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DRUG POLICY, MEDICINE AND SOCIAL DEVELOPMENT

by

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Introduction:

Life and desire to live go together. Protection of Health has been a concern of mankind from the beginning. And yet till the beginning of the century, there were fewer medicines and fewer doctors. The diseases were also in the same order.

Health is a state of physical, mental and social wellbeing and not merely absence of diseases. A doctor to-day has thousands of prescription drugs at his disposal and many devices to help a diagnosis. But these cannot be final answers to the prescription of Health.

All drugs available in the market cannot be considered as effective therapeutic compounds. Some may be associates with needless suffering and even risk to life, while others may be indispensable for relief or consfort if not cure. The prescribing physician to-day faces the challenge of powerful commercial companies with their penetrating promotional activities on the one hand and the socially and economically disadvantaged consumers on the other. He has to strike a balance. National economy is no less a consideration.

The concepts of drug and drug use is now much wider than ever before. Drug laws lay down the guiding principles. Developments in the field of medicine have been phenomenal during the second half of the past century. We now realise that health and social development are inseparably linked together.

This article is entitled Drug Policy, Medicine and Social Development. I have deliberately and perhaps arbitrarily devided it into two parts viz.

i) Drug Policy

ii) Medicine and Social Development

Accordingly section I in this paper consists of discussion on Drug Policy while section II deals with Medicine and Social Development.

Section - I DRUG POLICY

Introduction:

Health is inseparably connected with the socio-economic status of the country. There are 31 LDCs having a population of 283 millions. Infant mortality in these countries is 160 and life expectancy at birth is 45 years. The corresponding figures in the developed countries are 19 and 72 years respectively. Adult literacy rate and safe water supply in the developed countries is hundred percent. In the LDCs these are around 30 percent. Population per doctor is 17000 in the developing countries. Corresponding figure for developed countries is 520.

In Europe excluding USSR with a population of 692.9 million the amount of expenditure on medicine is 32.6 million. In Asia excluding Japan on the other hand the population is 2638.8 million, while the expenditure on medicine is only 8.1 million. This is one foruth of that in Europe while the population is four times greater. By contrast the consumption of Pharmaceuticals as a percentage of GDP, Asian industrially less developed countries will be found to have the same proportion as the developed countries. This is 0.78% and 0.74% respectively (Table I). The money spent for medicine is therefore, out of proportion to the financial capacity in these less developed countries.

Drugs in the Third World:

In the developing countries drugs consume as much as 50% of their health budget while in the developed countries this is 8-10%[1]. In India this is 19%, in Thailand 30% and in Bangladesh 64%[2].

Drug Combination:

In many countries developing and developed, combination products are in abundance purely for commercial reaons. In UK, USA, Japan and other developed countries the most popular group of drugs are combination of vitamin and vitamins, vitamins and minerals, multivitamins with several minerls and vitamins, minerals and aminoacids.

In the drug efficacy study set up for FDA expert pannels testified that fixed ratio/combinations were formulated arbitraily by the manufacturer and not to meet the need of individual patient. Administering the two drugs in combination often made it impossible to set up an appropriate dosage schedule for each component. The move against fixed drug combinations was bitterly opposed by the industrial circles. Two powerful pharmaceuticals, Upjohn and Squibb, led anti FDA movement. Upjohn was the producer of Albamycin T (tetracycline and novobiocin) and Squibb was that of Mysteclin F(tetracycline and amphotericin) marketed in Bangladesh as resteclin.The combination antibiotics were removed from USA karkets after prolonged dispute, when the Government finally gave verdict in favour of FDA. Such expensive combinations continued to be marketed widely in developing countries[3], though the following drawbacks of such combinations are now recognized.

Drug interaction
Dosage difficulty
Identity in adverse reaction
Economy
Development of resistance
Unnecessary use
(AMA Drug Evaluation, 1980)

Combination products are no longer listed in American Physician Drug Reference or in the BNF (1984). It is unfortunate that in the dveloping countries several combinations are still popular. For Example;

Penicilin and Streptomycin
Ampicilin and Cloxacilin
Chloramphenicol and Streptomycin
Chloramphenicol and Tetracycline

Promotional activities of the company :

This has great influence on the uninformed and less informed prescribers who are greatly influenced by the pharmaceutical companies in several ways including offer of precious gifts which in some developing countries can range up to a prestigious car. Consequently the best sellers in the country may be the least required or even harmful ones. Some 20% of the sales by many companies are spent on drug promotion while 5-10% is spent on research and development. Of these only 3-5% is spent on research on tropical diseases while as much as 20% is allocated for drug promotion.

More attention is given to the promotion activities in the developing countries than in the developed ones. In Bangladesh there is one representative for 7 doctors. In Brazil and Nepal, this is 1:3, while in Britain, this is 1:18. Few countries have control over promotional literature and information supplied by the drug manufacturers about their products. Drugs which have been withdrawn or are not authorised for sale in the country of origin are marketed in the developing countries. Indications and contra-indications are governed in the country of origin by the regulatory agency, while in many developing countries having no such machanisms, a completely different picture is produced. Lists of

indications are prepared mainly with commercial interest without scientific basis.

In Africa and Asia, discrepancy in information has been documented[3]. Claims for chloramphenicol, digestive enzymes and anabolic steroids in the developing countries show how inconsistent the pharmaceutical companies can be their persuit of professional motives.

