



## Rational use of drug: A review

<sup>1</sup>Shubhangi Waghmode-Patil <sup>2</sup>Vaishali Bhosale <sup>3</sup>Kiran Umap

<sup>1 2 3</sup>B pharmacy, <sup>1 2 3</sup>late Laxmibai Phadtare college of pharmacy kalamb Walchandnagar 413114

### ABSTRACT –

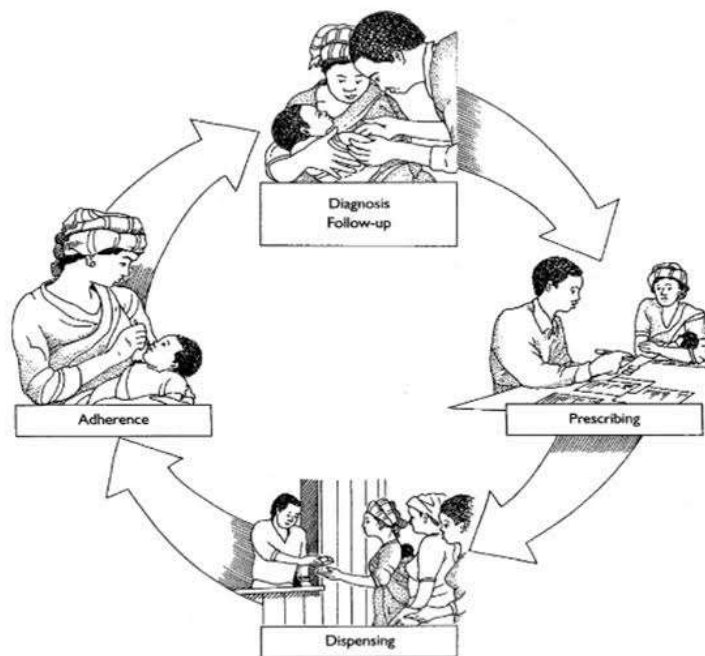
In this article the author is focusing on the concept of rational drug use factors and strategies to enhance or improve use of rational drug. The intention is to give a good health and profession to the public and patients. In an effective therapies rational use of drug play an vital role. Irrational youth of drug can cause health and financial issue to human. World health organisation (WHO) suggest that the establishment of medicines and therapeutics committee good prescription practice to increase the public health. The analysis of these studies focused on quality of services of offered by these pharmacies, knowledge of drug sellers and dispensing practices. The concept of rational drugs during the past few years has been the theme of various national and international gathering. In all over the India there are about 20 lakh people working as a pharmacist in various position we their unique knowledge and skills for improving the health of the nation. Thus we conclude that the promoting the rational use of medicines results in the improved quality of life for the patient in the particular and for community in general.

**key words :-** rational drug use, Irrational, WHO, therapeutics committee, India, pharmacist

**Introduction :-** Rational use of medicines requires that "patients receive medication 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.

Irrational use of medicines is a major problem of world wide. WHO Estimate that more than half of all medicines ace prescribed , dispensed or sold inappropriately and that half of all patients fail to take them correctly.

Example of Irrational use of medicine :- Use of many medicine per patient ( "poly - pharmacy") ; more use of



antimicrobials, often in inadequate dosage, for non-bacterial infection etc.

In order to plan a pharmaceutical regime, the physical needs principles to support their choice of a drug and its regular use, so that they may gain experience regarding both e adverse side

effects. To the end the WHO (world health organisation ) recommend the use or personal drug list. Rational use of drugs is one of the old concept evolved as early as 300 B.C.

