Pharmaceutical care at symptomatic treatment of colds
The prevalence of colds

Every year in Ukraine, 10–16 million people (20-35% of population, 25-50% able-bodied citizens) according to national statistics.
The prevalence of colds
The prevalence of colds

- Every year in the world be taken ill with cold 500 millions people, 2 millions died.
- 70% of all infectious diseases – catarrhal diseases, during the epidemic period – 90%.
- Every adult ill 1-2 times a year.
- Child – 6-8 times a year.
- 60% cases – with complications.
- 6% cases of influenza have fatal outcome.
Cold disease: symptoms and syndromes

- Cough
- Rhinitis
- Fever
- Headache
- Sore throat
- Conjunctivitis
- Itch in the nose, sneezing
- Rhinitis
Cold symptoms

Local inflammatory reaction of mucous:
- Sore throat;
- Rhinitis;
- Cough;
- Conjunctivitis

Symptoms of general intoxication:
- Fever;
- Chill, general weakness,
- Headache, myalgia,
- Arthralgia, pain in eyeball
Organs-targets at cold disease

- Enterovirus
- Respiratory-syncitual virus
- Adenovirus
- Rinovirus
- Parainfluenza
- Influenza

Agent penetrate the respiratory tract
Predisposition factors

- General or local hypothermia
- Frequent and/or prolonged contact with patients
- The presence of chronic respiratory disease (chronic tonsillitis and adenoids, etc.)
- Total detraining (unhardened) body
- Poor diet (deficiency of protein, food, vitamins)
- Excessive physical or mental stress
- Work in polluted air
- The period of adaptation to new climatic conditions
Main diseases of respiratory tract

Require the consultation of the doctor:
- acute bronchitis (severe treatment);
- exacerbation of chronic bronchitis;
- pneumonia;
- asthma;
- tuberculosis;
- pleurisy;
- lung abscess;
- lung cancer

Allowing self-treatment:
- SARS;
- acute bronchitis (not heavy flow);
- acute tracheitis;
- acute laryngitis;
- acute pharyngitis
SORE THROAT: reasons

- **Tonsillitis (acute, chronic)** — infectional disease localized in palatine tonsil;
- **Laryngitis** — inflammation of the mucous of the larynx;
- **Pharyngitis** — inflammation of the mucous of the throat;
- **Vocal effort**
Threatening symptoms at sore throat

- Persistent increasing of temperature above 38.5 °C;
- Shortness of breath, inability to utter a few words between breaths;
- The appearance of shortness of breath;
- The sharp increasing in the tonsils, raids and ulcerations on the tonsils;
- The bright "glowing" red throat;
- Inability to swallow saliva;
- The increasing in lymph nodes and pain at palpation;
- Sore throat is accompanied with skin rash, severe headache, pain in the ears, stomach pain, discolored urine
Symptomatic treatment of sore throat

**Nonmedicamental treatment**

- **General recommendations**
  (plenty of warm drinks, limiting admission sharp, spicy foods, alcoholic beverages, ventilation and wet cleaning);
- **Physiotherapeutic methods**
  (hot compress, aromovanny, light therapy, inhalation, etc.)

**Medicamental treatment**

- Antiseptics and antibacterial drugs
- Drugs of plant origin

**NB!** Symptomatic treatment last not more than 3 days
Pharmaceutical care

- **Gargling should be conducted at least every 2 hours;**
- **Tablets, lozenges for the treatment of sore throat should not be chewed;**
- **The interval between using of symptomatic drugs should be not more than 2-3 hours. (but not more than 8 times a day);**
- **Restrictions on the use of lozenges by diabetic patients;**
- **After the use of drugs for the treatment of sore throat should refrain from taking food and liquids for 1-2 hours;**
- **Drugs (tablets, lozenges) keep away from children;**
Pharmaceutical care

- Closely follow the method of application of aerosol products specified in the regulations;
- Aerosols should not inhale (restrictions on the use of children under 6 years);
- Aerosol drugs are contraindicated for patients with chronic obstructive pulmonary disease;
- Local anesthetic drugs can cause numbness in the mouth;
- Chlorhexidine is not recommended to combine with iodine drugs;
Rhinitis: reasons

