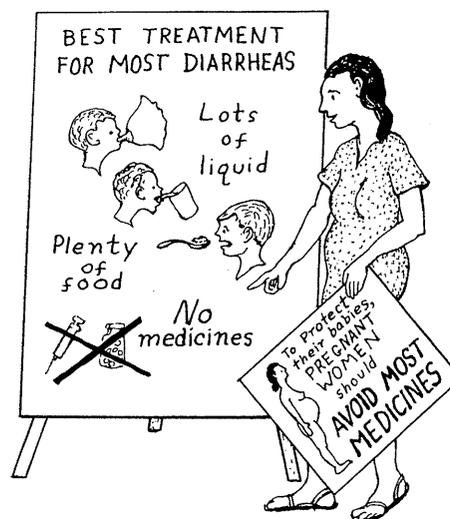


Learning to Use Medicines Sensibly

Helping health workers learn to use medicines wisely is not easy. But this is not because the knowledge and skills needed are difficult. It is because the misuse and overuse of medicines is so common—among doctors and among people in general.

Even in wealthy countries, where there are stricter controls on the marketing and use of medications, **studies show that a great many doctors consistently misuse medicines.** Either they prescribe too many, give the wrong medicines for certain illnesses, or recommend expensive medicines when cheaper ones would work as well.

Misprescribing of antibiotics is an especially common problem (see Chapter 19). For example, a study in the United States showed that up to 70% of doctors' prescriptions for tetracycline were for treating the common cold—for which no antibiotic does any good! (See *WTND*, p. 163 and 353.) In poorer countries, the misuse—and overuse—of medicines tends to be even greater.



Because the overuse of medicine is such a big problem in many areas, health workers should place great emphasis on when not to use medicines.

SOME REASONS FOR THE WIDESPREAD MISUSE AND OVERUSE OF MEDICINES:

Health workers should discuss these facts and help make everyone aware of them.

1. Big business. The production and marketing of modern medicines is one of the biggest, most profitable businesses in the world. Drug companies are continually inventing new products to increase their sales and profits. Some of these medicines are useful. But **at least 90% of medicines on the market today are unnecessary.** Doctors prescribe them, and people buy them, because the drug companies spend millions on advertising.

2. False advertising. Especially in poor countries, much of the advertising, and even the information published in 'pharmaceutical indexes', is misleading or false. Information on dangerous side effects is often not included. Risky medicines are frequently recommended for illnesses less dangerous than the medicines. (For example, chloramphenicol has often been advertised as a treatment for minor diarrhea and respiratory infections—see *WTND*, p. 50.)

3. 'Dumping'. Drug companies in wealthy countries sometimes produce medicines that do not sell well in their homelands. Or the use of certain medicines is restricted or prohibited because they have been proved unsafe. It is a common practice for drug companies to 'dump' these medicines on poor countries—often with a great deal of false advertising. For example, several years ago the U.S. government restricted the use of *Lincocin* (lincomycin) because it proved more dangerous, more costly, and generally less effective than penicillin. The following year, thanks to massive advertising, *Lincocin* became the best selling drug in Mexico!



4. Lack of adequate controls. Poor countries, especially, have inadequate laws controlling the production and sale of medicines. As a result, many poor countries sell up to 3 times as many different medicines as rich countries do. Most of these medicines are a waste of money. Many are completely unreasonable combinations of drugs, yet they are widely prescribed by doctors. For example, in both Latin America and Asia, a popular injectable medicine is tetracycline combined with chloramphenicol. This is a senseless combination because the two drugs are 'incompatible' and should never be used together (see p. 19-5).

5. Bribes and corruption. Drug companies in rich countries pay millions in bribes to officials in poor countries so that governments will buy their products. (A major U.S. pharmaceutical company recently admitted to having spent millions of dollars on bribes to advance its products in poor countries.)



6. Sale of prescription medicines without prescriptions. This is common in many countries (partly because poor people cannot afford doctors' fees). Most people who 'self-medicate' try to use the medicines well, so they follow the patterns set by doctors. Unfortunately, this often leads to incorrect use. For example, in Latin America at least 95% of doctors' prescriptions for Vitamin B₁₂ are incorrect and wasteful. Because villagers follow the doctors' example, vitamin B₁₂ injections are among the most widely used self-prescribed medicines in Latin America—at a cost of millions to a people too poor to eat well!

7. People not adequately informed. Neither doctors nor the people are adequately informed about the correct use of medicines. Most doctors rely on the information given in misleading 'blurbs' supplied with sample medicines, while villagers who self-prescribe often receive no information at all. In Mexico, for example, up to 70% of prescription drugs are sold without prescription. Yet the packaging of these medicines generally contains no information about use, dosage, or risks.

