

## Supply of Pharmaceuticals in the West Bank and Gaza Strip

Commissioned by UNICEF, the Department of Community Health at Birzeit University conducted a survey of available supplies of pharmaceuticals in the West Bank and Gaza Strip in 1992. Surveying local, Israeli, and international manufacturing companies, including governmental, UNRWA and commercial outlets, we were able to develop a list of available pharmaceuticals. Utilizing provided lists of sales or dispensation, we were also able to estimate an approximate total cost for medications in the country for the year 1991.

Proceeding to classify these pharmaceuticals based on their composition, and utilizing the WHO standards for the development of a rational drug list, we were able to note the following:

1. Generally speaking, there is a very large number of brand and generic products on the market, and most definitely un-warranted by need:

- \* Palestinian pharmaceutical companies alone produced 635 brands
- \* There were 411 Israeli manufactured brand names in the market at the time
- \* There were 580 internationally manufactured brands available in the market at the time

In total: at least 1626 brands were available during that year. Of those, there were at least 1035 generic medications, or at least 5 times more than what is recommended by the world Health Organizations. This raises questions as to the necessity of having so many brands of the same medication, and raising questions as to the impact of this on health economics and financing on the one hand, and the potential confusion in prescribing and consumption it can create.

2. Of the total number of brand name medications available, 39% were made locally, 25% were imported from Israel and 36% from abroad. Duplication was evident with antibiotics, most notably ampicillin and amoxicillin. On the average for each generic medication we found 1.6 brand names. Questions raised here include: why so many generics hidden under different brand names? What about scarce resources and the health budget, considering that we have estimated a total cost of 70 million US Dollars for the purchase of medications during that year? What about confusion in prescribing and impact on the consumer?

3. Defining a package as being composed of 20 tablets/capsules, six

suppositories, five injections or one bottle of drops or liquid, at least 25 million packages, or over 500 million tablet/capsule equivalents, were sold/dispensed in the area during 1991. That is, average sales/consumption was found to be at least 12 packages - or 250 tablet/capsule equivalents- per person per year. The question is: is this consumption/sale necessary? What does this do to the individual family budgets? To the economy? What about un-necessary use and side effects?

4. Although WHO and other world authorities on the manufacturing and use of drugs do not recommend the production of fixed dose combination drugs, because of potential therapeutic problems as well as cost, nevertheless, we found the medication market in the country full of fixed dose combinations:

- \* Of the total brands produced by the local industry, 49% were composed of fixed dose combinations
- \* Of the total sales of Israeli brands, 36% were composed of fixed dose combinations
- \* of the total sales of international brands, 35% were composed of fixed dose combination

Overall, 41% of all available medications in the country were found to be of the fixed- dose combination. Yet, 97% of the Essential Drug List produced by WHO are single ingredient medications.

It should be mentioned here that, other than un-necessary costs because fixed dose combinations are more expensive than single active ingredient products, some of the fixed dose combinations available in this country are irrationally mixed and are a potential hazard to the health. For instance:

- a. Antibiotics are mixed with corticosteroids, where the corticosteroids are known to potentially mask the side effects of antibiotics. Mixing them is bad practice
- b. Expectorants are mixed with antitussives, when one compound counteracts the effects of the other and therefore makes an irrational combination
- c. Hypnotics are mixed with muscle relaxants and narcotics, posing the potential problem of potentiating side effects
- d. Different vitamins are mixed together in irrational combinations and with highly questionable dosages.

The question that must be raised is: why produce and prescribe fixed dose? Is it

because we are used to doing it without thinking, when, clearly, their utility is very limited and their cost adds substantially to the health care costs of the country, let alone the problem of potentiating side effects?

5. The question of un-necessary consumption of useful but potentially dangerous medications was also raised by examining lists of the most commonly sold medications in the country.

\* For the local industry, the single most commonly sold consumed medication was antibiotics, with a high of 23% of the total sales, followed by analgesics, with 14% of total sales, 12% for dermatological preparations, 9% for non-steroidal anti-inflammatory agents, 5% for cough and cold medications, 5% for nutritional supplements, eye, nose and ear drops respectively, 4% for antispasmodics and 2% for antacids and antihistamines, antihypertensives, asthma preparations and ulcer medications.

