

ORAL HYGIENE.

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(Concluded from page 139.)

NURSES will often have been told by their patients that their teeth seem to decay more during pregnancy. There is no doubt that this is true. A few years ago we put this down solely to the neglect of the toothbrush and to the amount of soft farinaceous food which often comprises a great deal of the diet at this time, especially amongst the more well-to-do classes. Less saliva is secreted, as less chewing is required, and the starchy foods cling round the necks of the teeth and are not washed away. This is perfectly true, but modern opinion tends also to the belief that the resistance of the teeth is actually lowered at this time.

There is no doubt, as pointed out by Mrs. Mellanby, that the calcium of the mother's skeleton may be sacrificed for the nutrition of the child. Whether calcium is furnished from the teeth remains to be definitely proved, but abundant clinical evidence shows that the teeth are actually more susceptible to caries in those cases in which the diet has been deficient in calcium or in Vitamine A, which appears to exert a profound influence upon calcium metabolism; when it is absent from the diet, calcification of the teeth is impaired, even though there be an abundance of calcium present.

It is an old saying that a mother loses a tooth for every child. There may be some truth in this on the average, but the loss is not inevitable. Due attention to the dental toilet and the correct diet is all that is required to avoid it.

Inseparable from this point comes the all-important question of the teeth of the child. There is no subject of which mothers are more ignorant. Nurses can do great work by educating them.

The temporary teeth begin to be calcified about the fifth month of pre-natal life. All the structures of the embryo are affected by substances conveyed or withheld from the mother's blood. The young tooth is as sensitive to errors of nutrition as any other tissue. If there is a deficiency of calcium and phosphorus in the diet of the mother, we should expect to find irregularities in the embryonic skeleton. The whole source of the child's calcium is the mother's body. The condition of the mother depends on the correctness of her diet, and the child may be affected for good or evil by the diet of the mother.

"No amount of protein and mineral matter will in themselves enable growth to take place. Nor will development be any more possible when the tissue-forming units are supplemented with an adequate supply of the energy-yielding foodstuffs."—(*The carbohydrates and fats report of Medical Research Committee.*)

You cannot give too much vitamine-bearing foodstuffs. Vitamines only enable the process of growth to have full play. If larger amounts than are necessary are administered there is no supernormal growth.

In order that the teeth of the child may develop perfectly, what should the diet contain?

It should contain first and foremost a sufficiency of Vitamine A. Vitamine A is found in unpreserved cream, egg yolk, good, untreated milk, suet, fresh vegetables, and, in concentrated form, in cod-liver oil. The latter is the surest and most economical way of administering it. In combination with a malt extract, which provides the hormones for its assimilation, it is the perfect source of Vitamine A. If a patient gets her daily ration of cod-liver oil you may rest assured that whatever her other fancies or dislikes, she will at any rate have had a sufficiency of the most important and most elusive vitamine.

The diet should also contain an abundance of the B and C vitamines. The chief sources of Vitamine B in the national foodstuffs are: wholemeal bread, fresh (consumed within 48 hours of killing), underdone meats, roasted potatoes, peas, beans and lentils. It is also found in marmite, a yeast product.

Vitamine C, which is so essential for the prevention of scurvy in the mother and child, is found to abundance in all the fresh fruits and vegetables, water-cress, salads, etc. The best fruits for the supply of antiscorbutic C vitamines are oranges, lemons and tomatoes; and the best vegetables, carrots and swedes.

At birth, calcification of the temporary teeth has progressed as far as almost the whole of the crowns of the central incisors, half of the lateral incisors, the tip of the canines, half of the crown of the first temporary molar and the surface of the crown of the second temporary molar.

Breast feeding plays a very important part in the nutrition of the child; there is no substitute to be compared for one moment to the natural method. It must be insisted upon whenever possible. Artificial feeding is responsible for many dental evils, one of the least important being the crowding of the dental arches and protrusion of the upper front teeth. Defected nasal septum follows as a frequent consequence. Artificial feeding is not the only cause of this condition; adenoids and the dummy-sucking habit bear their part. If artificial feeding is imperative, these points should be noted. In the past it has been the aim to prepare a food approximating to human milk in terms of protein, fat and carbohydrate. We now know that this is insufficient; the accessory