8. Health workers not adequately informed. In spite of the tremendous amount of self-medication in most countries, many programs still do not teach health workers much about the use—or misuse—of commonly self-prescribed medicines. As a result, many health workers, to meet popular demand, secretly purchase and administer a wide range of medicines they know little about.

For more information on the unethical promotion of medicines and their abuse in developing countries, see: *Pills, Profits and Politics*, Philip Lee and Milton Silverman, and *The Drugging of the Americas*, Milton Silverman, University of California Press, Berkeley, California, USA; *Hungry for Profits*, Robert J. Ledogar, Corporate Interfaith Council, New York, USA; *Who Needs the Drug Companies*, a Haslemere Group, War on Want, and Third World First publication; and *Poor Health, Rich Profits: Multinational Drug Companies and the Third World*, Tom Heller, Spokesman Books, Nottingham, England.

9. Use of medicine to gain prestige and power. Another reason for medicine overuse is that many professionals use their ability to medicate as a sort of magic to make people grateful and dependent. This way they gain special privilege and power. In the same way, health workers may be tempted to give injections or expensive drugs when home remedies or kindly advice would cost less and do more good.

"ONLY I CAN CURE YOUR CHILD."



Modern healers, like witch doctors, too often use their medicines to gain power and create dependency.

Medication as a substitute for caring

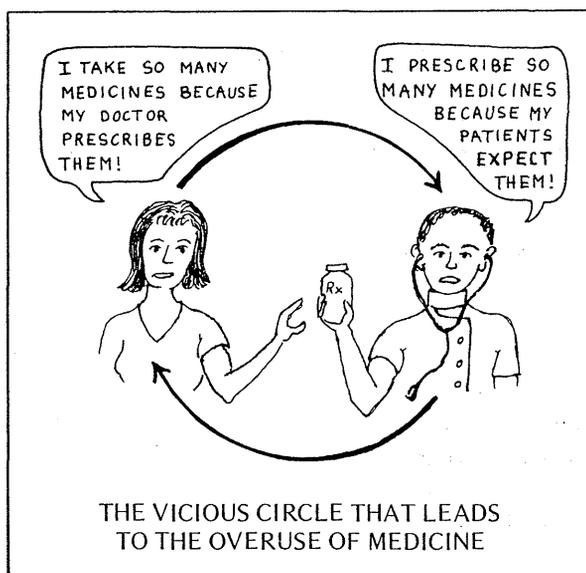
Perhaps the biggest reason for overuse of medicines, however, is that doctors and health workers often find it easier to hand out medicine than to give the time and personal attention that people need.

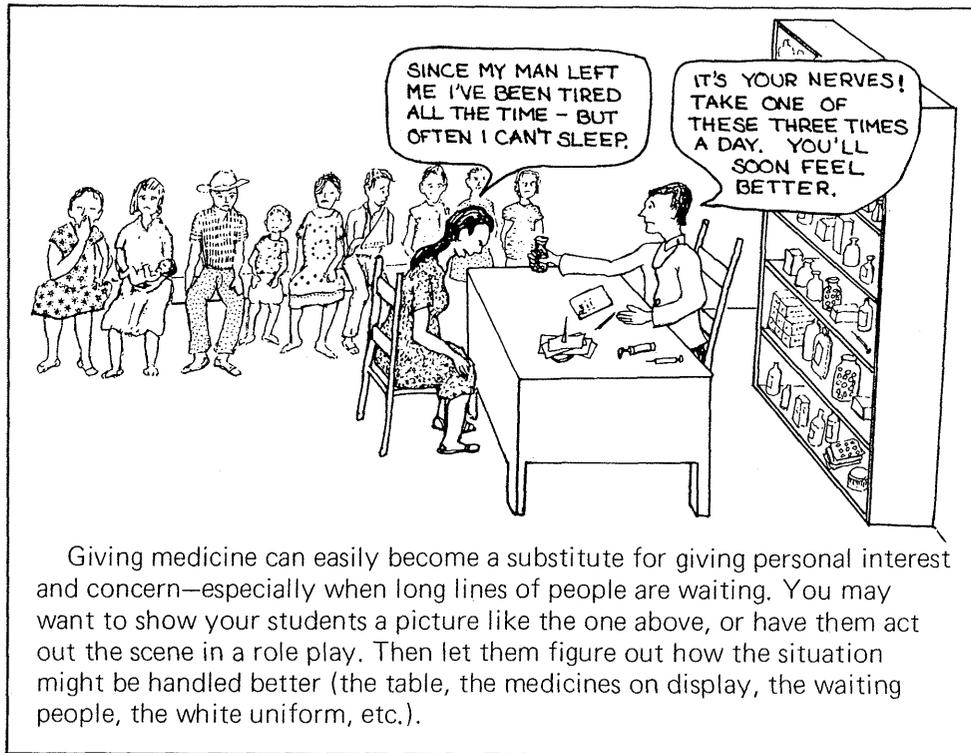
About 4 out of 5 illnesses are *self-limiting*. This means people get well whether they take medicine or not. **Most health problems can be better managed without any medication. What often will help people most is friendly advice and understanding support.** (See *Healing Without Medicines, WTND*, p. 45.)

