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A combined attack upon a common problem

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This paper allows an opportunity to put on record certain facts which have led to the present co-operation between the Department of Children's Dentistry and the Department of Dietetics, and though it is not possible at the present time to draw any definite conclusions from these facts, it may be reasonable to make some observations concerning the results obtained so far.

The problem was and still is the large number of young children mostly between the ages of 2 and 5 years with gross caries, who are referred to the Dental Department for help, by either their family doctor or family dentist. Our efforts to do something positive about the problem which these children present really began only a few years ago, as it was not until 1951 that a Department of Children's Dentistry was established as a separate unit within the Dental Department and School. In this special section, six sessions each week are set aside for the prevention and treatment of dental caries. Children who are brought to the Department for the relief of pain could of course be treated by the extraction of the offending tooth. This is the traditional method and no doubt at the special moment could be considered to be effective and satisfactory.

Treatment by extraction, however, means the infliction of further trauma to relieve a local condition. This further trauma has a long-term effect and without question has a direct bearing on the attitude of members of the public towards dentistry and to their dental and general health.

In this dental school we are convinced that the primary teeth are of importance and we cannot subscribe to the popular names, such as baby or temporary teeth, which are given to them. A tooth which can serve the patient well for 7 or 8 years during such an important period of growth and development as ages 2 to 8 can hardly deserve to be named temporary. In fact, during this period the foundations for nearly all the good and bad habits of the individual's life are being laid down. Just so will

the attention given to his general and dental health during this period be carried through for very many years to come. Incidentally, the primary molars are larger than the bicuspids which replace them after they have been in the mouth for 7 or 8 years.

It is with these thoughts in mind that we approached our overall problem. Large numbers of doctors and dentists appear to have had, or for that matter still have, the impression that the filling of children's teeth is either very difficult or impossible, and so our first endeavour was directed to finding out whether or not the impression was justified and, if it was, then to seek ways of ending an obviously unsatisfactory state of affairs. Soon it was possible to show that students early in their clinical course of training were entirely capable of performing quite complicated fillings in very young children. This state of affairs has been brought about by teaching that no pain should be inflicted before the patient has learned to trust the operator, and only a minimal amount of patience is required to achieve this very desirable relationship. After this success, one can imagine the consternation when well-made fillings often came out. On reflection of course, the explanation is simple; by filling and restoring the teeth the manifestations of the caries process had been treated but no steps had been taken to deal with the cause. Treatment had been given for the signs but not for the disease itself.

It was at this point, in 1953, that the help of the dietetic department was asked for some of the more disappointing cases. The Dietetic Department was interested but doubtful whether they would be able to bring about any benefit by dietetic control and, in addition, as analyses of diets would be necessary, it meant extra work for an already busy department. However, by a happy chance, an ex-member of the staff of the Dietetic Department volunteered to carry out the work in her vacation.

As a result of her work and advice, many patients improved rapidly. Mouths which had previously shown every sign of neglect took on a clean and cared-for appearance. The results were sufficient to convince the Dietetic Department that it was a worth-while enterprise. A joint approach was then made to the Hospital Authorities and in 1956 a regular diet clinic for the Dental Department was officially started. This clinic has been of inestimable value to the Department of Children's Dentistry and now before treatment of most of the pre-school children is started details of the child's diet are obtained and any advice necessary is given.

The majority of the mothers have been fully co-operative, but naturally there have been some who for one reason or another have not been willing or able to play their part. On the other hand, some, of their own accord, have asked for further help from the Dietetic Department in matters relating to family feeding.

Concurrently with what has already been described, some of us had gained the impression that many of these young patients with gross caries were too small, weedy and generally not healthy. The obvious thing to do was to weigh and measure them. The first patients checked were in fact under weight and under height according to the (U.S.A.) National Research Council charts (Proudfit & Robinson, 1955). This was fortunate because it stimulated inquiry into the general relationship between the dental state and the height and weight in larger numbers of children. Limited

surveys on this aspect have been undertaken by us in Walthamstow and East Ham and Barking. The results are far from clear cut, but the surveys have pointed the way to further aspects which must be inquired into.

The assessment of the nutritional state of an individual is far from easy and requires a recording, in addition to those of height, weight, sex and age, of such factors as the amount of subcutaneous fat, the condition of the skin, the condition of the hair and nails. The assessing of the nutritional state presents very considerable difficulties, many of which have been referred to by Thomson (1956).

When all is said and done there appears at the moment to be no specific test that can be used as a gauge in this type of survey. Clinical assessment of each individual factor by any particular specialist usually leads to the conclusion that though a certain state of affairs may exist, which is not entirely satisfactory, it could or can be regarded as within the range of normal. To be within so-called 'normal limits', however, allows very considerable latitude.

