

BABY 'FRUITARIANS.'

(By kind permission of Miss Muriel Payne, Superintendent,
Infant Welfare Centre, Sydenham.)

ONE of the loudest cries of the day is "Save the Babies!" Out of every evil comes some good, and certainly the war has at least wakened up the nation to this great responsibility.

In connection with the Sydenham Infant Welfare Centre, we started eighteen months ago a small Infant Hospital of twelve cots. Only marasmic babies and those suffering from diseases of nutrition are admitted. The subject of diet is most carefully studied, and a good number of infants recover on carefully modified milk and cream or whey and cream, and ordinary warmth and nursing attention.

But there are a certain number of wasting babies who seem to react to no treatment, and we had a number of these of the very worst type to deal with. Some had been in other hospitals, and all had had previous treatment before coming into the Hostel.

One day our medical officer decided to try these obstinate cases with fruit-juice. We had one baby who had been in for four months, she weighed $6\frac{3}{4}$ pounds, and was seven and three-quarter months old—a perfect little skeleton. She had a bad discharge from both ears, and raw buttocks which nothing would heal. The child was practically at its last gasp when the M. O. put her on fruit-juice only. She was given oranges, apples, and rhubarb-juice, *ad lib.* in her bottle. In the first twenty-four hours she demolished thirteen oranges, eight apples and three sticks of rhubarb—24 ounces of juice in all.

The result was extraordinary: she stopped her continual whine and slept for hours. The discharge from her ears practically stopped, and her buttocks absolutely healed. She, however, lost 4 ounces in weight. In the second twenty-four hours she took 20 ounces of fruit-juice, seemed very comfortable, and slept, but towards night became rather cold (temperature 96.2 degrees), and the M. O. decided to give her one bottle of modified milk. This improved matters, and from that time she went straight ahead, gaining weight daily, enjoying bottles of juice *ad lib.* and a gradual increase of milk bottles week by week. At the end of five weeks her daily quantity of food was—pure milk, 5 ounces; fruit-juice, from 12 to 20 ounces. At the end of ten weeks she was digesting 13 ounces of pure milk in modified form, and took from 4 to 7 ounces of juice daily. She weighed 10 pounds, and, instead of being a skeleton, was a dear, fat, laughing little girl.

Another case, Baby A, aged seven months, weight 9 pounds, had been quite a waster from birth, and had chronic enteritis and acute symptoms of scurvy rickets. We had had him in the Hostel for four months, with very little improvement, only gaining $1\frac{1}{2}$ pounds in that time. He was ordered the same treatment, and went straight ahead, with a loss in weight of only 2 ounces in the second twenty-four hours. He was kept on fruit-juice only for

three days, and then milk bottles were gradually worked in. At the end of eight weeks he had gained 3 pounds, and is now a dear little boy of over 16 pounds. All symptoms of scurvy rickets (tenderness in the joints, etc.), disappeared within forty-eight hours, and have never returned.

Baby T, four months old, weight 6 pounds 15 ounces, had wasted from birth. He was found in the district, having been in convulsions for three days. His private doctor had given up all hope of recovery. He was admitted to the Hostel, and given 4 ounces of fruit-juice by nasal tube. The convulsions stopped within two hours. He was kept on fruit-juice for three days, and gained weight all the time. On the fourth day he started with a bottle of Peptonized Trumilk Proteid 0.95, sugar 6.5, fat 0.5. This was gradually increased in quantity and strength, and he went straight ahead, in seven weeks gaining 3 pounds 1 ounce. In this case on the eighteenth day of treatment the baby refused the fruit-juice, but afterwards took it again in varying quantities of 4 to 16 ounces daily.

Baby P, a dyspeptic, and wasted for six weeks, a little skeleton weighing 5 pounds 8 ounces, was admitted very ill. He had weighed 7 pounds 8 ounces at birth, and had cried day and night since ten days old. Treatment ordered was fruit-juice, and the baby took 6 ounces straight off, and slept seven hours. At the end of that time he took another 6 ounces, and slept 6 hours again. He seemed very happy, and gained daily after the first drop in weight of 2 ounces at the end of the first twenty-four hours; he was kept on fruit-juice only for six days. This was during the experimental stage of the treatment and proved too long. Alarming symptoms of collapse set in, and a loss of 5 ounces in weight. A few bottles of modified milk were at once given, and the child rapidly progressed. This child (and others when kept on fruit-juice too long) developed a superficial ulceration of the mucous membrane of the mouth, caused by the acidity of the fruit.

