

Feature Health

Introducing Laser Therapy in Bangladesh

It is usually reasonable to assume that clinics are set up by doctors or those with some medical experience. But not always. The RAMIT treatment centre in Bannari is quite surprisingly the brainchild of an engineer named Khaled Rabbani.

The name RAMIT stands for Radio Apparatus Medical Irradiation Therapy. In Jayman's language, the clinic is a centre for laser treatment, the first and only one in the country.

Rabbani explains how his background fits into the picture. "This is primarily an equipment-based treatment, not a medicine-based one." His role is therefore to take care of the technical side of things. Moscow Institute of Laser Treatment's RAMIT clinics were first started in Russia and are now in found in many cities of the world such as Beijing, Athens, Budapest and others. "I saw laser clinics in Cairo and Frankfurt and was very impressed", the engineer explains. "The patients I met said that they experienced no pain and that the treatment was good."

This in turn inspired Rabbani to set up a similar venture in Dhaka. It took him a year to finish the groundwork before opening the centre now completing its first year of existence. "The clinic is entirely self-financed. We have not taken any loans," he reveals. Although the obstacles to the venture were primarily technical in nature, there were also some bureaucratic problems. "We had some difficulty getting work permission for our Russian doctor."

The Russian in question is Dr Dimitri Evdokimov who has been practicing laser treatment for the last two years and arrived in Bangladesh a year ago at the invitation of Mr Rabbani. The doctor clad in grey t-shirt and

shorts has his first reaction to the idea of coming here was simply, "It's too hot".

There still remains one big headache-lack of patients. "There are not many coming here. Laser is a new thing, so many don't know about it or don't trust it yet. They are afraid of the treatment," Dr Evdokimov explains in halting English. "Even some doctors here don't know about it."

The centre has four doctors, a gastroenterologist, a gynecologist, a urologist and a pain and asthma specialist. "We can easily handle 20 patients a day, but at the moment we aim to get two to three," Rabbani reveals. Most of their patients are middle class, since richer ones would rather go to Singapore for treatment.

Both Rabbani and Evdokimov are firm believers in the benefit of laser therapy. "There are no side effects in laser," Evdokimov claims. In addition, laser is a non-invasive

process, which supposedly results in no discomfort.

According to the clinic's literature, the treatment has a 92-94 per cent success rate with gastric ulcer, 75.78 per cent with prostritis, and 83-88 per cent with urethritis. Similar success rates are also claimed with regards to endometritis and inflammatory types of gynecological diseases, pain therapy and rheumatoid arthritis. Laser is said to minimise suffering of asthma patients but does not cure it completely.

"No hospitalisation, operation or general anaesthesia is required for these," Rabbani explains. "In Russia, there is a lot of research work with laser. They are trying to treat more and more diseases with it." Dr Evdokimov adds. The clinic in Dhaka is also planning to introduce laser acupuncture to treat migraine, hypertension,

acne, and blood irradiation for protection against heart attack.

Dr Evdokimov describes how laser works in simple terms. "This type of therapy works at the cell membrane level. Very low-energy laser is used to change the energy level of the cell's membrane. Moving blood cells then carry this energy to the other organs of the body. It stabilises the system and has a regulatory effect." He adds that if the system is already stable then giving more energy to it has no effect.

The doctor demonstrates an endoscopic procedure which involves beaming laser to the stomach. This is done by introducing a thin clear tube into a larger black one and then slipping both in through the patient's mouth. A lens at the doctors end allows him to view the stomach. For the patient, the process is rather like swallowing a whole ser-

pent, but the doctor maintains it is short and pain-free. "Before the endoscope, we prepare our patients. We explain the procedure to them and give them an injection to lessen salivation and vomiting reflex. We also give local anaesthesia to reduce the sensation. The treatment lasts from five to ten minutes only, depending on the case."

Although laser treatment pioneered by Russia is now found in many countries including Switzerland, Germany and Italy, it was yet to receive FDA approval from the US authorities. In a paper by Jeffrey R Basford of the Mayo clinic Minnesota, he reports that although laser is proven to work at the cell membrane level, "clear evidence that it is definitely better doesn't exist."

