

effects and not causes of marital happiness. Their judgment may be right but their conclusions on the relative unimportance of sexual adjustment do not come from their factual findings but from their opinion.

Students of marriage and the family will find the techniques of this study useful in social investigation. The authors have developed *reliable* methods for securing difficult types of data. If their *validity* can be established we will be able to attack some of the most important problems of family relationship.

DANIEL KATZ



TUBERCULOSIS IN RURAL AREAS

THE importance of systematic and coordinated research on rural tuberculosis is forcefully brought out in an interesting and comprehensive report prepared by Dr. G. Ichok for the Health Organisation of the League of Nations.¹ Preliminary to the preparation of this report the Subcommittee on Tuberculosis of the Conference of Directors of Institutes and Schools of Hygiene, held at Geneva in 1937, had outlined a program for a survey on Rural Tuberculosis which included a statement of the need for securing and coordinating facts essential for combating the disease.

The first section of the report deals with tuberculosis mortality and presents a comparative study of trends in towns and rural areas in countries of Northern, Western, and Southeastern Europe.² In most of the European countries where statistics of deaths were available over a relatively long period of time, the mortality from tuberculosis has been consistently lower in the rural areas than in urban areas; however, the decline in the rates for urban areas or towns began at an earlier period and was more marked. This was noted especially for the period since the World War. As a result, the differences between the level of mortality in rural and in urban areas has been decreasing.

¹ Tuberculosis in Rural Areas. Bulletin of the Health Organisation of the League of Nations, viii, Nos. 4-5, 1939.

² European countries included are: Finland, Denmark, Sweden, Norway, Prussia, England and Wales, Scotland, Irish Free State, the Netherlands, France, Switzerland, Hungary, Roumania, Czecho-Slovakia, and Greece.

Consideration of tuberculosis mortality by age and sex indicated that age and sex variations were not constant throughout the different areas examined. Biraud, after study of mortality by age and sex in a large number of countries and towns, found that there were three main types of age curves. The sex differences and age curves were described as follows:

During the first year of life, there is in every case a higher mortality rate for the male sex than for the female; the difference varies between 20 per cent and 25 per cent, but sometimes reaches as much as 50 per cent or 55 per cent. Next, in the later stages of childhood up to the age of about 12 years, the rate is the same for both sexes and is relatively low. From the age of puberty until 25 years, on the other hand, the mortality rate for females is above that for males both in towns and in rural areas.

The three types of tuberculosis mortality curves which BIRAUD distinguishes emerge clearly after the age of 25. Under type A, the curve reaches its climax for both sexes between the ages of 20 and 30; it then falls slightly and remains constant until about 70 years of age. Type B has a single peak between the ages of 20 and 40—often round about the age of 25—and this peak is followed by a steady decline leading to a low mortality rate towards the end of the adult period and in old age. Finally, type C rises from puberty to the age of 25, and continues to ascend until it reaches its maximum towards the end of adult age and even sometimes in old age—that is, between 70 and 80 years.

In general, the mortality rates were higher for young women in rural areas than in towns; males in the city showed an excess of tuberculosis deaths over those in the country.

The report also discusses morbidity from tuberculosis and the difficulties present in any attempt to gauge the amount of infection in a community. Because of lack of notification of cases, the principal source of information, other than mortality statistics, has been the results of tuberculin testing, chiefly among children. Unsatisfactory as this method is, it has shown wide differences in the amount of infection present in different rural districts. These variations were considered as further evidence of the need for regional surveys in planning a rural tuberculosis program.

The influence of migration from the country to the city was found to be an important factor in tuberculosis control. For example, in a study made in Bucharest, out of 507 persons suffering from pulmonary tuber-

culosis, 61 per cent came from rural districts, and in only 15 per cent of these cases had tuberculosis developed before they had come to the City. There was evidence also that those persons of rural origin were predisposed to bilateral progressive forms of the disease. The results of several other studies tended to confirm the findings of the Roumanian study. Since the migrant from the rural area may also return to the country after he has become infected, he presents a special problem to both rural and urban communities.

Finally, the report discusses bovine tuberculosis, which is chiefly a rural problem because of the consumption of raw milk in rural areas. It is recommended that studies in this field be made taking into account medical and veterinary findings.

According to Biraud: An urban rate which is higher than the rural rate may be due to several causes:

- (a) More reliable registration of causes of death in the towns;
- (b) Better hospital facilities in the towns, with the result that patients in country districts go there to die. This cause of error only operates when the rates are calculated in accordance with death certificates and when no distinction is made between permanent and casual residence;
- (c) The influence of occupational mortality among men when the higher urban rate is due to the mortality among males;
- (d) Generally speaking, a marked difference in the mortality rate of both sexes as between urban and rural areas means that the tuberculosis of the rural population is far from complete.

This report is especially important in that it brings together a mass of valuable data, and calls attention to many different aspects of the tuberculosis problem. Furthermore, the report emphasizes various factors which need to be studied and taken into account in planning an anti-tuberculosis program for a rural area.

SALLY PREAS