

COURSE OUTLINE

Pharmacology and the Older Adult

Course Description

NR 233. Pharmacology and the Older Adult. 1 hour credit. Prerequisites: NR 105 with a C or better, or RN/LPN, or instructor approval. This course will enable the student to understand the impact pharmacological issues have on the care of the older adult. The student will learn how normal physiological changes and common health problems alter the effects of drugs in the older adult. Issues of polypharmacy, lifestyle and environmental factors related to drug therapy will also be explored. Butler Community College is approved as a provider of continuing education by the Kansas State Board of Nursing. This course may be taken for continuing education credit in lieu of college credit hours.

Course Relevance

Recognizing the increased number of older adults in the healthcare system, nurses need to have specialized knowledge about how older adults respond to drug therapy due to normal physiological changes and common health problems. The information learned in this course regarding the effect of drugs and their impact on the older adult will enable the student to care more effectively for older adults in his/her clinical practice.

Required Materials

Ebersole, P. Hess, P., & Luggen, A.S. (2004). *Towards healthy aging: Human needs and nursing response*. (6th ed.). St. Louis, MO: Mosby.

Learning Outcomes

The intention is for the student to be able to

1. Assess and analyze the medication regimes of older adults recognizing the potential for complications due to physiologic aging changes, common health problems, lifestyle, economic, environmental and social factors
2. Develop a patient education plan for an older adult on multiple medications

Primary Learning PACT Skills that will be DEVELOPED and/or documented in this course

Through the student's involvement in this course, he/she will develop his/her ability in the following primary PACT skill areas:

1. Problem Solving
 - Through the analyses of case studies and written discussion, the student will develop problem solving skills by devising a patient education plan for older adults taking multiple medications.

Secondary skills (developed but not documented):

Internet Use

Computer Literacy

Major Summative Assessment Task(s)

These learning outcomes and the primary Learning PACT skills will be demonstrated by

1. Developing a patient education medication plan for an older adult taking multiple medications including identifying the potential for polypharmacy, adverse drug effects, life style and environmental factors influencing drug effects and noncompliance issues

Course Content

- I. Themes – Key recurring concepts that run throughout this course:
 - A. Normal physiological changes in the older adult
 - B. Pharmacokinetics
 - C. Pharmacodynamics
 - D. Adverse effects and drug interactions
 - E. Alternative and Complementary Medicine
 - F. Nursing process
- II. Issues – Key areas of conflict that must be understood in order to achieve the intended outcome:
 - A. Gerontology nursing knowledge versus general nursing practice
 - B. Older adults may have many health providers without collaboration between them
- III. Concepts – Key concepts that must be understood to address the issues:
 - A. Collaboration among health care providers to optimize care of the older adult
 - B. Polypharmacy
 - C. Impact of gerontology nurses on the care of older adults
 - D. Difference in presentation of common health problems in older adults
- IV. Skills/Competencies – Actions that are essential to achieve the course outcomes:
 - A. Explain how normal physiologic changes in the older adult alter the pharmacokinetics and pharmacodynamics of drug therapy
 - B. Define polypharmacy and strategies that minimizing polypharmacy in the older adult
 - C. Describe the adverse drug effects that are most likely to occur in the older adult due to normal physiologic changes and patient variables
 - D. Explain the relationship between the diet, use of over the counter medications, complementary therapies and prescribed drugs and adverse drug effects and drug interactions
 - E. Assess the patient's health status, lifestyle, diet, cultural and environment factors and the impact drug therapy has on the older adult
 - F. Develop a nursing care plan based on assessment data for drug therapy in the older adult
 - G. Identify nursing interventions to maximize the therapeutic effects of the drug therapy and minimize the adverse drug effects

H. Develop a teaching plan for an older adult on multiple medications

Learning Units

- I. Normal physiological changes in the older adult that influence drug therapy
 - A. Cardiovascular
 - B. Respiratory
 - C. Gastrointestinal
 - D. Renal
 - E. Hepatic
 - F. Body mass/fluid balance

- II. Pharmacokinetics
 - A. Absorption
 - B. Distribution
 - C. Metabolism
 - D. Excretion

- III. Pharmacodynamics
 - A. Drug action on target cells
 - B. Variables
 1. Drug related variables
 2. Patient related variables

- IV. Adverse effects of drugs

- V. Over the counter medications

- VI. Herbal products

- VII. Polypharmacy

- VIII. Common health problems in the older adult that influence drug therapy
 - A. Cardiovascular disorders
 - B. Respiratory disorders
 - C. Gastrointestinal disorders
 - D. Renal disorders
 - E. Hepatic disorders
 - F. Endocrine disorders
 - G. Fluid balance disorders
 - H. Neurological disorders
 - I. Musculoskeletal disorders
 - J. Immunologic disorders
 - K. Sensory disorders

Learning Activities

Learning activities will be geared toward achieving the intended course outcomes through textbook readings, online tutorials, study guides, case studies, nursing journals and discussion board participation with class members and instructor.

Grade Determination

The student will be graded on assessment tasks, written assignments, quizzes, discussion participation and other methods of evaluation at the discretion of the instructor.