UNIT 4  MANAGEMENT OF DRUGS

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4.0 OBJECTIVES

After going through this unit, you should be able to:

- explain the meaning of drugs;
- list the purposes of drug management;
- promote wise usage of drugs;
- prevent drug wastage;
- order, store and stock the drugs properly;
- prepare a list of life saving drugs; and
- identify the role as a nurse in drug management.

4.1 INTRODUCTION

"Management of drugs" in any health institution is an integral part of the overall management of the unit/ward. You know that drugs can be quite helpful but can be harmful too. Therefore you should possess knowledge of drugs and skills of administering the drugs.

Nurses and physicians are held legally responsible for safe and therapeutic of drug administration. Nurses are responsible legally, morally and ethically for every drug we administer or have administered no matter who actually prescribes it. In fact all members of the health team may be held responsible for any problem caused to the client. The increase in litigation against the nurses and physicians indicates that the society is aware of their rights. Clauses have been brought against health professionals for drug errors that caused loss of life and permanent injury through the forum of "Consumer Protection Act" and permits compensation to those harmed or injured. The law is protective force for the knowledgeable, competent and responsible nurses. We can safeguard the patient from the drug induced harm by following these points:

- Use correct technique and precaution.
- Observe and chart drug effects explicitly.
- Keep abreast with latest knowledge.
- Refer professional literature of pharmaceuticals, pharmacists and other colleagues.
Question the drugs order that is not clear or that appears to contain some error.

Refuse to administer or refuse to allow others to order or administer a drug if there is a reason to believe that it will be harmful.

We are entrusted with the responsibility of hanging potent and habit forming drugs. Therefore, we should not abuse or misuse the responsibility and authority of administration of drugs. Drugs are comforting and life saving. If they are used unwisely or with undue dependence they can lead to tragedy. Close attention to all the details of drugs we administer helps us to learn to identify them, tailor their application and spot errors before they occur.

Drugs are very expensive. So wasting or misusing of the drugs will lead to shortage of supply and patients cannot be treated properly. A competent and diligent nurse will make intelligent observation with moral integrity and factual knowledge of which she can manage the drugs wisely in her unit.

Learning is an active process, therefore we shall learn about the definitions of drug, purposes of drug management, life saving drug list, ordering, storage and usage of drugs in this unit. Let us start with definitions.

4.2 MEANING AND DEFINITION

The word “Drug” has originated from a French word “Drogue” meaning a dry herb. It is the single active chemical entity present in medicine that is used for diagnosis, prevention, treatment and cure of disease.

Definitions

A drug is any substance used in diagnosis, cure treatment and prevention of a disease. The term medicine is also used interchangeably the ‘drugs’.

WHO (1966) defines “Drug is any substance or product that is used or is intended to be used to modify or explore physiological system or pathological states for the benefit of the recipient. The term “Drug” is being also used to make addictive substance. However, this unit is restricted to only the honoured term.

Essential Drugs

WHO has defined essential drugs as “those that satisfy the health care needs of majority of the population, they should therefore be available at all times in adequate, amounts and in appropriate dosage forms”.

Orphan Drugs

These are drugs or biological products for diagnosis, treatment or prevention of a rare chronic disease or condition for which there is no reasonable expectation that the cost of developing and marketing it, will be recovered from the sales of that drug e.g. dextran sulfate, acetyl-cysteine, baclofen, dismopressin. These drugs are life saving for some patients; they are not commercially available.

Check Your Progress 1

1) Define drugs.

2) Define essential drugs.
4.2.1 Purposes of Management of Drugs

The purpose of management of drugs is to use drugs wisely and avoid wastage in order to have enough for patient's use. In doing so, we need to remember the following:

1) To provide specified drugs in required quantity and quality to the users or patients as and when required.
2) To promote wise usage of drugs.
3) To avoid wastage of drugs.
4) To order, stock and store the drugs safely.
5) To issue and control the use of drugs.
6) To cut down cost of drugs through standardization.
7) To increase efficiency of the institution/organization.
8) To increase knowledge and proficiency of health team members.

4.3 ORDERING, STOCKING AND STORING DRUGS

You have learnt the definition and purposes of drugs in the previous sub-section, now you will learn about ordering, stocking and storing of drugs.

In the hospitals the overall responsibility for the order and supply of drugs lies with the pharmacy department and that will be the central place in handling. Nurses responsibilities may fall in the following areas:

i) Make cost estimates.

ii) Write a requisition for drugs of required quantity, dosage, form and strength.

iii) Obtain drugs, store them, prepare and administer them to the patient. Record the administration and observe the effects.

Drugs which are of frequent use in a ward or likely to be required in an emergency are usually supplied as ward stock. Traditionally nurses are responsible for ordering and stock of drugs, either by writing out a list of items required or by using a pre-printed order form. In many hospitals a pharmacist checks and supplies drug to an agreed stock level on a weekly or biweekly basis. Whichever system is used the purpose must be to avoid both wasteful overstocking and running out of drugs at times when the pharmacy is closed.

