

Fleas Bring Surat to a Halt

D. Walia writes from Bombay

THE current outbreak of highly infectious pneumonic plague literally flew into India through the door, according to villager Vashitha Langhe.

He unlocked the door of his barn which had been shut for a long time and says village headman Sonaji Langhe, "a swarm of fleas covered him and made him run in panic. Since then, the whole area surrounding his house and right up to the main road has been infested with fleas."

People have been on the run ever since to escape being attacked by these pests.

Plague can be carried by rats, and is spread to humans by the rat flea.

Langhe says the incident occurred on August 5, and that he had reported it to the health centre nearest to the village of Mamala in Maharashtra state.

The director of the National Institute of Communicable Diseases, K K Dutta, also claims that the Maharashtra government was warned in early August about the danger of an outbreak of plague in the wake of last year's earthquake in Latur, Maharashtra state. He says that the warning to keep a vigil was ignored.

From Maharashtra the disease is believed to have spread to neighbouring states, especially to the industrial town of Surat in Gujarat, home to migrant workers from all over the country. As these workers fled the city, which has a population of about two million, they took the plague with them.

Though estimates are fuzzy, it is believed that hundreds of thousands of people left their homes in Surat. Every day brought new photographs and reports of people rushing to the railway station, at which trains were no longer stopping.

By the last week in September more than 60 deaths had been reported in the city, with another 500 people undergoing treatment in hospitals and clinics.

Surat's 300,000 textile looms and diamond cutting centres ground to a halt as the

FROM time immemorial plague has dogged man's journey towards advancement and at various periods in history it has taken a heavy toll on human lives. The current incidence of plague in India is, in fact, an indication of the epidemics of plague in its natural foci which are widely scattered in all countries. Plague becomes active periodically in cycles of 3-5 or 8-10 years.

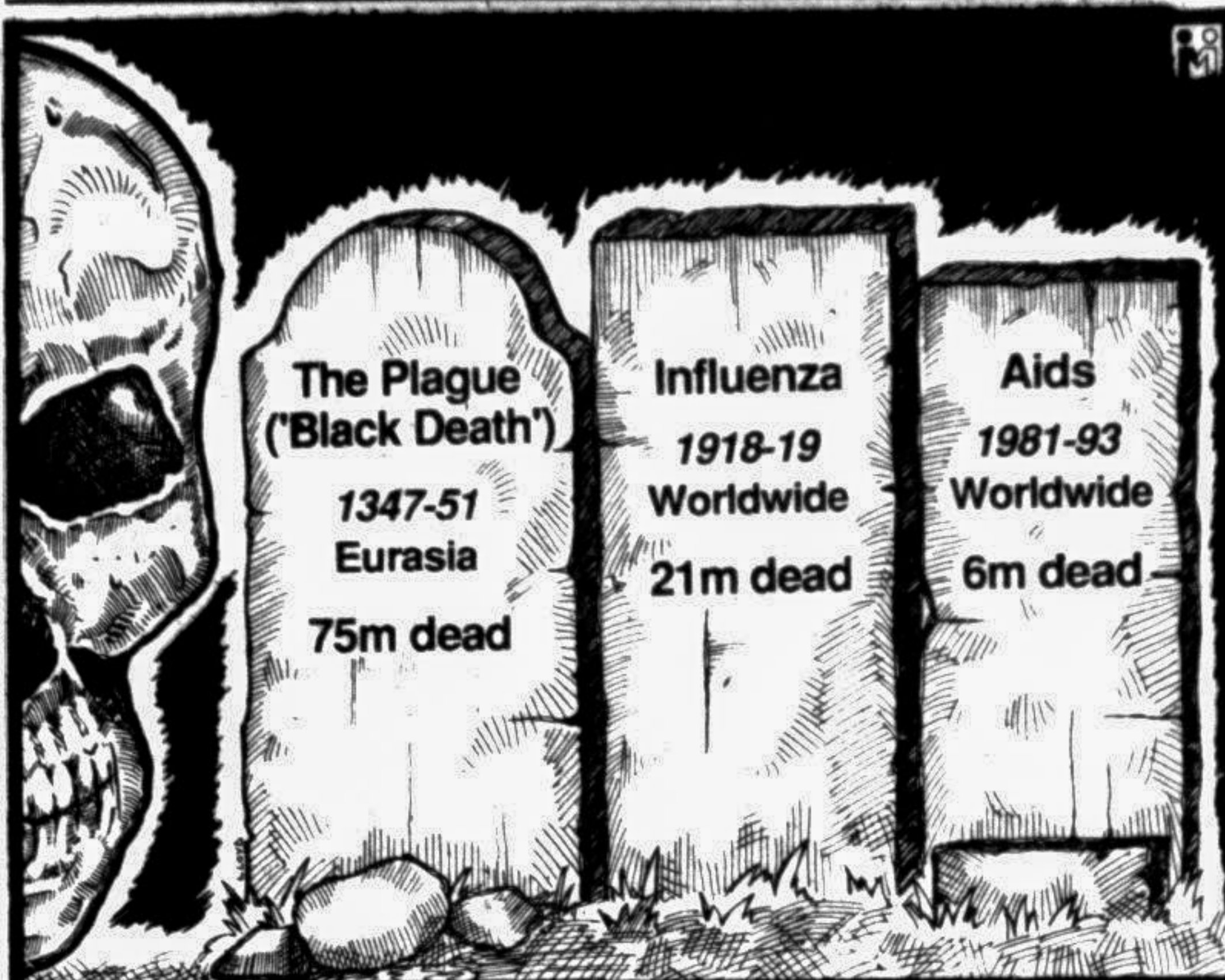
The causative organism *Yersinia pestis* is a small bacteria which spread among rats by their fleas. If domestic rats become infected then their fleas may bite man and man may also fall victim to plague. There may be interhuman spread by coughing. Plague may occur in three different forms. The Bubonic plague is the commonest, the onset is sudden with rigour, high fever, dry skin and severe headache with characteristic painful swollen lymph nodes — 'buboes' in the groin. There is also a chance of toxæmia with rapid pulse, hypotension and mental confusion at the advance stage. In

