



433 Teams

PRIMARY HEALTH CARE

Lecture (16)

RATIONAL USE OF MEDICATIONS

433Phc@gmail.com



جامعة
الملك سعود
King Saud University



Good prescriber Who is a good prescriber?

- One, who ensures that diagnosis is correct.
- Makes a positive & correct decision that drug is needed.
- Chooses a drug appropriate to patients need.
- Who consults patient and ensures his/her informed consent.
- Who explains patient's role and secures his/her co-operation.
- Who terminates treatment when no longer needed.

Is it always Necessary to Prescribe?

- Diagnosis is still in doubt?
- Value of treatment is debatable?
- Combinations & formulations are irrational?

Why so irrational?

- Increased cost of un-necessary prescription to the health care system.
- Harmful prescribing fails to meet acceptable standards.
- Chances of poly-pharmacy – effecting vulnerable groups like elderly.

Why Family Medicine/PHC and Rational Use of Drugs?

Barbara Star Field Study related to the practice of Family Medicine and health outcome indicators' of a country.

- The studies showed relationship b/w more & better primary care & most health outcomes studied.
- Evidences shows a positive impact of primary care on prevention of illness & death.
- Primary care (in contrast to specialty care) is associated with a more equitable distribution of health in populations.

How we can improve prescribing Habits: There is no such thing as **GOOD MEDICINE** or **BAD MEDICINE** “A good prescribing is the prescribing based on **the best available evidence & current guidelines** “

How to prescribe rationally:

- Is a drug really required ?
- Will it work ?
- Will it harm ?
- Is it the cost –effective choice ?
- Have all alternatives been considered ?
- Is the likely risk-benefit ratio acceptable ?

Social reasons for inappropriate prescribing:

- Any pressure of pharmaceutical advertising.
- Patient's demand.
- Habit, peer group recommendation & ignorance.
- To avoid confrontation.
- Because of medico legal worries.
- To play for time until true picture becomes clearer or natural recovery occurs.
- To hasten the conclusion of consultation.

Evidence – Based Prescribing Failure to do this may:-

- Cause patients to suffer unnecessary side effects of ineffective drugs.
- Deprive patients the chance to benefit from effective treatments.
- Waste valuable resources.

Advantages of Generic Prescribing

1. Reduced cost
2. Professional convenience; everyone knows it
3. Convenient to the patient
4. Convenient to the pharmacist

Reason for not Prescribing Generically

1. Drugs with a low therapeutic index e.g. Lithium, Carbamazepine, Phenytoin (small difference in plasma concentration can be significant)
2. Modified release formulations, difficult to standardize e.g. Diltiazem, Nifedipine.
3. Formulations containing > 2 drugs.

What is a Placebo Medication?

A harmless pill, medicine, or procedure prescribed more for the psychological benefit to the patient than for any physiological effect.

To favor placebo	Against placebo
It is effective – does mechanism matters if results are satisfactory.	It is a deception and abuse of a relationship of mutual trust.
Sometimes reassuring.	It may create an ill-feeling if the deception is uncovered.
Helps morale in chronic & incurable diseases.	It may delay the true diagnosis.
No significant toxicity.	It re-inforce a sick role.

Placebo side effects:

It has been reported that 40% can also experience side effects like;

1. Headache
2. Anorexia
3. Diarrhea
4. Dry mouth
5. Palpitations
6. Vertigo.

Risks of self-medication

- Always risk of drug interaction with prescribed medicine.
- Increased risk of self-medication side effects.
- Taking wrong preparation & wrong formulations.
- Less chances to offer any opportunistic health promotion advice.

Prevention of Adverse Drug Reactions

- Never use a drug unless there is a good indication.
- Do not use a drug in pregnancy, unless the need for it is imperative.
- Ask if there is H/O allergy/idiosyncrasy.
- Consider possible drug interaction.
- Age and hepatic or renal impairment may require much smaller doses.
- Prescribe as few drugs as possible.
- Give clear instructions, especially in elderly.
- Be particularly alert for adverse reactions or unexpected events, when prescribing new drugs.
- Fill the required form in case of suspected adverse reaction.
- Warn the patient if serious adverse reactions are liable to occur.

Delayed Drug Effects

Some adverse reactions may become manifest months or years after treatment e.g. Chloroquine retinopathy.