However, many doctors and health workers get into the habit of giving everyone medicine—for any and every problem they have. The less curable the problem, the more medicines they give!

At the same time, people have come to expect medicine every time they visit a doctor or health worker. They like to believe that "there is a medicine for everything." They are disappointed if the doctor or health worker does not give them any, even when medicines will do no good and the health worker carefully explains why.

So a 'vicious circle' results in which the doctor always gives medicine because the 'patient' always expects (or demands) it, because the doctor always gives it. **The prescribing of a medicine becomes both the symbol and the substitute for human caring.** This problem is especially common in places where doctors, nurses, and health workers are overworked. The result is not only a costly overuse of medicine, but a failure to meet human needs on human terms.





HELPING HEALTH WORKERS LEARN ABOUT THE MISUSE OF MEDICINE IN THEIR AREA

If health workers are to help stop the overuse and misuse of medicines, they must understand the problem clearly and recognize its cost to human health. But it is not enough simply to give them information. **They need to find out for themselves just how serious the problem is in their own area.** And they need to learn ways to help inform the people who come to them 'for medicine'.

1. Finding out the extent of the problem

Perhaps you can help health workers to compare their own experiences or take simple surveys. They can investigate questions like these:

How many prescription medicines do people in the community buy and use without a prescription?

In Mexico, a group of health workers-in-training made a survey in 5 pharmacies in a nearby city. They found that nearly 80% of prescription drugs were sold without prescription. Perhaps your students can conduct a similar survey.

How often do doctors prescribe too many medicines or the wrong medicine?

Often people come to a health center with prescriptions from doctors in other places. With the help of instructors, students can keep a record of how many prescriptions appear to be incorrect or overdone. (For most health problems, 1 or 2 medicines are enough.)

What evidence is there of physical harm caused to people by overuse or misuse of medicines?

Students can keep a record of problems—such as diarrhea or ‘thrush’—caused by overuse of antibiotics, abscesses caused by unnecessary injections, deaths or harm to women and babies that may have been caused by medicines injected to speed up birth, etc.

What evidence is there of economic harm to people caused by the overuse and misuse of medicine?

Students can try to find out how much poor families spend on health care and medicines (both traditional and modern). Then try to estimate how much of this is spent on useless or harmful treatments. Is it worth it? Could health be improved if the money were spent differently?

How often do health workers, doctors, or instructors in the health center appear to give medicine simply to please people—not because it is necessary?

We all do it sometimes. Admit it! Discuss it. Is it ever right to give medicine when it is not needed? How does doing this create false beliefs, dependency, and mystification of medicine?

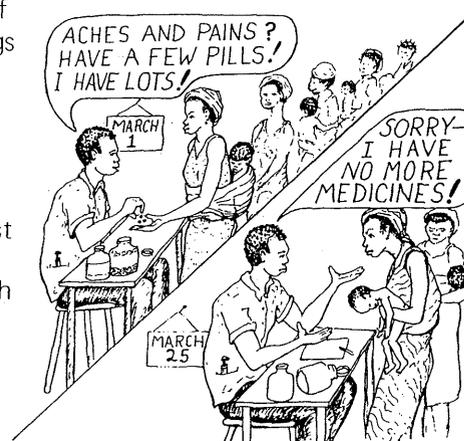
Many programs give out colorful cough syrup and anti-diarrhea medicine, both of which are unnecessary, in order to attract mothers to the under-fives clinic. Is this wise?

2. Looking at the causes of local misuse of medicines

The larger causes—national, international, commercial, and professional—are mostly out of the health workers’ control. Yet health workers need to be aware of these causes and discuss how they affect the overuse and misuse of medicines in their own communities. Helping people become aware of the high profits and dishonesty of the medicine business may lead them to more careful and critical use.

