

Dietary management of diabetic children

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Diabetes mellitus is a life-long disorder and for the insulin-dependent diabetic it requires skilful management. This expertise cannot be achieved overnight. Like all skills in life, it is acquired gradually through day-to-day experiences. Some diabetics, because of their lack of ability, never master their condition and 'struggle' through life, more by good luck than good management.

A medical team specialized in the management of diabetes will educate the newly-diagnosed diabetic and guide and support him along the path of experience. The aim of such a team should be: (1) to give patients a good basic knowledge and understanding of their disorder; (2) guidance on its day-to-day management; (3) some insight into the problems they may face.

The dietitian, as a member of the medical team, is greatly responsible for the diabetics' education, as diet is a major factor in the control of blood sugar. The paediatric dietitian is even more involved as, not only has he or she to teach the patient to cope successfully, but also the parents and, frequently, others involved, such as school teachers, nursery nurses and health visitors. Children should be included at all teaching sessions and questions put to them directly. After all, it is their life and problem. Younger children should be encouraged to stay for part of the interview to experience the atmosphere and relationship between their parents and the dietitian.

Instructing the parents of a new diabetic is, for the dietitian, the beginning of a long and close association. Ideally the initial teaching sessions are continued at the diabetic clinic where the dietitian sits in attendance with the consultant. This arrangement is not only advantageous to the patient, but also to the two specialists, as each has something to learn from the other. The dietitian also receives a more complete picture of the patient and his condition and has the opportunity to deal with problems as they arise during discussion. (A separate room should be available for lengthy discussions with parents.) The merits of learning on a one-to-one basis and the individual attention given by a paediatric diabetic team is not always appreciated until the adolescent is transferred to the overcrowded adult clinic, where because of the vast numbers he has a very impersonal relationship with the medical team.

To achieve a happy, healthy and full life, the children should be taught to be sensible, not exact and careful, not carefree. Parents who are perfectionists should be encouraged to relax more, as rigid management may result in a disturbed child both diabetically and psychologically. A dietary regime must be practical and acceptable as well as theoretically sound.

'Diabetes for ever' is a thought which all diabetologists should bear in mind.

Like other disorders requiring dietary control (e.g. coeliac disease) the treatment is for life, but unlike the sufferers from such complaints, the diabetic must be constantly aware of his condition 24 h/d. There is no 'let-up', problems can arise at any time, and the stresses resulting from such demanding treatment are not always obvious to the non-diabetic.

Diabetes is not a disorder you would wish to have and every sufferer, whether controlled well or badly, has the threat of complications continuously hanging over him. The awful consequences cannot be hidden from the diabetic, but dwelling on them achieves nothing. Preferably, take a positive approach. Stress that by eating a nutritionally-balanced diet and by sensibly managing the condition a near normal life is possible. Emphasize the heights, both physical and mental, many diabetics attain and the admiration and respect they win from others. Those who advocate a strict discipline and think their patients are adhering to it, would do well to remember that it is simple for an intelligent diabetic to falsify urine tests and blood sugars, in fact for an intelligent diabetic it is almost impossible not to do this. General health, school attendance and enjoyment of life are better criteria of good control.

The discipline of the diabetic regimen is a great strain and, let's face it, a life-long sentence. To alleviate stress and abolish the feelings of guilt a child may have if he breaks diet, occasional lapses should be permitted, e.g. a birthday party, Christmas, or just the gift of a box of chocolates. The diabetic damage, if there is any, caused by a little extra sucrose is nothing compared with the psychological damage most certainly suffered on such an occasion of celebration. All dietary regimens should be as near to normal as possible and those responsible for them would be wise to remember the words of the Edwardian music hall song, 'a little of wot yer fancy does yer good'. There is, however, the need to stress 'a little' rather than 'wot yer fancy'.

Some extent of discipline is necessary and, if a child is to be proud of his achievements (a possible consolation for a diabetic), he should be encouraged to be in control of his treatment and shoulder his restrictions alone. For his whole family to follow a diabetic diet will, at first, show the understanding and sympathy it merits but, inevitably, it will lead to friction between siblings and possibly parents. Dietary management for the majority of patients is easy to learn and children soon become proficient at swapping portions with a polished dexterity. Managing the insulin, however, requires skill, commonsense and, on occasions, courage for the effects of a low-blood sugar are not always merely frustrating, frequently they are extremely unpleasant and sometimes frightening. It is essential, therefore, that parents and patients are thoroughly informed on the subject of hypoglycaemia and given full instructions on its prevention and cure. The need for diabetics to carry glucose at all times can never be over-stressed. Athletic types are more likely to suffer from a low-blood glucose, but this does not mean that the less active can ignore the possibility of an attack. Carrying glucose is like insuring your property against fire. Disaster befalls you rarely, but wise owners continue to pay their premiums. Hypoglycaemia can strike at any time, even during a meal.

Those instructing diabetics are aware of the more usual 'text book' reasons for a 'hypo' or insulin reaction, such as a delayed meal or participation in active sport, but many do not appreciate the less-obvious causes.

Shopping in town, for whatever reason, drastically reduces the blood sugar. Children should be taught to make the most of this opportunity by taking a break in a cafe and enjoying the cake they miss the most. The carbohydrate consumed will cover the allowed snack, mid-morning or afternoon tea, plus the extra required to replace the metabolized glucose. A trip to the zoo or a country show has a similar 'sugar-lowering' effect.

