Trainer's Guide

Problems of Irrational Drug Use
Problems of Irrational Use of Drugs

TRAINER'S GUIDE

OBJECTIVES

Participants will be able to:

1. Identify the magnitude and nature of inappropriate drug utilization in several settings.

2. Understand the adverse impacts of inappropriate use of drugs.

3. Describe the factors that influence the decision-making process in drug use.

4. Identify factors that influence the behavior of prescribers and patients in choosing specific medication therapies.

5. Relate these issues to specific medication use problems in their own settings.

PREPARATION

1. Read the Session Notes.

2. Prepare a list of medication use problems to be referred to in the Activities section that follows.
VISUAL AIDS

1. Title Slide 13. % of Patients Receiving Injections
2. Objectives 14. Injection Use by Diagnosis
3. What is Rational Use of Drugs? 15. URI Treatment Pattern
4. Rational Use of Drugs = 16. Other Drug Use Problems
   Pathology of Prescribing 17. Average Number of Drugs per Patient
5. Examples of commonly Encountered Inappropriate Prescribing Practices
6. Components of the Drug Use System
7. Factors Underlying Irrational Use of Drugs
8. Impact of Inappropriate Use of Drugs
9. Activity 1-Meaning of Appropriate Use
10. Drugs per Case by Age Group
11. Drugs per Case by Diagnosis
12. % of Patients Receiving Antibiotics
18. % Prescribed as Generics
19. % Receiving Antibiotics
20. % Receiving Injections
21. Average Consultation Time
22. Average Dispensing Time
23. % Patients Knowing Drug Dosing
24. % of Key Drugs in Stock
25. Activity 2-Identifying a Priority Problem
26. Conclusion

ORGANIZATION AND KEY COMPONENTS OF SESSION

First Component

⼈ (30 minutes)  VA 's 1-8

Defining Rational Use of Drugs

Note that the definition presented is based on a medical model. Other people have different perceptions of what is irrational. For a storekeeper, selling a profitable but unnecessary drug may be rational. For a poor patient, buying one antibiotic tablet may be rational.

Note for trainer: Do not spend undue time discussing the examples given.

Second component

⼈ (30 minutes)  VA 9

Activity 1-Meaning of Appropriate Use

This is a short activity, which has the aim of showing that different people have different perspectives about what is "rational" or "appropriate". Explain clearly that
we are interested in the real world situation not the "ideal" situation. Emphasize that we are looking for the perspectives of the person identified.

Third Component
⊙ (30 minutes) ⚫ VA’s 10-15

Examples of Irrational Use

This component covers various examples of how drug use can be characterized. Point out that drug use can be characterized for all diagnoses combined, or for specific diseases. Do not try to compare practices for under 5 and over 5 subgroups. Focus on how few patients received no drugs, no antibiotics, or no injections.

Fourth Component
⊙(30 minutes) ⚫ VA’s 16 -24

Drug Use Patterns in Developing Countries

In this component of the session highlight the variation between countries. Point out that variations may be due to differences in morbidity patterns, but are often due to differing practices which do not have a clinical basis. Try not to elicit suggestions for the reasons for the extreme outliers. Point out that very low levels may also reflect inappropriate use, for example, if antibiotics are unavailable and not always used when they are needed.

Fifth Component
⊙ (45 minutes) ⚫ VA 25

Activity 1: Identifying a Priority Problem.

The point of this activity is to show that while there are many different problems in drug use, it is possible to develop priorities for addressing them.

Conclusion
⊙ (15 minutes) ⚫ VA 26

At the end of the session summarize the key point that drug use can be characterized and measured in a systematic way.
Problems of Irrational Drug Use
Problems of Irrational Drug Use: Objectives

- Identify magnitude and nature of inappropriate drug utilization
- Understand the adverse impacts of inappropriate use of drugs
- Describe factors which influence the decision-making process
- Identify factors which influence the behavior of prescribers and patients
- Discuss specific medication use problems
What is Rational Use of Drugs?