SURAT, a port city of western India is horrifying the world population. The name 'Plague' was almost disappearing from our mind. After decades it comes again to hammer our consciousness occurring in a densely populated country like India. Prior to Surat, outbreaks have predominantly been in Vietnam and East Africa with sporadic cases elsewhere around the globe. Epidemic of plague, known as the black death, have attacked man since ancient times. At that time there were not much treatment available to fight against plague. But in this modern world where science has done wonders and many impossible things have been achieved, it is very unfortunate that within a couple of weeks several hundreds of people have died in Surat.

What is actually plague? What are its symptoms? How does it spread? Is there any treatment available? Is there any prophylaxis? If we are fully aware of these things, we will possibly be protected from the menace of the deadly disease — plague. Though Surat is several thousand miles away from Bangladesh, cases have also been identified in Delhi and Calcutta last week. So we should be careful and must take precautions.

Plague is principally a disease of rodents in the wild. The causative organism is '*Yersinia pestis*' — a small gram negative bacillus. It spreads through rodents by their fleas and if domestic rodent becomes infected then the infected fleas may bite man and man may get infected by the organisms inoculated through the skin. Later, the infected man can spread the disease to others by droplets

Few diseases are more feared than The Plague. An epidemic earlier this century killed 1.3 million people. But, reports Gemini News Service, though highly infectious, the pneumonic version which has broken out in India is curable with speedy administration of the right antibiotic.



government declared the area plague-affected and ordered industrial establishments to shut down operations until the first week of October. Industry chiefs put the cost of closures at \$66 million a day.

Union Health Minister B Shankaranand and Gujarat Chief Minister Chhabildas Mehta and senior health officials went to Surat on September 25 and declared that the plague had been contained. Shankaranand promised to 'flood' Surat with medicines and said that he had been specially asked by Prime Minister P V Narasimha Rao to visit the afflicted. Eight million capsules of the antibiotic tetracycline were flown to the city.

