

Rational Use of Medicines

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Abstract: Irrational use of Medicines is a global phenomenon. 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. Rational use of medicines requires that "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".

Keywords: Medicines, individual requirements.

INTRODUCTION

Irrational use of drugs may result due to various reasons at various levels including the prescribing errors and over the counter drugs. Irrational use of medicines may lead to serious negative health and economic consequences. Many irrational drug combinations are available in Indian market. Proper implementation of rational use of drugs will improve the quality of life and result in better community healthcare. Each individual should receive the right medicine, in an adequate dose for an adequate duration, with appropriate information and follow-up treatment, and at an affordable cost [2]. Worldwide more than 50% of all medicines are prescribed, dispensed, or sold inappropriately, while 50% of patients fail to take them correctly. Moreover, one-third of the world's population lacks access to essential medicine. The situation is alarming. Unfortunately, because of inappropriate use, the effective medicines of yesterday become ineffective today.

A classic example is antimicrobial medicines. Thus, in addition to achieve improved accessibility of essential medicines (availability and affordability); it is equally necessary to use the medicines appropriately, known as using rationally [1].

DEFINITION

"Rational use of drugs requires that patients receive medications appropriate to their clinical needs, in doses that meet their own individual requirements for an adequate period of time, and the lowest cost to them and their community"

This includes

- Steps in defining patients problems (or diagnosis).
- In defining effective and safe treatments (drugs and non drugs)
- In selecting appropriate drugs, dosage and duration.
- In writing a prescription.
- In giving patients adequate information.
- In planning to evaluate treatment responses.

IMPORTANCE OF RATIONAL USE

Appropriate indications

The decision to prescribe drugs is entirely based on medical rationale and that drug therapy is an effective and safe treatment.

Appropriate Drug

The selection of drugs is based on efficacy, safety, suitability and cost considerations.

Appropriate Patient

No contraindications exist and the likelihood of adverse reaction is minimal, and the drug is acceptable to the patient.

Appropriate Information

Patients should be provided with relevant, accurate, important and clear information regarding his or her conditions and the medications that are prescribed.

Appropriate Monitoring

The anticipated and unexpected effects of medications should be appropriately monitored. Rational drug use attained more significance now a

days in terms of medical, socio economical and legal aspect [2].

Factors underlying the Irrational use of Drugs

There are many different factors which affect the irrational use of drugs, which can be categorised as those deriving from the following factors:

*** Patients - Drug misinformation**

- Misleading beliefs
- Patient demands / expectations.

***Prescribers - Lack of education and training**

- Inappropriate role models
- Lack of objective drug information
- Generalization of limited experiences
- Misleading beliefs about drugs

Efficiency

*** Work place - heavy patient load.**

- Pressure to prescribe.
- Lack of adequate lab capacity
- Insufficient staffing.

*** Drug supply - unreliable suppliers**

System - Drug shortages

- Expired drugs supplied

*** Drug Regulation- Non-essential drugs available.**

- Non-formal prescribers.
- Lack of regulation enforcement.

*** Industry - Promotional activities**

- Misleading claims.

All these factors are affected by various attitudes that are prevailing among the prescribers and consumers. In some areas the use of injections remains high due to the false assumption of the prescribers that injections will improve patients satisfaction and that they are always expected by the patients [3].

Why rational use?

- Drug explosion:- Increase in the number of drugs available has incredibly complicated the Choice of appropriate drug for particular indication.
- 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.
- 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.
- 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.

- Consumer protection Act. (CPA):- Extension of CPA in medical profession may restrict the irrational use of drugs.

REASONS FOR IRRATIONAL USE OF DRUGS

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.

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.

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.

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.

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.

Defective drug supply system & in effective drug regulation:-

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

Promotional activities of pharmaceutical industries

The lucrative promotional programmes of the various pharmaceutical industries influence the drug prescribing [4].

HAZARDS OF IRRATIONAL USE OF DRUGS

Irrational use of drugs may lead to:-

- Ineffective & unsafe treatment
- Exacerbation or prolongation of illness.
- Distress & harm to patient
- Increase the cost of treatment

- Adverse, possibly lethal effects, e.g. due to antibiotic misuse or inappropriate use of drugs in Self-medication.
- Limited efficacy, e.g. in the case of under-therapeutic dosage of antibiotics, tuberculosis or
- Leprosy drugs.
- Antibiotic resistance, due to widespread overuse of antibiotics, as well as their use in under-
- Therapeutic dosage.
- Drug dependence, e.g. due to daily use of painkillers and tranquilizers.
- Risk of infection (due to improper use of injections): injection-related disorders are abscesses, polio, hepatitis and AIDS.
- Waste of resources: Reduced availability of other vital drugs and increased cost.

What can be done to improve rational use of medicines?

- A national body to coordinate policies on medicine use and monitor their impact;
- Evidence-based clinical guidelines for training, supervision and supporting decision-making about medicines;
- Lists of essential medicines.
- Medicines and therapeutics committees in districts and hospitals to monitor and implement interventions to improve the use of medicines;
- Problem-based training in pharmacotherapy and prescribing in undergraduate curricula;
- Continuing medical education as a requirement of licensure;
- Publicly available independent and unbiased information about medicines for health personnel and consumers;
- Public education about medicines;
- Elimination of financial incentives that lead to improper prescribing, such as prescribers selling medicines for profit to supplement their income;
- Regulations to ensure that promotional activities meet ethical criteria; and
- Adequate funding to ensure availability of medicines and health personnel.

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.

Role of pharmacists in promoting rational use of medicines

A pharmacist is a crucial link between patient and other healthcare professionals. The outreach of pharmacist is tremendous, both in hospital pharmacies as well as in community pharmacies. Pharmacists are the first contact with the community for any illness. Above all the community by and large has tremendous faith in them and find them easily accessible.

Pharmacists have been recognized as having key role to play in –

- (a) Strengthening effective drug management.
- (b) Overcoming chronic shortages of essential medicines.
- (c) Combating problems with fake and inferior quality medicines, and
- (d) Increasing efforts to educate public to promote compliance with drug therapy.

CONCLUSION

- Availability of essential & lifesaving drugs and unbiased drug information with generic name.
- Adequate quality control & drug control.
- Withdrawal of hazardous & irrational drugs.
- Drug legislation reform. Implementation of all these activities it would be very helpful to reduce morbidity and mortality rates associated with the drug use. It also will improve the allocation of the resources leading for better availability of necessary drugs with proper costs. Overall, patients will be benefited with decreased risk of unwanted affects such as adverse drug reactions and the

emergence of drug resistance. Promoting the rational use of medicines would definitely help healthcare system to fight the disease and illness for a better tomorrow.

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