Principles for antibiotic selection Allow for a number of variables:

- H/o allergy / sensitivity
- State of renal and hepatic function
- Increasing resistance
- New information on side effects
- Age of patient & duration of therapy
- Dosage and route of administration
- Site, type and severity of infection
- Individual response
- If female, whether pregnant, breast feeding or on oral contraceptives
- Likely organism and antibacterial sensitivity ?

Special Problems in Prescribing:

- Delayed drug effect.
- In elderly.
- In children.
- In hepatic impairment.
- In renal impairment.
- In pregnancy.
- In breast feeding.
- In palliative care.
- Drug inter-actions.

Prescribing for Elderly

- A. Limit range of drugs.
- B. Reduce dose.
- C. Review regularly.
- D. Simplify regimens.
- E. Explain clearly.
- F. Repeats and disposal.

Prescribing for Children

- A. Special care needed in neonates
- B. Avoid injections if possible
- C. Actions of drugs and their pharmacokinetics may be different than adults
- D. Suitable formulations may not be available for children
- E. Drugs are not extensively tested in children

Prescribing in Hepatic Impairment

- A. Impaired drug metabolism
- B. Hypoproteinaemia
- C. Reduced clotting
- D. Hepatic encephalopathy
- E. Fluid overload
- F. Hepato-toxic drugs

Prescribing in Renal Impairment

- A. Reduced renal excretion of a drug
- B. Increased sensitivity to some drugs even if elimination is not impaired
- C. Many side effects are tolerated poorly
- D. Some drugs become ineffective

Prescribing in Pregnancy

Particular care is needed in prescribing for women in child bearing age or men trying to father a child.

- A. **First trimester** – congenital malformations
- B. **Second and third trimester** – effect on the growth or the functional status of fetus, including toxic effect on fetal tissues.
- C. **Shortly before term or during labour** – possible adverse effect on labour or neonate, after delivery.

Prescribing in Breast-feeding

Avoid drugs (if possible) which:

- A. Cause inhibition of sucking reflex (e.g. phenobarbital).
- B. Suppress lactation (e.g. bromocriptine)
- C. Appear in a significant quality in the milk (e.g. fluvastatin).

If not sure, look up at the therapeutic guidelines from a reputable source (e.g. BNF).

Prescribing in Palliative Care

1. The importance of pain relief and other symptoms are more important than sticking to the usual drugs or dosages.
2. Oral medications are preferable, if possible.
3. As few drugs as possible should be prescribed.
4. Doctor – patient relationship is usually more effective than the drug.

Drug Interactions

A Family Physician is not expected to know all the possible drug interactions, but awareness of some important categories is imperative:

- Anti-convulsants
- Oral contraceptives
- Warfarin

Factors Related to Poor Compliance

1. Purpose of medicine not clear to patient.
2. Perceived lack of efficacy of medicine.
3. Real or perceived adverse effects by the patient.
4. Lack of understanding between the doctor and the patient.
5. Instructions for administration not clear.
6. Unpleasant taste.
7. Complicated regimen – poly-pharmacy.
8. Physical difficulty in taking medicines.
9. Medicines too costly.

Practice Formulary

An effective way to limit prescribing and costs of prescribing: Essential features:

- Evidence of efficacy
- Evidence of safety
- Cost-effectiveness
- Local policy

Summary:

- While prescribing, apply the saying 'think before you ink' – by prescribing this drugs are you going to do more harm or more good?
- Factors related to compliance of medications by the patient must be considered.
- Cost-effective and generic prescribing is generally preferable.
- Prescribing in special circumstances requires special attention.

Questions

Q1) Which of the following is not an Advantage of Generic Prescribing?

- a. Reduced cost
- b. Professional convenience; everyone knows it
- c. Convenient to the patient
- d. Help with the patient's compliance

Q2) In which of the following cases we may not stick to the usual doses/drugs?

- a. 30 y pregnant lady
- b. 12 yo child
- c. A nursing mother
- d. 55 yo lung cancer patient with extensive metastasis

1-D

2-D

Done By:

Salman alrwibaah	Abdulmalek alnujidi
Abdurhman alqhtani	Abdullah alhumidi
Faisal bazheer	Talal alrwaf

