

Primary Health Care Initiatives (PHCI) Project  
Contract No. 278-C-00-99-00059-00  
Abt. Associates Inc.

## **USE OF MEDICATION IN THE ELDERLY**

### **LEARNING OBJECTIVES**

- Review the prescribing practices in the elderly
- Understanding the pharmacodynamics and the pharmacokinetics of drugs in this age group
- Understanding the increase of significant drug reactions in the elderly

### **TEACHING STRATEGIES**

- Interactive lecture
- Focus on special problems of the elderly, and guidelines for drug use
- Use role play to practice counseling an elderly patient about his/her medications

### **MATERIALS AND EQUIPMENT NEEDED**

- Overhead projector and transparencies
- White board and markers

### **LEARNING POINTS**

- Prevalence of medication use in the elderly
  - Average number of different medications used daily – 3-5 drugs
  - Many elderly will regularly take medications not prescribed, such as aspirin, paracetamol, antacids
  - Risk of interactions between drugs very high
- Most common medications taken regularly by the elderly
  - Anti-inflammatories, such as ibuprofen, aspirin, diclofenac
  - Anti-hypertensives
  - Anti-diabetics
  - Antacids
  - Laxatives for constipation
  - Sedatives for sleep
- Pharmacodynamics of medication in the elderly
  - Aging causes increased sensitivity to most medications because of:
    - Decreased water in body, causes increased concentration of medication in blood
    - Aging tissues most sensitive to medication effects and side effects
    - Decreased excretion of medication through kidneys
    - Decreased stomach and intestinal motility, causes more rapid absorption of medication
    - Decreased fat in tissues, so fat soluble medications are not bound to fat, but circulate in blood

- o Decreased ability of the liver to metabolize the medication

- Special problems with medication use in the elderly
  - Multiple drugs used – increased risk of interactions
  - Complicated medication program – some meds to be taken with meals (like NSAID) while other taken before meals; OR - one medication every 4 hours while another every 6 hours
  - Multiple health problems – increased risk of one medication adversely affecting another health problem
  - Decreased vision – may not be able to accurately distinguish one pill from another
  - Forgetfulness – may take multiple doses of a medication forgetting about previous doses
  - Increased sensitivity to effects and side effects of medication
  - Misunderstanding about what medications are to be used for – ie, taking an antibiotic for a headache
  - Saving old medications “just in case the problem comes back”, and then taking old medication without consulting a doctor first
  
- Drugs to watch with special caution in the elderly

<b>Medication</b>	<b>Potential Problems and Cautions</b>
Sedatives (antihistamines, diazepam, phenobarbital)	Increased sleepiness, confusion, prolonged effect because of decreased excretion and metabolism
Anti-hypertensives (B-blockers, Aldomet)	Increased sensitivity to hypotension, dizziness and falling, confusion
Cimetidine	Confusion, especially at night-time
Anti-diabetics (glyburide)	Increased sensitivity to hypoglycemia, especially if ill and not eating well
Metformin	Increased possibility of lactic acidosis with confusion, vomiting, rapid respirations
Anti-inflammatories (NSAID, aspirin)	Greatly increased risk of gastric ulcer and bleeding, risk of kidney failure
Anti-histamines, decongestants (cold medicines)	In men (most elderly men with some degree of prostatic hypertrophy) – risk of urinary obstruction

### **GUIDELINES FOR MEDICATION USE IN THE ELDERLY**

- Limit number of medications used
- Reduce dose when possible; begin with ½ of usual dose for medication like anti-hypertensives, anti-diabetics, sedatives
- Review medications regularly
- Simplify medication programs; eliminate unnecessary medications, use medicines that can be taken only once or twice daily, consider long-acting patches or injections when possible
- Explain clearly and slowly what medication is for, and how to take it

- Check to be sure patient is taking medications as prescribed
- Ask about factors that affect the proper taking of medicine – can patient see adequately to distinguish pills, is patient often confused, are bottles clearly marked
- Ask about medicines patient may have obtained from other sources – purchased at private pharmacy, gift of family member or friend.
- Dispose of unnecessary or outdated medicines.

#### CRITICAL ELEMENTS FOR EVALUATION OF COMPETENCE

- Describe the changes in the elderly that cause increased sensitivity to medications
- List the most common medications that can potentially cause problems in the elderly
- Describe the basic guidelines for monitoring medication use in the elderly