

CHAPTER – 2

RATIONAL DRUG USE

Dr Sneha Ambwani* Dr A K Mathur **

The concept of rational drug use during the past few years has been the theme of various national & international gatherings. Various studies conducted in developed as well as in developing countries during past few years regarding the safe & effective use of drugs show that irrational drug use is a global phenomenon & only few prescriptions justify rational use of drugs.

DEFINITION

In simplest words rational use means “prescribing right drug, in adequate dose for the sufficient duration & appropriate to the clinical needs of the patient at lowest cost.

The concept of rational drug use is age old, as evident by the statement made by the Alexandrian physician Herophilus 300 B.C that is “Medicines are nothing in themselves but are the very hands of god if employed with reason & prudence.”

Rational drug use attained more significance nowadays in terms of medical, socio economical and legal aspect. Factors that have led sudden realization for rational drug use are.

1. Drug explosion:- Increase in the number of drugs available has incredibly complicated the choice of appropriate drug for particular indication.
2. Efforts to prevent the development of resistance – Irrational use of drugs may lead to the premature demise of highly efficacious & life saving new antimicrobial drug due to development of resistance.
3. Growing awareness:- Today, the information about drug development, it's uses & adverse

effects travel from one end of the planet to the other end with amazing speed through various media.

4. Increased cost of the treatment:- Increase in cost of the drug increases economic burden on the public as well as on the government. This can be reduced by rational drug use.
5. Consumer protection Act. (CPA):- Extension of CPA in medical profession may restrict the irrational use of drugs.

REASONS FOR IRRATIONAL USE OF DRUGS.

1. Lack of information:-

Unlike many developed countries we don't have regular facility which provides us up to date unbiased information on the currently used drugs. Majority of our practitioners rely on medical representatives. There are differences between pharmaceutical concern & the drug regulatory authorities in the interpretation of the data related to indications & safety of drugs.

2. Faulty & inadequate training & education of medical graduates: -

Lack of proper clinical training regarding writing a prescription during training period, dependency on diagnostic aid, rather than clinical diagnosis, is increasing day by day in doctors.

3. Poor communication between health professional & patient:-

Medical practitioners & other health professional giving less time to the patient & not explaining some basic information about the use of drugs.

*Asso. Prof. in Pharmacology, Dr S N Medical College, Jodhpur

** Prof. & Head Dept. of pharmacology, Dr S N Medical College, Jodhpur

4. Lack of diagnostic facilities/Uncertainty of diagnosis:-

Correct diagnosis is an important step toward rational drug therapy. Doctors posted in remote areas have to face a lot of difficulty in reaching to a precise diagnosis due to non availability of diagnostic facilities. This promotes poly-pharmacy.

5. Demand from the patient :-

To satisfy the patient expectations and demand of quick relief, clinician prescribe drug for every single complaint. Also, there is a belief that "every ill has a pill" All these increase the tendency of polypharmacy.

6. Defective drug supply system & ineffective drug regulation:-

Absence of well organized drug regulatory authority & presence of large number of drugs in the market leads to irrational use of drugs.

7. Promotional activities of pharmaceutical industries:

The lucrative promotional programmes of the various pharmaceutical industries influence the drug prescribing.

HAZARDS OF IRRATIONAL USE OF DRUGS

Irrational use of drugs may lead to:-

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1. Ineffective & unsafe treatment
2. Exacerbation or prolongation of illness.
3. Distress & harm to patient
4. Increase the cost of treatment

MEASURES TO PROMOTE RATIONAL DRUG USE

Medicines (drugs) cannot be used rationally unless every one involved in the pharmaceutical supply chain has access TO objective information about the drug they buy and use. Knowledge & ideas about drugs are constantly changing & a

clinician is expected to know about the new development in drug therapy. The pre-requisites of rational drug use are: -

- ? Critical assessment & evaluation of benefits & risk of drug used.
- ? Compare the advantages, disadvantages, safety & cost of the drug with existing drug for some indication.

OBSTACLES EXIST IN RATIONAL DRUG USE

Various obstacles in rational drug use are:-

1. Lack of objective information & of continuing education & training in pharmacology.
2. Lack of well organized drug regulatory authority & supply of drugs.
3. Presence of large number of drugs in the market & the lucrative methods of promotion of drugs employed by pharmaceutical industries.
4. The prevalent belief that "every ill has a pill."

STEPS TO IMPROVE RATIONAL DRUG PRESCRIBING

Step:- I

Identify the patient's problem based on symptoms & recognize the need for action.

Step:-II

Diagnosis of the disease. Identify underlying cause & motivating factors. This may be specific as in infectious disease or non specific.

Step:-III

List possible intervention or treatment. This may be non drug treatment or drug treatment. Drug must be chosen from different alternatives based on efficacy, convenience & safety of drugs including, drug inter-actions & high risk group of patients.

Step:-IV

Start the treatment by writing an accurate & complete prescription e.g. name of drugs with dosage forms, dosage schedule & total duration of the treatment.

Step:-V

Given proper information instruction & warning regarding the treatment given e.g. side effects(ADR), dosage schedule & dangers/risk of stopping the therapy suddenly.

Step:-VI

Monitor the treatment to check, if the particular treatment has solved the patient's problem. It may be:

- (a) Passive monitoring – done by the patient himself. Explain him what to do if the treatment is not effective or if too many side effect occurs
- (b) Active monitoring done by physician and he make an appointment to check the response of the treatment.

Conclusion: Indiscriminate use of drugs not only waste scarce resources that could otherwise be spent on other essential services, but also leads to drug induced disease. The drug control authority, the teaching institutes, drug industries, N.G.O & the patient himself may be helpful for rational drug use.

Drug authority must circulate the list of essential drugs which could be updated from time to time. It must monitor the safe & proper use of these drugs & enforce a uniform regulation for promotional literature.

Teaching institute must conduct regular research work & proper training of undergraduates & post graduates. Motivation of NGO to organize various programmes for public awareness lastly, the patient himself should observe strict compliance to the physician' prescription & never indulge in self medication.

To conclude, the demands of rational drug use are:-

1. Availability of essential & life saving drugs and unbiased drug information with generic name.
2. Adequate quality control & drug control.
3. Withdrawal of hazardous & irrational drugs.
4. Drug legislation reform.

Advised Reading:-

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