GETTING THE CLEAR PICTURE

The Latest in Diagnostic Procedures

by Aasha Mehreen Amin

THE benefits of advanced technology is, perhaps, the most appreciated in the medical world, especially, in the case of diagnostic research. With the advent of X-ray systems, CAT scan and ultra sound scans reliance on lengthy, cumbersome often painful medical tests have been somewhat reduced. More importantly, diagnosis of illnesses have become more accurate and done more quickly with the help of these systems. As a step forward, the introduction of MRI or Magnetic Resonance Imaging has been acknowledged as the latest technique for quick, safe, painless and accurate diagnosis.

As its name implies, MRI is an extremely sophisticated technology. Electromagnets set up a field within which a radiowave is switched on and off. A series of radio frequency pulses are sent to cause atoms (mainly hydrogen) in the body to be excited and move in a certain way. The atoms which return to their original position release signals which are picked up by the machine and transformed into an image by the computer. Any change, even the minutest, in the chemical environment around the atom, can be picked up by this technique. Even the subtlest abnormality in tissue can be detected.

Developed in the mid 70s, MRI was at first received with much skepticism when its attractiveness was not fully appreciated or known. Today the US has over 2000 machines. Europe and Japan have another 1500 or so. The benefits of MRI has reached even India where it is becoming very popular amongst medical circles there.

The MRI machine at Woodlands Nursing Home in Calcutta is latest model and one of its kind in India. Offering the clearest pictures and better resolutions than CAT scans, MRI can detect extremely small aberrations that other scans will ignore. This is very useful for early detection of disease.

Being three dimensional and taking in both biochemical and physical properties of tissues, MRI has several advantages over other scans and very few disadvantages, if any. Some of these are: it is safe and produces no radiation as with X-ray and CAT scans; it rarely requires the injection of a contrast medium or dye to visualise soft tissue structures; it can produce multi directional images without moving the patient; it is non invasive, so no injections and no incisions are required; it can 'see' through almost anything including bones, fat and air, into muscles, ligaments, cartilage, bone marrow etc; it can demonstrate inner structural defects in the eye and ear; MRI angiography is better than angigrams and can see all blood vessels including the cardiovascular dynamics; it gives unparallel diagnostic information on the spine, spinal cord and cerebro spinal fluid dynamics; it is safe and effective for detecting pelvic genital disorders and the early detection of certain types of cancer.

Dr Samir Banerjee, chief radiologist of the MRI unit at Woodlands says that this latest diagnostic technology has tremendous capability to differentiate between normal and abnormal tissues. "There are many silent situations in the brain", says Banerjee, "such as multiple sclerosis, which cannot be detected without an MRI". "It is especially useful," he adds, "for people with back problems; someone comes with a back ache, the X-ray shows nothing but an MRI will be able to detect a small tumor or a clogged nerve or a jammed disc in the spinal column."

MRI is also patient friendly in that it is does not entail the discomfort experienced during other scans. The MRI machine in Woodlands is the latest model and does not have the closed up trappings of the older models which often cause the patient to feel claustrophobic. The patient simply lies down on an open platform and stays that way for about 30 to 40 minutes. The only thing that has to be ensured is that the patient lies absolutely still and that he does not have anything metallic that will be attracted to magnet on or in his body. This means patients with pacemakers or major metallic implants in their brain or other parts of the body, cannot go through the MRI. Other than that, the patient can just lie down, relax and even listen to his favourite music.