Both Rabbani and Evdokimov brush away the FDA delay in giving approval. "They are a very conservative body. It always takes them long to accept new things," says the Russian.

Ten years ago, the National Geographic hailed the arrival of laser and its application to diverse fields such as cartography, industry, eye surgery and holography, with much enthusiasm. It quoted John Asmus, chief laser scientist at Maxwell laboratories in San Diego, "Don't undervalue the laser. It harnesses light, a basic form of energy. We harnessed energy in another way once and started the industrial revolution."

They may have been too optimistic — predictions made for the use of laser in quelling cancer and opening blocked arteries among others, have yet to come true. It is clear that laser has no side effects and is not harmful, but whether it is helpful needs to be decided in the individual case. For those terrified of going under the knife, it is surely a welcome trend.



Application of laser technology in curbing human illness — still a new trend in Bangladesh.

How Qagar Banished the Ghost of Illness

Zhang Dan and Doqong writes from Tibet

A century-old mystery was cleared up in a Tibetan village when scientists found that excessive amounts of fluoride — which some countries add to their water supplies to protect teeth — was making people old and bent. Gemini News Service reports on a case of natural pollution.

Children but only six survived. Her deformed legs are too weak to support her, so she drags herself along with the help of a pair of sticks.

The county administration drew an alternative plan in the mid-1980s, which featured a project to pump uncontaminated water from a nearby source. But neither the villagers nor the local government had the money to implement the plan.

The county's annual revenue of less than 300,000 yuan had to take care of 37,000 inhabitants. Says Losang: "We could not but turn to the regional government for help."

The help did not come through until 1991, when Tibet, with support from Beijing, launched a 2-billion yuan agricultural project in central Tibet.

It aimed to turn the area into the breadbasket of Tibet. The project included the Qagar water-supply scheme.

Engineers found a clean underground water source some 2.5 kilometres to the southeast of Qagar and drilled a deep well for the village and a water tower. More than 100 villagers helped the work, which took a year and 920,000 yuan.

"It was the most wonderful thing we've ever had to look forward to," says Toinia, the 57-year-old village head. "That's why the whole village was enthusiastic."

Today the water is pumped from the well into the lower and then piped to the four outer lots in the village. The villagers fetch water at fixed hours every day.

Toinia loves watching kids splashing in the water. "They are lucky," he says. "Their teeth will not fall out, and their legs will remain straight when they are at my age."

He wishes that the water could also be used for irrigation. Fluoride inhibits crops and for a century the villagers of Qagar have been denied a good harvest, reducing most of them to poverty.

Toinia says that barley yields are barely half the level in agriculture-developed provinces.

County deputy director Losang admits that the problem of irrigation is yet to be solved: "The fluoride-rich water underground is still affecting the growth of the crops."

He says the government is planning to build irrigation works to dilute the fluoride and thus enable yields to increase.

ZHANG DAN and DOQONG work for China Features in Beijing.

Doctors Nearer to a Leprosy Vaccine

I am in such pain now that I cannot walk," says 38-year-old Kali Charan. While speaking, he struggles to keep open an eye half shut by the bulbous lesions that cover most of his face.

Charan has two children and he was recently forced to quit his job as a security guard due to his illness. "Sometimes my family does not have enough to eat," he laments.

Charan is confined at the Ram Manohar Lohia Hospital. He is suffering from leprosy (Hansen's disease). And he's just one of about two million people in India afflicted by the disease.

Generally, leprosy is treated with multiple drug therapy (MDT), which takes three years or so before a patient is cured. The slow pace of this treatment has prompted medical scientists to seek an anti-leprosy vaccine which could lead to the eradication of this ancient scourge.

Since the 1980s, Indian scientists at the National Institute of Immunology (NII) have been working on an anti-leprosy vaccine designed to both treat and prevent the disease. NII is funded with grants from the Indian gov-

ernment. Canada's International Development Research Centre (IDRC) and the New York-based United Nations Development Programme (UNDP).