### WHO advocates 12 key interventions to promote more rational use:

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



**DEFINATION :-**

1. It involves the systematic and evidence based selection, prescription and administration of drug taking into account factor such as the patient's condition, available treatment options, safety consideration and cost effectiveness.
2. The appropriate timely use of the drugs for an ailment which is properly diagnosed by the physician in right doses of a right regimens and right duration of treatment.
3. The rational drug design mainly focused on target discovery of hits and lead compounds and optimization of drug like candidates where trough data on biochemical and structural characteristics of a protein target would be incorporated.
4. Rational medicine use strategies the effective, safety and cost effective use of medicines, preserve the effectiveness of antimicrobials and contribute to good health outcome.
5. The concept of rational drug use is old, as evident by the statement made by the alexandrian physician before 300 B.C. that is "medicines are nothing in themselves but are the very hand of god if employed with reasons and prudence."

**The procedure after Rational drug perception comprises 6 steps :**

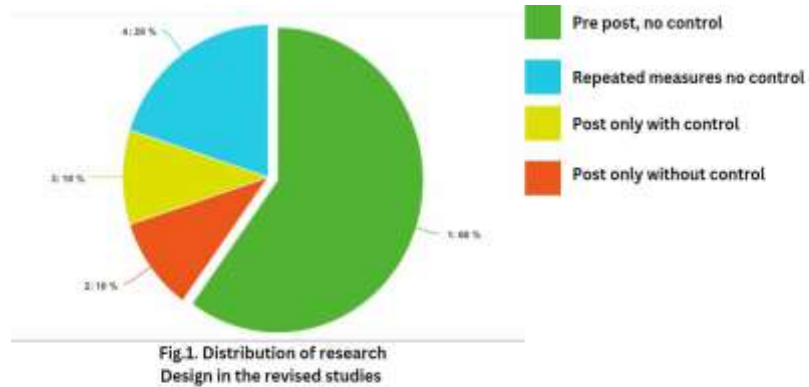
- 1) Determining the patient problem
- 2) Determining the object of the treatment
- 3) Verification of the suitability of the p-treatment for the specific patient
- 4) Onset of treatment
- 5) Information, instructions & precautions
- 6) Monitoring of treatment

**Methods:**

The review of literature covered as full publication that appeared in English language. The category include the key word such as Rational use of drugs, WHO , irrational etc. Key word used to indicate that relevant articles.