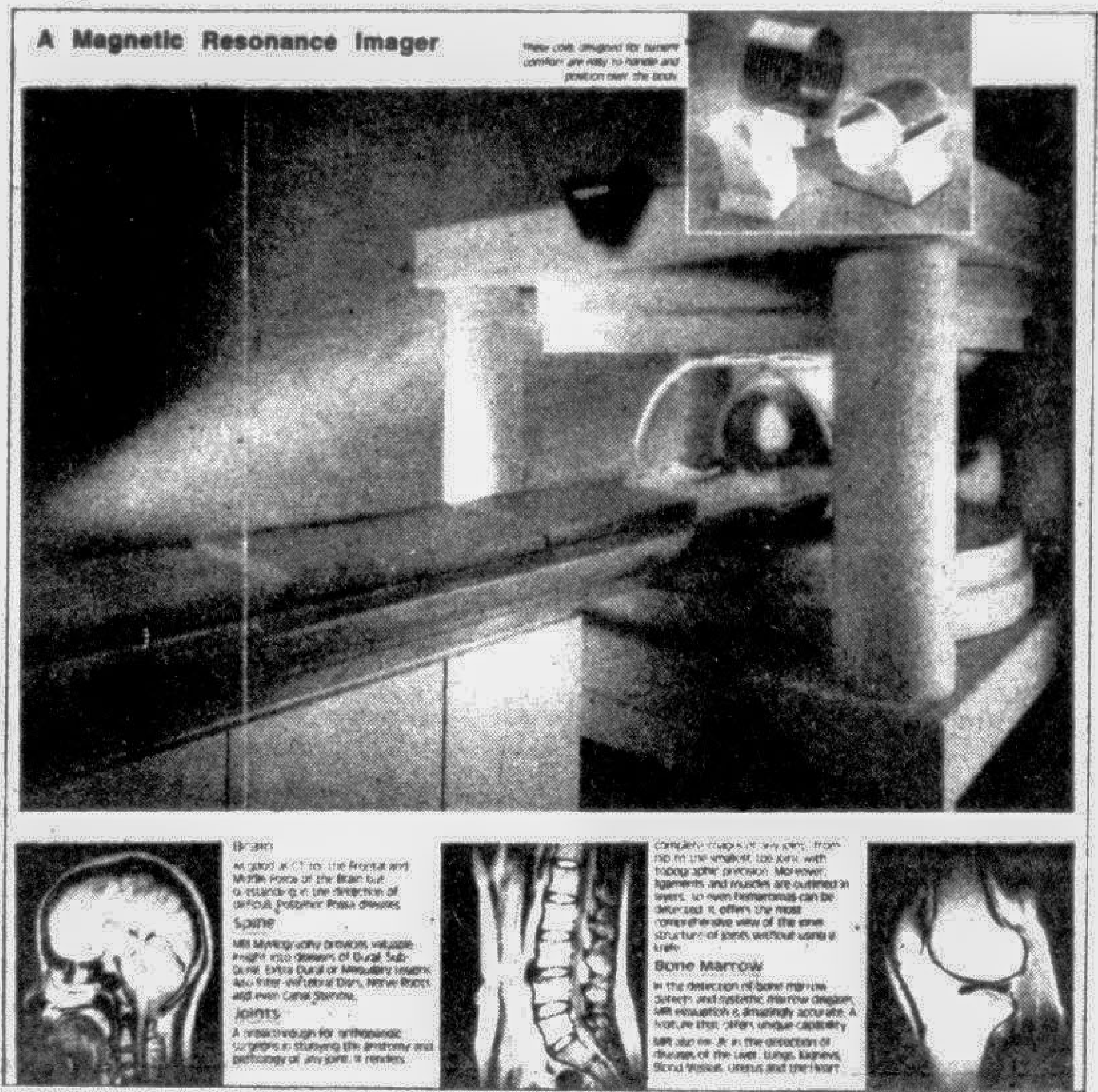
But perhaps, the greatest advantage of MRI is that, it is absolutely painless. Dr Banerjee explains that with the help of MRI, the old practice of diagnostic laperotomy or opening up of the body to 'see what the problem is,' has been virtually eliminated. Certain types of investigative surgery can also be eliminated. Neeti Sehgal, who manages the unit at Woodlands, points out that this characteristic has been especially beneficial for very small children. She mentions a case where a three month old baby needed to have a lumber puncture, an extremely painful process by which a hole is made in the spine and the fluid taken out. "The parents were absolutely traumatised," says Sehgal, "but with one MRI the baby was diagnosed as having meningitis and was immediately treated for it."

