

Managing Rational Use of Drugs in Bangladesh

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ABSTRACT

Despite substantial progress in drug manufacturing, irrational drug use, inappropriate prescribing, inadequate access to essential drugs are major problems affecting the total health care system badly of Bangladesh. Virtually, all the drugs are available without prescriptions and self-medications are highly common. Access to essential medicines is significantly less than that mentioned in the official documents. Price of essential medicines is not consistent and the drugs regulating authority does not have any control over pricing of drugs. In short, the economical development and educational flourishment doesn't represent the health sector of Bangladesh.

Keywords: National Drug Policy (NDP), The Directorate General of Drug Administration (DGDA), Drug Control Ordinance, Essential Medicine, Standard Treatment Guidelines (STG)

INTRODUCTION

Drug use is rational when it is taken for appropriate indication, with a specified time according to therapeutic guidelines and mode of administration at the lowest cost to economy or community. The nation is suffering with both irrational use and also a huge report on drug abuses. In a recent WHO study, it was found that out-of-the-pocket drug expenditure has raised more than 70% in the last decade but the rational use situation has not been improved. 82' ordinance impact much for national drug selling companies but also impart ingestion of many unwanted and irrational activities by them. Along with them healthcare providers, patients are also responsible for irrational uses. Situation is at this moment it is very difficult to say who will bring such changes and who are actually responsible.

As per the WHO (1985), the definition of rational use of medicines – *“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.”* The definition implies that rational use of drugs, especially rational prescribing should meet following criteria's:

Appropriate indication: the decision to prescribe drug(s) 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 reactions 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 condition and the medications that are prescribed.

Appropriate monitoring: the anticipated and unexpected effects of medications should be appropriately monitored.

“The safe, effective, appropriate and economic use of medicines is called rational use of drugs”. The components of this definition can be defined as:

Safety relates to aspects like the available treatment options including medicine and non-medicine treatment, long term or short-term treatment, whether the medicine is to cure or control symptoms, any risks of overdoses and other possible factors.

Effectiveness relates to the question of how well the medicine works in daily practice when used by unselected populations and patient having comorbidities and other medications.

Appropriateness refers to how a medicine is being prescribed and used in and by patients, including aspects such as appropriate indication, with no contraindication, appropriate dosage and administration.

The economic aspect does not refer merely to price; rather, a cost-effectiveness approach needs to be applied, where all factors are assessed. We should also be aware of hidden costs, such as a need for more extensive laboratory test, which may increase the total cost of a particular treatment.

What exactly constitutes rational drug use?

Following steps are to be fulfilled as a prerequisite

- Proper diagnosis
- Effective and safe treatments (both drug and non-drug);
- Selecting appropriate drugs, dosage and duration;
- A clear prescription with intended use of medicine
- Adequate patient counselling, sharing and gathering treatment guidelines and patient history
- Planning to evaluate treatment responses. (Chaturvedi et. al 2012)

IRRATIONAL DRUG USE

Irrational prescribing refers to prescribing that fails to conform to good standards of treatment. This may manifest in six different ways:

1) Under prescribing: Inadequate dose or prescribing no drugs although needed

2) Over prescribing: the prescribe drugs are not needed, prescribing higher generation antibiotic or higher dose than required

3) Incorrect prescribing: prescribing in which wrong drug is prescribed

4) Incorrect dispensing:

- Prescribing the wrong drug.
- Dispensing the wrong drug due to an unclear prescription

- Dosage given not complied by the therapeutic guidelines

5) Extravagant prescribing:

- Prescribing a more expensive branded drug when there is a less expensive generic is available

6) Only treating symptomatically, avoiding the underneath reasons

7) Multiple prescribing: Prescribing drugs more than required guidelines. Hence making the patient to use lot of his funds (Richard et.al 2016).

FACTORS UNDERLYING IRRATIONAL USE OF DRUGS

Patients: drug misinformation, misleading beliefs, patient demands / expectations.