By then, panic had spread

to other areas where cases were being reported.

Three people were found to be suffering from plague in a Bombay hospital, prompting the city authorities to order a mass screening exercise, and three cases were reported in Delhi.

There was an immediate run on tetracycline in both cities, and the price of 30 rupee rat traps rose five-fold.

Seven districts in south and central Gujarat were declared 'plague hit'. In Rajasthan, which borders Gujarat, villagers launched an intensive drive to kill rats.

Though the west was the worst hit part of the country, fear of the disease caused the authorities in eastern states thousands of kilometres away

to take preventive measures.

As the authorities struggled to contain the spread of the disease — mindful of the 1907 plague outbreak in India which killed 1.3 million people — several countries, including Pakistan, Hong Kong, South Korea, Thailand and the United Arab Emirates, said they would examine all travellers arriving from India.

Saudi Arabia, Oman, Kuwait, Bahrain and Qatar announced they were considering medical tests at points of entry to prevent the plague from spreading through the tens of thousands of Indian workers who work in the region.

— Gemini News
D WALIA is an Indian journalist specialising in environmental issues.

Plague Makes a Comeback

by Khandaker Tanvir Ahmed and SA Khan Majlish

Bubonic plague interhuman spread is quite rare. In Pneumonic plague the onset is also sudden with breathlessness and copious frothy blood stained expectoration. It is highly infectious and spread from man to man by coughing. The Septicaemic plague is yet another a rare phenomenon except for accidental laboratory infections.

Early diagnosis in case of plague is urgent. Microscopic examination of blood, sputum and aspirate from a bubo can reveal the organism in humans. 'Rat falls' (dead rats) provide a useful warning of a possible outbreak.

Isolation — it is recommended in all cases of human plague.

Treatment — should start instantly without waiting for the diagnostic report to come. The drug of choice is streptomycin administered intramus-

cularly in two divided doses at 30 mg/kg body weight per day for 10 days. Tetracycline can be given orally as an alternative drug.

Prevention — the most effective method is to break the chain of transmission (Rat-flea-man). Insecticides like DDT, Malathion should be given into rat-holes and also in the fields. Insecticide spraying upto a radius of 5 miles around each infected locality is thought to be adequate. Rodenticides are of equal importance.

Vaccination — as per WHO recommendation the vaccine is given subcutaneously in two doses of .5 and 1.0 ml at an interval of 7 to 14 days. Booster dose is recommended after 6 months.

Surveillance and quarantine measures should be strictly implemented for effective control of plague. Emphasis must

also be given on the need for the prompt reporting of dead rats and suspected human cases for prevention. Medical practitioners should keep the thought of plague in mind in differential diagnosis of any case of fever with lymphadenopathy or when multiple cases of Pneumonia occurs. Attendants of the suspected patients must wear gowns, masks and gloves for protecting themselves and those around them.

The government and its various municipal corporations must take appropriate measure to improve the overall urban and rural environment situation through proper disposal of daily wastes. Special emphasis should be given on rat control and effective reporting of dead rats from all the surrounding habitats. Media should also work in cooperation with health and social workers to create public awareness on this matter.

The writers are Final Yr students of Sir Salimullah Medical College, Dhaka.

A Gripping Fear

by Dr Golam Nabi

(sneezing, coughing, breathing)

There are three types of plague, namely: 'Bubonic plague', 'Septicaemic plague' and 'Pneumonic Plague'.

BUBONIC PLAGUE: The most commonest form of the disease is the Bubonic one. The person infected with the plague organisms presents suddenly with high fever, rigour, severe headache, body-ache, skin becomes dry, pulse becomes rapid, blood pressure falls, sometimes patients become confused and talks irrelevantly.

SYSTEMIC PLAGUE: Sometimes the infected person does not exhibit a bubo but deteriorate rapidly, have severe headache, pain in the neck, high rise in body temperature with other sign and symptoms of meningitis.