An assessment of an individual factor or separate factors may therefore be grossly misleading and all possible factors should be considered together at the same time by one examiner, who in the end may have to rely on his own clinical opinion which may of course be biased.

However, whatever scientific (or quasi-scientific) results may have been revealed or have failed to be revealed by the weighing and measuring, these procedures have certainly produced in the mothers a remarkable positive interest in their child's health and habits, and have proved invaluable in gaining and keeping the parents' co-operation during the periods of diet investigation and diet control.

The method used to obtain details of the child's diet is as follows. The parent is informed of the possible connexion between the dental state and what the child is eating, considerable emphasis being placed upon the fact that it is impossible by clinical assessment alone to make even suggestions concerning what desirable food may be deficient, or what undesirable food is being taken in excess. Very often the parent will make a direct comment on the intake of sweets or the eating of vegetables. This information must of course be received with interest, but should be countered immediately by the statement that 'it could be one of the factors, even an important one, but it would be better to wait for the result of the diet investigation before passing any opinion'.

The parent is then asked to write down details of everything eaten or drunk for a period of 3 or 4 consecutive days. These days should include 1 week-day and 1 weekend day, as there is considerable variation at weekends from an ordinary week-day. If the child is at school, school meals are to be included. The parent must be encouraged to give the information in great detail as the request for detail implies to them that any and all foods or beverages may be involved. Therefore the details should include the name of the meat or vegetable, the method of preparation of the food (that is, fried, baked, boiled, roast) the quantity actually consumed, assessed in household terms (i.e. teaspoonful, tablespoonful, thick, large slice, thin, small slice, and so on). For foods and drinks where sugar may be added, it is advisable to ask for quantity and type of sugar used. The time by the clock, when the food or

drink is taken should be given, and not by the name of the meal, as the taking of meals is so often regulated by the father's work and the shift that he may be working. As an illustration of this point, the time of breakfast has been known to vary between the hours of 5.30 a.m. and 11.15 a.m.

Details are requested for 3 or 4 days only so that if the record is unsatisfactory, it is reasonable to ask the parent to try again. If a longer period such as 1 week had been involved in the first request, a second request has been found to cause despair and to minimize or kill all hope of further co-operation.

When the detailed diets are examined, much is revealed, not only about the intake of various foods and drinks but also extremely useful hints concerning what may be called the eating pattern (that is, strict meal times or constant tit-bits and snacks), and from it it has often been possible at interview to ascertain many other bits of information such as social and domestic difficulties of the household. Where great difficulties exist the Health Visitor may be asked to help both the patient and the professional advisers. Such cases have so far been limited in number but when they do occur the problem begins to be seen in what is probably its true perspective.

The results of the diet inquiries regularly show inadequate intakes of proteins and calcium, many diets being low in iron also. Deficiency of vitamin C and the B vitamins is also common, and generally there has been an excess of carbohydrate. The excess of carbohydrate explains why the calorie intake has on the whole been satisfactory. The eating pattern is fairly consistently one of many in-between-meal snacks, which is without doubt the explanation of the high carbohydrate and low protein intakes.

The dietitians are often able to assist with advice on the choice of more desirable and less expensive foods. They are also able to play their part in contesting the numerous and enticing advertisements which appear on hoardings and also on television, in which unjustified and even harmful claims are made about certain foods and drinks. The joint attack has already produced positive benefit in a large number of cases, and has shown that much more work requires to be done. The results prove, to our satisfaction, that the treatment of these cases of caries in very young children lies not in the province of any one aspect of medicine or dentistry, but requires a combined and concerted approach. Each specialist must appreciate his or her dependence on, and the need to seek the co-operation of, the others.

From the purely local aspect the benefits may be summarized as follows:

The work has proved that the combined efforts of the dental surgeon and the dietitian are vastly more effective than the sum total of their individual approaches. The dietetic advice given to assist in arresting caries has also resulted in general benefit to the child. The weighing and measuring develops in the parents a broader interest in their child's health, which is more effective than a request for preventive measures of a purely dental nature. Fretful, ill-disciplined children with disgusting mouths have changed into happy co-operative patients with clean mouths and teeth showing arrested caries. Gross caries can be regarded as a diagnostic index of dietetic imbalance (and probably unsatisfactory nutrition).

Students responsible for the dental care of the children are able to appreciate, from the evidence among their own patients, that caries can be controlled by reasonable attention to diet. They also begin to understand more fully that the teeth are truly part of the biological whole person.

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