

TRAGEDIES AND TRIUMPHS

Health and Medicine in Bhopal

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March 23, 1985 : A premature baby, born two months too early died at the hospital at the DIG bungalow after a nine-hour unequal struggle to live. The mother was a gas victim and had brought the baby to the hospital five hours after its delivery by a dai. The child had been put on oxygen. The baby and the mother lay uncared for on the floor of the ward until 8 p.m. when a visiting paediatrician just happened to look in on the doctor-in-charge. He was directed to the child. By then it was too late. No attempt had been made to clear mucous from nose and throat of the child and although the suction apparatus, dusty and rusted, did work, the hospital had no stock of small-sized catheters. The heart had stopped, the hospital had only coramine which of course, was of no use. The child was declared dead and a certificate was issued. There was no post-mortem although it was actually a gas-related death. The mother had attended the antenatal clinic of the hospital three weeks before and had been given an injection — presumably TT, but had not been given any advice about her pregnancy or the necessity of a hospital delivery especially if premature.

March 24, 1985 : A seminar on Pulmonary Medicine was organised at the Gandhi Medical College, (GMC) Bhopal. The afternoon session was on effect of MIC on the lungs. There were several eminent speakers — Dr. S R. Kamat of the K. E. M. Hospital, Bombay rapidly projected innumerable slides and summarised his findings on treating 113 gas-hit patients who had been admitted to the hospital. Prof. Heeresh Chandra, head of the Forensic department of GMC talked of autopsy findings screening slides which even his colleagues at the college had not been allowed to see until then. His findings, he said, pointed to cyanide poisoning and vehemently advocated detoxification with Sodium Thiosulphate (NaTS). Dr. N. P. Mishra peppered his presentation with long quotes from medical researchers from UK and USA to whom he had written. He declared that the gas victims had died of carbon monoxide poisoning. His own trials with NaTS showed that it caused a reaction—two out of 200 patients developed gastrointestinal

symptoms and rashes — and so he was opposed to NaTS. There were many others — all of them taking great pains not to reveal the full details of their studies. In the discussion that followed everyone seemed to forget that the focus here was not a scientific thesis but the future and death of lakhs of people.

Sitting in that lecture hall one could easily forget the larger theatre of disaster across the city. These two events illustrate the emerging situation in Bhopal. In the gas-hit bastis the nightmare of December 3rd continues to haunt the people — their health is deteriorating, state-run medical relief is almost at a standstill, equipment is inadequate, information supplied is nil, doctors are uncaring and in any case, no medicines help. In the hallowed halls of medical and scientific institutions researchers are engrossed in intricate debates to prove their favourite hypothesis quite losing track of immediate concerns. The macroworld of two lakh suffering people has been reduced to the microcosm hundred of odd hospital patients in the 'MIC wards'. Typically the medical profession has transformed the stupendous medico-social situation into a laboratory-based clinical/medical problem.

Reviewed here is the health picture in gas-hit Bhopal as it has developed during these months and the manner in which the medical community has responded to it.

The Black days

The Bhopal disaster has been called the world's worst industrial disaster, and with reason. The number of dead mounted in terrifying proportions — 350 by the end of December 3, 500 by the 4th, over 1600 by the 5th December. One week after the disaster a conservative estimate put the death toll at 2,500. Unofficial estimates put the numbers closer to 6,000. But the exact numbers will probably never be known.

By the end of the third day over 20,000 people were being treated in the city's seven hospitals. They came with complaints of burning eyes, lacrimation, cough, breathlessness, nausea and dizziness.

That first day alone saw over 10,000 patients in one hospital showing signs of eye damage.

Bhopal's 350-400 doctors worked round-the-clock at numerous centres — make-shift tents, medical aid posts and the wards. Hospitals ran out of medicine and had to buy out stocks from the city's shops, oxygen had to be obtained from other cities. A hundred more doctors were brought in from the near-by towns.

For a time no one knew for certain what the killer gas was. Some said that it was methyl isocyanate, others phosgene. None of the doctors knew how to treat the victims.

It is now known that the Union Carbide (UC) knew of the results of six animal studies initiated by the company which provided enough evidence of the chemical's high toxicity. (Three of these listed in the Box) Moreover the Occupational Health Guidelines for MIC states clearly that MIC might well decompose into hydrogen cyanide, oxides of nitrogen and carbon monoxide at high temperatures (of over 200°C). UC's own standard line of treatment prescribes intravenous hydrocortisone, oxygen inhalation and if cyanide poisoning is suspected then amyl nitrite. If there is no effect, sodium nitrite and NaTS are to be administered. Yet, in the first week when Bhopal's doctors desperately needed information to save lives UC held back vital information.

