Primary Health Care

A kala-azar control programme for remote tribal communities
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Indigenous people have been trained to provide a culturally appropriate kala-azar control programme for the tribal population of Sahibganj, Bihar, India. Cultural resistance to modern medicine has been overcome and the influence of village witch-doctors has been countered.

In the district of Sahibganj, Bihar, India there were 23,670 new cases of kala-azar between 1985 and 1990. Under the auspices of the Social Development Centre, Dumka, an emergency plan was drawn up to tackle this situation. Thirty village health workers attended a three-day training course during which they were taught how to administer sodium stibogluconate intramuscularly, spray DDT, conduct door-to-door surveys, and encourage affected persons to go to health centres. Six sisters attached to Christian missions were given a reorientation course in the control of the disease.

Awareness programmes

With the help of headmen, kala-azar awareness programmes were organized in the villages. Information on the importance, treatment and control of the disease was imparted in the local language. Publicity materials were supplied by the government. It was explained to the villagers that the disease could not be controlled by witch-doctors, and that spraying the insides of houses was vitally important. Only after an awareness programme had been undertaken were control measures applied in any particular village. It was found that such programmes had to be repeated from time to time in order to renew the confidence of the people in the measures adopted.

Spraying with DDT

Following an investigation by entomologists into sandfly prevalence and the susceptibility of the vectors to DDT, the insecticide was
sprayed during January/February and May/June on the inner walls of houses and covered cowsheds up to a height of about two metres at 1 g/m², using approximately 1.4 kg DDT per 14 litres of water. The numbers of kala-azar and malaria cases were estimated before and after intensive spraying was conducted in several remote villages.

**Treatment**

A survey was conducted in order to discover persons who had been suffering from fever for more than three weeks and they were persuaded to attend the health centres for further investigation. In each such case, total and differential counts of white blood cells were made, the haemoglobin concentration was measured, the aldehyde test was performed, and thick and thin blood smears were prepared for the detection of malaria parasites.

If the aldehyde test proved positive, treatment for kala-azar was initiated. Sodium stibogluconate was given intramuscularly at 20 mg per kg body weight daily for 20 days in new cases and for 40 days in relapsed patients, with a maximum of 850 mg. Following diagnosis and the start of treatment at the centres, treatment in the villages was carried out by village health workers, who were requested to ensure that people newly diagnosed as having kala-azar took 20 injections of the drug and that relapsed cases took 40 injections.

Patients who failed to respond to the 20-day course of treatment were categorized as cases of primary unresponsiveness. Clinical cure was considered to have been achieved if patients became afebrile and their spleens returned to normal size. If no relapse occurred in the following six months the patients were regarded as having been definitively cured.

At the Sohorghati, Kundly, Sahibganj and Sita Pahar centres there were respectively one, one, one and three sisters and two, four, 40 and eight village health workers, and the patients with kala-azar who were treated numbered 191, 84, 403 and 962 respectively. Of the 1640 treated patients, 1592 were cured, and of the 48 patients who relapsed and were treated again with a 40-day course of sodium stibogluconate, eight relapsed a second time. Forty-four patients became unresponsive to sodium stibogluconate and were sent to hospitals for treatment.

Spraying presented difficult problems in remote areas, particularly where the equipment had to be carried by hand for long distances. Without great dedication on the part of local workers it would have been impossible to achieve the desired coverage.

The spraying operations, performed by the village health workers and supervised by the sisters, reduced the incidence of kala-azar and malaria in three villages where monitoring was carried out; increased numbers of cases were recorded in one village, perhaps because heightened awareness resulted in more people going to their health centre for treatment. Strict supervision was the key to the success of the spraying programme.

The ratio of male to female patients was 1.2 to 1, whereas in a hospital-based study a ratio of 2 to 1 had been reported, possibly indicating a
tendency to refer males rather than females to hospital when the condition of patients becomes serious. People with kala-azar responded better to drug treatment in newly affected areas than in areas where the disease first appeared in the early 1970s, perhaps because inadequate doses of the drug had been used in the latter areas, giving rise to resistance.

Clearly, when plans are being drawn up for the control of kala-azar it is important to take local circumstances into account. In remote and hilly tribal areas it is desirable to have carefully prepared educative, preventive and curative programmes in place, backed up by mobile hospitals carrying simple diagnostic and spraying equipment.

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**Importance of the blood supply**

Without blood transfusion, the treatment of severe haemorrhage is difficult or impossible and many surgical procedures cannot be safely attempted. Haematological conditions such as thalassaemia, haemophilia, leukaemia, and aplastic anaemia cannot be treated effectively without support from the blood transfusion service. No general hospital can be effective unless it can perform blood transfusion, and if blood is not available from an outside source, the hospital itself is obliged to undertake the task of blood collection.

The recruitment and selection of blood donors are critical to the success of a blood programme, and every effort must be made to ensure both the safety of the donor and the safety of the transfusion for the recipient. The process of donor selection is reliable only when information provided by donors can be trusted, and experience has shown that this is most likely when there is no material gain from donation. Problems in donor selection are considerably reduced when a blood transfusion service is founded upon the principle of voluntary, unpaid blood donation.

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