- SARS;
- Adenoids - abnormal growth of nasopharyngeal tonsils;
- Sinusitis (acute and chronic) - inflammation of the paranasal sinuses;
- Vasomotor (allergic) rhinitis;
- Ozena - a chronic disease of the nasal cavity with a sharp atrophy of the mucous membrane;
- Foreign body in the nose;
- Injury to the nasal septum.
Threatening symptoms

- The combination of rhinitis with persistent and long (more than 3 days) fever (38-38,5 °C) or subfebrile for more than week;
- Bloody, purulent, foul-smelling discharge from the nose;
- The combination of rhinitis with headache, pain in the ears, skin rashes;
- Selection of one-half of the nose (especially in children).
Symptomatic treatment of rhinitis (cold disease)

- Compliance with the recommendations of health-building character;
- Rinsing the nose;
- The use of vasoconstrictors (decongestants) topically and in the form of complex drugs for oral administration;
- The use of anti-inflammatory drugs of plant origin.
Symptomatic treatment of allergic rhinitis

- The restriction (exclusion) of contact with the alleged allergen;
- Compliance with the recommendations of health-building character (space ventilation, careful nasal toilet, etc.).
- Rinsing the nose;
- The use of vasoconstrictors (decongestants) locally;
- \( \text{H}_1 \)-blockers for local and oral administration;
- Drugs of kromoglicic acid for topical use;
- Intranasal drugss with corticosteroids (prescribed by a doctor)
Symptomatic treatment of rhinitis

Rinsing the nose:
Isotonic sodium chloride solution, prepared at home;
Infusions and decoctions of medicinal plants;
Drugs: Ekteritsid; salt solutions: Saline, AkvaMaris, Hyummer etc.

NB! The most reliable and safety way to treat rhinitis (shown in pediatric practice, pregnant women)
Pharmaceutical Care

- Vasoconstrictor drugs (agonists) can cause addiction, reactive hyperemia of the nasal mucosa, medicamental rhinitis;
- Caution must be exercised for patients with hypertension, even when using agonists of local action;
- Agonists are contraindicated for patients with arterial hypertension, glaucoma, prostate adenoma
Vasoconstrictor drugs intended for adults can not be used in children (concentration in several times higher);

Children under 3 years of age oil solutions should not be instilled into the nose, as this may lead to penetration of oils into the lungs and cause pneumonia;

Thr atrophy of the nasal mucosa is possible while using prolonged intranasal drugs containing glucocorticoids;

If patient have skin irritation of the nose should be lubricated with vaseline (or other) oil
Pharmaceutical Care

- Sympathomimetics may increase the effects and side effects of antidepressants, inhibitors of MAO, psychostimulants, which results in increasing the blood pressure;

- Sympathomimetics can decrease the effect of antihypertensive drugs, and β-blockers (development of cardiac arrhythmia);

- Sympathomimetics can not be used in combination with sedatives (decreasing the action), other vasoconstrictive agents (increasing action and side effects)
Cough - a protective complex reflex act, characterized by sharp increasing in intrathoracic pressure due to simultaneous voltage and auxiliary respiratory muscles with a closed glottis, followed by the opening of its jerky and forced expiration, at which the respiratory tract is actively removed their contents.
**Antitussives, used for dry cough**

<table>
<thead>
<tr>
<th>Drugs of central action</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Narcotic</strong></td>
</tr>
<tr>
<td>Codeine</td>
</tr>
<tr>
<td>Dextromethorphan</td>
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<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Drugs of peripheral action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prenoxadine hydrochloride</td>
</tr>
</tbody>
</table>
Pharmaceutical care