Many of the doctors of Hamidia were on the Carbide plant's medical panel. Also UCIL had been giving generous funds to the hospital and GMC and had set up a respiratory research unit and ward. This indicates a close enough association between at least some of the hospital doctors and the plant's medical personnel. It is curious that the former did not know of the standard line of treatment for such 'accidents' which had apparently been long established at UC.

By all accounts the efforts put in by hundreds of people — the doctors, nurses and medical students, the army, the police, the NSS and the NCC volunteers and voluntary groups — in that first week was of heroic dimensions. (Many of them later suffered from delayed exposure to MIC). But the government machinery took time to dissociate itself from the electioneering, recover from the shock and coordinate relief measures.

Operation Cover-up

By December 6th it was, as one writer put it,

'back to business' for government doctors and others. Private doctors and nursing homes were also minting money and death and medical certificates were being sold at thousands of rupees. Hordes of experts began to arrive in Bhopal and everyone who was anyone began to make statements about the consequences of exposure to the gas. Speculation about the real nature of the gas ran rife. And the government put an embargo on information. Even the death toll was not revealed on the grounds that 'it was not advisable in public interest'.

Autopsies were performed from the third day but reports were not released. They showed fluid-filled lungs two-to-three times heavier than normal, ulcerative changes, cherry red appearance of organs, arterialisiation of blood ... To Dr. Heeresh Chandra the autopsy surgeon, they indicated cyanide poisoning.

Even as experts in the government and outside it glibly began to assure people that there would be no after-effects, many people who had earlier been treated and discharged began to come to hospitals with new symptoms — shivering, yellow appearance, dryness of mouth, vomiting, nausea, stomach ache, diarrhoea, skin irritation and headaches and more seriously, conditions like cerebral palsy indicating the involvement of the central nervous system. More than 1,000 patients were on the critically ill list and at least 50,000 had serious eye problems. Some estimated that at least 500 of them would go blind but others like Dr. N. R. Bhandari, the superintendent of Hamidia Hospital said that there was no cause for anxiety and that the blurring of vision was due to the administration of atropine. "The worst is over" he stated and ruled out the possibility of the gas affecting the brain. Dr. M. N. Nagu, Madhya Pradesh's director of health services said that there might be ulceration and appealed for eye donations so that corneal grafting facilities could be offered.

Scientists from UC's Research and Development centre stated that the gas would be excreted from the body in due course and only bronchodilators were necessary. Scientists at the Industrial Toxicological Research Centre (ITRC) Lucknow opined on the basis of their study of literature that there would be no further damage because of the gas. And agricultural scientists were reassuring people that there was no environmental damage and cautioning them to only make sure that vegetables were washed, water and milk boiled before consumption.

With thousands still suffering from debilitating symptoms the only treatment being meted continued to be symptomatic — eye drops, antibiotics and corticosteroids. Interestingly, the WHO toxicologists approved of the then current of treatment and insisted that there was no known antidote for cyanide poisoning. Two lone voices were heard to assert that there was antidote which seemed to be effective — NaTS. One of these supporters of NaTS therapy was Dr. Max Donerer, a German toxicologist who had arrived in Bhopal with ampoules of NaTS and had started using it. The other was Dr. Heeresh Chandra who on the basis of his autopsy findings believed that NaTS would be effective and had taken it himself. When two patients who had been given NaTS died, the German was quietly packed off. NaTS therapy was discontinued much to the relief of UC's Dr. Loya and his supporters Dr. Mishra and Dr. Bhandari. Dr. Chandra was methodically isolated and ignored. Why was NaTS therapy discarded so precipitously? The deaths it appeared, were merely excuses, because the real cause was never investigated. Also curious is the fact that no one seemed to have questioned why the second telex from Union Carbide reversed the advice given in the first to administer NaTS. One of the arguments against using NaTS was that although there was evidence that people who had been administered NaTS seemed to recover there was no 'proof' that it worked! The history of medicine has seen any number of situations when a therapy which has been found to be effective has been used because it is needed and only years later has the mechanism of its action in the body been worked out. The tragedy of Bhopal is that it is now acknowledged that thousands of lives could possibly have been saved if detoxification with NaTS had been undertaken in those first days.