In the next 10 years, we expect to completely eliminate cases like Mr Charan's with our vaccine," says Dr Ahmed Zaheer, one of NII's leprosy specialists.

The anti-leprosy vaccine which NII is currently working on is made from a non-pathogenic bacteria that has a molecular structure similar to the one that causes leprosy. It works by boosting the immune system in patients.

Among more than 300 patients with Hansen's disease who participated in a series of experiments here, 75 per cent reportedly had dramatic health improvements after being injected with the vaccine.

Medical ethics in India, as in other countries, dictate that an experimental treatment should never be used as a substitute for the proven cure of any disease.

And while the anti-leprosy vaccine being developed at NII

is doing wonders, it has been given with other drugs. Thus, Dr Nor-deen thinks it is still premature to look at vaccines as a treatment for leprosy.

Leprosy is a persistent, usually mildly contagious, infectious disease affecting principally the skin and mouth.

Repeated injuries such as burns, infections and bruises cause shrinking of the bone. "If not treated, the disease can also lead to blindness," they say.

For 2,500 years, leprosy was considered incurable. It was not until in the 19th century when a 32-year-old Norwegian doctor, Gerhard Henrik Armauer Hansen, discovered that leprosy was caused by an acid-fast bacillus called Myco-bacterium leprae, which he presumed entered the body through the nose.

But since the disease was thought to be either hereditary or God's punishment for sinning, it took a while for Dr Hansen's discovery to be acknowledged.

In 1946, a young British doctor in India, Robert

Cochrane, got the idea of treating lepers with dapsone, a synthetic drug developed in Germany in 1908. "It miraculously worked — but the disease-causing bacteria developed a resistance to the drug. By 1980, as many as 40 per cent of leprosy patients in some parts of the world failed to respond to the therapy."

Fortunately, in the 1960s, pharmaceutical researchers in Switzerland helped develop two highly effective new drugs — rifampicin and clofazimine. Although the two drugs worked wonders with patients resistant to dapsone, they were very expensive.

In 1974, Prof Shantaram Yawalkar, a noted leprologist from Bombay, joined Ciba-Geigy — which developed the drugs — and suggested that they combine the available drugs. By giving cheap dapsone daily as a basic drug and administering the more expensive drug rifampicin, he said, a cost-effective cure might be accomplished.

Extensive tests were made on patients at the Institute of Applied Leprosy in Dakar,

Senegal. The clinical trial showed that the supervised administration of rifampicin once a month was ten times less expensive and effective.

When Dr Yawalkar presented these findings at the International Leprosy Congress in Mexico in 1978, there was great excitement. Follow-up trials in India, Brazil and the Philippines confirmed the Senegalese findings.

In 1982, the World Health Organisation recommended the multiple drug therapy (MDT) treatment programme using two drugs (dapsone and rifampicin) in simple cases, like non-infectious and localised forms of leprosy; and three drugs (dapsone, rifampicin and clofazimine) in the much rarer and more complex case, where skin, peripheral nerves and some organs are affected.

"For the first time," says Dr S K Nordeen head of WHO's leprosy department, "this disease was truly curable. Patients could remain at home and do normal work in most cases." Still, almost all doctors say the most effective way to prevent the spread of leprosy would be a vaccine. — *Depthnews Asia*

In Reducing the Sufferings of Mental Patients

WITH the advancement of modern life style, mental pressure is also rising up. This mental pressure causes a significant number of people to be mentally ill particularly in western and developed countries. But, the number of people suffering from mental disorders has also increased in Bangladesh. A number of eminent psychiatrists told at a scientific seminar in the capital recently, organized by Beximco Pharmaceuticals Limited. "Psychiatric disorders in Bangladesh, Management of Depressive Illness and MODIPRAN (Fluoxetine)". The seminar was presided over by Prof A K M Chowdhury. The seminar was also addressed by Prof Farida Huq, Prof AA Munib, Dr Rezwana Quaderi, Dr KM Tarik and Abdul Mukhtar — Marketing Manager of Beximco Pharmaceuticals Limited.