PNEUMONIC PLAGUE: Infected person may not have bubo but suddenly becomes ill with cough, difficulty in breathing, fever followed by copious amount of blood stained frothy sputum which is highly infective. Patient becomes cyanosed and soon dies.

Early diagnosis is essential, culture of the sputum, blood or the aspirate from the bubo can demonstrate the characteristic organisms. After the diagnosis treatment should start immediately. 'Streptomycin' is given by intramuscular or intravenous injections at a daily dose of 30 mg/kg body weight every 6-12 hours according to the severity of the disease for 10 days, or Tetracycline 10 mg/kg body weight every 6

hours orally or intravenously for 10 days.

Now the prime job is the public awareness about the disease. Government should take the measures on a priority basis specially around the boarder town and villages by making and posting the signs and symptoms of the disease.

The state media like TV/Radio has a great role to play and should start immediately to aware people about plague. Rats should be controlled by insecticides containing 1.5% Dieldrin or 2% Aldrin applied to floor and blown into rat holes, kill all the fleas and remain alert for 9-12 weeks at least.

People specially in the rural areas should be careful, as the incubation period is 3-6 days, suspected victim who has got sudden high fever, headache, cough, difficulty in breathing, swelling of the groin or a history of rat bite or fleas bite — must immediately be rushed to a doctor or to the health center. Patients should be isolated from others, attendants must wear gown, masks, gloves and should take bath properly after nursing the patient. Family members, and attendants of an infected person must take 'Cap. Tetracycline' 2 gm daily (8 capsules containing 250 mg) in divided doses for a

week. Pregnant women and children should not take Tetracycline without the doctor's advice, they may take Sulphonamide 3-6 gm daily in divided doses for a week as prophylactic measures.

Bhutan Steps up War Against AIDS

by Jagan Nath

THE Buddhist kingdom of Bhutan has stepped up surveillance to contain the spread of the dreaded AIDS in the country.

It has launched a programme of random testing of Bhutanese nationals, who have travelled or received treatment outside the country in the past three years.

People for testing are chosen from a list of passport holders. They are approached individually and asked to participate in the survey by giving blood samples for the HIV test.

A spokesman of the Bhutanese Directorate of Health Services says there is no specific criteria for the selection. He said names are picked at random.

The HIV test detects the presence of anti-bodies in the blood to counter the virus. It is being carried out at the Thimphu General Hospital.

HIV positive patients will be informed immediately, but the results will be kept confidential.

Health experts point out that there is a so-called 'window period' when a person infected with HIV has not produced the anti-bodies. During this period, which lasts about three months after a person is infected, he or she can infect others but will test negative.

The tests are voluntary. Thus, people could choose their own time for testing.

According to Dr Sangya Thinley, national programme manager for AIDS and STD

(sexually-transmitted diseases), the surveillance is being carried out to determine the HIV prevalence in different sections of the Bhutanese society.

In the past, the tests had been carried out only in particular groups like blood donors, tuberculosis and STD patients around the country.

A World Health Organization (WHO) consultant for STD and

Health experts point out that there is a so-called 'window period' when a person infected with HIV has not produced the anti-bodies. During this period, which lasts about three months after a person is infected, he or she can infect others but will test negative.

AIDS, Else Melgaard, adds that the survey will help the country predict the costs of managing AIDS and prepare for future cases.

She points out the formidable costs management of the disease entails. Countries like India, Indonesia and Thailand are already spending between US \$11,000 and US\$13,000 on each AIDS patient.

With medical services becoming overstretched, a large number of AIDS cases also affect the country's economy, he said.

The Directorate of Health has stressed the need to educate the people on AIDS. While many people believe that tests are unnecessary because there is no cure for AIDS, Ms

Melgaard points out the need of informing the people about AIDS.

For example, HIV positive patients can avoid spreading the virus to their family members and others in the community.

Knowing about the virus can also help them face reality and prepare their own families for the future.

Without adequate knowl-

edge of AIDS, patients could be ostracised and the gravity of the disease may not be known. This way, the spread of AIDS could be faster and much wider.