So where's the catch? The only drawback is that it is one of the most expensive diagnostic procedure. In India a single scan costs from 5000 to 8000 rupees. Being an extremely sophisticated, hi-tech machinery its operation requires highly trained radiologists and technicians. Adding to that, the maintenance costs, the amount could go up to a million dollars for just one MRI unit.

The cost of operating MRI units may be formidably high for most developing countries but the benefits in the long run and in terms of better health may out weigh them. Dr Banerjee, who is also a Royal College Fellow, believes that disseminating knowledge of MRI is very important. "Every three to four months I go abroad to update my own knowledge and wherever I go, I train others on MRI technology, who in turn train their own students.

In Bangladesh where correct diagnosis is not always ensured causing patients to spend millions of takas to get treatment abroad, MRI units would be especially welcome. Dr Banerjee and his colleagues plan to introduce MRI to Bangladesh. "But first", he says "we must analyze what the needs are, it has to be worth the expense."

As with ultrasonography which has become available in Bangladesh, MRI can also be extremely useful for doctors in detecting complicated anomalies, often missed by other scans, and getting a clearer picture of the problem. It may also help fade out the apparent mistrust patients have of medical testing in this country.



Asia Confronts a Smouldering Epidemic

Dr Sanjiva Wijesinha writes from Hong Kong

ANTI-SMOKING campaigns have succeeded in bringing smoking levels down in the West, but as tobacco companies shift the focus of their advertising campaigns, medical experts in Asia fear an epidemic of tobacco related diseases at the beginning of the 21st century. Because of its growing population and increasing affluence, Asia has become a prime target for the world tobacco industry.

Dr Judith Mackay, former Hong Kong physician and now a leading anti-smoking campaigner, has been fighting tobacco industry giants for over a decade.

As far back as 1982 she was warning the public that multinational tobacco companies had started eyeing up developing countries to make up for declining sales in the West. At the time an article appeared in the journal *World Tobacco* headlined "Bright future predicted for Asia Pacific" forecasting that cigarette sales in Asia alone would increase by at least 18 per cent by the turn of the century.

Despite the warnings, the popularity of smoking has taken off. In Taiwan, for example, the number of secondary school students smoking jumped from 19 per cent to 32 per cent between 1988 and 1991.

David Yen, chairman of an anti-smoking group in Taiwan, commented: "We were making headway in discouraging smoking but all that has been washed away by the flood of American advertising."

Until recently countries like Thailand, Taiwan, Japan and South Korea sold tobacco only through strict government controlled monopolies, imposing tough import duties on foreign tobacco products.

In the early 1980s, however, American tobacco companies joined forces with the Office of the US Trade Representatives (USTR) to force open these potential markets.

They used Section 301 of the US Trade Act of 1974, which empowered the USTR to retaliate with punitive tariffs against any nation which imposed "unfair" restrictions on the import of US products.

US tobacco companies had some powerful allies in government. About eight years ago, for example, US Senator Jesse Helms wrote to then Japanese Prime Minister Yasuhiro Nakasone indicating that he could not support a substantial US defence presence in the Pacific or stem the anti Japanese trade sentiment in the US Congress unless the Japanese market was opened up to American cigarettes. Tobacco was one of the biggest contributors to the economy of Helms's home state, North Carolina.

"I urge that you establish a timetable for allowing US cigarettes a specific share of your market," he said. "I suggest a total of 20 per cent within 18 months."

Japan capitulated and three months later agreed to open up its market. Prior to the invasion of US cigarette companies, smoking was declining in Japan. Since the market was opened in 1987 cigarette consumption by minors alone has increased by 16 per cent.

By the 1990s such tactics had also succeeded in opening up other Asian countries to US tobacco companies. Part of the attraction for developing nations was also the prospect of earning money from the taxes imposed on cigarette sales.