Double standard of drug information :

Double standard of drug information and promotion is a serious threat to the developing nations. To cite a few of those, one may select chloramphenicol, an antibiotic and and winstrol, an anabolic steroid. In the United States, indications of chloramphenicol are Typhoid fever, Rocky mountain spotted fever and H.influenzae infection.In the United Kingdom, the same indications are given. In Indonesia, there are additional indications viz. pneumonia, whooping cough and dysentery. Curiously enough blood dyscrasia as a contraindication is not mentioned at all Products warning in PDR (Physicians Desk Reference) for Chloramphenicol is emphasized in italics. It must not be used in trivial infections or as prophylactic to prevent bacterial infections (PDR, 1984). Similar warnings are issued in the UK. In Indonesia, Philippines, Malaysia and Central America, the informations given are greatly different. The indications given are substantially broad and the contra-indications are fewer. In authoritative text books like Martindale and publications like BNF(1984), the contra-indications are clearly written. Yet in the developing countries the pharmaceutical companies are bold enough to ignore these established facts for their professional interest.

Even in the field of antibiotic use of double standard is very much evident. Worldwide misuse and overuse

of antibiotics as "cure-all" for the common cold, as substitute for sanitation, as multi-drug, over the counter (OTC) remedies are speeding up the appearance of resistant strains. Today, hundreds of thousands of people succumb to infections that no longer respond to antibiotics. In Central America, people die of typhoid fever becuse chloramphenicol proves ineffective. In the USA, cancer patient respond to chemotherapy, but die of resistant infection. Throughout the world, children suffer from H. influenzae meningitis, now resistant to ampicillin and other drugs. Responding to this challenge there have been changes in the antibiotic use patterns in the developed countries. Fixed combination antibiotics are no longer listed by the FDA or in the FNF. And yet antibiotic combinations continue to be in rempant use in developing countries.

Kunin, Tupasi and Craig[4] observed that ready availability of antibiotics combined with powerful promotional activities of the pharmaceutical industry contribute to the prescribing habit of physicians. This has resulted in inappropriate prescription or overprescription even in developed countries. Kunin and his colleagues have pleaded for an effective medical education programme beginning from the under graduate courses and continuing throughout the whole period of study. The situation is many more times worse in the developing countries where there is no restriction on drug sales.

Limitation of Public Health sector both in finance and facilities have led to the proliferations of private market. In some developing countries viz Bangladesh, Nepal and North Yemen distribution through private sector is over 90% of the total[5].

Drug Production and Consumption :

A look at the drug production and consumption in the world establish inequalities between production and consumption.

By 1980 ten thousand companies in world produced drugs but only 115-120 manufacturers dominated over 90% of the pharmaceutical trades. The largest 25 multinations were producing about 60% of the total (UNIDO - 1980). Developing countries double their expenditure on drug every four years, whereas their GNP doubles every sixteen years[6] which indicates that their drug expenditure far exceeds economic growth.

Maldistribution of drugs and doctors :

The developing countries become more and more dependent for the supply of drugs. Even though 40% - 60% of government health budget is spent on drugs in developing countries the rural population which constitute 60% - 80% do not have access even to the drugs most needed. Besides, there is maldistribution of drugs in the public section. Centrally located hospitals get preference over peripharal dispensaries and hospitals, while the majority of people living in the rural areas remain neglected. Even in some countries including Bangladesh a network of health care is being developed. It is difficult to induce the doctors to work in those remote places. In urban hospital bias for drugs worsen the situation in remote areas. In Tanjanea 9% of the drug budget of 1977/went to health centers[7]. Most third world countries have established their model of health system on the basis of rich world curative services which are expensive. New emphasis on primary health care faces the challenge of this established tradition. Governments now recognise the urgent need for training paramedics but the demand outweigh the supply. Major share of expnditure on medical education continues to be spent on training of doctors in medical schools which are urban oriented and the doctors trained there have no intention to work in the poor rural areas or even urban slums. They do not find any of the facilities in these places to which they have been accustomed[8].

Private markets proliferate taking advantage of the public short supply. Prescriptions are served by qualified and unqualified practitioners including the traditional healers. Lack of control on the private sector further aggravates the situation[9].

Potentially toxic drugs which can only be obtained on a doctors prescription in developed countries are freely available over the counter or from street vendors in developing countries. Control on the private market in the developing countries is a formidable task almost unattainable. So long medicines are available they will be used, either by patients buying them directly or through prescriptions from various sources, which range from people with or without prescribing qualifications to those highly qualified. Both can make servious mistakes and yet un-unswerable to laws in many developing countries even where such laws exist: "The only way of making good medicines reach people is to take bad medicines away from them. And the only way of taking away bad medicines is to eliminate them"[10].

With limited health budget, scarce foreign exchange, limited number of trained health personnel, pharmacists, inadequate or defective regulation and weak law enforcing authorities, selection of essential drugs and even restriction to it in many cases becomes obligatory. WHO essential drugs concept is an outcome of this principle.

In 1975 Dr. Mahler, Director General WHO, while addressing the WHO reviewed the main drug problems facing the developing countries and outlined new policies.He deplored inconsistant standards in drug marketing practices between the developing and developed countries and labelled it as unethical. He requested the Assembly to develop means by which the WHO can be of greater assistance to member states in advising on the selection and procurement, at reasonable cost, of essential

drugs of established quality corresponding to their health needs. The director general also pointed out that the essential drug list should be drawn up locally and periodically updated by an Expert Committee respresenting public health, medicine, pharmacology, pharmacy and drug management.