Prescribers: lack of education and training, inappropriate role models, patient pressures, lack of objective drug information, company incentives, limited experience, misleading beliefs about drug efficacy, competition.

Workplace: heavy patient load, pressure to prescribe, lack of adequate lab capacity, insufficient staffing.

Drug Supply System: unreliable suppliers, drug shortages, limited budgets necessitating fixed choices, expired drug supplied.

Chemists Shops: patient pressures, profit motives, competition.

Drug Regulation: non-essential drugs available, inefficient audit system, inadequate legal implementation, and no-formal procedures.

Industry: promotional activities, misleading claims, incentives.

REASONS FOR IRRATIONAL USE OF DRUGS

There are several reasons which may contribute to irrational use of drugs in our country:

1. Lack of information: Providers may not up to date themselves with time, many of them are busy in just patient dealing. Such type of providers mostly relies on medical representatives for prescribing, sometimes without caring dose and indication of drugs they prescribe.

2. Inadequate training and education: Proper clinical guidelines, diagnosis and other information lack is becoming a practice now-a-day.

3. Busy work schedule: Medical practitioners giving less time to the patient & not explaining some basic information about the use of drugs due to busy

schedule and increased number of patients. Also true for govt. medical outdoor.

4. Poor facilities/Uncertainty of diagnosis: Correct diagnosis is an important step toward rational drug therapy. Doctors of rural area faces a lot of problems due to non-availability of diagnostic facilities. Sometimes they prescribe multiple drugs because of this.

5. Demand from the patient: Patients are more often impatient and also, there is a belief that “every ill has a pill” which gives rise to polypharmacy.

6. Defective drug supply system & ineffective drug regulation: Poor vigilance by the regulatory authority.

7. Excessive drug promotion: The lucrative promotional programs of the various pharmaceutical industries influence the drug prescribing (Ambwani et.al).

FACTORS THAT HAVE LED SUDDEN REALIZATION FOR RATIONAL DRUG USE ARE

1) Drug Explosion: Increase in number of drugs available has incredibly complicated the choice appropriate drug for particular indication.

2) Effects to Prevent the Development of Resistance: Irrational use of drug may lead to the premature demise of highly efficacious and life-saving new antimicrobial drug due to development of resistance.

3) Growing Awareness: Today the information about drug development, its use and adverse effect travel from one end of the planet to the other end with amazing speed.

4) Increased Cost of Treatment: Increase in cost of drug increase economic burden on the public as well as on the government. This can be reduced by rational use of drug

5) Consumer Protection Act (CPA): Extension of CPA in medical profession may restrict the irrational use of drug

Research conducted a comprehensive year-round literature search, which included books, technical newsletters, newspapers, journals, and many other sources. Medicine and technical experts, pharma company executives and representatives were interviewed. Projections were based on estimates such as drug end users, providers or prescribers,

general theories of rational use, implication and types of different irrational uses.

GENERAL HEALTH SCENARIO OF BANGLADESH

Bangladesh is considered a developing country with more than 75% of the total population living in rural areas. The government healthcare system remains a very minor source of health care there. Nearly 30% of professional posts in rural areas remain vacant and 40% remains absent. 45% rural people go unqualified health professionals like medical assistant, mid wives or MCWC maid, PCs and nearly 15% to qualified medical graduates. Overprescribing (prescribing antibiotic of higher generation/a higher priced/injectable antibiotics instead of oral) and inappropriate dispensing are very common in this country.

