

Doctor 2021 - رُوح - medicine - MU



Pharmacology sheet

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DRUG PRESCRIBING AND DRUG COMPLIANCE

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PURPOSES OF THERAPY:

Therapeutic drug use could be for the following purposes:

- 1. Curative:** seeking a cure for an existent disease or medical condition

I am looking for some kind of effect that maybe first of all curative

There is difference between curative and treatment

Curative: The drug is prescribed in order to cure the patient completely from a specific disease (not chronic disease)/ Give the drug for a period of time and then stop it and the patient will recover.

- 2. Symptomatic:** any medical therapy of a disease that only affects its symptoms, not its cause.

Treating a symptom of a disease, either acute or chronic condition

Most drugs are symptomatic as they cure only a symptom of disease not the real cause of the disease.

Antibiotic works on bacteria so it more or less could be curative.

- 3. Replacement:** Administration of a body substance to compensate for the loss, as from disease or surgery, of a gland or tissue that would normally produce the substance.

When patient has specific condition and the condition or disease lead to lose the production of specific substance, like hormones.

Like : DM: insulin hormone, Thyroid disorder: thyroxine

- 4. Supportive:** is one that does not treat or improve the underlying condition, but instead increases the patient's comfort

like : A psychiatrist treats a child with an illness that afflicts him and treats his psychological condition. Also Treat by doing religion tasks "spiritual healing".

5. Prophylactic or Preventive therapy: is a therapy that is intended to prevent a medical condition from occurring. **like vaccine**

6. Palliation: focuses on relieving and preventing the suffering of patients by addressing physical, emotional, spiritual and social concerns arising with illness.

We give it to people who know that they will die after a few months like cancer patients

Rational use of drugs:

Rational use of drugs: "patients receive medications appropriate to their clinical needs, in doses that meet their own individual requirements, for an adequate period of time, and at the lowest cost to them and their community".

Choice of effective drugs should be based on :

1. Efficacy.

2. Cost: affordable by patient and community.

3. Chosen from Essential Drugs: These are effective drugs that are commonly used in community, and must always be available.

Essential Drugs : the drugs Which the government is supposed to provide (free or almost free). The list should be up to date and it is necessary to be desired by people.

Basis of rational drug prescribing:

Rational drug prescribing is based on a series of steps:

1. Making a specific diagnosis

We shouldn't miss the diagnosis so there isn't treatment

2. Consider the pathophysiologic implications of the diagnosis

3. Select the specific therapeutic objective

My objective (what I am going to do) with a diabetic patient is to control blood sugar. This objective depends on many variables, one of which is severity of the condition.

4. Select a drug of choice: Consider patient criteria (age, other drugs also taken, other diseases, and nature of disease) as well as his clinical presentation

Select affordable drug

5. Design the appropriate dosing regimen, based on patient pharmacokinetics and if they are altered by his illness

choose correct drug and correct dose without increase or decrease , the drug should be potent like: Thyroxin and Warfarin

example: DM patient التراكمي عنده 12

I give him glucoformin, a pill in the morning and a pill in the evening, and then I watch the patient and I will see after a month if it goes down to 9, it will be perfect and let him complete the drug and after 5 or 6 months if it goes down he is finished by stopping the drug and if it is 6.5 or 7, make him take one pill per day.

6. Monitor for therapeutic effect(s), patient compliance, and adverse effects. We have to tell the patient the effects and side effect of the drug

Social-media facilitate the monitoring

DRUG-RELATED PROBLEMS:

- 1. Untreated indication** Wrong drug and give side effect
- 2. Improper drug selection**

Many of antibiotic (anti bacterial resistance microbial)

Start with one dose, after the symptoms have been relieved the patient stop the course without completing it, then after month the same symptoms back again and take another drug with higher effect and recurrent resistance to the same dose taken previously ex UTI

Or when taking insufficient drug dose <this would lead to antibiotic resistant with no healing>

- 3. Sub-therapeutic dosage** little dose and if antibiotic is less it become resistant
- 4. Over-dosage/toxicity**
- 5. Failure to receive the right drug** Either from doctor, patient, or pharmacist
- 6. Adverse drug reactions/events**
- 7. Interactions** side effect /polypharmacy /drug-drug /drug –food
- 8. Drug use without indication**

Types of prescriptions:

These are of two major types:

1. Hospital prescription of drugs: This is written by the treating doctor on the Physician Order Sheet (POS) of the patient hospital chart.

It is preceded by the date and time which is put on upper left hand of chart. The prescription includes the drug(s) and direction of use i.e. **for each drug** : the dose to be given to patient and its route, frequency of administration, and duration of use. This followed by signature of the treating doctor. A typical chart order might be as follows:

04/11/2014

10:30 a.m.

