Rational use of drugs and medication errors

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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** (These are effective drugs that are commonly used in community, and must always be available)
- **Use of clinical guidelines:** by physicians as in treating hypertension & asthma

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 drugs (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:

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 …

- including prescribing; order communication; product labeling, packaging; compounding; dispensing; distribution; administration; education; monitoring; and use.

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.

- 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 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).

Examples

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.*

Medication errors may stem from:

1. poor communication,

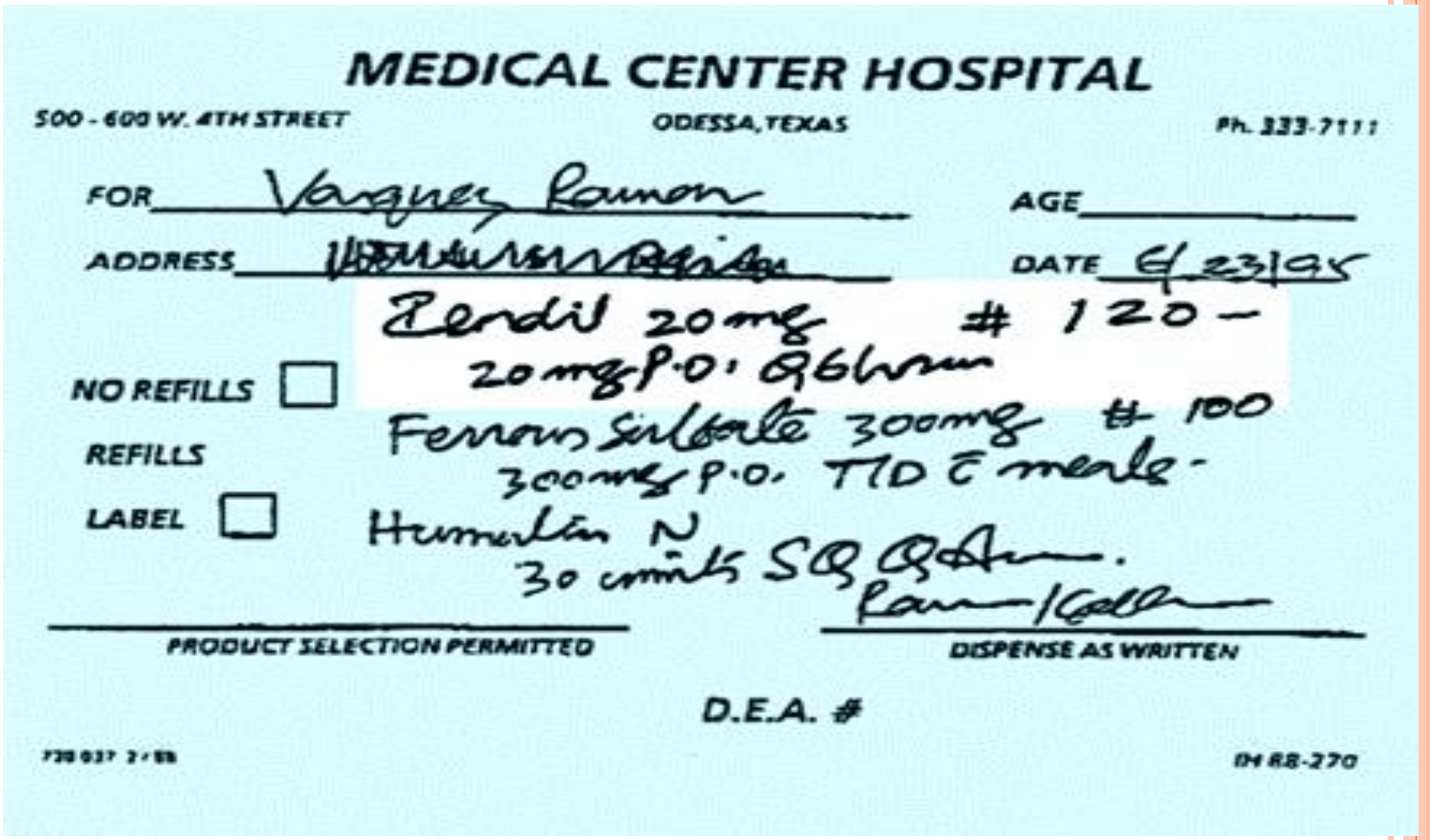
2. misinterpreted handwriting,

3. drug name confusion,

4.lack of employee knowledge, and

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

Poor handwriting



MEDICAL CENTER HOSPITAL

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

FOR Vasquez Ramon AGE

ADDRESS [illegible] DATE 6/23/95

Zerdil 20mg # 120 -
20mg P.O. Q6hrs

NO REFILLS ☐

Ferrous Sulfate 300mg # 100
300mg P.O. TID c meals.

