RATIONAL USE OF DRUGS AND MEDICATION ERRORS

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- **MEDICATION ERRORS**

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".

Measures to ensure rational use of drugs

The WHO advice several measures to ensure rational use of drugs that include development of:

- **National committee on drug use**
- **National list of essential drugs**
- **Use of clinical guidelines**: by physicians as in treating hypertension & asthma
- **Some regulations and measures**

IRRATIONAL USE OF DRUGS

Include:

- Poly-pharmacy (use of too many drugs)
- Poor compliance (non-adherence to instructions of therapy)
- Misuse or inappropriate use of antimicrobials
- Over-use of injections
- Failure to prescribe in accordance with clinical guidelines
- Inappropriate self-medication

SELECTION OF DRUGS

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

MEDICATION ERRORS

Definition:

any preventable event that may cause or lead to inappropriate medication use or patient harm while the medication is in the control of the health care professional, patient, or consumer ...

- Such events are related to professional practice, health care products, procedures, and systems,
- including prescribing; order communication; product labeling, packaging, and nomenclature; compounding; dispensing; distribution; administration; education; monitoring; and use.

→ where things could go wrong!

What kinds of errors are most common?

the most common error involving medications was related to:

1. Administration of an improper dose of medicine, accounting for 41 % of fatal medication errors.

2. Giving the wrong drug and using the wrong route of administration each accounted for 16% of the errors.

➢Almost half of the fatal medication errors occurred in people over the age of 60. → because of polypharmacy!

➢Older people may be at greatest risk for medication errors because they often take multiple prescription medications.

Causes of medication errors:

1. Poor communication between health care providers
2. Poor communication between providers and their patients
3. Sound-alike medication names and medical abbreviations
4. Errors when prescribing, transcribing, dispensing, and administering medications
5. Errors related to patient monitoring of the effects of medications
6. Potential or actual confusion regarding look-alike drug or vaccine names, and packaging similarities
7. Misuse or malfunction of medication-related tools (e.g., syringes, needles), equipment (e.g., tubing, infusion pumps), and technology (e.g., barcode scanning).

ما بتضخ الدواء بشكل مناسب
لمرضى ICU

Examples

Cytotoxic drug for cancer.

1. A physician ordered a *260-milligram preparation of Taxol* for a patient, but the pharmacist prepared *260 milligrams of Taxotere* instead

2. One patient died because *20 units of insulin* was abbreviated as "20 U" but the"U" was mistaken for a "zero." As a result, a dose of 200 units of insulin was accidentally injected.

3. A patient developed a fatal hemorrhage when given *another patient's prescription* for the blood thinner *warfarin.*

مصيبة قوي جدا!!

Medication errors may stem from:

1. poor communication, Between healthcare providers or w/ the patient.

2. misinterpreted handwriting,

3. drug name confusion,

4. lack of employee knowledge, and → lack of experience !

5. lack of patient understanding about a drug's directions.

why ?

ex
① كم لازم آخذ؟
② ممكن يصير عندي أعراض جانبية.
③ متى تاخذه؟

Poor handwriting

what the hell? LOL

MEDICAL CENTER HOSPITAL

500 - 600 W. 4TH STREET — ODESSA, TEXAS — Ph. 333-7111

FOR ________________ AGE ________

ADDRESS ________________ DATE ________

NO REFILLS ☐

REFILLS

LABEL ☐

PRODUCT SELECTION PERMITTED

DISPENSE AS WRITTEN

D.E.A. #

728 037 2/88 — IH 88-270

Poor handwriting

PLZ, don't be like this!

Deponit TTS 5 mg		1				i	1x1	—	ø
[illegible] Cp. à 20 mg		1/2	-	-	-	i	1x1/2	—	ø
Avandia Cp. à 4 mg		1	-	-	-	i	1x1	ø	ø
Seropram Cp. à 20 mg	1x2	2	-	-		i	1x2	—	1x2
[illegible] kps. à 0,5 mg	[illegible]	1	–	–		i	1x1	ø	1x1
Lasix Cp. à 500 mg	2x1/2	1/2	-	1/2	-	i	2x1/2	—	2x1/2
[illegible] Cp. à 25 mg	1x1	1	-	-	-	i	1x1	—	1x1
[illegible] Cp. à 40 mg	1x1	1	-	-	-	i	1x1	—	1x1
Figure 3 [illegible] Cp. à 10 mg						i	1x1/2	ø	1x1/2

DRUG NAME CONFUSION

اجوز نفسه الإشي! بس ممكن، الشخص حيخربجهم!

DRUG NAME CONFUSION

Anti-epileptic drug

β-2 Adrenergic Blocker

Medication error prevention

We have to enhance / encourage

1. Patient communication
2. Intraprofessional communication
3. Education and training
4. Reporting ⇒ so you don't make a mistake again
5. Electronic prescribing

العمل بإجراءات أساسية تحد من كل الأخطاء المحتملة.

مثل نظام (حكيم).

THANKS