First Consultative Meeting :

An informal consultative meeting was convened in Geneva, in October 1976 to advise the director general on the selection of essential drugs. The recommendations were circulated to the regional offices of the WHO, health administrators and experts for comments. These were analysed and handed over to the Expert Committee to assist them for their recommendation. The following guide lines were also proposed to the Expert Committee.

1. The extent to which countries implement schemes or establish lists of essential drugs is a national policy decision of each country.

2. As far as health services in developing countries are concerned, the organized procurement and use of essential drugs have many advantage in terms of economy and effectiveness. However,the concept of "essential drug lists" must accommodate a variety of local situations if the lists are ever to meet the real health needs of the majority of the populatin.

3. There are convincing justifications for WHO to propose "model" or "guiding" lists of essential drugs as a contribution to solving the problems of those Member States whose health needs far exceed their resources and which may find it difficult to initiate such an endeavour on their own.

4. Such "guiding" or "model" lists should be understood as a tentative identification of a "common core" of basic needs which has universal relevance and applicability. The further

local needs move away from the core, the more the health authorities or specific sectors of the health services will have to adjust the lists. Therefore, any list proposed by WHO should set out to indicate priorities in drug needs, with the full understanding that exclusion does not imply rejection. A list of essential drugs does not imply that no other drugs are useful, but simply that in a given situation these drugs are the most needed for the health care of the majority of the population and,therefore, should be available at all times in adequate amounts and in the proper dosage forms.

5. The selection of essential drugs is a continuing process,taking into account changing priorities for public health action and epidemiological conditions, as well as progress in pharmacological and pharmaceutical knowledge. It should be accompanied by a concomitant effort in education, training and infomation of health personnel in proper use of the drug.

6. Finally, the WHO programme on essential drugs should furnish a focus for organized and systematic investigation of this approach.

The WHO Expert Committee made the following observations :

1. Drugs alone cannot provide adequate health care though they play an important role.

2. Tremendous increase in the pharmaceutical products in the market does not show corresponding improvement of health. Promotional activities of the pharmaceutical industry can create greater demand than actual need.

3. Since a major part of total health care budget in developing countries is spent on drug less fund is available for other services.

4. In the LDCs notwithstanding above facts a large number of people require essential drugs.

5. Limited funds available must be used for drugs proven to be therapeutically effective, safe and satisfy the health needs of the population.

6. Essential drug-list would vary from country to country depending on pattern of diseases, various social, environmental, financial and other factors.

Advantages were evident in some countries. Several developing countries for example, Sri Lanka in 1959, Peru in 1971[11], Bangladesh in 1973[12], Mozambik in 1977[13] established Limited list of essential drugs.

The Expert Committee observed that the limited list should meet the need of the vast majority. Products outside the essential drug list should be available or not is a matter for local decision based on various considerations. The committee however agreed on the following advantages of limited drug list :

1. Reduction in the number of pharmaceutical products to be purchased, stored, analysed and distributed;

2. Improvement in the quality of drug utilization, management, information and monitoring;

3. Stimilation of local pharmaceutical industries;

4. Assistance to the least developed countries in urgent need of high priority drug programmes to solve their primary health care problems.

First Essential Drug List :

First report on selection of essential drug was published in 1977. The concept is now widely recognised as useful. Several steps have been advised to ensure proper application of essential drug programme at national level. These are useful guidelines for establishing a national programme for essential drugs.

Since the first report on the selection of essential drugs was published in 1977, the concept of essential drugs has become widely recognised as useful. It has provided a rational basis not only for drug procurement at national level but also for establishing drug requirements at various levels within the health care system. In fact, many developing countries have already selected essential drugs according to their needs and the related programmes are, in some cases, in an advanced stage of implementation.

Steps for Essential Drug Programme :

In order to ensure that an essential drugs programme is adequately instituted at national level, several steps are advised :

1. The establishment of a list of essential drugs, based on the recommendations of a local committee, is the starting point of the programme. The committee should include individuals competent in the fields of medicine, pharmacology, and pharmacy, as well as peripheral health workers. Where individuals with adequate training are not available within the country, cooperation from WHO could be sought.

2. The international nonproprietary(generic) names for drugs or pharmaceutical substances should be used whenever

available, or pharmaceutical substances should be used whenever available, and presdribers should be provided with a cross-index of nonproprietary names.

3. Concise, accurate, and comprehensive drug information should be prepared to accompany the list of essential drugs.

4. Quality, including stability and bioavailability, should be assured through testing or regulation.

Where national resources are not available for this type of control, the suppliers should provide documentation of the product's compliance with the required specifications.

5. Local health authorities should decide the level of expertise to prescribe individual drugs or a group of drugs in a thereapeutic category. Consideration should be given, inparticular, to the competence of the personnel to make a correct diagnosis. In some instances, while individuals with advance training are necessary to prescribe initial therapy, individual with less training could be responsible for maintenance therapy.

6. The success of the entire essential drugs programme is dependent upon the efficient administration of supply,storage and distribution at every point from the manufacturer to the end user. Government intervention may be necessary to ensure the availability of some drugs in the formulations listed, and special arrangements may need to be instituted for the storage and distribution of drugs that have a short shelf-life or require refrigeration.

7. Efficient management of stocks is necessary to eliminate waste and the ensure continuity of supplies. Procurement policy should be based upon detailed records of turnover. In some instances, drug utilization studies may contribute to a better understanding of true requirements.

