Pharmacology and Nursing Process: (Nursing Process in Drug Therapy)

Review of the nursing process

Nursing process is a systematic, rational, and continuous method of gathering and using information to planning, providing, and evaluating individualized nursing care to optimize the administration of medications.

Nursing Process consisting of problem-solving steps that must be involved in all steps taken by the nurse in caring for a patient.

Nursing process can be viewed as a cyclic procedure that has five basic steps:

1. **Assessment,**
2. **Analysis (including Nursing Diagnoses),**
3. **Planning,**
4. **Implementation,**
5. **Evaluation**.

Nursing process in the drug therapy

Each part of nursing process is applicable, with modification, to the administration of medications.

Nursing process guides nursing decisions about drug administration to ensure the patient's safety, and meet medical and legal standards.

The nursing process is **Crucial** for safe medication administration. "Crucial" = the greatest significance in determining an outcome.

Application of the nursing process in drug therapy is directed at individualizing treatment, which is critical to achieving the therapeutic objective.

Assessment

Assessment involves collecting data (objective and subjective data) about the patient.

Data collection from the patient, significant others, medical records (Physical examination, Laboratory and diagnostic tests, Medical and drug-use histories)

In addition, in the assessment step the nurse gathering data about the drug(s) that he or she is responsible for administering and monitoring.

These data are used to identify actual and potential health problems.

Assessment including:

1. **Initial or pre-administration assessment and**
2. **Ongoing assessment**

Initial or pre-administration assessment – Collection of base line data before administration of drugs to identify the variable that can affect an individual's responses to drugs and evaluate the effectiveness of the drug and the presence of any adverse reactions, and has 4 basic goals:

1. Collection of baseline data needed to evaluate therapeutic responses.
2. Collection of baseline data needed to evaluate adverse effects.
3. Identification of high-risk patients
4. Assessment of the patient's capacity for self-care - applies more or less equally to all drugs

Ongoing assessment – Collection of data after administration of drugs and has 2 basic goals:

1. **Collect data related to effectiveness of the drug.**

Objective data include blood pressure, pulse, respiratory rate, temperature, weight, examination of the skin, examination of an intravenous infusion site, and auscultation of the lungs……...

Subjective data include any statements made by the patient about relief or non-relief of pain or other symptoms after administration of a drug…..

2. **Monitor for adverse drug reactions**

Analysis & Nursing Diagnosis –What is the problem???

In this step, the nurse analyzed database that collected previously to determine actual and potential health problems associated with drug therapy and formulates one or more nursing diagnosis that nurses are qualified and licensed to treat.

Nursing diagnosis used to identify patient problems that can be solved or prevented by **independent nursing actions** – (actions that do not require a physician's order and may be legally performed by a nurse) and should be individualized according to the patient's condition and the drugs prescribed .

Nursing diagnosis may apply to a specific group or type of drug .

Objectives of nursing analysis in drug therapy:

1. Judgment of appropriateness of the prescribed regimen.
2. Identifying potential health problems that the drug might cause.
3. Determining the patient's capacity for self-care.

- A complete nursing diagnosis consists of two statements:
  1. a statement of the patient actual and potential health problems followed by
  2. a statement of the problem's probable cause or risk factors.

The two statements separated by the phrase **related to** –

Example of a drug-associated nursing diagnosis: Noncompliance with the prescribed regimen [problem] related to inability to self-administered medication [the cause].

- North American Nursing Diagnosis Association **(NANDA)** has approved a list of diagnostic categories to be used in formulating the nursing diagnosis.

The most frequently used **Nursing Diagnosis** related to the administration of drugs developed by NANDA, include:

1. Effective Therapeutic Regimen Management
2. Ineffective Therapeutic Regimen Management
3. Deficient Knowledge
4. Noncompliance
5. Anxiety
6. Patient is at risk for injury related to adverse effects of medications.

Planning: (how to manage the problem)

Once data have been analyzed and nursing diagnosis are formulated, the planning phase begins – the nurse develops a written plane directed to solving or preventing the problem identified in analysis.

The plan must be individualized for each patient.

Good planning will allow you to promote beneficial drug effects. E.g., good planning will allow you to anticipate adverse effects – rather than react to them after the fact.

Planning is a going process that must be modified as new data are gathered.

During planning phase, the goals and outcome criteria are formulated to identify the expected behaviors or result of drug therapy.

Common expected patient outcomes related to drug administration, in general, include:

- Greater accuracy in drug administration,
- Patient understanding of the drug regimen, and
- Improved patient compliance with the prescribed drug therapy

Planning consist of four major components:

1. Defining goals
2. Setting priorities
3. Identifying interventions
4. Establishing criteria for evaluation

Defining goals: the objective of planning is to formulate ways to achieve goal of drug therapy = maximum benefit (maximize therapeutic response) with minimum harm (minimizing or preventing adverse reactions and interactions).

Setting priorities: Highest priority is given to life threatening conditions. (e.g., anaphylactic shock, ventricular fibrillation). These may be drug induced or the result of disease.

Identifying interventions: the heart of planning is identification of nursing interventions – nursing interventions to drug administration, for patient educations , to enhance therapeutic effects, and to minimize adverse effects and interactions.

Establishing criteria for evaluation:

we need to established objective criteria by which measure desired drug responses. Without such criteria, we could not determine if our drug was doing anything useful.

Implementation (Interventions)

Implementation: actions undertaken to meet a patient's needs, such as administration of drugs, comfort measures, or patient teaching by carrying out the planned activities.

Implementation is a natural outgrowth of the assessment and planning phases of the nursing process.

Implementation begins with carrying out the interventions identified during planning.

Implementation of the care plan in drug therapy has four major components:

1. Drug administration – perform any nursing actions before administration of a drug. Administer drug according to the "Six Rights.
2. Patient education – teach or educate patient/family about drug, disease process, treatment regimen, …etc.
3. Intervention to promote therapeutic effects.
4. Intervention to minimize adverse effects.

Certain medications will required specific actions at the time of administration.

Accordingly, the nurses should review the collecting data obtained on assessment and considers any additional data, before administering drugs, such as vital signs, or statements made by the patient…etc.

The decision of whether to administer the drug is based on an analysis of all information.

Evaluation:

This step is performed to determine the degree to which treatment has succeeded and accomplished by analyzing the data collected following implementation.

Some outcomes can be evaluated within a few minutes of drug administration (e.g., relief of acute pain after administration of an analgesic), but most require longer periods.

Evaluation should identify those interventions that should be continued, those that should be discontinued, and potential new interventions that might be implemented.

Evaluation completes the initial cycle of the nursing process and provides the basis for beginning the anew cycle.

When related to the administration of a drug, this phase of the nursing process is used to evaluate the patient for:

- effectiveness of the drug regimen—therapeutic responses
- adverse drug reactions and interactions

- compliance (adherence to prescribe regimen)
- patient/family's understanding of the drug regimen.
- satisfaction with treatment

How frequently evaluations are performed depends on the expected time course of therapeutic and adverse effects.

Like assessment, evaluation is based on laboratory tests, observation of the patient, physical examination, and patient interviews. The conclusions drawn during evaluation provide the basis for modifying nursing interventions and the drug regimen.

After evaluation, certain other decisions may need to be made and plans of action implemented.