(1) Ampicillin 500 mg IV q6h x 5 days

(2) Paracetamol 0.25 g supp q6h prn temp over 38c

[Signed] Mohammad, MD

2. Office prescription:

This is the physician request to the pharmacist aimed at dispensing drug(s) in proper amount to patient together with directions for effective therapeutic use.

The prescription includes the following parts:

1. Identification :

Doctor : Name, speciality, address, telephone(optional)

Patient : Name , age , address(optional)

Date

2. Superscription : which includes the suffix Rx :

Recipe (Receive Thou)

3. Inscription (Body of prescription): This includes the drug(s), dose form and its strength in metric units, and directions for proper use by patient

4. Subscription: This includes directions for dispensing the correct amount of drug for the patient according to frequency of use and duration of treatment .

5. Re-fill directions: if needed; any special warning to be given to patient regarding drug storage or use, and if there is a need for child-proof container for drug(s)

6. Signature of prescribing doctor & his license number: usually at bottom of prescription

- **The pharmacist puts a label on each drug container and it includes the followings :**

Drug name and its nature

Directions of its use and storage

Warnings

Expiry date of drug

Dr Name Academic and professional degree

Address

Patient name : Ali ahmed Date: 05/11/2014

Age (years): 14 Address : Mu'tah

Rx

Panadol tablets (0.5 g)

Take one tablet p.c. tid for 4 days

Dispense : 12 tabs

Signature

Re-fill : once

Dr. mohammad

Warning : non

License No. 13456

Childproof container : none

Label on bottle :

Panadol . Analgesic or antipyretic

- take one tablet 3 times daily after meals for

4 days

Expiry date : July 2025

Note : Trade or proprietary name is used in office prescriptions, while generic name is used in hospital prescriptions

Some abbreviations, in latin or Greek, that may be needed in writing directions of drug use in prescriptions :

ac : ante cibum (before meals)

pc : post cibum (after meals)

bid : twice daily

tid or tds : three times daily

qid : four times daily

prn : when needed

qd : every day **qh** : every hour

qhs : every night at bedtime

ss : one half **stat** : at once

OD : right eye **OL** : left eye **OU** : both eyes

Some Measurements that may be used in directions of drug use in prescriptions :

one tea spoonfull = 5 ml

one table spoonfull = 15 ml

one ounce (oz.) = 30 ml

one quart = 1000 ml

one drop = 0.05 ml = 50 ul

one ml = 20 drops

small spoon (Especially if the patient is a child instead of giving 100 drops)

Common errors in prescription writing are due to :

1. Omission of information
2. poor prescription writing
3. inappropriate choice of drug(s)

DRUG COMPLIANCE:

Drug Compliance : means the extent to which the patient follows the instructions of proper drug(s) use , as given by his prescribing doctor on the prescription form.

Patients have to be more compliant with potent drugs, such as cytotoxic drugs as they have multiple dangerous adverse effects.

Causes of poor compliance :

- 1. Lack of patient teaching by his Dr on details of proper drug use or lack of comprehension by patient of these instructions when taught to him**
- 2. Failure of patient to obtain the drug due to problems of cost or handicap**
- 3. Patient forgets to take drug, or loss of drug, or discontinues taking drug prematurely and thus may donate the medication to others**
- 4. Polypharmacy (taking multiple drugs) : due to many diseases esp. in elderly ; this is esp. when multiple doses of each drug is needed daily**
- 5. Frequent doses (> 3 / d) and long duration of treatment (months or years)**
- 6. Age : neonates, infants, children, and elderly**
- 7. Disabling adverse effects occur**

Consequences of poor compliance :

- 1. Reduced or loss of therapeutic effect , esp. with drugs having short half-life**
- 2. Recurrence of disease**
- 3. Withdrawal syndrome occur with some drug, especially antidepressants.**

"رَبِّي أَنْتَ الَّذِي غَلَبْتَ مَشِيئَتَهُ الْمَشِينَاتِ كُلَّهَا، وَغَلَبَ قِضَاؤُكَ الْحَيْلَ كُلَّهَا، وَلَوْ اجْتَمَعَ إِنْسٌ وَجَانٌّ وَأَنْهَارٌ وَأَوْتَادٌ سَتَظَلُّ فَاعِلًا مَا تَشَاءُ، رَبِّي إِنَّا نُنْظِرُ بِكَ الظَّنَّ الْجَمِيلَ.. فَتَوَلَّنَا." ﷻ