8. Research, both clinical and pharmaceutical, is sometimes requred to settle the choice of a particular drug product under local conditions.

Essential drug programme of WHO has been partly influenced by the major drug producing nations who contribute over half of total annual WHO budget and the United States alone contributes almost a quarter of the WHO's entire budget[5]. Inspite of this WHO has a responsibility to control unethical practices of the pharmaceutical companies through various mechanisms or else the concept cannot come to a reality. U.N. guidelines on consumer protection adopted unanimously in the general assembly in April, 1985 strengthened the hands of WHO against the unethical practice of pharmaceutical companies.

Role of WHO:

WHO is the lead agency for ED. It coordinates international efforts in support of country programme. UNICEF is an active partner. Both WHO and UNICEF actively mobilise resources on behalf of ED programme. UNIDO supports technology transfer for local production of ED.

Numerous educative materials are produced by WHO on ED programmes. These range from films, slides, newspaper articles, annotated bibliography. Seminars, workshops and international conferences are continuous features of WHO activities of ED programmes.

For procurement, storage and distribution WHO has published manuals and others teaching materials. Alongwith UNICEF it collaborates with countries. For countries where facilities are lacking for quality control two important steps have been taken by WHO viz WHO certification and provision for testing of samples in one of the collaborating laboratories of WHO.

Bangladesh Experiences:

Based on the principle of essential drug and in line with the WHO guidelines Bangladesh National Drug Ordinance was promulgated in 1982 with the following objectives:

1. to provide administrative and legislative support for ensuring quality and availability of essential drugs which are of relevance to the health needs of the majority of the population.

2. to reduce the prices of drugs and medicines and to ensure procurement of raw materials at the most competitive prices.

3. to elminate useless, non essential and harmful drugs from the market.

4. to promote local production of finished drugs as well as of basic pharmaceutical raw and packaging materials in the country.

5. to ensure co-ordination among various administrative branches of the government in respect of drug control and drug supply system.

6. to develop drug monitoring and information system to prevent wasteful misuse of drug to ensure their proper utilization.

7. to promote scientific development and application of unani, ayurvedic and homoepathic medicines and to ensure their standardization and quality by bringing these under the purview of drug legislation.

8. to improve the standard of hospital pharmacies and private retail pharmacies by improving the facilities for education and training of professional pharmacists.

9. to ensure GMP and each manufacturing company employing qualified pharmacists.

The Expert Committee besides defining the objectives enunciated sixteen criteria for evaluating all the registered/ licenced pharmaceutical products manufactured and imported in Bangladesh.

i. The combination of an antibiotic with another antibiotic or antibiotics with corticosteroids or other active substances will be prohibited. Antibiotics harmful to children (e.g. Tetracycline) will not be allowed to be manufactured in liquid form.

ii. The combination of analgesics in any form is not allowed as there is no therapeutic advantage and it only increases toxicity, especially in the case of kidney damage. The combination of analgesics with iron, vitamin or alcohol is also not allowed.

iii. The use of codeine in any combination form is not allowed as it causes addiction.

iv. In general, no combination drugs will be used unless there is absolutely no alternative single drug available for treatment or if no alternative single drug is cost effective for the purpose.

Certain exceptions will be made in the cases of eye, skin, respiratory and haemorrhoical preparations, co-trimoxazole, oral rehydration salts, antimalarials,

iron and folicacid, as well as certain vitamin preparations, allowing combinations, of more than one active ingredients in a product.

v. Vitamins should be prepared as single ingredient products with the exception of B complex, Members of Vitamin B complex with the exception of B 12 may be combined into one product.

vi. No multiple-ingredient cough mixtures, throat lozenges, gripewater, antiacids etc. will be accepted (either locally manufactured or imported) as these offer no therapeutic advantages to outweigh their cost.

vii. The sale of tonics, enzyme mixtures/preparations and so-called restorative products flourishes on consumers ignorance. Most are habit-forming and with the exception of pancreatin and lactase, they are of no therapeutic value. Henceforth local manufacture or importation of such products will be discontinued. However, pancreatin and lactase will be allowed to be manufactured and/or imported as single ingredient products.

viii. Some medicines are being manufactured with only trivial difference in composition from other products but having similar action. Such duplication confuses both ptients and doctors and will not be acceptable in future.

ix. products whose therapeutic value is doubtful,trivial or absent and products that are judged harmful or subject to misuse will be banned.

x. Prescription medicines and galenical preparations not included in the latest edition of the British Pharmacopeia or the British Phamaceutical Codex will be prohibited unless there is strong evidence of need and of efficacy.

xi. Certain drugs, in spite of known serious side effects and the possibility of misuse, having a favourable risk benefit ratio will be permitted for restricted use by specialists.

xii. Where a drug or a close substitute is being produced in the country importation will not be allowed, as a measure of protection for the local industry. This condition may be relaxed in some individual cases where local production is insufficient.

xiii. A basic pharmaceutical raw material which is locally manufactured will be given protection by disallowing it or its substitute to be imported if sufficient quantity is available in the country.

xiv. The role of Multinationals in providing medicines for this country is acknowledged with appreciation. in view of the calibre of machinery and technical know-how which lies in their hands for producing important and innovative drugs for the country, the task of producing antacids and vitamins will lie solely with the National Companies leaving the Multinationals free to concentrate their efforts and resources on those items not so easily produced by smaller National Companies. Multinationals will, however be allowed to produce injectable vitamins as single ingredient products.

xv. No foreign brands will be allowed tobe manufactured under licence in any factory in Bangladesh if the same or similar products are available/manufactured in Bangladesh as this leads to unnecessary high prices and payment of royalties. In the light of this policy, all existing licensing agreements sould be reviewed.

xvi. No Multinational Company without their own factory in Bangaldesh will be allowed to market their products after manufacturing them in another factory in Bangladesh on toll basis.