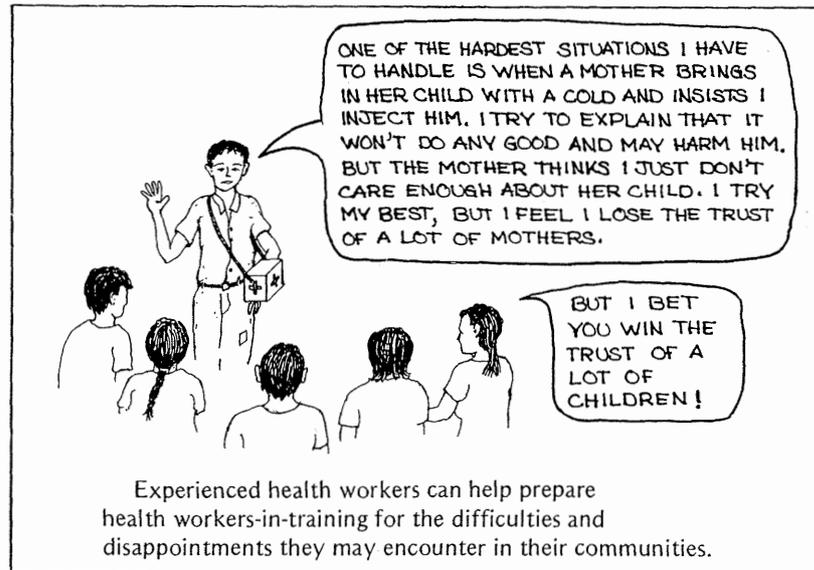
The more immediate personal causes of misuse and overuse of medicines are things health workers can do more about.

Perhaps the biggest personal cause of medicine misuse by health workers is ‘popular demand’. We know of health workers who feel they have to give at least 2 or 3 pills to every ‘patient’—no matter what his problem. As a result, these health workers regularly use up their monthly supplies of chloroquine (for malaria) and sulfa in the first week or so. This means that many people who really need those medicines must go without!



Overuse of medicines, where the supply is limited, causes increased illness and death.

Health workers need to look at these things carefully. Student health workers may not realize how great the temptation can be to give medicine needlessly. It helps to **invite experienced health workers to talk with those in training about the difficulties and obstacles they have run into.**



3. Trying to solve the problem

During training, a number of steps can be taken to discourage the misuse and overuse of medicines:

- **Set a good example.** Program doctors, nurses, and instructors, when attending the sick, should take great care to use medicines only when needed. Encourage the use of helpful home remedies. Whenever anyone gives medicine as a substitute for caring, point this out and discuss it in class.
- Through **role plays and sociodramas**, students can explore the pressures and temptations to overuse medicines, and ways to resist them. **Imaginative teaching aids** (such as the antibiotic learning games in the next chapter) also help health workers discover the need for cautious, economic use of basic medicines.
- Health workers can help **demystify the use of modern medicine** by . . .
 - **looking things up in their book**, together with the sick person's family (see p. Part Three-4),
 - **explaining the risks** of taking specific medicines—especially for children and pregnant women, and
 - helping people **appreciate the scientific value of useful home remedies** (see Ch. 7).
- Health workers can help organize community groups to perform **short skits or plays** showing problems that result from local misuse of medicines (see examples on pages 27-3 and 27-14).
- Health workers can **visit storekeepers who sell medicines**. Help them learn more about these products. Encourage them not to sell harmful or overpriced medicines, to explain uses, dosages, and risks, and to suggest that people buy nutritious foods rather than costly vitamins, cold formulas, and cough syrups.
- **Help people to become aware of how much they spend on medicines and why, and to look for low-cost alternatives.** (For example, see *Where There Is No Doctor*, p. 46, Healing with Water.)

Health care as a cause of poor health— and what to do about it

An example from the Philippines:

In August, 1981, the authors and 4 village health workers from Central America visited the Philippines to exchange ideas with health workers there. On the edge of the city of Tacloban, we watched workers from the Makapawa Health Program and local mothers prepare an herbal cough syrup from ginger, tamarind leaves, bitter orange, and brown sugar. There was something exciting (almost magical—but not secret) about this process. Everyone took part. Men and children gathered dried palm fronds for the fire. Women stirred the boiling pot. Suddenly, as predicted, the dark brew changed into a fluffy white powder, double in volume. Finally, the bitter orange juice was added—after cooling, in order to protect the vitamin C.