Controlled Drugs

Drugs of addiction is supplied only against the signature of a ward in-charge of the ward. The requisition must have the name, form, strength and quantity of drug required e.g. morphine, pethidine, etc. The nurse in-charge should have control on other drugs such as night sedatives, tranquillizers, antidepressants etc. and should take due precautions while ordering those drugs.

Stocking Drugs

All drugs are potentially dangerous and all must be stored in locked cupboards reserved specifically for drugs. In the pharmacy or medical store they should have a graded temperature zone to store various items separately e.g. injections, tablets, local use agents, poisons from non-poisonous inflammable from non-inflammable. Drugs and medicines are grouped according to the pharmacological actions and according to the classification.

Systematic stocking of drug is an essential part of drug management. Drugs received are recorded in a stock ledger or on stock cards. In stock ledger each item has a separate page
in the book, whereas in the stock card system each item is in a separate loose card. Advantage of having this shelf next to the drug stock to which it refers. This is very convenient method for keeping record of all drug issues especially if frequent issues are there.

Storage of Drugs

A large variety of drugs needs to be stored at temperature of 15-20° C. Sera, vaccines need to be stored at temperature of 2-10° C. Therefore, cool and cold room conditions should be made available in all pharmacies/medical stores and strict monitoring of temperature done by the store in-charge and the supervisor.

Storage at Ward/Unit Level

1) The ward in-charge is legally authorised to possess controlled drugs for use in her ward/unit. All other drugs issued to the ward are in her custody.

2) Keys of the drug cup boards must be held by an in-charge/staff nurse.

3) Drugs in current use may be stored in drug trolley provided and these are locked.

4) Pharmaceutical preparations, such as lotions, disinfectants are also dangerous if misused and must be locked in cup boards.

5) Label each container clearly and properly with adequate instructions of storing.

6) Oil and similar substances should be kept in a cool place.

7) Drugs to be used externally should be in a separate place from those to be taken internally.

8) Narcotic drugs and any drug under legal regulation should be kept in a definite place under lock and key.

9) Poison should be kept entirely away from other drugs and clearly marked "POISON".

If your hospital has a policy to keep each patients medicines separately, with no stock drugs being used it has its own advantage. However, few precautions need to be kept in mind:

- Each patient must have a separate cupboard or shelf area to keep his medicine; so that, when he is discharged, the unused medicines may be returned to the pharmacy promptly to prevent confusion with the next patients drugs.

- Designate the medicines with patients name and not with the bed numbers and room numbers.

**Note:** Provision need to be made in governmental and commercial laboratories for analysing the chemical composition of drugs for quality assurance.

4.4 ISSUE OF DRUGS AND THEIR CONTROLLED USE

Drugs are issued from pharmacy/drug store to the ward/unit. They are issued regularly and in required quantities. This enables us to monitor and control drug usage. The frequency of drug issue depends on the circumstances and the type of drugs. Drugs which are in constant use are best issued weekly. Issue the drugs on basis of First In First Out (FIFO) and regular checking of expiry dates on drugs contribute to the safety. The drugs which have an expiry date earlier should be identified with similar mark and should be issued or used first. Keep dangerous drugs in locked cupboard and maintain a register for issues and balances. Drugs on the "dangerous drug list" are controlled by special laws and these are issued only as prescribed by the doctor for the individual patient.

Record each issue on the stock/card ledger, calculate the remaining balance and check against what remains on the shelf or cupboard.

Monitoring and sustenance of the quality and safety of drugs and solutions.

- Check when stocks need to be replenished.

- Monitor drug use against patient treatment.
• Promptly identify discrepancies in drug usage if any.
• Indent, receive, store, check and timely replenish all necessary drugs and solutions.
• Maintain emergency and buffer stock.

Maintenance of an Emergency Trolley in Each Ward/Unit with Life Saving Drugs

It is mandatory that all wards/units maintain an emergency trolley with emergency life saving drugs, solutions, equipment and supplies. The drugs used for the emergencies and the form and route in which they are used depend upon the facilities available and the competence of the nurse who can identify the conditions and administer the drugs safely.

4.5 MAINTENANCE OF LIFE SAVING DRUGS

Certain drugs are used when patients become very ill/sick and immediate use of these drugs can save the life of the patient. It is very important that these vital drugs are always available in the stock to manage the emergencies. Therefore, as an in-charge you need to:

• Make a list of all vital and life saving drugs.
• Keep these together on one shelf of the emergency trolley.
• Check the shelf frequently at least three times a day as the shift duties change and whenever drugs are used.
• Replace the stock by ordering new supplies.
• Check for discrepancy in the use of drugs.

An example of an emergency or life saving drug list for a general ward is:

1) Injection Adrenaline
2) Injection Fortwin
3) Injection Aminophylline
4) Injection Hemacele
5) Injection Atropine
6) Injection Hydrocortisone
7) Injection Avil
8) Injection Preinorm
9) Injection Calcium Gluconate
10) Injection Pottasium Chloride
11) Injection Chlorpromazine
12) Injection Lasix
13) Injection Chloroquin
14) Injection Phenargan
15) Injection Dextrose 50%
16) Injection Diazapam
17) Injection Digoxin
18) Injection Xylocaine 2%
19) Injection Dopamine
20) Injection Xylocaine with Adrenaline

4.6 ROLE OF NURSE IN DRUG MANAGEMENT

You have learnt about drugs in reference to orderings stocking and storage of drugs. Now in this section we will acquaint you about your role is management of drugs.
Drugs are expensive and powerful therefore you should have enough knowledge about them and should develop a positive attitude towards their use.

i) Hold staff meeting to educate them on causes of drug wastage.