Outcome of the Bangladesh National Drug Policy :

Consequent upon the introduction of NDP and adherence to essential drugs the non essential ones have virtually disappreard from the market.Only the drugs within the framework of the Essential Drug list are registered. The rest are neither registered nor licenced for manufacture, import or sale in the country.

Quality control laboratory has been developed and manufacturers are obliged under the regulation to ensure quality control. For import WHO certification and certificate from the country of origin are also essential.

Price of Drugs and Raw Materials :

According to the ordinance the raw materials are to be imported from authoritative sources with competitive price. Prior to the drug ordinance there was no restriction imposed on this issue. As a result manufacturers used to import raw materials with exhorbitant price from their parent organisations which in many cases would procure the same at a much cheaper rate from some other source. The consumers as

as a result had no benefit while th manufacturers could make a substantial profit at source. After the drug ordinance the embargo of competitive price from authoritative sources had reasonable effect on the import price of raw materials.Table II shows the import price of various raw materials before and after the drug ordinance.

Table - III

The reduction of import price is universal and has been nothing less than remarkable in some cases. Doxycycline Glibenclamide Hyosemide, Mebendazole and Propranolol are some clear examples.

Reduction in the Prices of Drugs :

This has also been significant. Table III shows the unit price of some of the drugs before and after the drug ordinance as procured by the Central Medical Store - a government organisation responsible for supply of medicines to the public sector.

Tabel - IV

Elimination of Useless, Non Essential and Harmful Drugs :

These were categorised in the drug ordinance and time limit for withdrawal from the market was given for each category drug. These category drugs are no more permitted to be manufactured, sold or imported. As a result they are no more available over the counter.

It need be clarified here that in some developing countries like Bangladesh 'Prescription drug' is a myth. One can buy any drug provided he has money. It does not even need

prescription from a qualified physician. As the Drug Ordinance prohibits sale of some drugs and the public are made aware of those through various media the concept once a stronghold in public mind that all drugs are useful has no more sufficient strength the prevail upon. As a result the prescription pattern has changed of necessity. When these drugs are not available even the uninformed practitioner has to find an alternative in one of the essential drugs available in the market.

Overall drug situation in the country has improved over the years. Before the drug ordinance the value of the locally porduced drugs was Tk.1730 million. During 1986 this has reached the level of Tk.3350 millions. The proportion of 45 essential drugs for primary health care has increased from 30.4 percent in 1981 to 73.13 percent in 1987. The manufacture of most needed drugs are therefore more than doubled in the country.

Production of National Companies Increased :

Before the drug ordinance only eight multinational companies used to produce 65% of the local products whereas 167 national companies used to do the rest. The share of the national companies is now 63.5 percent. Few would believe that this could happen. Restriction of some products for multinational companies and encouragement of local companies for production have both been responsible for this phenomenal progress.

Essential Drugs in Medical Curriculum :

Medical and Dental Council, Government of Bangladesh recently recommended teaching essential drugs in the Medical Curriculum. The students will now learn more of limited number of essential drugs as against the traditional learning of too

little about too many medicines.

Comment :

Bangladesh National Drug Policy, based on the WHO concept of ED has evidently fulfilled some of the main obejectives of this action programme.It has also proved that if essential drugs are available to the Third World poor, and if unnecessary and possibly harmful medicine are withdrawn from the market through legislation on the lines of the Bangladesh Drug Policy, this should cause no concern to pharmaceutical manufacturers. The market is so big that with the essential drugs alone they can do much better than many other industries. With ethical practice they can contribute to the health and welfare of the people for a better world today and tomorrow.

Using a limited number of essential drugs poses no problem or threat to public health. On the other hand the consumers get right medicine in larger quantities. Elimination of non essentials or'luxury drugs' facilitate production of essential ones. This in turn guides or even compels uninformed or illinformed prescribers to exclude unnecessary,useless or even harmful medicines from their prescriptions. In a developing country like Bangladesh the only way of making good medicine reach people is to take bad medicines away from them. And the only way of taking away bad medicines is to eliminate them.

Progress and development in the pharmaceutical section in Bangladesh during the past five years indicate how effectively, the WHO concept can be put into practice and local industries protected, provided there is a sound drug policy backed by political will.

Bangladesh Drug Policy has been taken up as an example for third world countries. In an editorial of Tropical Doctor (1984) on this issue the following comments were made "if more governments in the poorer countries can follow some of the leads now being taken by the few, the world's poor will one day get the medicine they need"[14].

Lauridsen[15] termed the action programme on essential drugs and vaccines by the WHO as ' a peaceful revolution in international public health '.

The WHO concept of ED is now being increasingly reconnised as a rational cost effective pharmaceutical policy. Even though the concept has been accepted in more than 80 developing countries, not all of them have been successful in enforcing them. Drug Control Authorities in many countries are not adequately staffed or properly equipped to carry out its various responsibilities ranging from recipe registration, quality control, inspection of drug stores to the sale of prohibited products.

Lmimited manpower for health care delivery in many developing countries is a factor for serious consideration before categorising pharmaceutical products into prescription and OTC products.