This cough syrup—based on traditional herbal remedies—is now widely used in the area as a ‘cure-all’ for colds, coughs, stomach distress, and many minor problems. It is a useful, low-cost home remedy that prevents people from wasting so much money on commercial medicines. The health workers have also taught local families to prepare an herbal ‘ABC Drink’ (rehydration drink) for children with diarrhea. At the same time, they have helped people to learn about the misleading advertising of drug companies. As a result, families now spend less on doctors and costly medicines, and fewer children die.

Only when we sat down to talk with those present did we realize the impact on health of these inexpensive home remedies. The families told us the main problems affecting their health were **diarrhea, poor nutrition, and low wages**. But the health workers reported that far fewer children in the area are underweight today than when the program started 2 years ago. When we asked why, the health workers said it might be the nutrition education for mothers during the ‘under-six’ clinics. But the mothers said they had heard it all before—that the main reason for their children’s hunger had been lack of money. Yet today’s wages are as low as ever. So why has health improved?

We asked the mothers how much their families are now spending on health care—herbal remedies, modern medicines, travel to doctors, etc. The average turned out to be from 10% to 12% of their year’s earnings. (This seemed remarkably low in comparison to Africa and Latin America, where poor families we have asked often figure they spend from 30% to 50% of their year’s earnings on health care.) Then one mother said, “We don’t spend nearly as much now as we used to.” So we asked everyone what they used to spend on health care before the program was begun. The average worked out to be between 40% and 60% of people’s earnings! The hungry children were always getting sick. So their families would spend money on a witch doctor, then on tonics and cough syrups, and finally on expensive trips to city doctors and hospitals. And sometimes on a funeral. Often they had gone into debt and fallen prey to ‘loan sharks’. If their children recovered, they had no money left to feed them well, so the children soon fell ill again. **Costly health care had become a main cause of poor health!**

But today, thanks to the homemade herbal medicines and community organization to fight the ‘loan sharks’, the poor people’s economy has improved. Spending less on health care, they can spend more on food for their children. The vicious cycle (of health care causing poor health) has been broken.



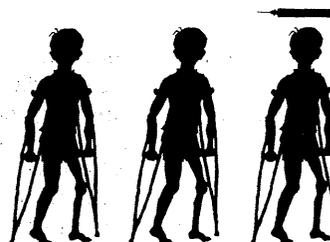
Vicious cycle of
health care
causing poor health

PAGES IN *WHERE THERE IS NO DOCTOR* THAT DISCUSS
THE MISUSE, OVERUSE, AND CAREFUL USE OF MEDICINES

<u>page</u>	
w18 to w19 . . .	Sensible and limited use of medicines
45 to 48 . . .	Chapter 5 , Healing without medicines
49 to 53 . . .	Chapter 6 , Right and wrong uses of medicines, especially:
49	Guidelines for the use of medicine
50 to 52	The most dangerous misuse of medicine
53	When should medicine not be taken?
55 to 58 . . .	Chapter 7 , Antibiotics: what they are and how to use them, especially:
56	Guidelines for the use of all antibiotics
56 to 57	Guidelines for the use of certain antibiotics
58	Importance of limited use of antibiotics
59 to 64 . . .	Chapter 8 , How to measure and give medicine
65 to 73 . . .	Chapter 9 , Instructions and precautions for injections, especially:
65	When to inject and when not to
65	What to do when the doctor prescribes injections
67	Medicines not to inject
68 to 69	Risks and precautions
70	Dangerous reactions from injecting certain medicines
71	How to avoid serious reactions to a penicillin injection
119 . . .	Where to get vitamins: in pills, injections, syrups—or in foods?
156 . . .	Medicines not to use for diarrhea
247 . . .	How to stay healthy during pregnancy—avoid taking medicines
266 . . .	The correct use of oxytocics: ergonovine, oxytocin, <i>Pitocin</i> , etc.
272 . . .	Care in giving medicines to the newborn
288 . . .	Who should not take birth control pills?
338 . . .	Words to the village storekeeper or pharmacist
Green Pages . . .	Risks and precautions for each medicine are listed.



Boy with abscess from an unnecessary injection.



Today 1 of every 3 cases of crippling polio is caused by injections given to children. These children already have mild, undiagnosed polio, which is often mistaken for a severe cold. The injected medicine irritates the surrounding muscles, and can cause paralysis in the arm or leg.

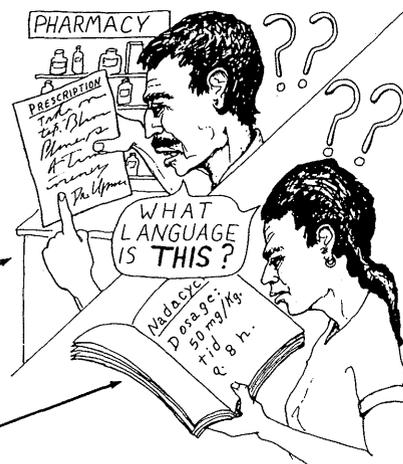


REMEMBER: Teaching health workers to help people use medications sensibly is a vital part of preventive medicine.

