

DEATH RATES IN RURAL DISTRICTS IN THE COUNTY OF NOTTINGHAM, HIGHER THAN THE URBAN RATES.*

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THE death-rate for 1903 was the lowest for the past twelve years, which is as far back as I have any records. The rate for England and Wales was also low, namely 15·4. Probably the main cause was a lower infant mortality. This latter was owing to a smaller amount of infantile diarrhoea, consequent upon a cool, wet summer and a smaller amount of infective dust.

By far the most striking feature of this year's mortality statistics is the fact that for the first time the Rural death-rate exceeds the Urban ; and this notwithstanding that the infantile deaths (which, as I have already stated, account for more than one-quarter of the total deaths) are much more numerous, proportionally, in the urban than in the rural districts. The altered relative position of the urban and rural death-rates is due mainly to a decrease in the urban rates ; the rural rate has only increased 0·3 per 1000. The difference in the age and sex constitution of the rural districts partly explains their higher death-rate ; but it is difficult to avoid the conclusion that the urban districts are reaping the advantage of their larger expenditure on measures of water supply and general sanitation. I think the conclusion that will generally be drawn is that sanitary administration has a far greater effect upon the death-rate than the physical condition of the country.

The number of deaths from phthisis, or consumption (that is, tuberculosis of the lungs) was 262, or 0·88 per 1000 of the population. In the urban districts there were 139 deaths, or 0·8 per 1000, and in the rural 123 deaths, or 1·01 per 1000 of the population. The total deaths from *all* tuberculous diseases were 412 for the whole county, or 1·39 per 1000 ; for the urban districts they were 232, or 1·34 per 1000 ; and for the rural they were 180, or 1·48 per 1000.

It will thus be seen that in the year 1903 *tuberculosis of the lungs* was more fatal in the rural districts than in the urban ; and that "*other tuberculous diseases*" were only very slightly less fatal, the balance in the favour of the rural districts being only 0·07 per 1000. When all tuberculous diseases are taken, the rural districts are 0·14 per 1000 to the bad.

In the past ten years the phthisis death-rate has not been materially influenced by the geological character of the country, indeed the districts most severely affected are of varying geological nature. Conditions of housing and sanitation appear to have been of more importance. During the ten years the urban districts had on the whole suffered more than the rural ; but the three large rural districts of Newark, Southwell, and Bingham had a higher phthisis death-rate than ten out of the fifteen urban districts.

In my report for 1902 I wrote : " It is a very striking fact, which has

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not hitherto received the attention which its importance deserves, that notwithstanding the fresh air of the country, the rural districts show almost as large a mortality from tubercle as the urban districts."

This has now gone a step further to the disadvantage of the rural districts, and is probably due to the co-operation of many causes. The most tangible are the crowded sleeping rooms and bad ventilation of country cottages, and the large proportion of the twenty-four hours spent indoors by the women and young children, thus to a large extent neutralizing the beneficial effects of pure country air. It is probable, too, that good and nutritious food is more difficult to obtain, but this is a matter less easy of remedy.

The "housing problem" in country districts is too large a question to be discussed here; but probably some improvement would result from the more general adoption of building bye-laws, and their efficient observance. Much more, too, might be done in the ventilation of schools, both for its immediate value to health, and for its instructional value as an object lesson.

AN IMPROVED METHOD OF CALCULATING BIRTH-RATES.—Drs. Arthur Newsholme and T. H. C. Stevenson (*Journal of Hygiene*) refer to the steady declension in the general birth-rate of England and Wales from 36.3 per thousand of population in 1876 to 27.9 in 1904. They propose in the present article: (a) To indicate the fallacies underlying the ordinary method of statement of birth-rate; (b) To describe an accurate method of stating the birth-rate. They also propose to discuss, in a subsequent paper, the results obtained under (b). The errors necessarily present in the computation of the ordinarily expressed *crude birth-rate* are sufficiently obvious, as it neglects the age distribution of child-bearing females. The method suggested is to divide the married females of a community into quinquennial age-periods, and apply to this the "fertility-rate" at each period. This fertility-rate is, of course, much greater in the early stages of the child-bearing period. Unfortunately this rate cannot accurately be stated in this country, as the census returns only give ages in decennial age-periods after the age of 25.

The chief points in the summary are as follows:—

1. The ordinary method of calculating the birth-rate does not distinguish between the influence of fertility and of variations in conditions of the population as to age and marriage.

2. In ascertaining the true meaning of the great reduction of the birth-rate which has occurred in the last twenty-five years, it is necessary to have means for distinguishing between the accidental and the intrinsic causes of change.

3. A step in the right direction is made when the legitimate births are stated in terms of the married women at child-bearing ages, and the illegitimate births in terms of the unmarried women of the same ages.

4. This method fails to correct for the difference of fertility of the various ages comprised in the age-period 15-45.

5. By obtaining corrected fertility-rates, the fertility-rates of different communities can be made directly comparable.

6. In the present paper a method is described of obtaining factors, which, when applied to the readily available crude birth-rates, correct completely both for the varying proportion of married women in compared populations, and for the varying fertility at different periods of married life.