It is therefore, felt that at least in LDCs both public and private sector should be limited to EDL carefully prepared and periodically updated by experts in the light fo prevailing conditions of that country.

OTC products other than the EDL may be allowed only in the countries where regulatory authorities are capable of adequate supervision and control over the production, sale and distribution of the drugs. EDL without a comprehensive national

TABLE-I: POPULATION AND EXPENDITURE ON MEDICINE

COUNTRY	POPULATION	EXPENDITURE FOR MEDICINE (MILLION)
EUROPE (EXCLUDING USSR)	692.9	32.6
ASIA (EXCLUDING JAPAN)	2638.8	8.1
AFRICA	513	2.3
NORTH AMERICA	392	16.9
SOUTH AMERICA	259	5.0

TABLE-II: COMPARATIVE PRICES OF SOME IMPORTED RAW MATERIALS

RAW MATERIALS	AVERAGE PRICE IN 1981 US$ PER KG)	AVERAGE PRICE IN 1986 (US$ PER KG)	AVERAGE PRICE 1987 (US$ PER KG
AMOXYCILLIN TRIHYDRATE	130	84	82
AMPICILLIN TRIHYDRATE	120	75	67
CLOXACILLIN	95	85	83
DOXYCYCLINE	1500	175	140
FRUSEMIDE	703	70	58
GLIBENCLAMIDE	2350	282	160
HYOSCINE BUTYLBROMIDE	1358	650	520
IBUPROFEN	32	25	25
LEVAMISOLE	128	66	66
METRONIDAZOLE	56	22	20
MEBENDAZOLE	287	52	50
OXYTETRACYCLINE	54	23	23
PROPRANOLOL	490	23	23
RIFAMPICIN	473	230	205
SULFAMETHOXAZOLE	37	18	18
TETRACYCLINE HCI	64	26	26
TRIMETHOPRIM	60	42	30

TABLE II
CONSUMPTION OF PHARMACEUTICALS AS A PERCENTAGE OF GDP

DEVELOPED COUNTRIES	0.74
INDUSTRIALLY LESS 'DEVELOPED' COUNTRIES:	
AMERICAN	0.83
ASIAN	0.78
MIDDLE EASTERN	0.42
AFRICAN	0.79
TOTAL	0.70
TOTAL WROLD	0.73

SOURCE:OECD (1979)

TABLE-III: PROCUREMENT PRICES OF THE CENTRAL MEDICAL STORES

ITEM	PRICES PER UNIT IN 1981(TAKA)	PRICES PER UNIT IN 1985(TAKA)	PRICES PER UNIT IN 1986(TAKA)
AMPLICILLIN CAMSULE	0.950	0.850	1.05
CONTRIMOXAZOLE TABLET	1.340	0.678	0.58
FRUSEMIDE TABLET	0.510	0.300	0.1075
LEVAMISOLE TABLET	0.960	0.400	0.28
PARACETAMOL TABLET	0.180	0.135	0.15

drug policy cannot yield expected result. Control over promotional activities, use of harmful drugs, fixation of price, all these require a co-herent national drug policy.

Section - II MEDICINE AND SOCIAL DEVELOPMENT

Introduction :

The revolutions in the field of treatment have brought many diseases under control or cure. Tuberculosis, malaria, peptic ulcer, epilepsy, diabetes, heart diseases, hypertension, many infectious diseases and even some cancers have met with revolution in the therapeutic field. Future will undoubtedly explore many newer drugs and technology to strenghten our hands in our fight against diseases.

In the field of diagnosis high technological advances have developed to the extent of exploitation. Sophisticated equipments like CT-Scan and NMR are so expensive and the number of diseases that can be diagnosed by these means and effectively treated compared to the huge investment is a matter for serious consideration. This is worse for the developing countries where total health budget is much less than desired for the bare minimum.

In the world today a wide gap exists between the haves and the have nots. To cite a few examples in most developing countries 200 per thousand live births die during their first year while the figure for the industrialised countries lies between 10 to 20. Women in many developing countries have 200 times greater risk of dying during pregnancy and child birth than women in developed countries. About 1000 million people live in the vicious circle of poverty, malnutrition, disease and disability. While the average life expectancy is over 70 years in some countries this is around 50 in others.

Technological Advances : Ethical Aspect :

Transplantation of heart was at the initial stage considered to be epoch-making answer to the problem of damaged heart. Over the years the sad experience of rejection and fatal outcome compelled a decision to abandon this heroic attempt in some centres of the world.

Time has shown that the heart transplant is not a good medicine because it cannot fulfil the expectation of overcoming premature death and suffering from some heart diseases. In terms of money it deprives millions from cure-remedy for the sake of one incurable problem.

Kidney transplants are more successful. Malborne team claimed 80% five years survival rate after kidney transplantation but this is not all. About 20% of transplnted kidney do not even start funtioning. One third of all transplanted kidney are rejected by the end of first year. Kidneys taken from the living relatives fare well but question has been raised whether it is ethical to have an irreplaceable part from the healthy donor. Recepients of transplant are permanently on drugs to prevent rejection. These on the otherhand increase their susceptibility to infection and even to cancer. While a few can enjoy a period of well being others find their lives burdensome with drugs and medicines.

It is indeed an ethical issue whether we should exhaust whatever little health budget we have for saving a few lives or rather prolonging life artificially with inevitable fatal outcome or should divert that money for the cure of curable diseases which kill millions of children and adults in the third world today[16].