Dry cough

- Drugs for dry cough treatment are not appointed at elevated bronchial secretions and copious sputum.
- Drugs for dry cough treatment containing codeine and dextromethorphan are not recommended for children under 2 years old, during pregnancy and breast-feeding.
- Drugs for dry cough treatment containing codeine and dextromethorphan in high doses, or used for a long time can cause central nervous system depression and respiratory depression.
- Drugs containing dextromethorphan can cause lethargy, drowsiness, dizziness, and are not recommended for drivers and those persons, whose professions require attention.
- Drugs containing dextromethorphan can not be combined with alcohol because of high risk of CNS and respiratory depression.
Pharmaceutical care

**Wet cough**

- Expectorants and mucolytic drugs cannot be combined with drugs inhibiting the cough reflex (dextromethorphan, codeine, okseladin, glaustin, etc.) and hystamonolitics, thickening mucus (diphenhydramine, suprastin, chlorpheniramine, etc.)

- The clinical effect of mucolytic expectorants, as usual, we have not earlier than 5-6 days of treatment

- Ambroxol may increase the activity of liver transaminases

- Ambroxol is incompatible with alkaline solutions

- Ambroxol increases the penetration of antibiotics into bronchial secretion and bronchial mucosa

- Ambroxol is contraindicated in the first trimester of pregnancy

- Carbocistein treatment can begin with small doses (100-200 mg), since the effect of large doses is unpredictable and can lead to severe hypersecretion

- Carbocistein can be used by infants
Pharmaceutical care

Wet cough

- Carbocistein is contraindicated in the first trimester of pregnancy and the period of breast feeding.
- Carbocistein can be used by patients with bronchial asthma, so do not produce bronchospasm.
- The use of carbocistein for a long period can cause lung bleeding, disorders of the liver and kidney function.
- Antibiotics should be taken after two hours after carbocistein admission.
- Carbocistein can not be used by people with erosive and ulcerative lesions of the gastrointestinal tract.
The main components of drugs for cold treatment

1. Analgetics-antipyretics
2. Antihistaminic
3. Decongestants
4. Antitussives
5. Mycolitics and expectorants
6. Ascorbinic acid

Fever
Rhinitis
Dty cough
Wet cough
Angioprotectors
## Analgetics - antipyretics

<table>
<thead>
<tr>
<th>Drug</th>
<th>Pregnant woman</th>
<th>Children</th>
<th>Old persons</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASA</td>
<td>contrindicated</td>
<td>do not recommended due to Reye syndrome</td>
<td>+</td>
</tr>
<tr>
<td>Paracetamol</td>
<td>carefully</td>
<td>above 3 month</td>
<td>+</td>
</tr>
<tr>
<td>Ibuprofen</td>
<td>contrindicated</td>
<td>above 7</td>
<td>+</td>
</tr>
<tr>
<td>Sodium methamizole</td>
<td>contrindicated</td>
<td>prescribed by a doctor</td>
<td>prescribed by a doctor</td>
</tr>
</tbody>
</table>
Reye syndrome – severe brain and liver damage was described by Reye at 1963. At 90% cases develop in children above 15 years.

Mortality - 80%

Frequency of Reye syndrome in USA among children above 18 years - 1 : 100 000, in Great Britain – 1 : 300 000.

Analgetics-antipyretics

Paracetamol is a drug of choice for children in the dose 15 mg/kg, daily dose – up to 60 mg/kg
Paracetamol

- During long-term application:
  - Hepatotoxic
  - Nephrotoxic
  - Methaemoglobinemia
Pharmaceutical care

- Drugs containing chlorpheniramine, pheniramine, and other antihistamine components are contraindicated during pregnancy and children up to 12 years.
- Drugs containing pheniramine and chlorpheniramine are incompatible with alcohol.
- Drugs containing pheniramine and chlorpheniramine, are contraindicated in patients with prostatic hypertrophy and patients with glaucoma (increased the intraocular pressure).
- Drugs containing chlorpheniramine, pheniramine, and other antihistamine components should not be used during the driving, because they cause a violation of attention and motor coordination.
- Drugs containing antihistamine components of the first and second generations, should not be combined with alcohol, sedatives, hypnotics, tranquilizers, antipsychotics, narcotic analgesics.