Washing the mouth out with solution of bicarbonate of soda, teaspoonful to the pint, soon counteracted this, and it did not seem to give much discomfort to the baby. This baby, however, had a great preference for strawberry, melon, cherry and less acid-tasting fruits. In fact, strawberry juice had to be limited in quantity, as he proved so particularly greedy about it. At the end of seven weeks he weighed 7 pounds 12 ounces, a gain of $2\frac{1}{4}$ pounds.

To show how rapidly the babies react to fruit-juice, some months later this same baby, who was then on an ordinary diet of modified milk, developed a temperature of 101.6 degrees, vomiting and diarrhoea. He was given strawberry and melon juice only, and all bad symptoms ceased within twenty-four hours. A rather expensive treatment though, as he took the juice of 2 pounds of strawberries and a quarter of a melon in thirty-six hours.

Lately we have been able to prove that fruit-juice has an extraordinary effect on convulsions in infants. A nasal feed of B (4 ounces of fruit-juice) has completely stopped convulsions within 1 to 2 hours, when other treatments have completely failed. This has now been proved in a large number of cases. One, a baby boy of seven weeks, was admitted with acute enteritis. He had been in convulsions twenty-four hours; temperature 103 degrees. Ordinary

methods of treatment were tried (rectal lavage, mustard bath, etc.), and after four hours with no success, a nasal feed of fruit-juice, $2\frac{1}{2}$ ounces, was given. The convulsions ceased within an hour. Ordinary treatment for acute enteritis was then reverted to. Another infant was admitted suffering with acute enteritis of seven days' duration and bad convulsions. Ordinary treatment was given. The temperature rose higher and higher, and the child was obviously getting rapidly worse. A nasal feed of fruit-juice, 4 ounces, was given, and the convulsions stopped within one and a half hours, rapid improvement setting in for two days. This child, however, later had a sudden relapse and died.

The conclusion that our Medical Officer (Dr. H. B. Gladstone) has drawn from these experiments I quote from an article of his in the November number of the *Practitioner*. He says:—"Fruit-juice can be taken to the extent of a pint daily, with immediate benefit to a dyspeptic-atrophic infant under one or two years of age. A carefully selected predigested food, low in albumin and fat and high in sugar, will then be both digested and absorbed, and result in gain of weight. At first a loss of weight must be expected, but by the end of the first week this is usually regained. Unless the juice is followed by a diet scientifically adapted to a weak digestion it does no permanent good whatever. The juice no doubt acts partly on account of its acid reaction, rendering the bowels unsuitable for germs growing in an alkaline medium. It has a tonic cleansing effect on the mucous membrane of the digestive tract, and is a diuretic, diaphoretic, and general alterative. It supplies an attractive drink, enjoyed by all babies, containing 10 per cent. of soluble carbohydrate food, removes the irritability and restlessness of the child, promotes quiet sleep, and renders the digestive organs able to digest and absorb a light diet.

"Whilst oranges were available, the juice was made of two parts of orange-juice to one of apple-juice, diluted with one-quarter the quantity of water. The apple-juice was obtained by shredding apples on a vegetable grater and expressing the juice by means of a fruit press (obtainable at the Civil Service Stores for 11s.). Since oranges have become unobtainable, melons and apple-juice have been used with somewhat less good results. Strawberry, cherry, raspberry, and banana juices have been taken and enjoyed by the babies, and did not produce any bad effects; and it is probable that any fruit-juice available would succeed, provided the acid fruits were not used in too large a proportion, and that, when oranges are out of season, it will be found advisable to add a small quantity of lemon-juice to the sweeter fruit-juices to supply the necessary acidity. Experiments with fruit-juice are being continued at the Hostel and this paper is intended merely to introduce what may prove to be a valuable remedy in the treatment of chronic dyspepsia, chronic diarrhoea, and atrophy in infants."

I have to thank Dr. H. B. Gladstone for allowing me to contribute this article, with his cases and their treatment, to the "League" magazine.