As a result, says Dr. Siriwat Tiptardol of Thailand's Ministry of Health: "Nearly nine per cent of 11 to 20 year old Thais now smoke." Between 1988 and 1991 the number of smokers aged 13 to 19 in Thailand increased by 24 per cent.

Third World populations are particularly susceptible to Western cigarette companies' sophisticated advertising tactics. Though television and radio advertisements for cigarettes are banned in countries like Hong Kong and Sri Lanka, huge billboard advertisements are allowed. A giant advertisement for Marlboro cigarettes is the first thing that greets visitors to Hong Kong's Kai Tak airport.

Cartoon character Old Joe Camel of Camel cigarettes can be seen puffing away on the sides of many Hong Kong taxis. Sponsorship of premier Asian sporting events such as the Salem Open Tennis Tournament and the Keat International Sailing Regatta is another method of maintaining the high profile of these cigarette brands.

"It is clear that advertising fosters tobacco use among children," says Dr John Clowe, President of the American Medical Association. "Despite tobacco company denials, ads like Joe Camel are especially appealing to adolescents, equating smoking with sexual prowess, athleticism and even success."

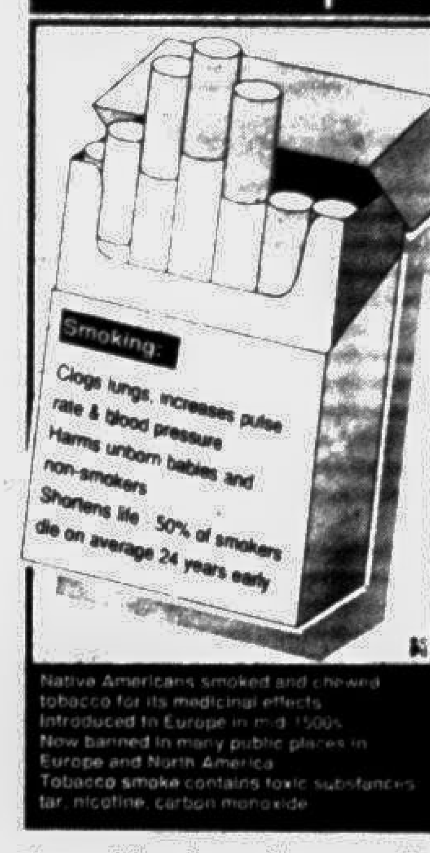
A recent study showed that 20 per cent of students in Hong Kong have tried smoking by the age of 13 and nearly 50 per cent have by the age of 16.

Several governments in the West have taken action to plug the loopholes in their anti-smoking legislation. In 1992, for example, Canada made tobacco advertising illegal on billboards, strengthening an existing ban on cigarette adverts on television and radio, and in newspapers and magazines.

A recent editorial in the New England Journal of Medicine points out that while smoking related deaths are declining in several western countries, deaths from lung cancer are soaring elsewhere, particularly in Japan and China. Asia is fighting a losing battle against a man-made epidemic.

— Gemini News

Perils of a puff



National Strategy for Boosting CPR

by Shamsad Mortuza and Sharier Khan

THE Government of Bangladesh is undertaking a national strategy to shore up a Contraceptive Prevalence Rate (CPR) of 60 per cent with a corresponding total fertility rate of 3.06 per cent by the end of the century.

A proposed Family Planning (FP)—Mother Child Health (MCH)—Information Education Communication ((IEC) strategy has already been placed before the government by the Centre for Communication Programmes, Johns Hopkins School of Public Health in collaboration with the University Research Corporation (Bd) under the funding of the US Agency for International Development.

The focus of the strategy is to overcome the existing weakness in the family planning programmes and to take advantage of external opportunities as well as to minimize the external threats to reach the desired level of CPR which now stands at 31 per cent. To double the present CPR rate the strategy has proposed a three-phase approach aiming at the potential and actual acceptors of family planning.