The rational use of drugs requires that patients receive medicines 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 the community. (WHO 1988)

- Appropriate indication
- Appropriate drug
- Appropriate administration, dosage, and duration
- Appropriate patient
- Appropriate patient information
- Appropriate evaluation

Emphasize that this is medical model.
Irrational Use of Drugs = Pathology of Prescribing

- The use of drugs when no drug therapy is indicated
- The use of wrong drugs for a specific condition requiring drug therapy
- The use of drugs with doubtful or unproven efficacy
- The use of drugs of uncertain safety status
- Failure to prescribe available, safe, & effective drugs
- Incorrect administration, dosages, or duration

Request an example of each practice from participants.
Elicit 2-3 others from participants.
Components of the Drug Use System

Key points:
- relationship of demand and supply
- multiple outlets for drugs
- many decision-makers effect system
Factors Underlying Irrational Use of Drugs

- **Patients**
  - lack of education and training
  - lack of drug information
  - heavy patient load
  - pressure to prescribe
  - generalization of limited beliefs
  - misleading beliefs about efficacy

- **Prescribers**
  - drug misinformation
  - misleading beliefs
  - inability to communicate problems

- **Drug Supply**
  - availability of unsafe drugs
  - informal prescribers
  - etc.

- **Drug Regulation**
  - promotion
  - misleading claims

- **Industry**
  - promotion
  - misleading claims

Emphasize interrelationship of factors and that problems rarely have single cause.
Impact of Inappropriate Use of Drugs

- Reduced quality of therapy
  - morbidity
  - mortality
- Waste of resources
- Risk of unwanted effects
- Psycho-social impacts
  - patients rely on unnecessary drugs
- Reduced availability
- Increased cost
- Adverse reactions
- Bacterial resistance
Activity 1

Meaning of Appropriate Use
Drugs per Case by Age Group:
E. Java & W. Kalimantan, Indonesia, 1987

Under 5

- One: 1%
- Two: 9%
- Three: 29%
- Four: 35%
- Five: 19%
- Six: 6%

Five & Over

- One: 1%
- Two: 14%
- Three: 33%
- Four: 35%
- Five: 19%
- Six: 6%

Average for both Adults and Children = 3.8 Drugs.
Possible discussion:
Why are there such small differences by diagnosis?
Possible discussion:
What would you expect the real need for antibiotics to be?
Possible discussion:
Why is use of injections higher in adults than children?
Possible Discussion:
Which drugs are appropriate for ARI?
Other Drug Use Problems

- Incorrect treatment of malaria
  - incorrect use of chloroquin injection
- Poor compliance with TB therapy
  - causes treatment failure and resistant organisms
- Underuse of effective drugs
  - hypertension
  - depression
- Hospital drug use problems
  - antibiotic misuse for surgical prophylaxis

Ask participants which other problems are important in their environment.
Possible discussion for all indicator slides:
1.) Why are countries different?
2.) What is gold standard value?
Problems of Irrational Drug Use

% Prescribed as Generics
Public Sector Drug Use Indicator Studies 1990-1993

- Sudan
- Indonesia
- Zimbabwe
- Tanzania
- Nigeria
- Nepal
- Ecuador
- Guatemala
- Eastern Caribbean
- Ghana
- Cameroon
- El Salvador
- Jamaica

% Generic
% Prescribed as Generics
% Receiving Antibiotics
Public Sector Drug Use Indicator Studies 1990-1993

Yemen
Uganda
Sudan
Malawi
Indonesia
Bangladesh
Zimbabwe
Tanzania
Nigeria
Nepal
Ecuador
Guatemala
Eastern Caribbean
Jamaica
Ghana
Cameroon
El Salvador

% of encounters receiving antibiotics
% Receiving Injections
Public Sector Drug Use Indicator Studies 1990-1993

- Yemen
- Uganda
- Sudan
- Malawi
- Indonesia
- Bangladesh
- Zimbabwe
- Tanzania
- Nigeria
- Nepal
- Ecuador
- Guatemala
- Eastern Caribbean
- Jamaica
- Ghana
- Cameroon
- El Salvador

% of encounters receiving injections
Discuss reasons for short consultation times when the workload is low.
Point out that times are measured in seconds not minutes and that training of dispensers can have good effects. Begin to discuss that dispensing time includes both preparation of drugs to dispense and dispensing communication.
Possible discussion:
What should patients know about their drugs?
Activity 2

Identifying a Priority Problem
Conclusion

- Drug use is the end of the therapeutic consultation
- Health professionals have a responsibility to ensure that the right drug is prescribed, dispensed and taken.
- Methods exist to measure drug use and to change practices.
- Improving drug use improves the quality of care and frequently lowers cost.