\* For the Israeli industry, the single most commonly sold/consumed medication was nutritional supplements with 20%, followed by antibiotics, with 12%, analgesics with 12%, cardiovascular drugs with 8%, laxatives with 6%, and NSAID's with 5%.

\* For the international products, the single most commonly sold/consumed medication was dermatologic preparations with 15% of the total sales, followed by 10% for antibiotics, 8% for nutritional supplements, 6% for hormones and ENE drops, 5% for cardiovascular medications and cough and cold mixtures and 4% antihypertensive medications.

That is... these results raise a few key questions:

a. Are we prescribing/consuming antibiotics rationally? How does this very high level of use of antibiotic affect the problem of increasing resistance? How does this affect national health expenditure? Can we afford such practices? And how does this eventually affect the patient? Is this good practice?

b. Why are we prescribing medications with an acknowledged limited utility such as nutritional supplements, in such high quantities unwarranted by good medical practice? What does this do to the national level of expenditure on health?

4. Finally, among the many other questions raised by this study, the question of the production and consumption of banned and un-necessary medications was raised:

There were several chemical compounds that are banned in different parts of the

world and considered dangerous and that continue to be used as medications locally, sometimes in alarming quantities:

- a. Dipyrone or novaminsulfone (antipyretic analgesic). Over 4.4 million tablets of this dangerous medication were sold/consumed during 1991
- b. The quinolines: clioquinol, iodochorohydroxyquine and di-iodohydroxyquinoline(anti-diarrhoeals). These dangerous medications associated with severe neurological sequale, and un-documented efficacy, where WHO warns against there use, and where they are banned in many parts of the world, are heavily used locally: with 100000 packages sold during 1991.
- c. Opiates and anti-motility agents, such as diphenoxylate and loperamite, and wrongly used for the treatment of diarrhoea. WHO maintains that they can be very dangerous and that they are of no use in the prevention and treatment of dehydration. Yet 14000 packages were sold/consumed during the year
- d. Furazolidine: again for the treatment of diarrhoea, with no established use and potentially harmful
- e. Chloramphenicol: again 650000 capsules sold during a year, totally unjustified by very specific and selected use of this medication with dangerous side effects
- f. The butazones: such as oxyphenbutazone and phenylbutazone. Can cause fatal blood complications, banned in many countries, but with 92800 packages sold here during 1991.

The question is: why are we contributing to the ill health of people and burdening the individual and national budgets with these dangerous expenditures? Is this what good medical practice indicates? Is it not our duty, after all the oaths we have taken, to inform ourselves regularly and maintain the utmost care when prescribing and dispensing these dangerous drugs?

In summary, then, there is a pressing need to develop adequate rational drug use and manufacturing policies for this country today:

1. On the one hand, the local industry must be strengthened through upgrading, quality control and the production of rationally mixed and useful medications. At the moment, the industry packages and mixes medication. We desperately need upgrading that would allow for synthesis as well, difficult and gradual as it may be. This is needed in order to assist in the improvement of the health of people through the production of needed, and rationally mixed medications, maintaining costs at the lowest levels possible. But it is also needed in order to gradually decrease our dependence on the outside world and begin to build a

national industry that would not only contribute to the health sector but to the economy as a whole as well.

2. On the other hand, we are desperately in need for the development of a local essential drug and standard drugs list. This is not merely a health requirement, but also an economic necessity. Palestinians are increasingly facing an economically restrained environment. We must begin to re-build thinking also about minimizing costs, while providing the needed medications to the population. This is crucial in view of the observation that between 30-40% of primary health care costs go to medications.

3. On the third hand, a good amount of professional and public education is needed in order to begin to raise awareness as to the potential dangers of abusing these medications, in relation to both the individual and the public.

4. Finally, more investigations are needed in order to identify and elaborate specific problems in drug consumption and use. Such studies can be crucial for future policy formulation as well as for professional and public education.