

## Rational Drug Use

Arshita Kumari

Doctor of Pharmacy, India

### \*Corresponding author

Arshita Kumari, Doctor of Pharmacy, India. Tel: +91-9368499223.

Received: June 05, 2023; Accepted: June 14, 2023; Published: June 19, 2023

### Introduction

Drugs are important component of healthcare and play a crucial role in saving lives their use is a complex issue concerning the physician, the dispense & the patient as a whole. Hence, to tackle the problem of inappropriate drug used the concept of “rationalized use of drugs” evolved around 300 BC.

According to who the World health organization in appropriate presenting and dispensing of medicine accounts for more than 50% of all medicines and irrational use result in various form of health risk and cost as per who the safety and efficiency of drug good only be maintained when there would be one pharmacist for 2000 population of optimal healthcare regulation.

In a broader way rational use of drug is defined as prescribing right drug inadequate dose for sufficient duration appropriate to the patient at lowest cost.

Criteria for using medicine :-

- Appropriate indication
- Appropriate drug
- Affordable
- Appropriate administration, dosage and duration
- Appropriate patient
- Appropriate patient information

### Irrational Use of Drug

The irrational use of dosage regiment and duration of patient is a serious phenomenon such as :-

- Prolongation of illness
- Adverse drug reaction
- Increased mortality and morbidity
- Distress

### Cause of Irrationality

- i. Lack of information
- ii. Misuse/ over use of drug
- iii. Poly-pharmacy
- iv. Inadequate training to medical graduates
- v. Self medication

### Types of Irrational Use

#### A. Diagnosis

- i. Inadequate examination of the patient
- ii. Communication gap between patient and doctor
- iii. Inadequate lab examination

- iv. Lack of information
- v. Prescription
- vi. Under prescribing
- vii. Multiple prescribing
- viii. Over prescribing
- ix. Incorrect prescribing

#### B. Dispensing

- i. Retrieval of wrong ingredient
- ii. Unsanitary procedures
- iii. Inadequate counting, compounding or pouring

### Examples of Irrational Drug Use

- A. Aspirin – OTC drugs for acute pains
- B. Ibuprofen – Analgesic
- C. Sedative & Hypnotics – Diazepam for insomnia
- D. Antibiotics

### Step To Improve Rational Drug Prescription

- WHO model (guide to good prescribing)
- Define patient's problem (after careful evaluation)
- Specify the therapeutic objective
- Management/plan(pharmacological & non- pharmacological)
- Choose & verify drug
- Write prescription
- Give instruction, information & warning

### Execute treatment

- i. Continue/stop the treatment
- ii. Monitor treatment & stop treatment
- iii. Review the treatment

### Key Intervention Recommended By Who To Promote Rational Use of Drugs

- i. Establishment of a multi-disciplinary National body to contribute and co-ordinate with policies on medication and their use
- ii. Use of clinical guidelines
- iii. Development and use for National essential medicine list
- iv. Establishment of drug and therapeutic committee in districts and hospital
- v. Inclusion of problem-based pharmacotherapy in undergraduate curricular
- vi. Continuing in-service medical education as a licensure requirement, supervision, audit and feedback

- vii. Supervision, audit and feedback
- viii. Use of independent information on medicine
- ix. Public education about medicine
- x. Evidence of perverse financial incentives
- xi. Use of appropriate and enforced regulation
- xii. Sufficient government expenditure to ensure medicines availability

### Role of Pharmacist in Rational Drug Use Method For Development of Rational Drug Use

→ Drug use indicator :-

- i. Prescribing indicators
  - ii. Patient care indicator
  - iii. Facility indicator
- Drug & Therapeutic committee
- Standard treatment guidelines
- Pharmacovigilance
- Pharmaceutical Care
- Prescribing practice
- Patient Care
- Facility specific factor

#### 1. Prescribing indicators →

- Average number of drugs / encounters
- Percent of drug prescribed by generic name
- Percent of antibiotics prescribed
- Percent of injection prescribed
- Percent of drug prescribed from essential drug list or formulary

#### 2. Patient care indicator →

- Average consultant and dispensing time
- Percent of drugs actually dispensed and adequate labelled
- Patient knowledge of correct dosage time and frequency

#### 3. Facility indicator →

- Availability of copy of essential drug list or formulary
- Availability of kid drugs

### Drug & Therapeutic Committee

- Providing advice on all aspect of drug management
- Developing drug policies
- Waiting and selecting drug for the formulary list
- Conducting interventions to improve drug use
- ADRs and medication errors

**Standard Treatment Guidelines:-** These are systematically developed statements to help practitioner or prescribers make decision about appropriate treatment for specific clinical condition

- Improves quality of prescribing
- Setting priorities for processing and stocking drug

### Pharmacovigilance

It refers to the collection, detection, assessment, monitoring and prevention of adverse effect with the pharmaceutical products

The 4 elements of an adverse event case are

- 1) An identifiable patient
- 2) Reports
- 3) Suspect drug
- 4) Adverse event

- It is necessary to prevent ADR to promote rational use.

### ✧ Role Of Pharmacist In Rational Drug Formulation And Dispensing Setup

- ◆ The pharmacist shall keep all control drug in a locked cabinet under his /her own direct control and supervision .
- ◆ The pharmacist must check validity of the prescription and

must check before prescribing to the patient

- ◆ The pharmacist shall consult the prescribing doctor for any prescription error
- ◆ The pharmacist shall only dispense control drug if prescribed by the supervised physician
- ◆ The pharmacist shall properly label and mark containers to avoid intermixing of drug
- ◆ The pharmacist shall provide complete information to the patient about the prescribe drug he /she is dispensing .
- ◆ The pharmacist should not refill or substitute a generic equivalent control drug unless stated / instructed by the physician.

Rational use of drug is an important tool in safe and effective treatment of patients . A pharmacist can provide multidisciplinary approach for promotion of rational drugs use by providing proper information on ADRs , dosage schedule of drugs to the patient and warning them about the unwanted effect of medicine and monitoring unwanted effects.

**Copyright:** ©2023 Arshita Kumari. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.