

wider scope involving all the metabolic processes, including those relating to protein and fats. It is realised that 58 per cent. of the protein molecule and 10 per cent. of the fat molecule are consumed in the body as sugar. Hence a dietary balanced in itself and adjusted to the administration of insulin is required. It is also established that a high protein diet causes a high metabolism and that removal of carbohydrate from the diet without reduction of fat and protein is liable to bring on coma. Through the application of these principles conjoined with treatment by insulin, coma which was formerly a common cause of death, especially in young diabetics, is now relatively infrequent and much less often fatal when it does occur.

A number of apparently divergent dietaries are successfully used by different authorities in the treatment of diabetes. Broadly, the present tendency is to increase the carbohydrate in the diet and to avoid excess of fat. Insulin has become the keystone of the treatment of diabetes but it cannot stand alone or be used with success without special experience. It should be intelligently fitted into its place in the general scheme of treatment. The patient must be instructed and guided in his dietary and the taking of insulin, and a patient so educated should report to his doctor at regular intervals and in emergency. That a steadily increasing use of insulin is being made in this country is demonstrated by a scrutiny of returns made under the National Health Insurance Service. Thus in the eight years 1924 to 1931 the total number of prescriptions for insulin issued by insurance practitioners in England has risen from 25,000 to 155,000—an increase of more than 600 per cent. Expressed as units of insulin issued, this increase is still more striking. It is estimated that to insured persons alone about 5 million units were issued in 1924 in England and about 57 million units in 1931.

#### Mortality from Diabetes.

In view of the improvement in the clinical control of diabetes brought about by the introduction of insulin, it seems necessary to inquire why the number of deaths from diabetes increased from 4,545 in 1922 to 5,660 in 1930 and the crude death rates per million from 119 to 142. Do these figures indicate that the incidence of diabetes is increasing and, if not, how can they be explained?

An increase in the number of deaths certified to be due to diabetes is not peculiar to this country but is shared by practically all civilised nations. The number of persons at ages over 55—the age beyond which mortality from diabetes is greatest—is steadily increasing. In 1922 there were in England and Wales approximately 5,300,000 persons over 55 years of age, but in 1931 the number had increased to 6,700,000. The greater number of persons at risk at ages of maximum mortality increases the crude death rate and accounts for a part of the apparent increase in mortality from diabetes. This influence of changing age and sex constitution of the population at risk can be eliminated by substituting standardised for crude death rates.

The rates in both sexes show an increase decennium by decennium, more rapid in females than in males, up to 1911-20. The female rate has continued to increase since that time, but the male rate has declined. Sixty years ago the female rate was half the male rate; to-day the female rate is the higher. The apparent increase in mortality attributed to diabetes is therefore not a new feature in this country, but has been in operation ever since accurate records have been kept.

In the earlier decennia the death rates increased at most ages. The age below which increases occurred became progressively later in succeeding decennia. In the last decennium increases in death rates are limited to ages

above 75 in males and 55 in females. At lower ages the former increases have been replaced by decreases.

The question now arises whether this increase in mortality over the past 60 or 70 years is real or not. The Registrar-General's Statistical Reviews show numerous instances where mortality figures have been affected by greater accuracy in certification. For instance, the number of deaths certified to be due to old age is steadily declining. Inquiry has shown that many deaths which would formerly have been attributed to senile decay are now attributed to more specific causes.

As far as diabetes is concerned there is no doubt that the disease is now much more frequently diagnosed than formerly. This results in great measure from the increasing attention paid to examination of the urine. Medical Superintendents of municipal hospitals have informed Medical Officers of this Ministry that, whereas twenty years ago many diabetics were sent in undiagnosed, to-day the great majority have been diagnosed before admission. One superintendent said that the number of diabetics admitted undiagnosed to his hospital was smaller than the number of non-diabetic glycosurics sent in as diabetics. As Joslin observes:

"Instability of the diabetic death-rate is certain to continue until examinations of the urines of each individual in the community are made not only with each illness, but once or twice yearly. In this way the actual number of latent cases will be disclosed and the morbidity of the disease will apparently be increased.

It is therefore practically certain that the greater attention now paid to diagnosis in general, and to examination of the urine in particular, is responsible for the discovery of a larger number of diabetics than formerly and for increased certification of diabetes as a cause of death. If this be so, the steady increase in the number of deaths certified to be due to diabetes does not imply that mortality from this cause is in fact increasing, but that the disease is now recognised more frequently. An actual increase in mortality is therefore apparent rather than real and the increase in the figures may have a favourable rather than an unfavourable significance implying more accurate diagnosis with the possibility of obtaining more efficient treatment.

#### PHYSICAL TRAINING IN SCHOOLS.

Sir George Newman, as Chief Medical Officer of Health to the Board of Education, in a prefatory memorandum to a revised syllabus of physical training for schools, just issued by that Board, points out that they wish to record their conviction that the development of good physique is a matter of national importance, vital to the welfare and even the survival of the race. At the same time it is realized that before physical training can have its full effect upon the human body the following conditions must be presupposed:—(1) The child must be of good stock; (2) he must have been carefully nurtured; (3) the laws of hygiene must be observed; (4) nutrition must be adequate; and (5) environment should be satisfactory. Without these five conditions much can undoubtedly be done, but unless and until they are present the final goal will not be reached.

During the past month there have been frequent reports of the appearance of epidemics near the border of Eastern Inner Mongolia. The outbreak was first described as "bubonic" plague, but later it was stated that cases of the dreaded pneumonic plague were increasing. Energetic measures of suppression have been taken by the Japanese and the Russians.

[previous page](#)

[next page](#)