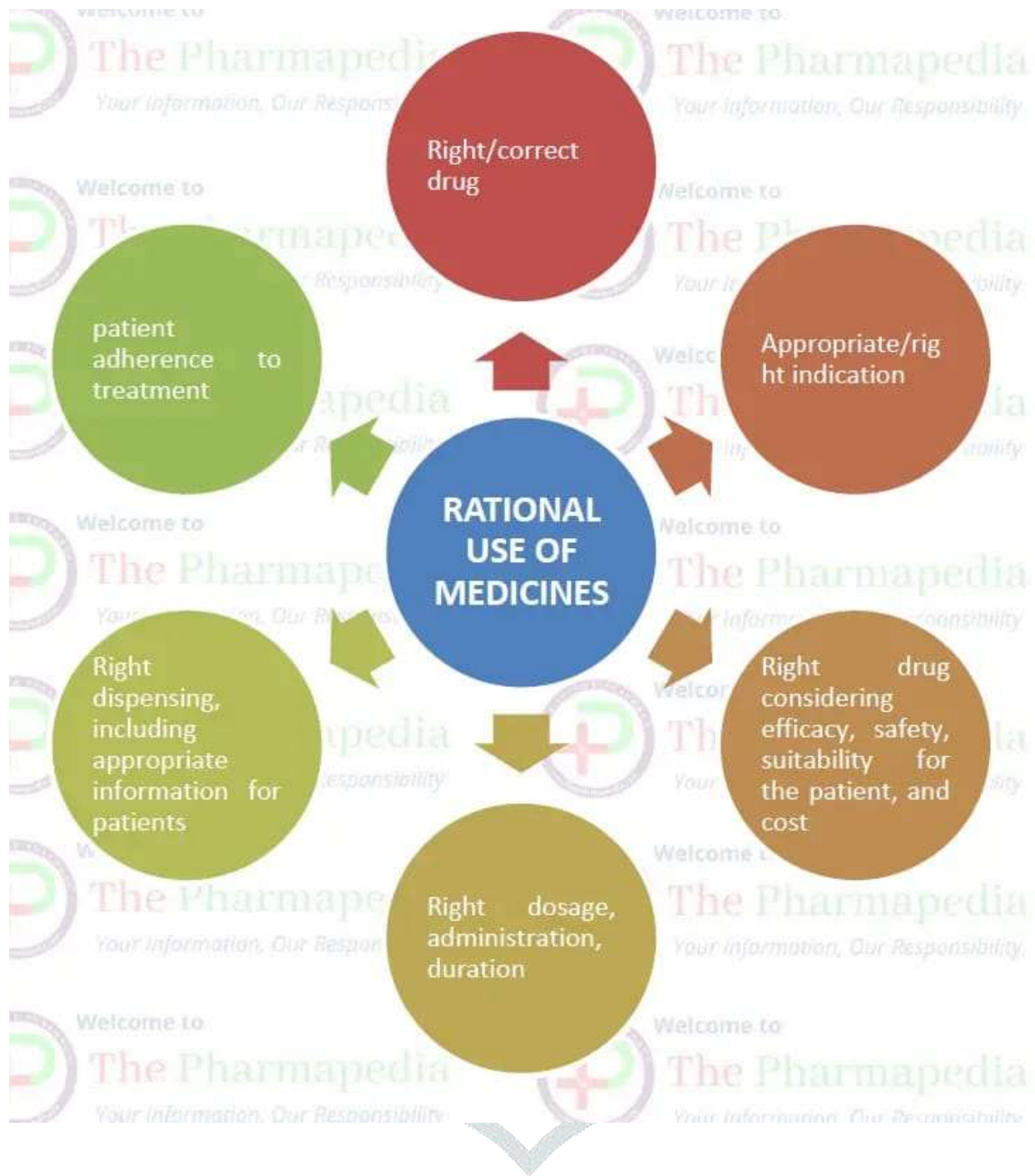
**The article search was included following database :** International pharmasiuticals abstract & Google scholar. The analyzed data are part of the National survey on access & use of rational use of drugs.

The majority of study of Rational use of drugs utilized weak research design. The distribution of design in the reviewed studies is presented in fig.1. During the literature review, abstract of articles were read for relevance to the research objectives.



#### Rational Drug use Evaluation Based on world Health organization ( WHO).

Selected drugs	
Antacids oral suspension	Doxycycline 100 mg capsule
Cimetidine 200 mg/mL injection	Metronidazole 250mg capsule
Hydralazine 20 mg/mL, 2 mL injection	Cotrimoxazole 480 mg tablet
Furosemide 10 mg/mL, 2 mL injection	Artemether + lumefantrine
Adrenaline 0.1%, 1mL	Quinine injection
Amlodipine 5 mg tablet	Hydrocortisone injection
Diclofenac 50 mg tablet	Propylthiouracil 100 mg tablet
Amitriptyline 25 mg tablet	Glibenclamide 5 mg tablet
Diazepam 5 mg/mL injection	Insulin NPH 100 U/mL injection
Phenobarbitone 30/100mg tablet	Metformin 500 mg tablet
Amoxicillin 500 mg tablet, 250 or 125 mg/5 mL suspension	Oxytocin 10 U/mL injection
Amoxicillin + clavulanic acid	Ferrous sulfate 300 mg
Azithromycin 500 mg tablet	Oral rehydration salt
Ceftriaxone 1 g intravenous injection	Lactated Ringer's solution
Ciprofloxacin 500 mg tablet	Normal saline



**Table 1. Areas of Attempted Interventions to Increase Rational Medication Use in the United States****Acknowledgement**

This article is based on a literature review, which was done a part of feasibility study to assess the need for and potential for an