By the end of the first week operation cover up was well on its way. The panic-stricken state government seemed more concerned about absolving itself of any responsibility for the disaster than about helping the victims. What is most shocking is that a section of the medical community collaborated with the government in keeping medical information under wraps. There was deliberate falsification of records, x-ray and pathological reports were refused to patients, autopsy reports were not given to those concerned. In normal times such a gross disregard for ethical practice would have been soundly condemned. But in Bhopal it was and is justified as being in the interest of controlling public panic and anxiety.

Expert vs Expert : While people suffer

A full eight weeks after the disaster the deleterious effects of the gas were still evident. New signs and symptoms were appearing — damage to the liver, kidneys, gabrahat, anxiety, depression, loss of memory, confusion and lack of co-ordination deafness and impotency. By the end of the second week there had been 800 doctors working in Bhopal's 64 round-the-clock medical centres. But two months after the disaster most of the state-run operations were winding down. Mobile hospitals were still plying but people had generally realised the ineffectiveness of medicines. Many had turned vendors of antibiotics, antacids and vitamins. At no time had any attempt been made by the government agencies to give medical and health information to the public. People were distraught and confused. Controversies abounded and the situation was made worse by the cloak of secrecy.

Earlier the team sent by the Royal Commonwealth Society for the Blind had asserted that no permanent damage or blindness was likely to result. American ophthalmologists were of the opinion that opacities were highly likely to develop in the centres of the corneas thus affecting sight.

The ITRC team reported that the delayed effects and neurological symptoms perhaps indicated the presence of phosgene as well. They also reported that pulmonary fibrosis was a possibility in the survivors. American experts saw clinical evidence of diffused lung damage. Others denied that there could be any permanent damage — they attributed the high incidence of lung complications to the previously existing high rates of tuberculosis and other chronic lung problems. In Bombay Dr. S.R. Kamat was reported to have found evidence of permanent pulmonary damage, of changes in haemoglobin and neurological damage in gas-affected patients at the K.E.M. Hospital there. These patients were put on levamesol (so far used as an anti-helminthic) and the results were said to be promising. But the full report is yet to be published or presented.

Around this time another controversy which had been brewing for some time erupted. And it reads like a horror story. Since the second week there had been reports of stillbirths and abortions among the affected pregnant women. Some Hamidia doctors had reported finding traces of phosgene in the aborted fetuses. Abortions in gas-hit animals had also been recorded. Defence Ministry sources were quoted as saying that MIC was known to cause

damage to the foetus. Although the Sultania Zenana hospital had set up a special antenatal unit, most of the distressed and anxious women were turned away with assurance that the babies were safe. A survey in February / March of 1,900 households showed 100 cases of abortions and 22 stillbirths. Neither the government nor the medical pundits were willing to concede that there just might be some danger to the foetus either directly because of the toxic gas or indirectly because of the mother's health conditions. Given the state of knowledge at that time all one could have done was to offer facilities for amniocentesis examination and ultrasonography and abortion services to those who opted for it. This did not even necessitate a stand being taken on whether MIC affected the foetus or not. But the authorities consistently brushed away these suggestions made by activist and health groups. When the Medico Friend Circle fact-finding team report in February suggested such a course of action, the bigwigs of medicine came down heavily on it for causing 'unnecessary panic'. In February two members of the Medico Friend Circle conducted a clinic-based study of gynaecological problems among the affected women in two bastis. They found high rates of menstrual disturbances, non-specific white discharge and evidence of pelvic inflammatory diseases. Up until then these conditions had neither been recorded nor reported. But again, no efforts have been made to set up special basti-based clinics or centres for women.

Medical Research in Bhopal

Not until January did the ICMR and other research agencies meet to work out the strategy for studying the impact of MIC. In the same month irked by the heavy atmosphere of secrecy leading newspapers had carried severe editorials criticising the ICMR's unwillingness to divulge relevant information. Perhaps as a result of this or because the lines of authority had now become clear, the ICMR released a first report on Bhopal. Unfortunately the report said little but listed out the various projects which had been approved. Surprisingly no comprehensive plan of research has been prepared nor priorities determined! Research projects have apparently been sanctioned on ad hoc basis. Despite the Director General's earlier announcements there was no large-scale epidemiological survey listed. Earlier the MP government had instituted a detailed medico-social survey by the Tata Institute of Social Sciences in Bombay under strict surveillance and supervision of the government authorities. For some unstated reason only a small portion of the survey was reported to have been completed, the rest

being taken over by the government. And so there will never be a full-scale epidemiological survey of the consequences of the world's worst industrial disaster.