These phases include, first, the "growth" phase planning for upcoming activities while simultaneously initiating implementation of specific programmes. The second phase, which represents the "big push", moving from the groundwork laid in the first phase aims to adopt intervention models on a wider scale. Phase three activities under "consolidation "ensure that personnel continue to monitor and evaluate the progress of previously instituted interventions, expand activities further in conservative areas. The Phase-1 termed as the Growth, covering the first three years of the stipulated tenure, has six major objectives, identified as:

★ sustain the current users by minimising dropouts through improvement in the quality of care.

★ promote contraceptive use among young married couples.

★ undertake exclusive programmes for conservative areas like Chittagong Division and other remote rural areas.

★ increase CPR in the urban areas where it has almost plateaued.

★ strengthen coordination among FP—MCH-IEC actors from the government, NGOs and the private sectors.

★ strengthen the technical capacity of the concerned organisations.

To sustain the current users the strategy emphasised the improvement of the providers' morale through skill development and career advancement opportunities. Particularly, to increase the efficiency of the field workers, the strategy suggested that their job security should be ensured through annual budgetary allocation.

STRUCTURE OF STRATEGIC PHASES: 1993/94 - 1999/2000

PHASES	YEAR	FINANCIAL YEAR	ESSENCE OF PHASE	
I	1	1993/1994	GROWTH	-> STRUCTURAL CHANGE -> COORDINATED EFFORTS -> SKILL DEVELOPMENT -> INCREASE PROVIDER'S MARKETABILITY -> INSTITUTE RESEARCH BASE
	2	1994/1995		
	3	1995/1996	BIG PUSH	-> IEC ACTIONS WITH NEW DIMENSIONS AND SCALE -> SKILL DEVELOPMENT -> EVALUATION -> STRENGTHENING COORDINATED EFFORTS -> FURTHER ACTIONS (INCREASING RETURNS TO SCALE)
II	4	1996/1997		
	5	1997/1998		
III	6	1998/1999		
	7	1999/2000	CONSOLIDATION	-> UNIFORM SITUATION -> EVALUATE SUCCESS ACHIEVED, AND DEVELOP STRATEGY FOR BEYOND 2000.

The strategy also thought it necessary to speed up the worker-client contacts, both in terms of frequency and quality. Refreshers training programmes are stressed to increase the credibility of the field workers.

The main emphasis, however, is laid on the young couples with more potential than others for becoming parents. Home visitation by the field workers can orient the couples about the benefits of longer intervals between marriage and first child along with the needs of birth spacing.

The strategy also identified Chittagong Division and some other remote rural areas as priority zone where the CPR lies lower than 25 per cent. According to the Bangladesh Fertility Survey data of 1989, half of the older family members and one-fourth of the husbands in Chittagong do not approve family planning.

The first phase also underlined media campaign, audience-segmented research, institutionalisation of education through entertainment, gaining support from political, religious and community leaders.

With the intention of accelerating the efforts initiated in the first phase, the interim period of the strategy, branded as the 'Big Push', is designed to evaluate and replicate intervention models undertaken earlier. It also plans to implement and evaluate a modified package of FP-MCH-IEC materials.

The second phase will also make suitable modifications in the plan based on the effects emerging out of the implemented strategy.