OVERVIEW OF THE PREVAILING DRUGS MARKET

Essential medicine list content was 117 during 80's and nearly 300 in 2016, but the drug market is flooded with nearly 1300 generics with more than 23000 brands (Mohammad 2006). Among 231 allopathic drug manufacturers, top 30 companies enjoying major share of the total market. Interestingly, Bangladesh owns about 70.9% of generic medicines in terms of total sales among the 4 least developed countries of the world. There are 0.1 million illegal and unlicensed drug retail shops according to chemist and druggist association. Counterfeit, substandard quality, smuggled and adulterated medicines prevail a larger part of drug market. Nearly 13% drugs are sold with prescription. All these are a consequence of poor vigilance and control over drug manufacturers and sellers. 32 item-based multivitamin/mineral preparations include selenium, vanadium, molybdenum, tin and other less important or unnecessary minerals but fact is nutritional deficiencies are caused due to Vitamin A or B-complex, iron, calcium, iodine, or zinc deficiency. Deficiencies due to selenium, vanadium or tin are seldom diagnosed in Bangladesh, if ever.

Prescription Patterns of Drugs

A prescriber, independent or supplementary is responsible for his prescription for both drugs prescribed and not prescribed in any patient medical intervention. Legal actions never taken any prescriber for his incompetence or any fetal

outcomes. The victim accepts it as fate, and no complaint is lodged. From common cold to cancer, vitamins to vincristine any drug can be prescribed by the practitioner. In a govt hospital outdoor, it was found a less than a minute consultation time to an outdoor patient, by a qualified doctor. Nearly half of the medicines are inappropriately prescribed and sold, the most interesting fact in between is prescription switch by retailers for profit maximization purpose. Situation is even worse in rural areas, where 60% antibiotic prescriptions are based on symptoms alone without any diagnosis, pathogen identification test or sensitivity tests.

Alarming Child and Women health situation

Women health are mostly neglected. Nearly half of the expecting women visit unqualified health personnel, delivery ensured by midwives or MCWC maid who are experienced but either illiterate or untrained. Child marriage adolescent motherhood are among the highest in the world as said by UNICEF and BBS, Multiple Indicator Cluster Survey (MICS) 2006. A woman's lifetime risk of dying in pregnancy or childbirth is 1 in 51, which is 1 in 47,600 in Ireland (the best performer). About 12,000 women die every year from pregnancy or childbirth complications. Children are the tragic victims of irrational antibiotic prescriptions. Infant related drug purchase are more than 25% antibiotics, nearly 50% of them were purchased quantities less than one day's dose. HOP (Hospital Acquired Pneumonia) and diarrhea causes annual death of about 2.5 lac children every year. Multiple and inappropriate antimicrobial drugs is the most common treatment errors in dysentery with failure to recommend use of oral rehydration solutions. Over-statements and misinformation are very common in Bangladesh, which greatly influences doctors' prescribing behaviors.

Abuse or Over use of OTC Drug

A serious misuse of OTC drugs reported in Bangladesh. Practically there's no prescription only drug concept. Self-medications among both educated and illiterate people also reported, along with misuser nearly 5,00,000. Abuse potentials of pain killers, gastric acidity modifiers, cough syrups of different combinations, anti-depressants are on top. Treatment for OTC drug abuse or addiction to OTC medications depends upon several factors, including

the type of over-the-counter medication or medications being abused, the age and gender of the patient, the length and severity of the patient's drug problems. William Osler, often described as the father of modern medicine, once said that one of the first duties of the physician is to educate the masses about not to take medicine. The real-life problem is general people avoids consulting a physician and becoming dependent of those OTC drugs.

Availability and Accessibility of Essential Drugs

The NDP gives clear guideline to production and distribution of essential drugs. Also, incentive is there. Still 80% of under privileged people doesn't have sustainable access. Nearly 90% of the medical inpatient have to go for drug purchase from outside. As with rural areas, unavailability of essential drugs the urban government health facilities is often very common. Theft and illegal sale of essential medicines from the government hospitals are very common. Officials in-charge of hospital drug stores sell these drugs to local pharmacies instead of supplying to the poor patients.

