

Feature

Health

A Unique Centre for Medical Research

by Fazza Haq

"PLASMA Plus is an application laboratory in medicinal science. This centre is for scientists and doctors to find the optimum use. In order to know the efficiency of the machine, if you really want to teach someone what radiology is, you need certain number of patients, as you cannot use 'dummies,'" said Humayun Quader Chowdhury who runs the centre.

"We do accept a certain number of patients everyday to see how a machine works, such as how the ultrasonography machine, X-ray machines, and blood testing machines function. We are not here to mint money from patients."

"If you, for instance, buy an automatic blood counting machine we teach you how these instruments should be used. There are machines too for biochemistry, for cardiac analysis, gamma spectroscopy system to improve the isotopes; gas chromatography and high performance liquid chromatography equipment, which are instruments to maintain quality control of any product," Chowdhury elaborated.

Talking of the various equipment and state-of-the-art gadgets at Plasma Plus, H Q Chowdhury said, "Last year some children died after taking Paracetamol. In order to find out if they were using the right ingredients or not, one required certain analytic instruments, such as gas chromatographs, which are used to isolate those components that make the 'Paracetamol' syrup. There is a guideline according to the British, US or Japanese pharmacopoeia (international guidelines for making drugs). We try and detect if all the required components are really there in a questionable drug. One of the possible machines that could be used for this is a gas chromatograph or a spectrometer."

Various instruments are required to maintain quality control for accurate manufacturing according to international standards. To ensure quality control, various machines are thus required. Any product that is brought into the market, whether it be a food item or drug, is there today in Bangladesh, just because it is functional or is simply there because of its brand name. Sometimes some machines are available but the local people do not know the correct uses

for it. This is found, for instance, in hospitals, clinics or pharmaceutical companies. This applies even to the fertilizer factories," Chowdhury added.

Asked what about the clinics that had mushroomed recently around Dhanmandi, such as 'Delta', he explained that they were simply diagnostic laboratories.

"The 'Plasma Plus', he elaborated, "is an application laboratory in medicinal science, in the making of scientific medicines various machines

and BARDEM are well equipped, as they have their own engineers and sets of machines."

When asked to give some information about the people who use the 'Plasma Plus' centre, Chowdhury continued, "The people who come here are people who run and maintain the machines at various centres. They get information which is not readily available elsewhere. We would probably let one know what is the best method for, say, protein analysis: We give the latest information about it. Suppose a person has suddenly had a stroke; we try to analyse the best method for the cure, find the

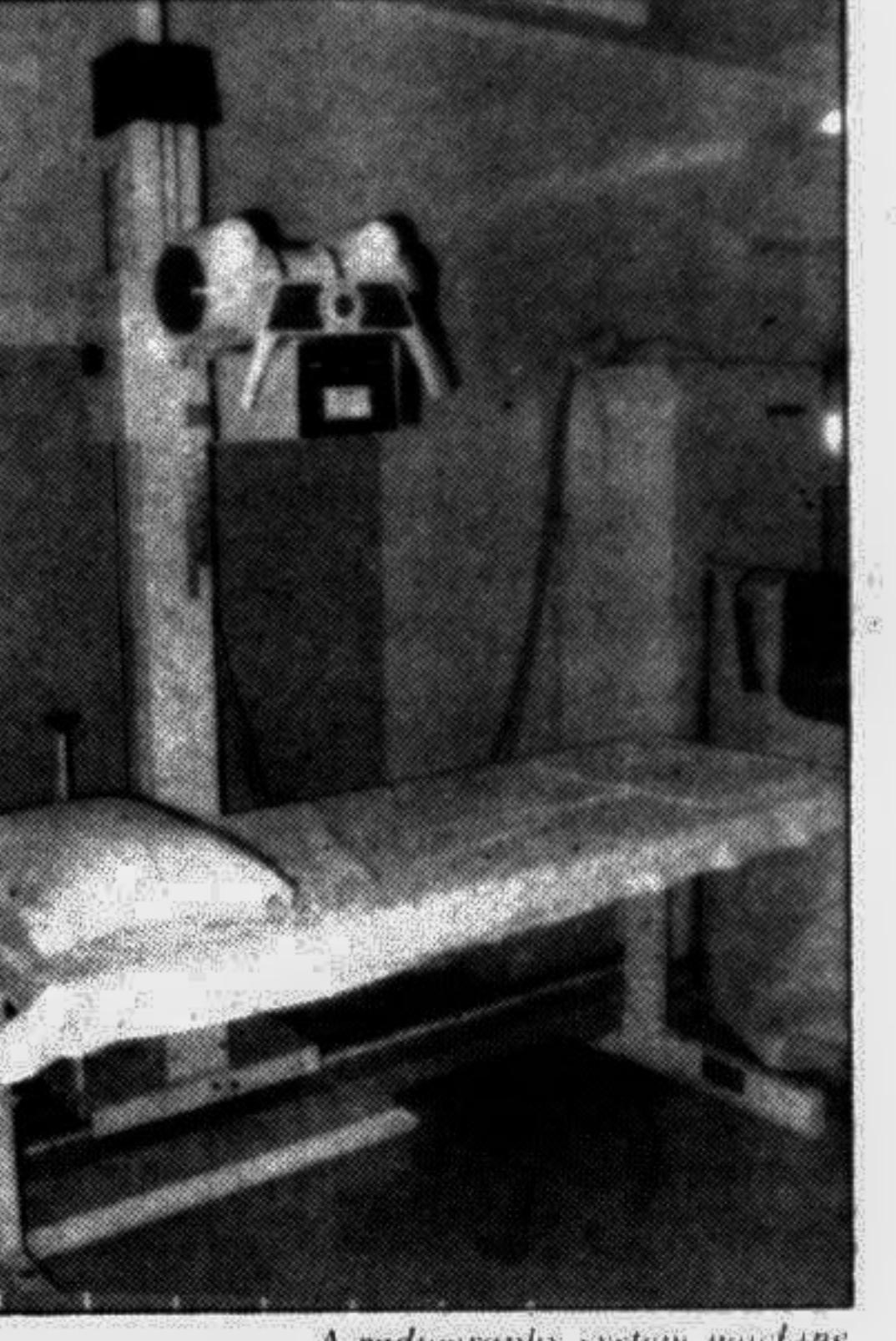
and BARDEM are well equipped, as they have their own engineers and sets of machines."

