

Role of pharmacist in rational drug therapy

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Abstract

In India, there are around 10 lakh Pharmacists working in various positions, applying their unique knowledge & skills, contributing to the health of the Nation. WHO recommends a ratio of one pharmacist per 2000 population in order for optimal health care to be delivered. The concept of rotational use of drugs is very important because it will allow in prescribing the right drug, in appropriate dose for prescribed duration which is adequate to the clinical needs of the patient at the lowest cost which ultimately will lead to the safe, proper and effective use of drugs. It has been found that 50% of all medicines worldwide are prescribed, dispensed, or sold inappropriately and 50% of patients fail to take them correctly. So efforts are to be taken in order to have a rational use of drugs which in turn will avoid the ineffective and unsafe treatment, distress, prolongation of illness and increase in the cost of treatment. A pharmacist can play a multidisciplinary approach to the promotion of the rational use of medicines by providing proper information, and instruction regarding the adverse drug reactions, dosage schedule of drugs to the patients and warning them about the unwanted effects of medicines and monitoring such unwanted effects. In collaboration with other health care professionals the pharmacist can play a key role in educating the patient about hazards of self medication, over use of drugs and poly-pharmacy. Pharmacist helps in achieving the goal of rational use of drugs by following good pharmacy practices. Thus we can conclude that promoting the rational use of medicines results in improved quality of life for the patient in particular and for the community in general.

Keywords: WHO, Rational drug use.

Introduction

Rational use of drugs is one of the old concept evolved as early as 300B.C.

In a broader way we can define rational use of drugs as, “prescribing right drug in adequate dose for the sufficient duration appropriate to the patients at lowest cost”

The irrational use of drug is a serious phenomenon and needs to be taken a serious note. Irrational use of medicines is major problem world wide.

Hazards of irrational use of drugs

As we know medicines are essentially foreign substances to human body and if not used with utmost care they can harm our normal physiological system. Hence, medicines need to be of good quality, safety, efficacy and besides this should be used rational.

1. Unsafe treatment.
2. Prolongation of illness.
3. Distress and harm to patient.
4. Increase in the cost of treatment.
5. Increased morbidity and mortality.
6. Adverse drug reactions.
7. Blood borne diseases like HIV.
8. Loss of patient confidence in health system.

Causes of irrational uses of drugs

There are various causes of irrational uses of drugs.

1. Poly-Pharmacy.
2. Inappropriate antibiotics.
3. Overuse of drugs/misuse/under use.
4. Failure to prescribe in accordance with clinical guidelines.
5. Self medication.
6. Non-adherence of dosing regiments.

7. Lack of information.
8. Faulty and inadequate training and education of medical graduates.
9. Poor communication between health professionals and patients.

Steps to improve rational drug prescribing

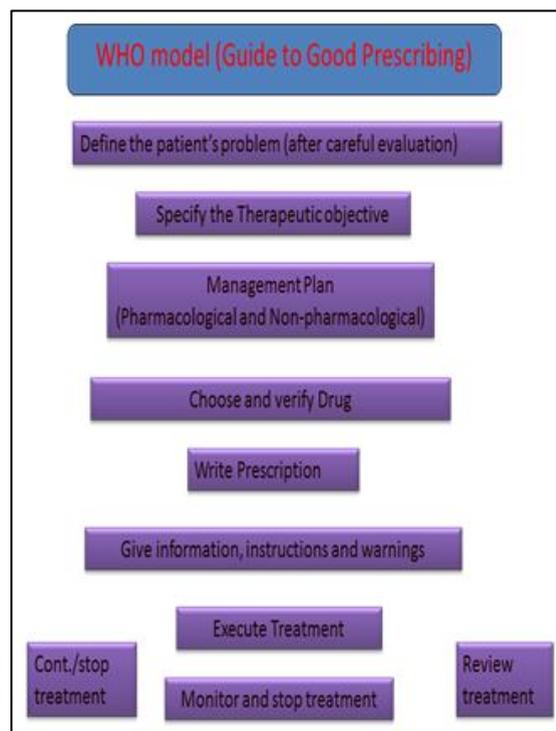


Fig. 1

Drug selection while treatment must be based on the following.

