

# HEALTH LITERACY MODULE

## Rational drug use and Polypharmacy

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# Do you need medications?

- **Elderly people do not need to take medication for every medical problem**
- **If possible, do not take medication**
- **Drugs that affect quality of life should be considered**
- **Certain and accurate diagnosis should be made before treatment**

# Rational drug use

**According to the clinical findings and individual characteristics of the subjects**

- **Appropriate drug,**
- **At the appropriate time and dose,**
- **Most cost effective,**
- **Easy to provide.**

# Common diseases

- Hypertension (Heart, brain, eye, kidney, vessels )
- Diabetes Mellitus (Eye, kidney, heart, nerves, vessels)
- Cholesterol elevation (Heart, brain, kidney vessels)

**1-Doctors give you medicines to protect you from poor results**

**2-In these diseases, after treatment has started, it should continue for almost a lifetime (your doctor adjusts the type and dose of medications)**

**3-Such medicines help keep the disease within normal limits, don't completely eliminate**

# Commonly used drugs

- **Cardiovascular drugs**
- **Analgesic**
- **Sedatives and sleeping medicines**
- **Antibiotics**
- **Epilepsy medications**
- **Diabetes mellitus medications**
- **Associated with respiratory system**
- **Hormones**

# Antibiotics

- **When there is a complaint, it should not be started immediately.**
- **The antibiotic for the virus is different from what we know.**
- **It should start under doctor's supervision**
- **An unnecessary antibiotic may be ineffective when it is actually needed.**
- **Increased cost for the country's economy**
- **It should be taken in sufficient dose and time when started.**
- **Today, oral antibiotics are as effective as those in the form of injection.**

# Analgesics

- Do not take medication immediately for every pain
- Some analgesics reduce the effect of blood pressure and heart medications.
- Increases blood pressure, causes heart failure to exacerbate
- Can harm kidneys and liver
- Can cause stomach ulcer and stomach bleeding
- Can make blood cells breakdown
- It is best to start at the doctor's check.
- In the elderly, "Paracetamol" group drugs should be priority



# Influenza drugs

- Influenza medicines are not antibiotic-like medicines against influenza (not effective against direct virus)
- Reduces flu symptoms
- Reduces the effects of hypertension and heart medications
- The doctor should start at checkup.
- Abundant liquid, vitamins and rest are important

# Urinary tract infection and antibiotics

Even if there are laboratory findings suggestive of urinary infection,  
if there are no urinary complaints

**“ Do not take ANTIBIOTIC treatment”**  
**(Excepting some states)**

# Sleeping drugs

- **Elderly people are more difficult to enter sleep than young people.**
- **Early sleep, early rise, sleep duration is shortened, daytime sleepiness can be**
- **Internal problems should be sought under insomnia, or sleep hygiene should be considered**
- **Sleep medications have side effects such as drowsiness, memory impairment, falling**
- **Even herbal medicines and teas should not be taken except for doctor's advice.**

# Vitamins

- **Uncontrolled intake of vitamins A, D, E, and K may be harmful.**
- **B12, folic acid, vitamin D levels are examined**
- **Vitamin D need to get enough sunlight for vitamins.**
- **Omega-3 can be recommended for people who do not eat fish or have high cholesterol (Use blood thinners carefully))**
- **There are vitamins suitable for daily necessities in nutrition products given to elderly people who can not take food.**
- **If we are eating regularly and balanced: we are getting what we need ...**

# Constipation and drugs

- In advanced age, both intestinal and leg motor activities are decreased, low water drinkable fiber foods are consumed low, many drugs are drunk
- Advanced age, weight loss, bleeding, family history---- > Colonoscopy
- Treatment: Bowel training, increase water consumption, exercise, fibrous food
- Constipation drugs: It disrupts the absorption of food and other medicines, reduces minerals, disrupts kidney function

**BUT**

- Give them what you need to use narcotics like morphine !!!!

# Over The Counter Drugs

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# Some Herbs and Their Results Interacting with Drugs

Drug	Herb	Result
<b>Drugs that provide potassium excretion (cortisol and diuretic)</b>	<b>Aloe Licoric</b>	<b>Increases potassium loss from intestines</b>
<b>MAO Inhibitors (Some depression medications)</b>	<b>Efedrin</b>	<b>Palpitations, restlessness, hypertension</b>
	<b>St. John's Wort, Hypericum perforatum</b>	<b>May form unwanted interactions with antidepressants</b>
	<b>Ginseng</b>	<b>Restlessness</b>

# Some Herbs and Their Results Interacting with Drugs

Drug	Herb	Result
<b>Phenothiazines (sedatives and sleeping pills)</b>	<b>Efedrin, Evening Primrose Oil</b>	<b>It causes an increase in hypotension and heart beat, and decreases energy.</b>
<b>Hypoglycemic agents (glyburide, metformin, insulin)</b>	<b>Ginseng</b>	<b>Hypoglycemia effect increases</b>



## Some Herbs and Their Results Interacting with Drugs

Drug	Herb	Result
<b>Antihypertensive agents</b>	<b>Efedrin</b>	Potentially increases blood pressure
	<b>Golden-seal</b>	Changes in blood pressure (increase or decrease)
	<b>Black cohosh</b>	Hypotension
	<b>Licorice</b>	It can increase water and salt retention. It may remove the effects of antihypertensive drugs. Increases the potential for blood pressure rise
	<b>Yohimbin</b>	It can lead to hypertension crisis.
	<b>Ginkgo biloba</b>	When used in combination with thiazide diuretics, it may increase blood pressure.

