:

- abandoning of those risk factors that play a key role in onset of the diseases and in worsening of the prognosis (e.g. smoking);

- addressing the symptoms that bring a supplementary risk, inside or outside the crisis (e.g. anxiety, panic);

- increasing the predisposition to follow a certain treatment (e.g. positive suggestions in favor of inhaled corticosteroids, instead of systemic).