Third World Disease Pattern:

The most widesp read diseases in developing countries are intestinal parasitic and infectious diarrhoeal diseases, poliomyelitis, typhoid and cholera. These are all transmitted by human faeces. The other major group consists of the airborne diseases, for example, tuberculosis, pneumonia, diphtheria, bronchitis, whooping cough, meningitis, influenza, measles and chickenpox. The third major cause of death, particularly in children, is malnutrition[17]. Malaria, schistosomiasis, sleeping sickness, leishmaniasis, filariasis and leprosy may well be added to the list as other major diseases in the developing world.

The few detailed studies that are available suggest that many recurrent illnesses disrupt normal activities for roughly one-tenth of people's time in most developing countries. With acute episodes these illnesses disrupt economic activity, often at critical times such as planting and harvesting seasons. Many chronic debilitating diseases impair people's ability to concentrate, adults productivity and students ability to learn[18].

Fortunately most of these diseases in the Third World countries are either preventable or curable. Infectious diseases can be reduced through early diagnosis and treatment, proper hygiene and immunization. Improvement in water supply and disposal of waste can control faecally transmitted diseases. Global eradication of smallpox is a story of resounding success. Immunization against six major diseases viz, diphtheria, measles, whooping cough, tetanus, tuberculosis and poliomyelitis have now been accepted as major health isue. By now immunization coverage has reached 50%. It aims at immunizing all children by the year 1990 at a cost of US$5 per child. Major boost to rational immunization effort has come from political commitment and community involvement with the UNICEF playing the central role[19].

Alternative Medicine:

Millions of people have no access, even to-day, to the complex technology and advances of modern medicine. The traditional medicine is the only alternative for them in many developing countries. Many rural people have not seen even one qualified physician in their life-time. Only one auxiliary health worker may have the responsibility to look after as many as 10,000 persons.

Until the beginning of the 19th century all medical practice have been traditional. Modern and traditional medicine subsequently existed separately in mutual antipathy even though their goals were identical. During recent decades there has been phenomenal change in the attitude towards traditional medicines. With a global resolution committing health for all by the year 2000, the gap between the traditional and modern medicine has narrowed down. A new sense of urgency has developed.

It is now realised that if the health-care delivery system is to reach the maximum number of people within a foreseeable future all available health-care facilities have to be utilized and all manpower resources are to be mobilized.. Anything that is good in any system has to be accepted with grace and the false claims have to be rejected. We can by no means ignore the manpower resources rooted in traditional medical practices which is more appropriately termed as alternative medicine. Both the systems of medicine can develop collaborative activities in research, training and practice which will undoubtedly strengthen both systems of medical care.

A genuine interest has now developed among modern physicians for traditional medicine. In addition many developing countries are now accepting traditional healers

as a strong force for extending health care. Health for all by the year 2000 can never be a reality without them. It is undeniable that traditional healers are closely linked with the socio-cultural background of the people. They are already living in the communities as an integral part of the society and they have therefore the life style indentical with that of their neighbours whose needs are known to them. They are trusted members of the society and their skills are acquired through the generation with exceptional practical knowledge and wisdom.

These traditional healers can be trained with moderate or minimum expense on personal hygiene, childcare, immunization, nutrition and family planning. They can at the same time be taken away from the practices bringing possible risk to patients.

When there were only handful of drugs to treat diseases the strongest weapon the doctor had in possession was confidence and hope which he could instill in his patients and their families. His skill lay in his helpful attitude and generation of hope and confidence. His personality, mode of talking, power of listening, all helped alleviation of sufferings or cure of diseases. Patients of to-day miss this from the busy modern scientific doctors. This has led to the revival of alternative or traditional medicine which has a tradition of thousands of years and is still practiced in the good old fashion with sympathy and understanding devoting time in listening to the ailments and suggesting remedies. Besides, the personality and popularity of traditional healers put them in advantageous position.

Herbal Medicine:

Plants have been used in medicine since the dawn of time. Opium from poppy digitalis from the fox-gloves and atropine from nightshade are but few examples. Many traditional therapies employing herbal medicine are said to be effective against many common diseases. They are mostly free from side effects. In some Asian and Latin American countries herbal gardens have been developed to ensure regular supply. This obviously reduces the risk of extinction through deforsetation. Production of vegetables and fruits with high nutritive value can be conveniently added to the cultivation in herbal garden. Pharmacopoeas containing recipes containing herbal medicines have been developed in India and China.

Basic knowledge about herbal medicine given to primay health care workers can richly contribute to health care delivery system at minimum cost to the maximum number of disadvantaged people. Besides, the use of medicinal plants and traditional medicine could help people becoming more self-reliant[20].

Faith Healing:

Faith Healing is still one of the most popular methods of medical care. Its success lies upon the belief in some supernatural power. Prayer is th cheapest and the most antient means of medical care. Most faith healing hour involves a little more than simple prayer. There are recognised spiritual leaders in some societies who are popularly known to be gifted with the power of healing.

Experiences in many countries specially Malayasia shows that the role played by spiritual healers cannot be totally ignored. People in many parts of the world still

to-day irrespective of their religion viz, Muslims, Hindus, Buddists or Christians are firmly rooted in the belief in spirits, their influence on the soul and their power. They believe that illness is caused by evil spirits. Modern Medical Practitioners may quickly dismiss ritual exorcism without seriously considering the method in its totality in the environment. Most of the spiritual healers live in the village. He inherits his skills from his forefathers. He is personally known and respected by the villagers. So long belief in spirits continues to exist it is useless to dismiss it outright. These groups of traditional healers through their relationship with the patient can make significant contribution in many diseases of psychiatric origin.