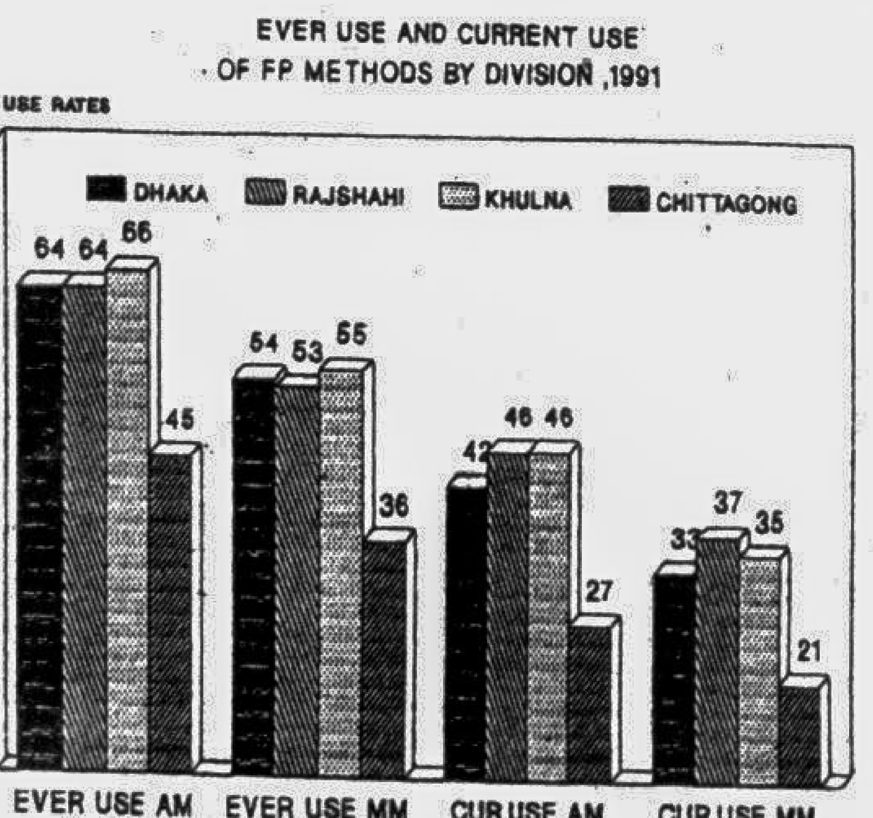
The Big Push programme also aims to conduct a second round of audience research profiles of current and potential users to ascertain whether any psychographic changes have occurred following the implementation of the phase-1.

The final phase, Consolidation, includes sustaining current users and increasing CPR in remote rural areas based on 'ideational' changes; reprogramming communication, training and entertainment-education in response to ongoing impact evaluation results; replicating appropriate intervention models; and conducting audience segmentation research to plan for beyond the year 2000.

Interestingly, the history of Family Planning in the country goes back to the year 1953 in private initiatives. The activities were then carried out in five distinct phases with primary effort to gain government support. Only in 1973, family planning earned a priority equal to that given to food production, while in 1976, population boom was declared the country's number one problem. So far, four five-year plans and one Two-Year Plan have been adopted by the government to reach a CPR rate of 40 per cent. The earlier plans, however, suffered from weak MCH components, inadequate IEC efforts, inadequate supervision, accountability, and coordination between the field workers, underutilisation of facilities, inadequate logistics and supply systems for drugs and contraceptives.

Sensibly, the government now realises that the present population of approximately 113 millions will double again in 30 years unless the annual growth rate is curtailed and the CPR rate is increased. The government has already extended its support to the proposed strategy and hopefully, by the turn of the century the strategy will achieve its desired goal.

EVER USE AND CURRENT USE OF FP METHODS BY DIVISION ,1991



Tranquillisers: A Tale of Dependence

A British woman, Tess Higham, went to her doctor suffering from exhaustion and anxiety. The doctor prescribed antidepressants and sleeping tablets. This prescription began a dependency on psychotropic drugs that lasted 21 years. She described them as "lost years" and said the experience was like a "chemical lobotomy."

Her experience is not unique. According to Health Action Internationals (HAI) latest publication, Problem Drugs, the benzodiazepine drugs used to treat anxiety and sleep disorders follow in a long tradition of drugs that were introduced as being safer and less likely to cause dependence than their predecessors. But it was to be a false promise.

Between 15 and 44% of long-term users become dependent on benzodiazepines. Although they are among the most frequently prescribed drugs worldwide, benzodiazepines do not cure any anxiety disorders; they suppress symptoms that may return once the drug is stopped.