"There is, in general, no accurate record of the X-ray radiations or the medicines that the patient is taking. In such a case Plasma Plus can come to rescue. There is no proper college of radiology. We require a certain number of patients to detect this. We ask doctors to send their patients to us as 'dummies,'" he added.

"Plasma Plus' works for a fee. We help monitor the



A machine for ultrasonography system



A radiography system machine

extent of radiation that he might have been exposed to while he had been taking medication," he continued.

"Basically we deal with medical science and electronics, which develop and progress with time. The biochemists find out how machines operate. We see to it that they give accurate results."

Chowdhury informed that at the centre there are no medical doctors. There are only experts on machinery, many of them Ph. D. holders, e.g., in ultrasonography there is Islam; in radiology there is Dr N Mustafa; in the application chemistry section there is J. Chowdhury; in the biochemistry section there is K Pal; in health physics there is D. Das; and in instrumental calibration maintenance there is Dr Nuruzzaman", he elaborated.

Chowdhury, decide what should be the right dose of medicine for, say, a cardiac centre. We teach how to run the machines so that they give optimum performance. We teach one how low dosage or X-ray radiation can get the best image, because radiation is obviously bad for health."

Asked to give an account of the different forms of radiation on that one may be confronted with in Bangladesh, Chowdhury said, "Radiation from working at the computer, watching TV, or going out into the sun is fairly limited in Bangladesh. Yet, in the case of workers in asbestos cement factories, this does prevail.

He feels remarkably confident and optimistic about his project.

Man-made radiation is what we are mostly concerned with.

"There is the ALARA (As Low as Reasonably Achievable) concept that we follow. This is the inbuilt philosophy of our X-rays. Suppose a patient has a congestion in the lungs; one can detect the bad effects of the dosages of the medicine given, while doctors giving the medication are only interested in the end product of their own attempts. If a chest X-ray appears fine, the doctors will say, e.g., there is no pleurisy," he continued.

"There is often no record of the dosage of the X-ray exposure. Meanwhile, X-ray machines that are used may be old or not properly calibrated. There is little quality control of most of the X-ray machines in Bangladesh. Heavy dosages of X-ray may result in a clear plate. By this, say a young woman who is pregnant and is not protected well, the radiation passes through her sexual organs, so that the child ultimately born may be defective," Chowdhury explained, furthermore.

The basic purpose of "Plasma Plus" is thus to let doctors know how to operate machines so that there is an ensuing transfer of technology."

Chowdhury is a medical instrumental specialist. He got his Honours degree in Physics from the Dhaka University, and has been trained in India, Pakistan, Japan, Europe and USA. He has been marketing scientific almanac for 22 years.

Chowdhury admitted that he could not sell his know-how in the West as well as he wanted it. As a consequence, he took long-term loans from his friends, who are scientists, chemists and doctors, both at home and overseas, and set up "Plasma Plus" with Bangladeshi experts.

Chowdhury got his funds, equipment, and then organised "Plasma Plus" in '92 in a related premise at Dhanmandi R/A, Road No 1, occupying 4,500 sq. ft with eight rooms, equipped with high-technological machines for various tests.

His main purpose is to provide quality family planning procedure worldwide. One fifth of all the pregnancies in the developing countries are unplanned or in many cases unwanted.

According to WHO, 13 million women die each year as a result of unsafe abortions.

Estimated 300 million women do not have access to quality family planning procedures worldwide.

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Situation of Mother and Child Health

by Parvez Babul

and economic progress of the community, at a minimum cost. Ultimate objective of the MCH services is, therefore, not only to reduce mortality, but also to reduce the incidence of violence, crime, drug abuse, alcoholism, neglect and unwanted children.

In the developing countries, one-fifth of the population are under the age of five and two-fifths are below the fifteen year mark. Mother and children together make up over two-thirds of the whole population. Likewise, it is among these vulnerable groups that disease and death take their highest toll, largely from preventable ailments. The most important determinant of maternal mortality, however, is the management of actual complications associated with pregnancy-labour and delivery, incomplete abortions, obstructed labour, hemorrhage, toxemia, infection etc.

In September 1990, 71 presidents and prime ministers came together for the world summit for children. This gathering made the political commitment to try to end child deaths and child malnutrition by the year 2000.

Each year atleast half-a-million women die as a consequence of pregnancy and child birth; 99 per cent of those deaths occur in the developing countries.

Women in the developing countries face a risk of dying that is as much as 200 times greater than the risk faced by women in the industrial world in each pregnancy.

According to UNICEF, 100,000 women die each year as a result of unsafe abortions. Estimated 300 million women do not have access to quality family planning procedures worldwide. One fifth of all the pregnancies in the developing countries are unplanned or in many cases unwanted.

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