Health officials are also touring schools and other educational institutions to educate the younger generation.

So far, the Health Directorate has screened 21,863 blood samples. Two have tested positive.

Women, says a senior medical expert here, are especially vulnerable to HIV infection because of their generally subordinate role in the family and society.

The expert notes: "And often they are unable to protect themselves from sexual transmission of HIV because

they have little autonomy or say in sexual decision-making. It is therefore, essential that women have more control over their health and fertility."

Only a determined global effort to increase financial, human and technical resources is needed to fight the disease.

Surprisingly, there is a new way to study the sexual behaviour of young people — that is, by listening to them. So says a spokesman of the United Nations Population Fund (UNFPA).

Although it may sound simple enough, there's more to this. The 'narrative research approach' provides ways for adolescents to recount one of their so-called defining experiences in coming of age — the initial sexual relationship and its aftermath. The point is to let them explain their own behaviour, not to silence them with moral judgement.

Starting in 1988, teenagers in 11 sub-Saharan African countries talked about their sexual encounters. Youth leaders in each country drew from these accounts to create a typical story about the adolescent sexual experience.

Next, the stories were converted into questionnaires for teenagers to fill out. Having been tested by some 13,000 teenagers, the method is now ready for wider use in Africa and other parts of the world.

The WHO and UNFPA are now working on action programmes in a number of countries. — *Dephneus Asia*.

Breastfeeding : Ensuring Sound Health of the Child

by Dr Md Abdur Rahman

BREASTFEEDING has been considered to be the birth right of children from the time immemorial. Almost every mother can breastfeed their children, and probably less than one in hundred may have some difficulties.

Before 1850 every newborn was breastfed and an alternative to breastmilk was not known. If a mother failed to breastfeed a 'mid-wife' (Dhai-Ma) was found out to feed the baby. It was in the later half of the nineteenth century that the artificial feeding started making place in the baby's nutrition and the practice reached the peak in the last few decades.

After the Second World War the artificial means of infant feeding have become more available and the dependence on the breastmilk has been considerably reduced. In the industrialised countries more mothers started to work outside home and felt the necessity of artificial feeding. So the practice of artificial feeding entered first in the developed countries and subsequently was popularised in the developing countries.

Attractive advertisement and the propaganda stunt for artificial feeding showing the pictures of healthy babies sucking bottle on the lap of a modern day women is also a great factor for the reduction of breastfeeding. In the modern civilization over-consciousness of mothers, especially of the urban affluent families, about their social status acts as another detrimental factor for the declining of breastfeeding practice. The urban affluent are sometimes followed by their less affluent rural coun-

terparts without considering the ill-effects of artificial feeding.

Human breastmilk is an ideal food for healthy growth and development of infants. It forms a unique biological and emotional basis for the health of mother and child. In laying down the foundation of good health and improving the quality of life, breastmilk is most ideal, safe and a complete nourishment. It meets all the nutritional needs of the baby safely and adequately to least up to 4-6 months of age. It is nature's way of ensuring sound and healthy start to life.

The unique composition of breastmilk is its another beauty. The composition of milk in the mother's breast changes with the passing of days and with the growing need of the child. As the digestive system of the newborn is yet to be developed, mother's breast offers the child milk with less fat content in the early stage and subsequently with the passing of time it becomes thicker, fat content and the content of some other elements increase to suit the requirement of the growing child.

Besides nutritional components breastmilk has many other properties: it has anti-infective elements; breastfed babies are less susceptible to certain deadly diseases like eczema, asthma, coronary heart disease, disease of the nervous system called multiple sclerosis. Townin, an important component of the mother's milk revealed in a recent research, helps in the develop-

ment of the human brain. It is present in less quantity in the cow's milk as calves are born with fully developed brain and does not require much of the townin. Regrettably, this element is totally absent from tinned powder milk. So, a baby born with a small brain and deprived of breast milk, has a great probability of being less intelligent than the baby who subsist on mother's milk.