Activities at home, such as gardening and decorating, all require a boost in blood sugar which can be taken in the form of home-made cake, a bottle of Coca-Cola, sweets, chocolates, etc. The intake of carbohydrate is unknown, but so is the amount of energy expended. The carbohydrate is concentrated but the requirement of glucose is imminent.

Continuous, strenuous exercise such as rambling or skiing will require a constant supply of sugar. When tackling such a sport, a good supply of sweets should be carried so that small amounts of sugar can be taken at frequent intervals. It can be a desperate experience approaching the top of a mountain with a low blood sugar, knowing you still have to come down and only a packet of glucose in your pocket.

The acknowledged factors influencing diabetic balance are insulin, diet and exercise, but equally important and as impossible to control are mood and emotion. Starting school, examinations, finding a job or embarking on a career are just some of the unsettling experiences of childhood and adolescence. Diabetic youngsters are particularly vulnerable at these emotive times, as the accompanying hormonal disturbance and changes in appetite lead to a loss of diabetic control. The hormone adrenaline has a very significant influence on blood sugar as when a person is under stress it mobilizes the liver glycogen and converts it to blood glucose. Though this rise in glucose is slight the diabetic is not equipped to deal with it. This fact is confirmed in the diabetic clinic where, as a result of anxiety and fear, many patients show a higher urine and blood sugar than they would normally experience. The function of adrenaline is complicated and the secretion of the hormone may sometimes produce the opposite effect. If a diabetic experiences a violent rage when the blood has a low sugar content, he is very likely to suffer a strong hypoglycaemic reaction immediately or a few hours later.

Symptoms of hypoglycaemia not only vary from person to person, but vary in the same person and, as life on insulin progresses, new symptoms are experienced. Every member of the medical team knows that glucose is needed to correct a low blood sugar, but a few know how much. A tablet of Dextrosol (glucose) contains only 3 g glucose and at least four tablets should be taken immediately an insulin reaction is felt and, if the symptoms do not subside, more should be taken. Usually four to twelve tablets are required (a cup of Lucozade will have a little faster action). On no account should the glucose taken be calculated or subtracted from the daily carbohydrate allowance. Sometimes patients are reluctant to take glucose

because they feel they may not be experiencing a 'hypo'. It is better to be safe than sorry and, if in doubt, always take glucose. Time should not be wasted doing a urine test, nor should a diabetic wait for the meal to be served.

Symptoms of hypoglycaemia which merit a special mention to the newly-diagnosed diabetic and his parents are bad temper and aggression. These undesirable emotions are virtually impossible to control and should (if possible) be accepted with sympathy, tolerance and understanding as part of the condition.

The thought of having to have an injection every day brings sympathy in plenty from the non-diabetic. Injections are not pleasant, but they soon become commonplace, the occasions when a diabetic needs the sympathy of his non-affected friends are not so obvious.

Urine tests are probably the biggest burden; to be forced always to pass urine according to the clock and the consultant's wishes is a terrible tax to one's freedom. To discuss urine tests with anyone is at least embarrassing and, at most, repugnant to all but the extroverts, and diabetics will welcome the forthcoming introduction of the blood analyser. Blood sugar, after all, is a suitable subject for anyone's tea party!

The freedom of following one's natural appetite is not appreciated until it is abruptly taken away and replaced by a restricting timetable which soon becomes tiresome and tedious. Like the clock which brought about Cinderella's downfall, the timetable, if ignored, can cause unpleasant consequences.

It is not feasible to transfer to the non-diabetic any true experience of an insulin reaction, as it is virtually impossible to give an accurate description of any emotion or feeling. However, it is possible to emphasize some disturbing factors. Everyone at some time must have experienced a dream in which they behaved in a disorientated way. To find on waking it was just a nightmare is quite a relief. A diabetic when hypoglycaemic acts in a similar manner, but when he recovers he realises what took place was actual fact.

Loss of mental co-ordination is especially damaging to one's morale and a diabetic is very much aware that he is not rational. Colleagues who casually call on the diabetic around lunchtime for an intricate discussion may cause him embarrassment if they do not appreciate the situation. Unless he takes special steps to boost his blood sugar the accursed timetable limits him to performing the more demanding tasks to the times when his blood sugar is up rather than down.

Airport delays, motorway breakdowns, snowdrifts isolating homes from civilization or merely the failure of a lift between floors are harassing events for those who encounter them, but for the diabetic, without access to food, they are frightening and possibly dangerous.

Nausea and vomiting are dreadful experiences for anyone, but for the diabetic they are even more abhorrent. As he battles with the loathsome sensation he struggles under the knowledge that he must eat some carbohydrate or he will end up in hospital being fed intravenously. Non-diabetics should appreciate the fact that they can be sick in peace. Illness in any form is a threat to diabetic balance, but if it is necessary to have surgery the diabetic faces even greater risks. Initially

he needs the skilled hands of a surgeon, but equally he requires the experience of a diabetic consultant before, during and after his treatment.

Learning about diabetes is like learning to drive a car. First of all you are taught by an expert and you proceed under his careful supervision. Then, as you gain experience and confidence, you tackle the more difficult manoeuvres until you pass your test and are considered fit to go out alone. Passing the driving test, however, does not make you an expert and a good driver will continue to increase his skill as he gains experience. Similarly with diabetes, the fuller life you lead the greater your knowledge and the easier you handle a given situation. At first you cling rigidly to the rules, as the young driver who changes gear at a stipulated speed, but then in time, like the experienced driver, you know when to change gear by the noise of the engine.