Therapeutic type	World Sales 1991 $ Million
Hypnotics	406
Anti-anxiety drugs	1,200
Antidepressants	1,500
Antipsychotics*	1,244
Total	4,350

World Market for Psychotropic Drugs

* includes anti-epileptics and drugs to treat Parkinson's disease

Nonetheless, used wisely and for a limited amount of time, benzodiazepines can provide valuable breathing space when an emotional crisis becomes intolerable. Expert advice, such as that given by the UK Committee on Safety of Medicines (CSM), is that benzodiazepines should only be used for the short-term (two to four weeks) treatment of anxiety that is severe, disabling or causes extreme or unacceptable distress. The CSM says that their use for "mild" anxiety is inappropriate and unsuitable.

Unfortunately, misuse through overprescribing is common. Problem Drugs reports on studies in the UK, France, Spain, Canada and South Africa that found widespread overprescribing, often for long periods of time. In one UK study, at least one out of every three people taking tranquillisers had done so for periods of more than four months.

One cause of poor prescribing is the promotional effort of the pharmaceutical industry. In Peru in 1991, Multifarma promoted alprazolam (Alpaz) as a treatment for virtually every condition of daily life. It promised relief for:

- the "syndrome of the modern woman" — who suffers from increased worries about work, and an increased workload, emotional worries and stress;
- the "syndrome of today's man" — who worries about the future, his increased responsibilities, frustrations at not reaching his goals, financial problems and stress;
- the "syndrome of the housewife" — who worries about the children's education, having too much work, financial problems, fear of domestic accidents and a fear of the house being burgled; and
- the "syndrome of the elderly" — who fear being lonely, worry about their health and future, have limited finances, and lack affection.

In 1992, also in Peru, Upjohn used a similar them for its brand of alprazolam (Xanax), indicating it for "a large variety of patients with anxiety", including a business executive who is under pressure, a housewife coping with family conflicts, a lonely elderly woman worried about her health, and a cardiac patient with digestive problems and fears of another heart attack.

"This medicalisation of life may help the pharmaceutical industry sell more drugs," says Andrew Chetley, author of Problem Drugs, "but it bears no resemblance to appropriate health care."

Women and the elderly are particular targets for benzodiazepines, antidepressants and other psychotropic drugs. In most industrialised countries women are two to three times more likely than men to be using tranquillisers or antidepressants. For example, a study in the Netherlands found that doctors were two times more likely to prescribe benzodiazepines for women than men when neither the symptoms nor the diagnosis warranted the drug. In developing countries, too, promotional materials clearly identify women as needing powerful drugs to cope with daily life. In India, for example, Sandoz recommends giving women suffering from anxiety an antipsychotic drug, thioridazine (Melleril-10), usually reserved for the treatment of severe psychoses such as schizophrenia. The Indian subsidiary of Merck Sharp and Dohme suggests that women undergoing the menopause would benefit from a combined tranquilliser and antidepressant (Libotrop). Menopause is not a valid indication for either drug; together, they make an irrational combination drug which should not be used to treat any condition.

In the USA, the elderly, who make up one-sixth of the total population, are prescribed one-third of all tranquillisers and more than half of all sleeping medications. Studies from other countries confirm that the elderly receive a disproportionately high amount of prescriptions for benzodiazepines. The adverse effects of these drugs are often more severe among the elderly. These include confusion, disorientation and lack of coordination — symptoms that can be misdiagnosed as signs of dementia. In addition, the lack of coordination caused by benzodiazepines can lead to falls and broken bones.

HAI is calling on governments and health workers to take action to limit the use of benzodiazepines in the elderly in particular, and to generally restrict their use for severe anxiety or severe sleep disorders. HAI is also calling for better independent information about the rational use of psychotropic drugs and strict penalties for poor quality promotional material.

In the words of consultant psychiatrist, Brian Ballinger, "More emphasis should now be placed on managing sleep disorders and anxiety without using drugs.

— Health Action International

Tranquillisers for the pressures of everyday life

Xanax tabletas (alprazolam)

para el tratamiento eficaz de una mayor variedad de pacientes con ansiedad