Breastmilk also contains high amount of lactose, essential for the development of brain. More free aminoacid content of breast milk, helps developing brain and better tissue synthesis. Human milk has the lowest solute load of all mammals with low sodium and protein content. Sodium content in a cow's milk is seven times higher than the mother's milk. Low sodium, potassium and phosphate content of breast milk contribute correct osmolality to the child's plasma and save developing brain and kidney from over loading of solute. It is being observed from several studies that some of the infant formulas may contain aluminium 200 times more than that found in the mother's milk. This is identified as a causative factor for damaging the brain, producing anaemia and some bone diseases. Lactoglobulin in the cow's milk may produce allergy.

The Situation in Bangladesh

Breastfeeding is almost a common practise in Bangladesh. It is known that with a

few exceptions almost all the mother's successfully feed their babies with breast milk. But in practice, some discrepancies are noticed. Exclusive breastfeeding is virtually non-existent in this country. Almost every mother gives prelacteal food like honey, glucose water, cow/goat's milk or infant formulas to their newborns. Many of them do not know the value of colostrum — sliding up the child's health.

Most of the health personnel including doctors and nurses are not fully aware of the importance of successful breastfeeding. Instead of advising a mother who is unable or hesitant to breastfeed her newly-born child some health personnel consciously or unconsciously advise her to give prelacteal feeding or even artificials.

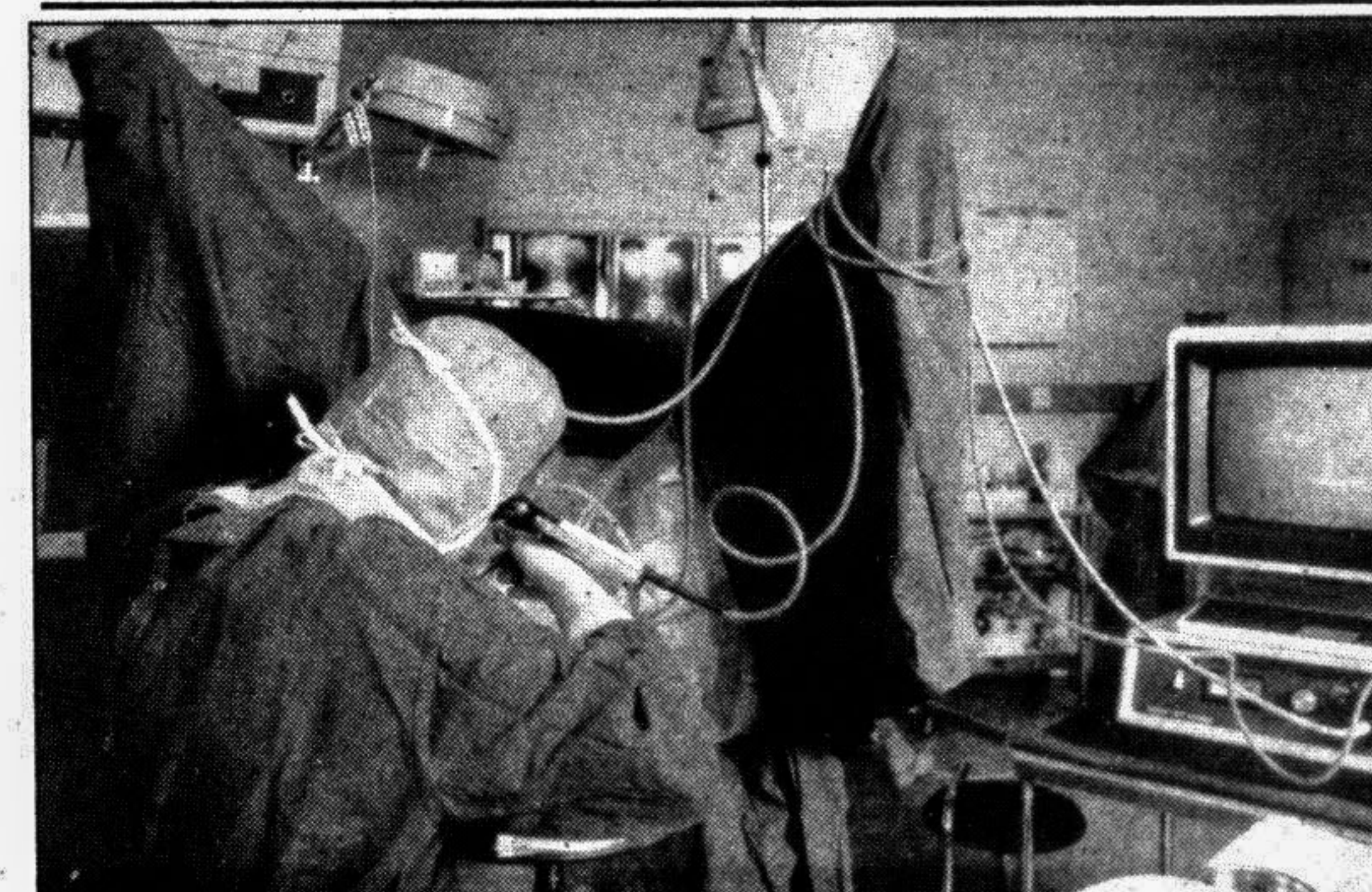
A recent study shows that on an average only one-third of the newborns are given breastfeeding within half an hour after birth; one-third between half an hour and 72 hours, the rest are put to their mother's breast after 3 days of delivery. In another study the results are more discouraging where only 10 per cent of the rural mothers are found to start breastfeeding within the first two days of birth and nearly half of them start within 3rd days and remaining after 3 days of birth. Almost all the newborns are given prelacteal feeding. Many mothers start artificial feeding, either too early or too late.