Common causes of drug wastage are as follows:

- Ordering more drugs than needed leads to expiry of some drugs.
- Exposing drugs to heat, light and damp environment, contrary to the instruction.
- Issuing too many drugs at the same time, which causes stealing or extravagant use.
- Handing over drugs to the patient who may throw away or forget to take them.
- Using drugs blindly or on trial basis.
- Too many different drugs are used on one patient at one time.
- Using very expensive drugs when cheap and standard drugs are effective and available.

ii) Inform the staff about the cost of various drugs along with their usage.

iii) Make the hospital formulary available to staff which contains common drugs used, their uses and side effects.

iv) Put charts and posters of common drugs and its correct doses in the wards.

v) Discuss one new drug each week in staff meeting.

vi) Educate the patients how to take their drugs, the use of drugs, dosage, regularity and duration etc.

vii) While administering the drugs keep basics of drug administration in mind.

These are few points, which promote wise usage of drugs and prevents and controls wastage of drugs.

Check Your Progress 2

1) Explain common causes of wastage of drugs.

2) Write the role of nurses in drug management.

4.7 LET US SUM UP

In this unit we have discussed about how to manage drugs effectively and efficiently, we have also learnt about the purposes of drug management, importance of maintaining life saving drugs. We have concluded the unit with the role of nurses in drug management including common causes of wastage of drugs. We have discussed how to safeguard the patient from the drug induced harm by keeping the following points in mind:

- Use correct techniques and precautions.
- Observe and chart effects of the drugs clearly.
- Keep current knowledge of effect of drugs.
- Question/clarify if the order is not clear.
Further, on ordering drugs, we have also discussed:

- How to control the drugs?
- How to stock and store the drugs?
- How to issue the drugs and the importance of maintaining life saving drugs in the emergency trolley?

In this unit, we have also familiarised you with the definitions and related terms in drug management.

### 4.8 KEY WORDS

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
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<tbody>
<tr>
<td>Discrepancy in Drug use</td>
<td>The difference between the expected amount of drug to be used is termed as discrepancy.</td>
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<tr>
<td>Pharmacist</td>
<td>A person who has been trained to prepare medicines.</td>
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<tr>
<td>Pharmacology</td>
<td>Scientific study of drugs and their use in medicine.</td>
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<tr>
<td>Pharmacy</td>
<td>A place where medicines are prepared and given out.</td>
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<tr>
<td>Side Effect</td>
<td>An additional effect, desirable or undesirable of a drug, which is not the primary purpose of administering the drug.</td>
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### 4.9 ANSWERS TO CHECK YOUR PROGRESS

**Check Your Progress 1**

1) A drug is a substance used in diagnosis, cure, treatment or prevention of a disease or condition. The term medication, medicine and medicinal are also used interchangeably with drugs. WHO (1966) defined “Drug is any substance or product that is used or is intended to be used to modify or explore physiological system or pathological states for the benefit of the recipient.

2) WHO has defined essential drugs as “those that satisfy the health care needs of majority of the population, they should therefore, be available at all times in adequate amounts and in appropriate dosage forms”.

3) These are drugs or biological products for diagnosis, treatment or prevention of a rare chronic disease or condition for which there is no reasonable expectation that the cost of developing and marketing it will be recovered from the sales of that drug e.g. dextran sulfate, acetylcysteine, baclofen, dismopressin. These drugs are life saving for some patients; they are not commercially available.

**Check Your Progress 2**

1) i) Ordering more drugs than needed leads to expiry of some drugs.
   
   ii) Exposing drugs to heat, light and damp environment.
   
   iii) Issuing too many drugs at same time which causes stealing or extravagant use.
   
   iv) Handing over drugs to the patients, they may throw away or forget to take them.
   
   v) Ordering large dose of drugs than necessary.
   
   vi) Using drugs blindly or on trial basis.
   
   vii) Too many different drugs are used on one patient at one time.
   
   viii) Using very expensive drugs when cheap and standard drugs are effective and available.

2) i) Hold staff meeting to educate them on causes of drug wastage.
   
   ii) Inform them the cost of various drugs.
   
   iii) Make available hospital formulary to staff which contains common drugs, used, their uses and side effects.
   
   iv) Put chart and posters of common drugs and its correct doses in the wards.
v) Discuss one new drug each week in staff meeting.
vi) Educate the patients how to take their drugs, the use of drugs, dosage, regularity and duration etc.

4.10 FURTHER READINGS


Trained Nurses Association of India, *Nursing Administration and Management*, New Delhi.


Sahni, Ashok., *Hospital Health and Administration*. 