REFILLS

LABEL ☐

Humulin N
30 units SQ Q AM.
Ramon/Gallen

PRODUCT SELECTION PERMITTED

DISPENSE AS WRITTEN

D.E.A. #

RH RB-270

Poor handwriting

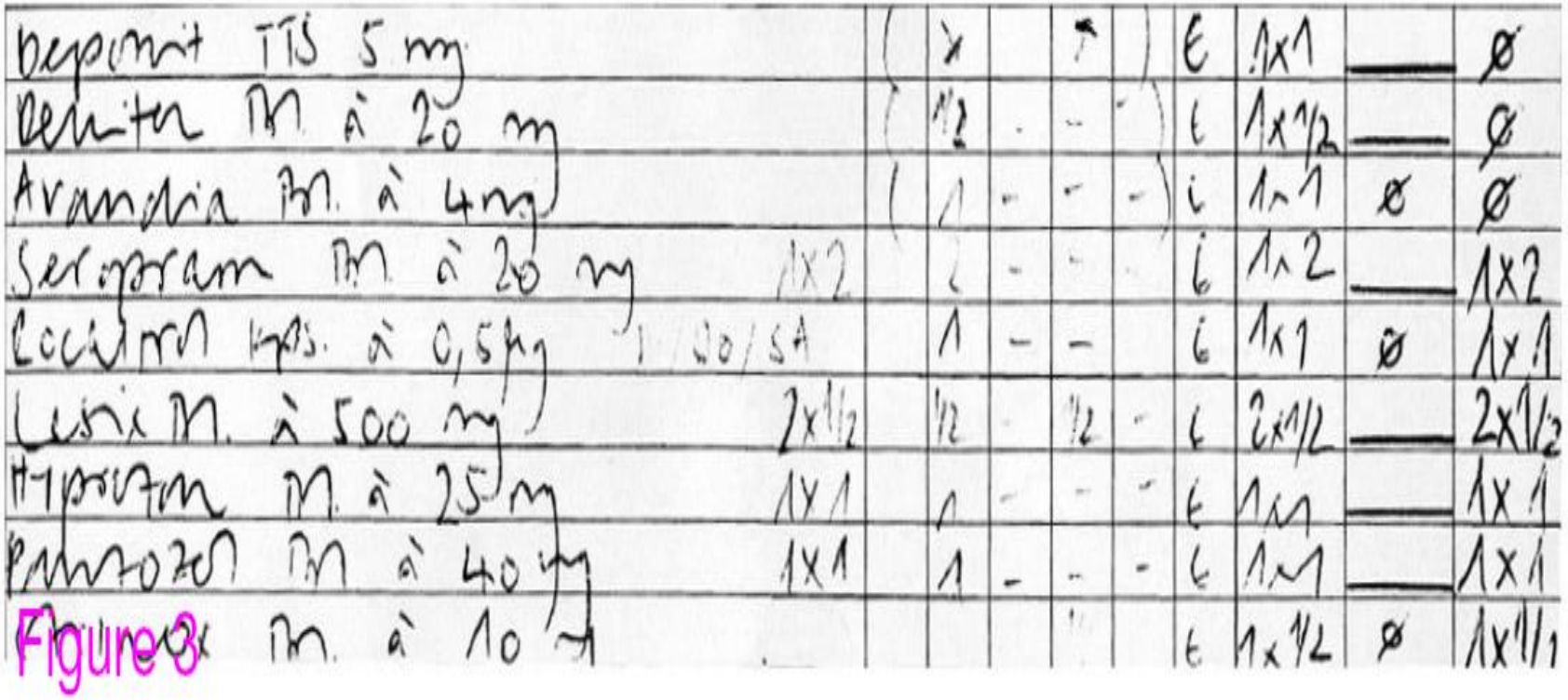
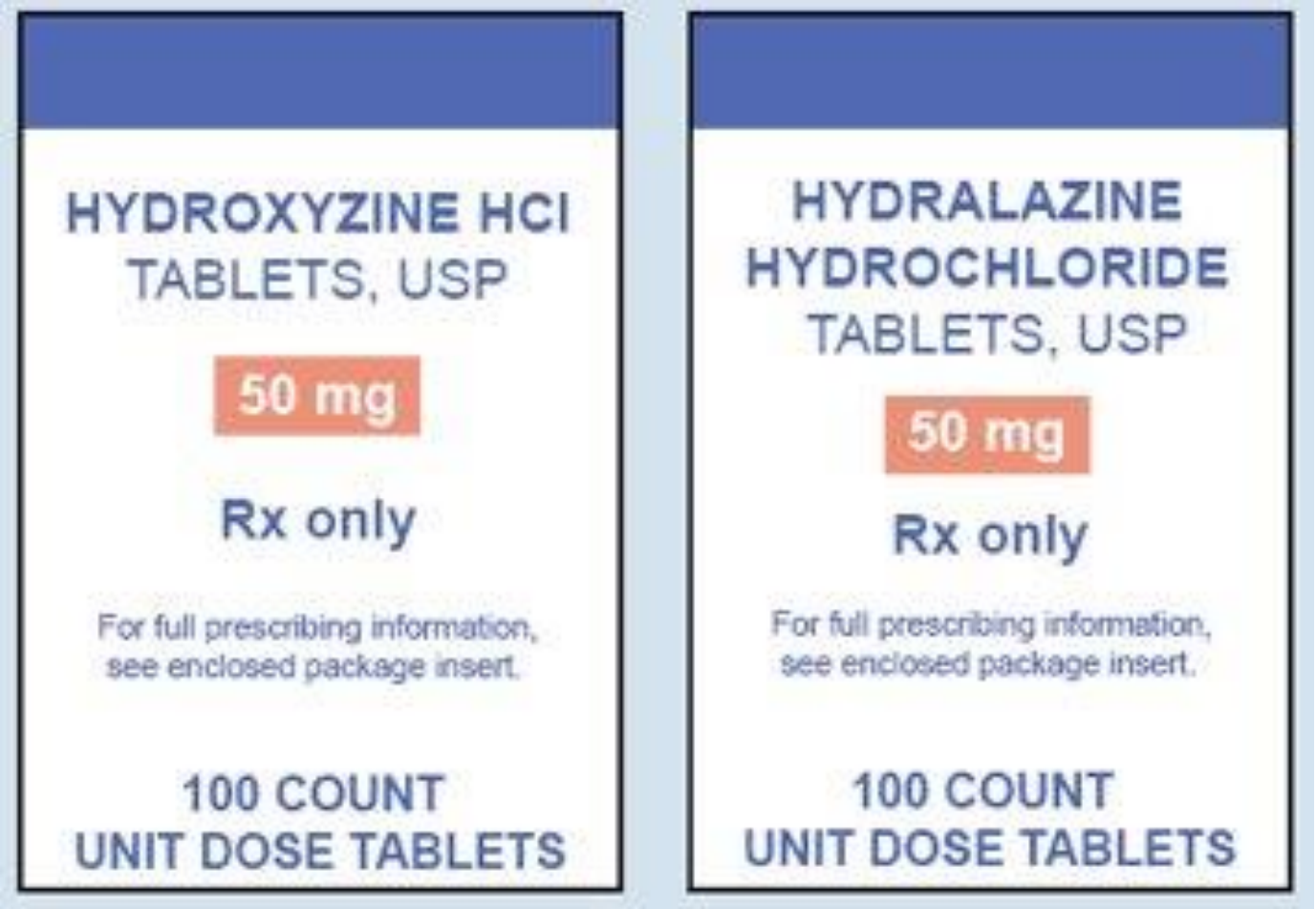


Figure 3

DRUG NAME CONFUSION



DRUG NAME CONFUSION

Medication error prevention

1. Patient communication
2. Intraprofessional communication
3. Education and training
4. Reporting
5. Electronic prescribing

THANKS