According to the ICMR's latest update, it has funded twenty projects with a total budget of over 156 lakhs. Only three of the projects are of less than two years duration. ICMR's ad hoc approach will certainly result in a series of research monographs years from now, but how much will it help the affected population? In all likelihood they will never even hear about the results. The ICMR should have made it mandatory for all projects which dealt directly with the affected population to include a 'health education' component. If it had, we would not have the situation existing today of people being prodded, poked, examined x-rayed, and bled but never being given any information or advice about their health, their pregnancies. Bhopal's affected population is being treated by researchers as a set of guineapigs in a gigantic laboratory.

In the middle of February the ICMR finally released the results of its NaTS double-blind trial and issued a notification recommending NaTS to those in whose families death had occurred; those living within a radius of two km of the factory and those with specified symptoms such as nausea, tachycardia (high pulse rate), anorexia (lack of appetite) and so on. But the state government took no action on this until April when the ICMR issued a further set of guidelines. The centre could undoubtedly have acted to get the state to implement this decision. But it has conspicuously and distressingly kept out of the health scene in Bhopal.

There are some in the scientific and medical community who believe that debate on scientific and medical issues must be confined to the pages of scientific journals or seminars. The establishment's desire and its need for controlling information supports this archaic notion. In Bhopal this combined stand of the state and the professionals has had disastrous consequences for the people.

(Most of this material has been drawn from articles in newspapers and periodicals written by a number of people. Some of them are Kannan Srinivasan and Kalpana Sharma, Indian Express, Radhika Ramaseshan and Jyoti Punwani, Sunday Observer, Praful Bidwai, Times of India, Darryl D'monte, Illustrated Weekly and Arun Subramanyam, Business India. Other material utilised: ICMR's Update on Bhopal, Rani Bang and Mira Sadgopal's report of the study of gynaecological problems, MFC fact finding team's February report, ICMR's press releases and minutes of the February meeting.)

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- If you would like to obtain copies of any of the above documents please write to us sending 0.50p per page, in advance. If the number of pages exceeds 30 please add Rs. 5.00 postage (ordinary book post).
- (For MFC fact finding team's February report and for information on its forthcoming report of the medico-social survey in Bhopal, write to Dr. Ravi Narayan, 326 V Main, 1 Block, Koramangala, Bangalore 560 034)

(Contd. from page 37)

In Britain, Roche was sued for abusing monopoly power by its pricing of Valium and Librium. In out-of-court negotiations in 1975 Roche agreed to pay 3.7 million dollars for over-pricing their product in the previous live years and also agreed to reduce the price at half the level of 1970. The importance of this case was that it focussed international attention on overpricing and anticartel suits followed in various countries.

(4) Upjohn and A. H. Robins : Upjohn's Depo-Provera, an injectable contraceptive for women, was found through early American research to be associated with such a welter of side-effects that the FDA has not only indicated that the product is not approvable in the US, but has forbidden human testing of the drug in the US. But huge quantities are being dumped on the third world. Throughout Central America one can walk into a pharmacy and purchase Depo Provera without a prescription. Earlier even most of the testing of the drug was done in third world countries like Brazil, Thailand, Chile, Philippines, Sri Lanka, Hong Kong, Egypt, Honduras, Peru, Mexico and Pakistan. "When research into its possible effect on the weight and blood pressure of women taking the injections was carried out in South Africa, the researchers saw fit to examine these features by experimenting with Negro (75 percent) and Asiatic (25 percent) women, rather than on women with the same coloured skin as the researchers".

Similarly A. H. Robins has dumped Dalkon Shields, an IUD, in some 40 third world countries.

It was recalled from the American market after 17 women were killed. In an enquiry later it was revealed that in the teststage physicians had reported unfavourable effects like uterine perforation and ectopic pregnancies.

The staggering thing about the dumping in the third world in this case has been the involvement of the US government's office of Population with the AID. USAID purchased the contraceptive device at discount rates for assistance to developing countries after the product was banned in the US. Double standard for third world consumers were even more remarkable when Robins sold USAID unsterilised shields in bulk packages at a 48 percent discount. USAID justifies the discount Dalkon dump on the grounds of getting more contraception for the dollar.

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