Excorcism plays an important role in certain forms of illness specially the mental ones in cultures having a dominent monotheistic religion. This has been known to the most antient civilization. Baptism in Christianity still retains certain characteristics of exorcism. A priest may come to help in some cases of obsession or some other form of psychiatric illness. Religious groups in other faiths e.g. Imams of mosques are called in for treatment of many diseases who apply various techniques like recitation of verses from holy books, use of holy water and talisman.

Homeopathy:

The speciality came to the fore as a therapeutic measure in Europe and America during the later half of the nineteenth century. There has been an increasing acceptance of homeopathy both from doctors and patients during the last decade[20]. There are countries where homeopathic colleges have been established e.g. in India and Bangladesh in the east and Mexico in the west. In France there are over six

thousand medical doctors employing homeopathic medicine. Claims have been made on the important role of homeopathy in several diseases where modern medicine is unhelpful. It is also claimed to be of value in may form of chronic diseases.

Admittedly an evaluation of the system in modern scientific way will remove many misconceptions or false claims. Hoemopaths have explicity expressed their willingness for such an official evaluation[21]. On the basis of such findings, if the government accepts homeopathy as an acceptable system of medicine, poorer nations can derive immense benefit because of the economy and the ease of administration of this system of medicine.

Several good reasons for alternative medicines exist:

i) Modern medicine can cure many, alleviate others and yet there are a host of diseases for which it cannot offer anything.

ii) Failure in modern medicine have created interest in people for alternative medicine. Even high technology medicine has resulted in disappointments in some places e.g. Cardiac transplantation.

iii) There are people with a great tendency to believe in faith healing.

Primary Health Care:

During the last decade health goal and health priority have been redefined. The Alma-Ata declaration defines primary health care as essential health care based on practical, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and

families in the community through their full participation and at a cost that the community and country can afford to maintain at every stage of their development in the spirit of self-relfiance and self-determination.

In is the first level of contact of individuals, the family and community with the national health system, bringing health care as close as possible to where people live and work, and constitutes the first element of a continuing health care process.

Principles of Primary Health Care:

i) education concerning prevailing health problems and methods of preventing and controlling them;

ii) adequate food supply and proper nutrition;

iii) an adequate supply of safe water and basic sanitation

iv) maternal and child health care, including family planning;

v) immunization against the major infectious diseases;

vi) prevention and control of locally endemic diseases;

vii) appropriate treatment of common diseases and injuries; and

viii) provision of essential drugs

- (World Health Forum, 1987).

Interdependence of social relations, development of social medicines and community health efforts came to realization after the second world war. Decentralization of curative services and appreciation of preventive measure such as immunization and health education gradually received

attention. The key role that the environment can play was then recognized: food, housing, water, sanitation and education were all recognized as prerequisites for health.

It has been emphasised that:

"Health is multisectoral responsibility, inseparably linked to economic, social and cultural development. Equity is the guiding principle in the intersectoral action for health. The strategies of sectors other than the health sector clearly have a major role to play in improving the well-being of these people. The achievement of Health for All depends a great deal on an egalitarian approach in each sectoral programme including agriculture, housing, water sanitation, and education[22]".

The Alma-Ata Declaration on Primary Health care is now 10 years old. The Declaration endorses and emphasises people's right to participation in matters related to their own health.

To quote Mahler" all of us, men and women everywhere who are not only the objects of development but are in fact the very subjects of that development and quite particularly of health development; men and women active in education, agriculture, industry, information and so many other different walks of life, who understand the mutually beneficial effects of development, in harmony with the protection and promotion of good health.

People everywhere, including top-level political and spiritual leaders, from north and south, east and west, are acknowledgeing over and above all their differences, that health is good for all people and essential for human progress; that there is both economic value and social justice in health. Surely we must all recognise that health is not everything, but that there is nothing without health.

In the interest of the human race there must be Health For All and All For Health[8]."

Comment:

Medicine to-day is something far beyond the concept of a pill for an ill. It embraces the man and his environ. Health is a major pathway to human development. Advances in health have an instrumental value in the developmental process through their impact on social and economic condition. Medicine constitutes only a small fragment of health which can not be attained in isolation. Health and social development being inseparable WHO definition of health as physical, mental and social well-being and not mere absence of diseases holds as strongly today as ever before.

To quote Dr. Mahler[23] "Thirty years ago modern health technology had just awakened and was full of promise. Since then, its expansion has surpassed all dreams, only to become a nightmare. For it has become oversophisticated and overcostly. It is dictating our health policies unwisely; and what is useful is being applied to too few. Based on these technologies, a huge medical industry has grown up with powerful vested interest of its own. Like the sorcerer's apprentice, we have lost control-social-control-over health technology. The slave of our imagination has become the master of our creativity. We must now learn to control it again end use it wisely, in the struggle for health freedom. This struggle is important for all countries; for developing countries it is crucial".

State of Health is inseprably linked with food, shelter and education not with medicine alone. We cannot afford to lose social control over health Technology.

Development afterall is a holistic process. Development leads to health; and health leads to development[24]. Socio-economic development policy and health development policy reinforce one another. Economic situation of a country has direct influence on how much can be spent on health. But a deteriorating economic circumstances should not be used as an excuse for abandoning the aim of better health for everybody. Without health there can be no development.

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