factors must be there also. The Medical Research Committee's report on vitamins states: "It should be recommended that no product other than those derived from milk should be employed in the preparation of a modified milk used for infant feeding. Vegetable oils cannot replace cream, and sugar solutions cannot replace whey. Some infants may be reared with success from a very early age upon unmodified cow's milk. The practical results which have been obtained by this method indicate that ordinary untreated cow's milk is an adequate source of all three factors—fat soluble A, water soluble B, and antiscorbutic C—for the growth and nutrition of the human infant. Other infants, however, are unable to take cow's milk until it has been modified so as to bring its composition nearer to that of human milk. One preparation which has been used extensively in this country is known as Marylebone Cream . . . an emulsion of linseed oil or olive oil . . . Apart from any question as to whether foreign fats of the type represented by linseed oil can replace the specific fat elaborated by the mammary gland, there cannot be the slightest justification for imperilling the health of a child during the most critical years of its life by denying it an adequate supply of the indispensable fat-soluble accessory substance. The large number of children who have been raised satisfactorily upon dried cow's milk would indicate that the processes employed in dessication have had no destructive effect upon the fat soluble and water soluble factors, although the antiscorbutic principle suffers during the preparation.

"Nutritive failure upon foods deficient in fat may be adjusted by the addition of an adequate fat, such as cream, butter, or cod-liver oil.

"If scurvy is to be prevented by the giving of milk alone, a quantity must be consumed, which practically amounts to a complete milk diet.

"If the milk is dried, boiled, or pasteurised, it is well to be on the safe side by giving a little orange juice as an antiscorbutic measure."

"The permanent teeth commence calcification at birth, and for the proper development of its teeth the child depends wholly upon its food. If that food comes from the mother, and the diet of the mother is perfect, it is reasonable to suppose that the teeth would be perfect.

The most important time is the first six years. By that time the crowns of the front teeth, most of the crown of the first premolar, half of the crown of the second premolar, all the crown and half of the root of the first molar, and half of the crown of the second molar are calcified. But most of the work is done in the first two years, for it is during this time that the greater portion of the crowns of the front teeth are being built up. Any defect in vitamin supply at this time will produce those pitted, jagged edged teeth that are so disfiguring, and which we used to call "rachitic" or "measly" teeth. It is no use waiting until the child gets on to solid food before paying attention to the teeth, any more than it is waiting until the permanent teeth arrive before giving them any attention. Their fate has been decided long before they arrive.

Professor Mellanby says: "The first method to be employed to reduce the scourge of teeth defect in this country is to improve the formation of children's teeth by better feeding of the mother during lactation and pregnancy, and of the children so long as the teeth are being calcified."

The teeth are indicators of general nutrition. It is often noticed during the course of infectious fevers how the nails show the signs of alterations in metabolism—nervous strain, stress, exhaustion. The teeth show the same, although it is usually a prolonged illness which causes a mark which will show to the naked eye. Until the Mellanbys published the results of their experiments we had taken it for granted that teeth which did not show this hypoplasia to the naked eye were properly developed. But these experiments showed that these teeth, when examined microscopically, in 85 per cent. of cases showed distinct under-development.

THE CARE OF THE TEMPORARY TEETH.

Nurses cannot too strongly insist upon due care being taken of the temporary teeth. So many mothers regard them as mere unpleasant necessities to be allowed to decay and to be extracted as soon as they cause toothache rather than as necessary organs for the full development of the child. It must be remembered that if a child has a mouthful of tender teeth, that mouth is not functional. The child will get into the habit of bolting the food rather than cause itself pain by chewing, with consequent impairment of digestion and loss of weight. The teeth can easily be filled without pain or trouble by a sympathetic dental surgeon. It is often the case that a child who has not been frightened takes very easily to dental treatment at four years of age.

It should always be remembered that the temporary teeth should last until their permanent successors are ready to erupt. Only in this way is it possible to ensure the correct spacing for the permanent teeth. Crowded arches, with their attendant predisposition to pyorrhea, follow too early removal of these teeth, not to mention the fact that the child is being deprived of one of its greatest aids to digestion at a time when it is most necessary.

If the temporary teeth get abscessed they must, of course, be removed. Glandular and systemic troubles follow this neglect.

Remember that the first temporary molars should stay in place until the child is at least ten years old. How many mothers realise this? And look after that first permanent molar. It is the first permanent tooth to arrive—at six years of age—and as it comes so far back in the mouth it is mistaken for a temporary tooth in almost every case, and is neglected and decays. Then the mother is very surprised when she learns that it is one of the "second teeth," and that it has come out before it has been in for three years.

The nursing profession can bring about a tremendous improvement in the health of the community if it will educate the mothers to look after the children's teeth from the beginning.