ANOTHER PROBLEM: USING THE WRONG DOSAGE

In addition to the problem of medicines being used when they are not needed, it is a common mistake to use the wrong dosage. Using too little medicine may make treatment ineffective, and increase the resistance of infections to the medicine. Using too much may cause serious side effects, especially in small babies and children. Their bodies often cannot tolerate more than the recommended amount.

Mistakes in dosage are common for several reasons: In many countries, dosage information is not included with each medicine sold in the pharmacies. A person may hear about a medicine from a friend or neighbor, and give the adult dose used by the friend to a small child. Sometimes a person forgets what his doctor or pharmacist said about how much medicine to take and how often. Or perhaps the doctor or health worker does not explain the dosage clearly, or writes it in **handwriting that is impossible to read.** Maybe the sick person cannot read well. And even if he or she tries to look up the dosage in a 'pharmaceutical index', **the big medical words are hard to understand.**



Some sick people, in their desire to get well quickly, think that, "If one pill is good, more are better." So they take 2 or 3 pills (or spoonfuls or injections) when only one is recommended.

In other cases, sick persons cannot afford to buy a full prescription of a costly medicine. So they buy only a part, and take less than is needed.

Health workers, too, may make mistakes if they lack practice in looking up dosages and explaining them carefully. During training it is important that they learn to use the correct dosage for any medicine that they might be recommending. The health program can make this easier by taking some basic precautions:

- **Decide on a short list of basic medicines** that can effectively deal with the everyday problems and serious emergencies that are common in the area. This way health workers are not burdened with too wide a range of medicines, or the temptation to prescribe something for every problem. For a list of basic medicines needed in rural areas, see *WTND*, p. 334 to 337.
- **Always provide each medicine in the same standard strength.** This saves health workers from having to deal with the same medicine in 250 mg. capsules one week, 500 mg. capsules the next week, and 125 mg. spoonfuls after that. Avoid accepting a wide assortment of donated sample medicines.
- **Teach health workers (through example and practice) to look up dosages** in a book like *Where There Is No Doctor* or *Primary Child Care*, each time they use or recommend a medicine.

Learning to look up medicine dosages

In *Where There Is No Doctor* it is easy to find the uses, dosage, and precautions for most basic medicines. Look in the **Green Pages**.

To find the medicine you are looking for, check the List of Medicines (*WTND*, p. 341) or the Index of Medicines (*WTND*, p. 345). These lists show which pages have information about each medicine.

For example, pretend that Mrs. Babalama has asked you about the correct dosage of **aspirin** for her **4-year-old son, Edafi**. He has a **headache and fever from a cold**.

You will find that the information about aspirin begins on page 365 and continues on page 366.

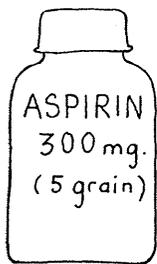
Before prescribing any medicine, read all about it. Find out its strength, its cost, what it is used for, its risks and precautions.

If you think that aspirin is the right medicine for the problem, that Edafi's family can afford it, and that the probable benefits are greater than the risks, then look for the correct dosage.

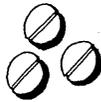
Make sure that the dosage listed is for the problem you want to treat. (Some medicines have more than one use, and different dosages for different uses. For example, see the dosage of aspirin for severe arthritis or rheumatic fever.)

Now check the strength of the aspirin you have.

GENERIC NAME OF MEDICINE	} _____
STRENGTH AND COST	} _____
WHAT IT IS USED FOR	} _____
RISKS AND PRECAUTIONS	} _____



If you have 300 mg. (5 grain) tablets, read here.



How often the boy should take the medicine. _____

How much he should take each time. _____



½ tablet



If you have 75 mg. 'children's aspirin', read here.



How often he should take the medicine. _____

How much he should take each time. _____



2 to 3 tablets

from WTND, pages 379 and 380

Aspirin (acetylsalicylic acid)

Often comes in:
 300 mg. (5 grain) tablets Price: 04 for 10
 75 mg. (1 1/4 grain) tablets for children (or 'child's aspirin') Price: 02 for 10

Aspirin is a very useful, low-cost 'painkiller' or analgesic. It helps to calm pain, lower fever, and reduce inflammation. It also helps a little to calm cough and reduce itching.

