Migration, ethnic minorities and tuberculosis

Eero Tala*

Over the last three decades, migration has been an important demographic factor. For example, about 15 million people have migrated to central and northern Europe to meet a growing need for labour. The displaced people and the ethnic minorities are usually distinguished from the indigenous population by the fact that they have not lived for several generations in the host country. Consequently, they have many problems needing to be solved outside the health sector [1, 2], for example poor housing, overcrowding, low income, unemployment, discrimination, uprooting and the sense of belonging to an underclass.

In using the modern western health care, problems arise from differences in culture, education and concept of disease. The language barrier is difficult to overcome, and immigrant patients are unable to handle the bureaucratic system and to understand the jargon of the forms. For that reason they may often think that the health service in the host country has failed to respond adequately to their needs, because they give preference to strong medicines and immediate relief of symptoms, not to examination and definite diagnosis. This is one explanation for medical shopping and the use of traditional folk healers. Understanding of the languages and knowledge of the cultural background are the keys that can unlock the misunderstandings.

Research into health risks in displaced people cannot be free from bias. The migrant population is not a random sample, and data are difficult to collect and record in a uniform way. Many health statistics even fail to record whether a patient is an immigrant, or from which country he or she has come. A relationship between migration and the spread of contagious diseases has been known for centuries. In the United States some peaks in tuberculosis mortality were associated with waves of immigration. Therefore, the migrants may be considered to be high risk groups; the same also applies to some indigenous ethnic minorities themselves, for example Indians and Eskimos in Canada [3]. Twenty years ago the mean annual incidence of tuberculosis among the small Eskimo population was one of the highest in the world (168 per 100,000), but also the downhill rate was the fastest recorded because of the intensive control programme.

Somewhat earlier, Canada also received a great number of immigrants from Scandinavia, where tuberculosis has always been more prevalent in Finland than in the other Scandinavian countries. From 1970 to 1972 the annual rate was 78.6 per 100,000 among Finnish immigrants in Canada and 100.9 in the country of birth. Whereas the corresponding figures for Scandinavian immigrants were 26.0 and 17.9, and for genuine Canadians 15.5. The figures are closely related to the differences between Finland and Scandinavia even after a mean duration of 40 yrs residence in Canada [4]. It is thus apparent that the risk of infection in early life predetermines the disease model of tuberculosis throughout life, even though the risk of infection is much less in the new environment.

In the Netherlands a high-risk group has been identified within the immigrant population. Males aged 20–39 yrs comprised 55 per cent of all migrants but 70 per cent of all cases of tuberculosis in immigrants. The rates were very much higher than those for Dutch males of corresponding age for smear positive, culture positive and unconfirned cases [5]. Other high-risk groups may be subjects with inactive and fibrotic lesions. They are more prevalent among immigrants and appear to be liable to break out into tuberculosis more frequently than similar cases among indigenous people in low-prevalence countries.

The British Medical Research Council carried out a survey of notifications of tuberculosis in England and Wales in 1978/79 and again in 1983 [6]. These investigations, too, showed considerable differences between ethnic groups. South Asian immigrants from the Indian subcontinent, although contributing only 2–3% of the population, accounted for a very high proportion of various varieties of tuberculosis, for one third of respiratory, and one half of non-respiratory cases [7]. This problem applies not only to adult immigrants, but also to South Asian ethnic children, including both those who have come from abroad and those born in Britain. The estimated annual notification rates per 100,000 in children less than 15 yrs comprised 55 per cent of all the cases of tuberculosis in immigrants. Males aged 20–39 yrs comprised 55 per cent of all cases of tuberculosis in immigrants.

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Many studies have confirmed the high proportion of non-respiratory tuberculosis in children from ethnic minorities. The yearly rate in Pakistan and Bangladeshi children (15 per 100,000) was about 20 times that of white children (0.8 per 100,000). It was surprising that the annual notification rate for lymph node disease for the children of South Asian ethnic origin decreased by 62% between the surveys, but increased by 37% in white children [8]. In all patients, the occurrence of non-respiratory tuberculosis revealed differences between ethnic groups. The rates varied but were consistently higher in patients of South Asian origin. Lymph node, bone and joint and
abdominal tuberculosis were the most frequent, whereas genitourinary disease was rare [6]. There were considerable variations in the annual notification rates between the ethnic groups in both surveys, but in principle the differences remained similar. The data for respiratory and non-respiratory cases in 1983 showed that the highest rates per 100,000 occurred in the Indian (118 and 85), Pakistani and Bangladeshi (113 and 75) immigrants and the rates were about 25 times as high as in whites (5.7 and 1.5). An important finding was that the notifications fell between the surveys [6].

It is interesting that the age and sex distribution was clearly different in migrants compared to indigenous people. In patients of South Asian origin, the age group 15–34 yrs dominated and females were more frequent, in contrast to the predominance of males and older patients in indigenous British patients. The same applies to the Federal Republic of Germany [9].

In Britain only 1.6 per cent of the strains tested in the whites were resistant in both surveys, indicating a high standard in chemotherapy; whereas among the immigrants, 7.5 per cent of the strains were resistant in the first survey increasing to 12.8% in the second survey. In the United States about one third of Indo-Chinese patients had organisms resistant to at least one drug [10]. In principle the experiences are the same overall. A survey of Indo-Chinese refugees showed that age-specific rates of bacteriologically confirmed tuberculosis were 14 to 70 times higher than for indigenous people [10]. In France the notification was six times higher for the Algerians and 39 times higher in those from Mali than for the French population [11]. The British, Canadian and Dutch evidence confirms that the greatest risk of tuberculosis occurs in the population recently arrived, and in the first five years after arrival it declines with the duration of stay; but in Britain, even those entering 20 yrs ago had a rate 15 times as high as the indigenous white population.

In Britain it has also been noted that when Indian immigrants go back and return again there is a renewed greater risk of contracting active disease due to reinfections. The fact that children born in Britain, even including those born recently, continue to be a high risk group reflects the fact that South Asians live in close communities and consequently, you only need a few infectors in the community to spread tuberculosis around [7]. This is also a plausible explanation for the fact that the immigrants seldom infect the indigenous population, and in theoretical terms the ethnic minorities do not increase the national infection risk.

Most displaced populations have a high risk not only in adults, but also in children, and so it must constantly be remembered by the entire medical profession that all immigrants are candidates for tuberculosis, and the lesions may be very curious ones [7]. It is also essential to organize an efficient chemotherapy service to reduce the likelihood of exposure to infection.

Consequently, the prevention of tuberculosis needs to be very broad. It requires an understanding of the health needs and running an entire programme in displaced populations, using all the measures of health education, BCG, chemoprophylaxis, case finding, chemotherapy and surveillance, in order to monitor exactly what progress or even failure is being made in high risk groups.

References

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Bronchoalveolar lavage - standardised methods

Almost 15 years have elapsed since the techniques of bronchoalveolar lavage were introduced. Early hopes of diagnostic precision for the aetiology of alveolar and interstitial disease from analysis of cell morphology were dashed. The interval has been filled with a wealth of research study with cellular subsets, chemical, hormone and mediator content. Some of the work is finding application in clinical respiratory medicine particularly in the diagnosis of infection, malignancy and pulmonary toxicity. It is appropriate that standardised techniques be introduced to further development and comparison of work between research and clinical departments in member countries of Europe. The report of several years deliberation appears in this issue - the European view of bronchoalveolar lavage, its conduct, measurement and evaluation.

Editor