Quoting the results multi-sectoral survey published recently, Prof Hidayetullah Islam, an eminent psychiatrist of the country, revealed that about 34 patients in every 100 people who went to the doctors had one or many kinds of psychiatric disorders. Their mental maladies ranged from neuroticism to psycho-somatic disorder, from alcoholism to schizophrenia, he said, originating from various factors like — poverty, unemployment, social deprivation, socio-political unrest etc. The survey was conducted over a long period of time, based on the patients who sought the advice from the physicians — both specialists and general practitioners. Quoting the results of the survey, Prof Islam said that females were more likely to suffer from psychiatric disorder

than the males. Among the surveyed population it was found that half of the patients who suffered from psychiatric disorders, were in the age between 20 to 30 years.

In the seminar, Prof A K M N Chowdhury described the socio-demographic aspect, etiology and clinical manifestation of depressive illness. He said at the seminar that 13 — 20 per cent of the population have some sort of depressive symptoms whereas, depressive illness is more common in women, specially among the low socio-economic group, divorced and separated persons.

Prof A A Munib, Prof and Head of the Dept of Psychiatry, stressed on careful observation of patients when they first come to general physicians, as depressive illness may often be confused with or associated with different physical, psychological and surgical disor-

ders. He said these while he was presenting his paper on differential diagnosis of depressive illness.

Dr Rezwana Quaderi, Asst Prof of IPGM&R presented the paper on "Management of depression, OCD, Panic Disorders and Phobic Illness". She said depression is a treatable condition in 70-80 per cent of patients.

Dr K M Tarik, who is currently looking after the product Modipran (Fluoxetine) said that this drug came into market first in America in 1987 as Prozac.

Fluoxetine is the most useful drug now being referred by physicians in the treatment of depressive illness, bulimia nervosa, obsessive compulsive disorders, panic disorders, phobia and premenstrual syn-

drome. He emphasized on the high efficacy of Modipran as well as on its high safety profile. Dr Tarik, however, asked to take cautions in the use of fluoxetine in conditions when a patient suffers from liver cirrhosis, diabetes mellitus or epilepsy. Lactating mothers should use modipran with caution because fluoxetine is excreted in breast milk.

Abdul Mukhtar, Marketing Manager of the company told the audience that Modipran is being manufactured in Bangladesh now by Beximco Pharmaceuticals Limited, established in 1979-80, started producing pharmaceutical products in this country in 1980 but production of an important drug like Modipran came under production recently. In his speech, Mukhtar said that although with a time-lag in many cases, the company is taking up the challenge of introducing all important medicines in Bangladesh and is facilitating people to get optimum benefit from these. He also mentioned that Beximco Pharmaceuticals Ltd has initiated its global operation in 1991 by exporting basic chemicals to Hong Kong. Now it has an established market for its raw materials in Thailand, Malaysia, Singapore, Germany, Iran, Taiwan, South Korea and Vietnam. He also mentioned that a good number of finished products are registered and being marketed in Russia.

Abdul Mukhtar also thanked the audience for their participation in the seminar. About 60 psychiatrists from different parts of the country participated the day-long seminar.

Country	Population	No of Psychiatrist	Psychiatrist per Million People
Bangladesh	111.4 m	31/50[94]	0.45
India	882.6 m	2500	2.83
Indonesia	184.5 m	250	1.36
Thailand	56.3 m	202	3.59
Singapore	2.8 m	60	21.43
Sweden	8.7 m	1000	114.92
England	57.8 m	2082	36.02
USA	255.6 m	45000	176.06

In the teeth of decay

How people worldwide benefit from using the tooth-protecting chemical compound fluoride:

Fluoridated water 210m
Toothpaste 450m
Salt 50m

WARNING: Too much fluoride is a health hazard

AIDS : Controlling the Epidemic

by Alamgir Kabir

During the next ten years, AIDS will continue to have a very selective and severe impact on the mortality of young and middle-aged adults in both developed, and many developing countries. Increases in child mortality as a result of AIDS will probably more than offset the gains achieved in many developing countries over the past few decades by child survival programmes.