Many different medicines sold for pain, arthritis, or colds contain aspirin, but they are more expensive and often do not do any more good than aspirin alone.

Risks and Precautions:

1. Do not use aspirin for stomach pain or indigestion. Aspirin is acid and may make the problem worse. For the same reason, **persons with stomach ulcers should never use aspirin.**
2. Aspirin causes stomach pain or 'heartburn' in some persons. To avoid this, take aspirin with milk, a little bicarbonate of soda, or a lot of water—or together with meals.
3. Do not give more than 1 dose of aspirin to a dehydrated person until he begins to urinate well.
4. It is better not to give aspirin to children under 12 years and especially not to babies (acetaminophen is safer) or to persons with asthma (this may bring on an attack).
5. Keep aspirin where children cannot reach it. Large amounts can poison them.
6. Do not give to pregnant women.

Dosage of aspirin—for pain or fever:
 —tablets of 300 mg. (5 grains)—

Take once every 4 to 6 hours (or 4 to 6 times a day), but do not give to children more than 4 times a day.

adults: 1 or 2 tablets (300 to 600 mg.)
 children 8 to 12 years: 1 tablet (300 mg.)
 children 3 to 7 years: 1/2 tablet (150 mg.)
 children 1 to 2 years old: 1/4 tablet (75 mg.)

(Dose may be doubled for severe menstrual pain, severe arthritis or rheumatic fever. Or give 100 mg./kg./day. If ringing of the ears develops, lower the dose.)

—75 mg. 'child's aspirin' tablets—

Give children aspirin 4 times a day:

children 8 to 12 years: 4 tablets (300 mg.)
 children 3 to 7 years: 2 to 3 tablets (150 to 225 mg.)
 children 1 to 2 years: 1 tablet (75 mg.)
 do not give aspirin to children under 1 year old

Once you have found the correct dosage, explain it carefully to Mrs. Babalama. Instead of telling her to give Edafi the medicine "every 4 to 6 hours," it may be better to tell her the times of day when Edafi should take the aspirin:

- at sunrise
- at noon
- at sunset
- at night, before going to sleep

This is about every 6 hours.

You may want to use the dosage blanks that are explained on pages 63 and 64 of WTND. Extra copies can be found on the last yellow page in the back of the book.

Here is what Edafi's dosage blank would look like if you used 300 mg. tablets.

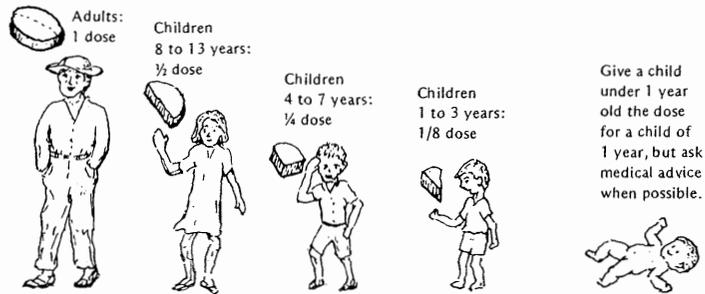
			
			
Name: <i>Edafi Babalama</i>			
Medicine: <i>Aspirin 300 mg.</i>			
For: <i>headache and fever</i>			
Dosage: <i>half a tablet, 4 to 6 times a day</i>			

If you used 75 mg. 'children's aspirin', it would look like this.

			
			
Name: <i>Edafi Babalama</i>			
Medicine: <i>Child's aspirin 75mg</i>			
For: <i>headache and fever</i>			
Dosage: <i>2 or 3 tablets, 4 times a day</i>			

Calculating the dosage

In the **Green Pages** of *Where There Is No Doctor*, most of the dosage instructions are given according to age—so that children get smaller doses than adults.



drawing from *WTND*, page 62

However, it is sometimes more accurate to determine dosage according to a person's weight. Information for doing this is sometimes included in parentheses () for health workers who have scales.

For example, suppose Mrs. Abu's daughter Irene has rheumatic fever. What dose of aspirin should she take? Irene is 4 years old and weighs 15 kilograms. The recommended dose of aspirin for rheumatic fever is 100 mg./kg./day—double the normal dose.

$$\text{Multiply } 100 \text{ mg.} \times 15 = 1500 \text{ mg.}$$

Irene should get 1500 mg. of aspirin a day. Since one tablet contains 300 mg. of aspirin, 1500 mg. would be 5 tablets. So Irene should get **1 tablet, 5 times a day**.

Or you could simply have doubled the normal dose for a 4-year-old, which was "half a tablet, 4 to 6 times a day." That would be **1 tablet, 4 to 6 times a day**—about the same as what you calculated based on Irene's weight!