1. **Relevance to disease** - Indicated in the treatment of prevalent diseases.
2. **Efficacy and safety** - Based on the objective results from adequate pharmacological studies including atleast expanded phase (II). clinical trials and / or additional phase (III). studies.
3. **Quality** – of the product should be good as it affect the therapeutic effectiveness of drug.
4. **Cost**-of treatment regime (not just the unit cost).
5. **Appropriateness** to the capability of medical personnel at different levels of health care-The level of expertise required to prescribe, administer and monitor safety and adverse effects of single drug or group of drugs in the therapeutic category must be considered. Consideration should be given to the to the competence of local personnel in making the correct diagnosis.
6. **Local health problems**-The influence of concomitant, locally prevalent diseases or conditions on pharmacokinetic and pharmacodynamic parameters modifying therapeutic response have to be considered in making the selection eg. malnutrition, liver disease.
7. **Benefits / Risk ratio** - when several comparable drugs are available for the same therapeutic indication it is necessary to select the one which provides the most favorable benefit/risk ratio.
8. **Preferential factors** for evaluating therapeutically equivalent drugs - when two or more drugs are therapeutically equivalent preference should be given to :-
 - a. The drug most thoroughly investigated and therefore the best understood with respect to its beneficial properties and limitations.
 - b. The drug which is clinically appropriate for more than one disease.
 - c. The drug with the most favorable pharmacokinetic properties eg., to improve the compliance to minimize risk.
 - d. The drug that are in a dosage form that is easy for the health staff to dispense easily and safely administer to the patient.
 - e. The drugs that are easy for the patient to take or with the broadest acceptability.
 - f. The drugs, pharmaceutical products and dosage forms with favorable stability under anticipated local conditions for which storage facilities exist.
 - g. The drugs for which reliable local manufacturing facilities exist.
9. In the majority of cases the drugs should be formulated as single compounds. Fixed-ratio combination are only acceptable **when-**
 - a. The clinical value of simultaneous use of more than one dose is documented.
 - b. The therapeutic benefit of the combination is greater than the sum of each of the individual components.

- c. The combination is safer than the use of an individual drug.
 - d. The cost of the combination product is less than or equal to the total cost of the individual products.
 - e. The compliance is improved.
 - f. The combination must be such that sufficient quantities to meet the needs of the majority of the population can be maintained.
10. **Periodic review of drug list** - Yearly or whenever necessary to incorporate significant new therapeutic advances and selected drugs.
 - a. Generally new drugs should be introduced only if they offer distinct advantages over previously selected drugs.
 - b. If on the basis of new information, drug already on the list are found to no longer posses a favorable benefit / risk ratio, they should be replaced by drugs with the higher benefit/risk ratio.

Recommendations of who for rational use of drugs

1. Establishment of a multidisciplinary national body to coordinate policies on medicine use
2. Use of clinical guidelines
3. Development and use of national essential medicines list
4. Establishment of drug and therapeutics committees in districts and hospitals
5. Inclusion of problem-based pharmacotherapy training in undergraduate curricula
6. Continuing in-service medical education as a licensure requirement
7. Supervision, audit and feedback
8. Use of independent information on medicines
9. Public education about medicines
10. Avoidance of perverse financial incentives
11. Use of appropriate and enforced regulation
12. Sufficient government expenditure to ensure availability of medicines and staff.

Role of pharmacist in promotion of rational use of drugs

Role of pharmacist has been emerging continuously so as to meet the modulating needs of society. The pharmacist is now no longer a supplier of medicines but a coordinator between different members of healthcare team and the patients. Hence, proper role and involvement of a pharmacist in safe use of medicines and overall healthcare becomes very crucial. Through knowledge of drugs. By promoting the rational use of medicines and patient medication counseling pharmacists play a key role in improved quality of life for the community.

The pharmacist being uniquely qualified because

1. They are the custodians of much technical information on the medicinal products.
2. They provide an interface between the duties of prescription and selling medicines and in doing so; they dispose of any perceived or potential conflict of interest between these two functions.

3. Pharmacist has more opportunity to interact closely with the prescriber and therefore, to promote the rational prescribing and use of drugs.
4. By having access to medicinal records the pharmacist is in a position to influence the selection of drugs, dosage regimens, to monitor patient compliance and therapeutics, response to drugs and to recognize and report adverse drug reactions.
5. They are in a better position to educate other health professionals about the rational use of drugs.
6. They can more easily participate in studies to determine the beneficial or adverse effects of drugs and further they are involved in analysis of drugs in body fluids.
7. They can control hospital manufacture and procurement of drugs to ensure the supply of high quality products.
8. They can actively take part in the planning and implementation of clinical trails.

Conclusion

Rational use of drugs is an important tool in the safe and effective treatment of patients. Indiscriminate uses of drugs not only waste scarce resources that could otherwise be spent on other essential services, but also leads to drug

induced disease. One should avoid self-prescription of medication, and self-acquired remedies.

A pharmacist can play a multidisciplinary approach to the promotion of the rational use of medicines by providing proper information, and instruction regarding the adverse drug reactions, dosage schedule of drugs to the patients and warning them about the unwanted effects of medicines and monitoring such unwanted effects.

Conflict of Interest: None.

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