

# Editorial

## EPIDEMIOLOGY AND LEPROSY

Military metaphors and figures of speech come readily to the pens of leprologists dealing with the epidemiological aspects of their subject. We read of campaigns, and attacks (on the disease itself, on victims of mycobacterial aggression, and on the aggressor). We hear reverberating down the laboratory corridors and into the field of operations such exhortations as “seek and destroy”, addressed indiscriminately to the drugs themselves and those who deploy them.

But leprosy is more than a chronic mycobacterial infection, and to control its ravages and prevent its spread will require more than a simple campaign to “seek and destroy”. It is here that the science and practice of modern epidemiology comes into its own. In regard to leprosy, this cannot be merely a descriptive exercise, or an identification of infective agents and vectors; not even, or only, a predominantly experimental investigation in the laboratory—but an amassing, a study and an analysis of the multifactorial data concerned with the transmission and persistence of leprosy in a community, with the object of establishing and validating aetiological hypotheses leading to control and eventual eradication of the disease.

At once we plunge into a morass of ignorance, unproved assumptions, and sheer prejudice, and a reticence and ill-concealed shame that still characterize leprosy above all other diseases. We also must admit that the very crux of the leprosy problem—our lack of knowledge of the exact mode of transmission of the bacilli—continues to baffle and to challenge us. This obligate intracellular parasite of human tissue cells must, on occasion, leave its host, remain viable for an unknown length of time, and eventually be introduced by an unknown route into a human being—whether susceptible or not will depend on some little-understood genetic configuration. At once, unanswered questions are raised concerning extra-human reservoirs, vectors, healthy carriers, inapparent infections, and resistant extra-corporeal and viable infective agents. And in the larger setting, we face the need for precise definition of “close contact”, and methods of appraisal of the risks of infection. The vague concepts of socio-economic status, poverty, overcrowding, nutrition, personal hygiene, level of public health, etc., can no longer be decisively invoked as relevant or determinant factors unless and until they earn some degree of scientific and experimental respectability.

Pragmatic methods of case-finding, early diagnosis and adequate treatment should—where local circumstances render the exercise practicable—show a definite reduction in incidence after some years. But in very few instances has such a happy event come to pass. And the overall cost of discovering a single case of leprosy may vary, in South America, from £30 to £6000. In other leprosy control schemes, such as the LEPRO programme in Malawi based on regular diagnostic and treatment circuits, costs may be lower, much lower, but whole-population-screening procedures or selective screening of high-risk or vulnerable groups, may

still be prohibitively expensive for a developing country. Effective and economic procedures have still to be worked out, if patients with incipient or early—and limitable and curable—infections are to be detected, with a minimal number of false-negatives (or false-positives). New studies are needed on all these points if leprosy is ever to be controlled effectively on a world scale.

Prevention is better than cure, it is true, but secondary prevention (i.e., rendering non-contagious every patient suffering from multibacillary leprosy), must eventually yield pride of place to primary prevention, by vaccination or chemoprophylaxis, or a combination of the two, coupled with—and most importantly—the application of those still unknown general principles that will assuredly become evident as the result of prospective epidemiological studies in typical populations exposed to different leprosy risks.

Is all this talk of epidemiology and leprosy an example of anxious concern with small and relatively unimportant fires while the whole of Rome is threatened with devastating conflagration—widespread malnutrition, to say nothing of nuclear holocaust and pollution? The sum total of human suffering caused by the ravages of leprosy is such that no scientific or humanitarian effort should be spared, in the context of all the other ills and threats to which the human race is exposed, to find out more, so that we may help the better. “The context” today means not only the other prevalent endemic diseases, but the whole gamut of nutrition and economics, of urbanization and industrialization. And leprosy detection and control must eventually be integrated into that comprehensive medical care to which every citizen has an inalienable right.

Meanwhile, we “soldier on”, and confidently await more adequate epidemiological insights and directives.