## Some Herbs and Their Results Interacting with Drugs

Drug	Herb	Result
<b>Cardiac glycosides (digoxin)</b>	Aloe Licorice	Increases toxicity risk by increasing potential potassium excretion
	Hawthorn, Figwort, Mistletoe, Golden seal	Reduce or increase cardiac effects
	Siberian ginseng	Increases digoxin levels.
<b>Aspirin</b>	Ginkgo biloba	Risk of bleeding
<b>Antiplatelet and anticoagulant drugs (Warfarin, Aspirin, Heparin, NSAID, COX-2 inhibitors)</b>	Wedding Plum, Daisy, Fish oil, Vitamin E, Ginger, Golden seal, Ginkgo, Garlic, Feverfew, Ginseng	They increase the risk of bleeding or reduce the potential for anticoagulant effect.

# Drug doses

- **Drugs should be started at low doses in elderly**
- **The dose should be increased by long intervals and small amounts**
- **Pay attention to drugs with kidney excretion**
- **Drugs that have little effect on brain function should be preferred**
- **Individual treatment should be used**

# Elderly and drug side effect

- **Drug side effects in elderly patients are 2-3 times more common in younger patients**
- **Among the reasons for the elderly to visit the hospital, 28% constitute drug related problems**
- **70% of these drug-related applications are due to drug side effects.**

# Drugs most frequently associated with adverse reactions in the elderly

- Psychotropic drugs
- Benzodiazepines
- Anti-hypertensive agents
- Diuretics
- Digoxin
- NSAIDS
- Corticosteroids
- Anticoagulants
- Antidiabetics

# Polypharmacy

- Use of more than 4 drugs
- More drug use from indication
- At least one unnecessary drug use

# Polypharmacy in the Elderly

## WHY?

**The elderly use more drugs because illness is more common in older persons**

- **Chronic diseases: DM, HT, HL,CVD, CHF, COPD, OA, Endocrine Disorders, Neurologic Disorders, Gastrointestinal Disorders, Cancers....**
- **Geriatric Syndromes: Dementia, Incontinence, Depression, Sarcopenia, Malnutrition, Sleep Disturbance....**

# Results of polypharmacy

- Drug side effects
- Drug-drug-disease interaction
- Treatment incompatibility
- Increase in cost
- Increased admission to the hospital
- Increased admission to the nursing home
- Cognitive dysfunction, sedation
- Fall
- Hip fracture
- Weight loss
- Death



# Effects of polypharmacy

Drug reactions in the elderly often produce effects that simulate the conventional image of growing old

- Depression
- Nervousness
- Incontinence
- Fatigue, malaise
- Insomnia
- Unsteadiness
- Drowsiness
- Dizziness
- Falls
- Confusion

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# Prescription cascade

Avoid treating adverse reactions/side effects of drug with more drugs

Examples:

- Drugs for Alzheimer's Disease.....**Incontinence**

Anticholinergic drugs..... **Confusion**..... Antipsychotic.....**Parkinsonism**.....

Parkinson Disease drugs.... **Hypotension, Falls**

- Flu drugs....**Hypertension**....Hypertension drugs ( for example calcium-channel blocker)
- Edema from a calcium-channel blocker .....Diuretic.... **Kidney Function Disorder**

# For patient compliance

- Simple dosing scheme should be selected
- Less frequent dose preferred
- The label and description of the medicines must be legible
- Drugs should be placed in easily opened containers
- What medicine for what disease.... Must be written
- Patient and / or close treatment chart
- Explain why drugs are given
- Remaining drugs should be destroyed
- Treatment plan should be done regularly, drugs that are not needed should be cut off

# For proper drug use

- **WRONG: 'Each medical problem must be solved with medication'**
- **No drugs other than doctor's advice should be taken.**
- **When the doctor tells the drugs, he should be asked when it is not understood, the doctor should be asked for drugs use scheme.**
- **Which drug is being used for which illness? What is the side effect of the drug? When to visit to a doctor ? It should be known**
- **Herbal drug may be harmful, may interact with the other routine medication. ATTENTION !!!**
- **The drug that is good for your neighbors can take you to the hospital !!!**
- **If the drug is a side effect, it is better to go to the doctor who started**
- **Take all of your medications with you on your way to the doctor**

# References

**1-Hazzard's Geriatric Medicine and Gerontology, Seventh Edition 7th Edition, McGraw Hill Medical Books.**

**2- Current Diagnosis and Treatment: Geriatrics, 3/e (Current Geriatric Diagnosis and Treatment) 3rd Edition**



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