Interventional Taxonomy	Specific Measures Advocated by WHO	Specific Elements in the US System	Impact on Rational
Educational	<ul style="list-style-type: none"> <li>•Inclusion of problem-based pharmacotherapy training in undergraduate curricula</li> <li>•Continuing in-service medical education as a licensure requirement</li> <li>•Use of independent information on medicines</li> <li>•Public education about medicines</li> </ul>	•Problem-based basic training in professional curriculum	Increase
		•Continuing educational program requirements for license renewals	Increase
		•Academic detailing to	Increase
		•Prescriber reminders	Increase
		•Outreach visits to patients and patient groups	Increase
Managerial	<ul style="list-style-type: none"> <li>•Use of clinical guidelines</li> <li>•Development and use of national essential medicines list</li> <li>•Establishment of drug and therapeutics committees in districts and hospitals</li> <li>•Supervision, audit, and feedback</li> <li>•Avoidance of perverse financial incentives</li> </ul>	•Health promotion/education to consumers by government and independent consumer groups	Increase
		•Direct-to-consumer advertising	Equivocal
		•Therapeutic guidelines	Equivocal
		•Medication use evaluation	Increase
		•Disease management strategies	Increase
		<b>Does not exist in US System</b>	
		•Pharmacy and therapeutics committees Formularies	Equivocal
•Medication use evaluation	Increase		
•Disease management strategies	Increase		
•Incentives for prescribing	Equivocal		

International Resource Center on drug use and intervention Research. The feasibility study has resulted in the establishment of IRENE. The authors are thankful to the authorities of LPCP college of pharmacy too providing necessary facilities and library.

**Conclusion :-**

The rational use of medicines involves their correct / proper / appropriate use so that their selection dose, duration are according to the guidelines, suitable the clinical need at the lowest cost to the provider , community and the patient and are dispensed correctly and taken properly. RUM can be significantly improved by providing better training for healthcare professionals as well as improving the patient and public health.

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1. **Dr. Siddhartha Dutta,**  
Senior Resident Department of pharmacology , All India Institute of medical sciences (AIIMS)
2. Shumaila Arshad, Sahar Mahmood, Sidra Rasool, Saima Hayat, Shanawar zafar, Tehreem Zehra  
Faculty of pharmacy, university of lohore, Defence Road Campue, Lohore, Pakistan
3. **Dr Sneha Ambwani,**  
Assa. Prof. in pharmacology Dr. S. N. medical college, Jodhpur
- Dr. A. K mathur,**  
Prof.and head Department of pharmacology Dr. S. N. medical college Jodhpur
4. S. V. chordiya,  
Principal, Gangamai Institute of pharmacy, Naigoan, Dhule, Maharastra, India
5. Modupe Ireliola Buiders,  
Department pharmacology and Therapeutic, college of health sciences, Bingham University, Jos, Nigeria
5. John Alfa, Obi Peter Adigwe,  
Pharmaceutical services, National Assembly, three arm Zone, Abuja, Nigeria.
6. **T mavromoustakos, C. Kaukoulitsa,**  
University of Athene, Chemistry department 15784 , zographou Athenes, Greece  
S. Durdagi,  
Institute for biocomplexity and informatics, Department of biological sciences, university of calgary, Alberta, Canada.  
M. Simcic, S. Folic Gradodolink,  
Laboratory of biomolecular structure, national institute of chemistry, 1001 Lyubljana, Slovenia.
7. **Sauwakon Ratanawijitrasin,**  
Faculty of pharmaceutical sciences, chulalongkorn university, phayathai Rd.  
Stephen B. Soumerai,  
Harvard me.dical school, USA  
Krisantha weerasuriya,  
Faculty of medicine, University of Colombo, Shri lanka
8. **S. C Shivhare,**  
Vels college of pharmacy, Pallavara Chennai ( Tamil Nadu )
- H. K . Kunjwani,**  
Parul Institute of pharmacy limda, vadodora (Gujarat)
- AV. Bondre,**  
Bajiraoji Karanjekar college of Pharmacy, Sakoli, Dist. Bhandara ( M.S.)