

her child and spend the day in labour, the crèches or day nurseries in various parts of the city, established by private benevolence, receive the infant. Its diet is supplemented; it is kept clean and tended during the hours of the mother's absence.

In the primary schools the girls, especially in the higher standards, receive instruction in the simple rules of hygiene and house management, the importance of air, light, and sun, the need of cleanliness of the person and the house, the rules of diet, the evils that follow the taking of alcohol, and the general rules of nursery management and the dieting of infants. These elder girls have much to do with the infants and young children in their own households; they are commonly the nurses of their younger brothers and sisters; they act as sanitary missionaries in the house, and when, in their turn, they become wives and mothers, the knowledge thus acquired will prove of great personal value. Medical consultations for infants have been established in the city.

When a young child ceases to be nursed from the breast much depends upon the cow's milk it is supplied with. Great care is taken in Liverpool to prevent the selling of milk containing tuberculous or any other infective material. Every cow, every cow-house, every dairy, every milk shop, in the city is inspected, and all milk coming from the country (which is much more frequently in fault than the town milk) is carefully tested. In order to detect the presence of tuberculous virus in the milk, samples are constantly being administered to guinea-pigs, and if tubercle is thereby caused in the guinea-pig it is invariably found that the milk given has come from a cow infected with tubercle, and the milk from that farm is no longer allowed to enter the city. Thus the young are in most cases guarded from this form of tuberculous infection. Cases of severe whooping cough and measles in infants are taken into Corporation Hospitals, whereby recovery is rendered more rapid, and the spread of infection is checked.

One of the most serious causes of infant mortality is the prevalence of epidemic or zymotic diarrhoea, occurring in the autumn, especially in years of high temperature and small rainfall. This ailment seems to be due to errors in diet, especially the use of food which is decomposing and becoming putrid. The infective action of the common house-fly appears to be in part the cause of this decomposition. Infants fed from the breast suffer scarcely at all, those fed otherwise show a mortality fifteen-fold as great. We lose from 500 to 1,600 children per year from this cause.

During the autumn of 1911, when the great general strike in Liverpool stopped all sanitary work, such as the clearing of ash-bins and ash-pits, and when difficulties occurred in the food supply, zymotic diarrhoea became more fatal than in any other year.

Insanitary dwellings are an important cause of infantile mortality. The Municipality has de-

stroyed a vast number of them, caused the alteration and amendment of others and erected some thousands of healthy and sanitary houses which are placed at the disposal of the poor families ejected from insanitary dwellings. These tenants do not pay a rental representing the full cost of their dwellings, and the remainder of the cost falls upon the ratepayer. Under these circumstances it is reasonable that a strict supervision of these tenements should be exercised. After due warning, drunkenness and other vice or misconduct, dirty or disorderly habits render the tenant liable to expulsion. The results have been greatly improved conduct and a marked fall in the death-rate, especially among the infants. Year by year this reform is being carried out with satisfactory results.

Finally, it is encouraging to note that a great fall in the death-rate of infants has already been secured. In the year 1874 and about that time, out of every 1,000 children born, over 230 died during the first year. A gradual improvement has taken place ever since, with slight upward and downward fluctuations; last year this 230 per thousand had been reduced to 125 per thousand. This of course, is still far too high a rate, but we hope for better things in the future.

I have read this paper in the hope that we may hear something of the work done by other municipalities who are making like efforts and that we may learn from one another.

#### HOW TO BRING UP INFANTS.

The following are the rules adopted by the General Lying-in Hospital, Lambeth:—

##### CLOTHES, AIR, WASHING.

The clothes should be warm but not tight—an outside roller binder is not necessary. The child must have plenty of *fresh air*, and be taken out whenever possible, if the weather is fine. It should be washed all over every day with warm water and soap.

##### FOOD.

Breast milk is, under ordinary circumstances, the best food for the child; and if the mother has plenty of milk the child should have *no other food whatever* until it is seven months old. When it has reached the age of seven months the child may have, in addition to the breast, one or two meals a day of milk thickened with some one or other "infants' food"—those of Mellin, Allen & Hanbury, Squire, and Savory & Moore are reliable. Baked flour, arrowroot, cornflour, biscuits, or any so-called "infants' food," must not be given before the child is seven months old.

##### TIMES OF FEEDING.

During the *First Month* the child must be suckled regularly every two hours, except during the night. At night it may be allowed to sleep five or six or even more hours without feeding. In the *Second Month* it must be fed every two and a half hours during the day. In the *Third*

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