Teaching aids for learning about fractions and milligrams

Many health workers at first have difficulty in understanding the use of fractions and milligrams for medicine dosages. Teaching aids that can help them to 'see' what fractions mean are shown below. Students can help make these teaching aids themselves.



The flannel-board pieces or blocks that stand for tablets can be labeled 500 mg., 250 mg., or 400,000 units, to represent different medicines. Then students can practice figuring out dosages for adults and children.

If your program has a few old, outdated pills, it is good practice for health workers to actually cut some into halves and quarters. That way they can see the doses that should be given to children of different ages.



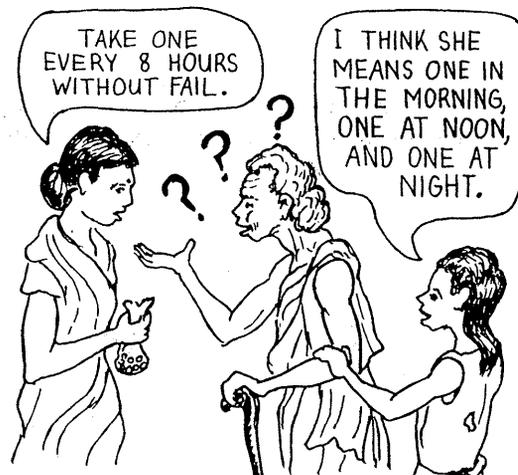
It is also a good idea to have students check how much liquid medicine local spoons will hold. Ways of doing this are described on page 61 of *WTND*. **A standard teaspoon should measure 5 ml.**, but spoons will vary greatly.

Practice in giving medicines to people

Students can practice in class with role plays about imaginary health problems. They can practice looking up medicines, figuring out the dosage, and then explaining the medicine's use to the 'sick person'. Experience shows that a great deal of practice is needed if health workers are to reliably give the right medicines in the right dosage. But with enough practice, they can do so.

Many mistakes in using medicines can be avoided if there is good communication between the health worker and the sick person. So it is important that students' role plays explore all of the points at which misunderstandings could arise. Make sure that health workers explain things carefully, and that the sick person clearly understands . . .

- How often to take the medicine
 - at what times of day
 - before or after eating (when this matters).
- How many days to continue taking the medicine, and when to expect to feel better. (Some persons expect to get well after having only a few pills or one injection.)



Many persons will take their medicine only until they feel better, and then stop. This may do no harm in cases where the problem gets better by itself and the medicine serves only to calm symptoms like mild pain, fever, or itching. But for serious chronic problems, like tuberculosis, epilepsy, diabetes, and high blood pressure, to stop taking the medicine could be a serious mistake.

For many acute infections it is important to keep taking the medicine for at least 2 or 3 days after fever or other signs of infection are gone. For some infections, however, the length of treatment is longer:

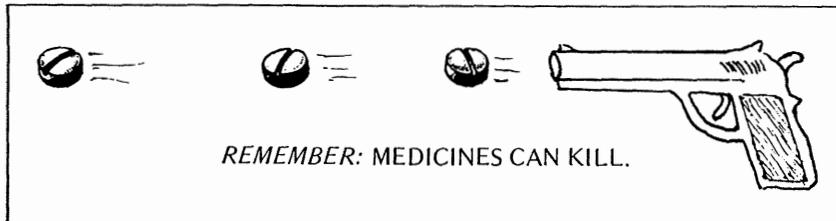
- 'strep' sore throat and rheumatic fever 10 days
- urinary tract infection 10 days or more
- syphilis 12 days
- 'bubos' or *lymphogranuloma venereum* 14 days
- brucellosis or Malta fever 21 days
- tuberculosis at least 1 year after symptoms disappear
- leprosy at least 2 years

It is also important to clear up any questions the sick person may have about her treatment. Here are some questions or doubts she might have:



- What side effects might I feel? Are they dangerous? If they occur, should I stop taking the medicine?
- I am pregnant. Will this medicine harm my baby? (Try to give no medicines during pregnancy, if possible.)
- I am breast feeding. Will the medicine enter the milk and harm my baby?
- Is it all right to use this medicine along with other medication I am taking for a different health problem?
- What foods should I avoid when taking this medicine? What foods should I eat?
- What about drinking alcoholic beverages or smoking while I am taking this medicine?

During training – both in role playing and in clinical practice—be sure health workers give all the necessary advice for each medicine they recommend.



BUT IF USED SENSIBLY, SOME MEDICINES CAN PREVENT SUFFERING AND SAVE LIVES.