RECOMMENDATIONS

A. Promoting Rud in Bangladesh

Rational drug promotion surely results HQRL for a community. There should be a clear screening process of misleading and exaggerated claims by pharmaceutical promotional activities. Short problem-based learning course in pharmacotherapy in medical education and rational use focused workshops can improve prescription behavior and skills of health providers (Khan et.al 2011). DGDA should be more vigilant and active in both drug promotion and prescription flow. There's a strong need for CME course once in a year on new or existing drugs. Bangladesh National Formulary (BDNF) should be distributed to young doctors and general practitioners to provide unbiased drug information and it need to be updated every year. ADR reporting should be made mandatory. The concept of pharmacovigilance implies DTC in every hospital, clinics or any other healthcare settings to rationalize prescription and dispensing. Drug supers have an important role here. They should pay more attention to retailers and wholesalers in their activities of drug flow in market. Finally, all healthcare systems have scarcity of resources. The

rapidly increasing cost of medicines may force the prescribers to consider cost effectiveness as a factor in drug selection. Pharmacoeconomics should be mandated in all sorts of medical and non-medical education that relates drug use, prescribing, compounding and dispensing. Devising local formularies, following Standard Treatment Guidelines (STG) and creating National institute for Health and Clinical Excellence can help doctors to prescribe more rationally. Generic prescription should be encouraged in hospital settings. A mandatory multidisciplinary national body of regulation (as detailed by WHO) would be more helpful in co-ordination activities by different govt. organizations.

B. Role of pharmacists

Pharmacists are the core people in healthcare service as they have many more areas to contribute than the doctors. They can provide prevention and education service not only to patients but also others involved in healthcare interventions. Pharmacoeconomics and pharmacovigilance, both areas can be covered by pharmacists of different disciplines. The potential health care cost savings associated with these aspects of practice are enormous. It is essential for increases in the use of automation and technical personnel to occur. If collaborative practice and disease state management are the most advanced form of pharmaceutical care then pharmacogenomics is the next natural evolution. The ability to predict drug therapy outcomes before initiation by studying a patient's genetic profile will improve medication efficacy, patient safety and quality of life while decreasing adverse reactions as well as help contain cost.

Corrective Movements against unethical drug promotion

Profit and ethics are both important for the sustainability of a business. But if we take the case of pharmaceutical companies as our point of debate, which we consider a noble business. In recent years entrepreneurs of different business background started drug formulations through licensing power and company signboard. DGDA should be more cautious about giving drug license. Pharma companies give gifts and other incentives to doctors

and other professionals which is a serious breach of code of conduct. But it is also true that there are ethical doctors who continue to prescribe medicines that are most beneficial and economical to their patients despite being under pressure from medical representatives of drug companies. And also, code of marketing should be applied more strictly. This 'culture of gifts' is forbidden almost everywhere around the world. In Bangladesh, Secretaries to the Government or officers of equivalent status may accept gifts offered abroad or within Bangladesh by institutions or official dignitaries of foreign government of comparable or higher levels, provided that the value of the gift in each case does not exceed Tk 500 (USD 6.5) (Rule 5 of Government Servants (Conduct) rules 1979. Problem with these business people is that they can't differentiate between FMCG and drug sales.

NGOs should be given responsibilities

Activities of NGOs nationwide is appreciable but they do not do anything free, takes much profit capitalizing their access to general people. They are to be part of vigilant activities. Along with their other activities they should engage in drug flow and prescription flow monitoring. A clear mandate should impose for them to report government authority on timely basis along with some other delegation.

CONCLUSION

National Drug Policy 2016 of Bangladesh suggests that medicine distribution and utilization in retail pharmacies and hospitals should be under the supervision of qualified pharmacist. But reality is that no graduate pharmacist is working in retail pharmacies or Government hospitals of Bangladesh except very few private hospitals. Without giving them proper authorization, health sector can never achieve future goals. Government and private authority should work together in different aspects of decision making, rules and regulation and policy making. Last but not the least, general people should change their attitude and behavior towards medical interventions. A strict control should there to maintain drug flow, promotion and drug approval by regulatory authorities.

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