The writer is Local Consultant, MCH-Programme Coordination Cell.

The Achievements of Surgery without a Scalpel

by Gilles Rousset

Highly skilled surgeons are increasingly practising non-invasive surgery, without using scalpels and without opening up the body, for the greater benefit of patients.



French doctors performing the near-miracle surgery.

real expedition through the vessels to the part of the body that is to be treated. It can bear probes, scissors, brushes, files, plasers, suction devices, lasers, etc. They thread their way through the organs and hunt around in the nooks and crannies that are very difficult to reach, perforating, cutting, scraping, sewing, pulverising,

etc.

Today, 210 kinds of surgical operations can be carried out by endoscopy, whereas 20 years ago, only a single operation was performed in this way (in the articulation of the knee).

Through the skin

Heart and brain operations

are carried out without opening the thorax and without cutting windows in the skull. In 'gynecology', a surgeon at La Pitié-Salpêtrière hospital in Paris, explains, "In more than 80% of cases, the traditional scalpel can be left in its drawer".

The digestive system is operated on without opening up

the body, for instance in the case of obstruction of the bowels. Excision of the vesicles is practised. Slipped disks are treated by destroying the part of the disk trapping the sciatic nerve.

In the area of blood circulation, where, in the past, any operation was reputedly impossible, surgeons now insert a catheter bearing a tiny balloon, into the blocked artery. When the balloon is inflated, it stretches the inside walls of the artery and opens up the way for the blood to circulate again. Hence, one can see patients in a coma who suddenly regain consciousness.

The results offered by endoscopic surgery are at least as good as those obtained using traditional methods. The advantages are tremendous, according to a professor at the Paris Faculty of Medicine. It reduces the trauma in a patient, helps him to recover more quickly and avoids scarring. The surgeon operates in more comfortable conditions. For the community, there is an important advantage in that the operations cost less and the stay in hospital is shorter.

But surgeons are thinking of doing better still, by extending the applications of the lithotripter, that machine which, using shock waves, reduces kidney stones and gall stones to dust. This means operating at a distance without touching the human body: the surgeons' dream. Using the same principle, could it not be possible to succeed in eliminating or re-sorbing tumours, blood-clots, fatty plaques in blood arteries, faulty appendixes, etc? With the dawning of the 21st century, a new revolution is appearing in operating theatres.

— *L'Actualité en France*