DURING the first ten years of the pandemic, human immunodeficiency virus (HIV-1) infection and AIDS have spread worldwide, but the world's population is not uniformly affected. Accurate figures for the prevalence of HIV infections do not exist and all figures known till now are merely estimates. The WHO has estimated that, worldwide, eight to ten million adults and one million children were infected with HIV-1 by December 1991, and that by the year 2000, forty million individuals will be infected by this menace of a disease. More than 90 per cent of these people will be from the developing countries is the sub-Saharan Africa, South and South-East Asia, Latin America and the Caribbean. In addition, during the 1990s, mothers, or both parents, of more than ten million children will die prematurely from HIV-1 infection and AIDS. The pandemic is dynamic and has evolved markedly during its first decade of its coming into being. In Australasia, North America and Western Europe, the increase in incidence of HIV-1 appears to be slowing down, but has continued to increase in many developing countries.

During the next ten years, AIDS will continue to have a very selective and severe impact on the mortality of young and middle-aged adults in both developed, and many developing countries. Increases in child mortality as a result of AIDS will probably more than offset the gains achieved in many developing countries over the past few decades by child survival programmes.

Two statistical data are available from our neighbouring countries. By the end of 1991, four hundred thousand

Thais were infected with HIV-1 virus and five hundred forty are full-blown AIDS patients. In India, an estimated twenty per cent of three lakhs prostitutes in Bombay alone are thought to be infected. The WHO estimates that worldwide over three million adults have both HIV-1 and tuberculosis infections, most of whom are from sub-Saharan Africa. AIDS patients and HIV-1 virus infected persons have lost their cell-mediated immunity. So, tubercular bacilli have disseminated in their body very rapidly.

Nationwide we are fighting against diarrhoea, tuberculosis, typhoid, paratyphoid, leprosy, kala-azar and malaria, etc. Here, safe drinking water is not properly distributed. Personal hygiene and sanitation is very poor. Air pollution is yet another major problem. People are merely alive by resisting micro-organisms by their immunity. If, unfortunately, this resistance power is lost by HIV-1 infection, the incidence and prevalence of the most common infectious diseases would increase in number and become uncontrollable. Now is the correct moment to take every measures to prevent the spread of AIDS in our country.

Control Measures

• The only way to avoid an epidemic spread of HIV is to have a life-style that only permits the normal physiological relationship between seronegative mutually monogamous husband and wife.

• Screening for HIV infection among the population coming from endemic areas to detect occult cases can be another means of prevention. Because seventy per cent of AIDS patients of South-East Asia were infected abroad.

• Using HIV testing for disease surveillance within the community of homosexual men, injecting drug users, those exposed to blood products (i.e. haemophiliacs), bisexual men and heterosexual individuals with multiple partners (e.g. sex industry and prostitutes).

• Infected persons should refrain from donating blood, plasma, body organs, other tissue, or sperm. There is a risk of infecting others by sexual intercourse (vaginal or anal), or by sharing of needles. THE CONSISTENT AND PROPER USE OF CONDOMS CAN REDUCE TRANSMISSION OF THE VIRUS, THOUGH PREVENTION IS NOT ABSOLUTE. Toothbrushes, razors or both implements that could become contaminated with blood should not be shared.

• All women who have been potentially exposed should seek HIV antibody testing before conceiving a child and if the test is positive she should consider avoiding pregnancy.

• Long term measures includes strengthening of the family tie and to ensure every facilities to accommodate every family unit of the society psychotherapy for homosexual, bisexual and heterosexual individuals to divert them to normal physiological life; rehabilitation of prostitutes; avoidance of bad influence of alien cultures etc.

Above all, it is high time to elevate moral and spiritual character of human being by all means of education. And the prevention of AIDS relies on the success of education projects involving behavioral changes, at least for the immediate future.

The writer teaches at the Microbiology Department of Sir Salmullah Medical College, Dhaka.