

Case study of type 1 diabetes

Business



Diabetes mellitus (DM) is a multisystem disease with both biochemical and anatomical/structural consequences. (Wolfsdorf et al: 2009) It is a chronic disease of carbohydrate, fat, and protein metabolism caused by the lack of insulin, which results from the marked and progressive inability of the pancreas to secrete insulin because of autoimmune destruction of the beta cells. Type 1 DM can occur at any age. It occurs most commonly in juveniles but can also occur in adults, especially in those in their late 30s and early 40s.

Unlike people with Type 2 DM, those with Type 1 DM are generally not obese and may present initially with diabetic ketoacidosis (DKA). The distinguishing characteristic of a patient with Type 1 DM is that if his or her insulin is withdrawn, ketosis and eventually ketoacidosis develop. Therefore, patients are dependent on exogenous insulin. (Vanelli et al: 2007) Treatment of Type 1 DM in a young child requires a multidisciplinary approach inclusive of doctors, nurses, dieticians, parent/s and others who may have care for the child for periods longer than a few hours; so care and responsibility for Type 1 DM in a child, may also include teachers and extended family etc. (NICE 2004) In patients with new-onset Type 1 diabetes, lifelong insulin therapy must be started. As a chronic disease, Type 1 DM requires long-term medical attention, both to limit the development of its devastating complications and to manage them when they do occur, it is therefore essential that those caring for a child with Type 1 DM have a good working knowledge of the disease, and a practical understanding of how to manage and respond to this disease, if the child is too young to be able to manage this disease for themselves.

(Craig et al: 2007) This case study examines the roles and responsibilities of those adults, who might have some element of accountability for managing and caring for a young child with Type 1 DM. Case Study of V V, a 6 year old female, was taken to the doctor's clinic with an approximate 10 lb. weight loss over the last few weeks; symptoms included nausea, increased thirst and urination. When asked by the doctor, V denied having any abdominal pain. V's father has had Type 1 DM for 14 years and one of V's cousin's was diagnosed with Type 1 DM at age 18 months. As a result of an existing family condition, the doctor tested V for Type 1 DM.

Medical tests confirmed that V was suffering from Type 1 DM. Because Type 1 DM is a catabolic disorder in which circulating insulin is very low or absent, plasma glucagon is elevated, and the pancreatic beta cells fail to respond to all insulin-secretory stimuli. Tests also disclosed that V's pancreas evidenced lymphocytic infiltration and destruction of insulin-secreting cells of the islets of Langerhans, causing insulin deficiency. As a result of the confirmation of Type 1 DM, the doctor administered exogenous insulin to reverse V's catabolic condition, prevent ketosis, decrease hyperglucagonemia, and normalise V's lipid and protein metabolism. Prognosis for V. Whilst the family have an above average comprehension of the difficulties that V will experience for the rest of her life, despite their own experiences and knowledge, the doctor still had a duty of care to outline to V's parents how he intended to advise and support V.

This is in keeping with best clinical practice, because every case of Type 1 DM has to be managed on an individual basis, according to the National Institute for Health and Clinical Excellence. NICE 2004) NICE guidelines also <https://assignbuster.com/case-study-of-type-1-diabetes/>

recommend that children and young people with Type 1 DM should be offered an on-going integrated package of care, by a multidisciplinary paediatric diabetes care team. The reasons for this are to optimise the efficacy of care and to reduce the risk of difficulties or complications that a child might experience, as a result of this disease. NICE also recommend that the care team should include members with appropriate training in clinical, educational, dietetic, lifestyle, mental health and foot care aspects of diabetes for children and young people. Due to distance, as well as parental knowledge, the doctor advised that he thought it would be more practical for V to receive home based treatment and management, and arranged for the specialist diabetic nurse (SDN) within the practice to schedule home visits.

Medical tests for V were also organised to be held at the clinic, initially on a monthly basis, so that a professional monitoring of V's condition could take place, as well as providing a forum for oversight and support, in respect of any family concerns that might arise as a result of V's disease. Clinical/homecare of V by specialist diabetic nurse. Outside of her responsibility for scheduling home visits, the SDN organised for the clinic's dietician to accompany her on V's home visits for a three month period, to assess V's progress and to formulate a dietary plan that provides V and her parents with all the necessary dietary information, to sustain and manage V's disease, whilst providing a best outcomes scenario for V. Diet is an exceptionally important factor when managing Type 1 DM because the NICE target for long-term glycaemic control is an HbA1c level of less than 7.5% without frequent disabling hypoglycaemia, therefore, V's care package should be designed to attempt to achieve this. V will have a greater chance

of keeping within desired levels if her diet is coordinated with her insulin management; consequently it is essential that a specialist diet is created that will account for the individual needs of V, to accomplish this.

Lawrence 2005) V's parents will also require additional understanding in respect of their daughter's dietary considerations, as they will have to cater to their daughter's dietary needs for the foreseeable future, and these will differ to those of her father. The SDN has also arranged for the other specialists within her clinical team to arrange to visit V's home or to attend to V on clinical visits, resulting in compliance with the current NICE guidelines. The SDN has also contacted V's school, and arranged to assess the schools ability to respond to the management of V's disease. Whilst the school nurse may have some training in managing Type 1 DM, there are likely to be occasions when they are not available to provide the necessary support, therefore it is essential that the school has an alternative/s to the school nurse, who also have the necessary training to be able to deal with V's disease. The SDN's assessment may result in training being provided to a number of other school staff, to offset the potential for the school nurse not being available, and this is also in keeping with best care outcomes.

Although type 1 diabetes is a medical condition, it has a direct impact on cognitive functions when the blood sugar levels are out of range.

This means that children at school need access to their medication, insulin, and blood glucose testing equipment, in order to control this serious medical condition. Young children need help with injections, blood tests and interpretation of the results. All children will need help to monitor hypoglycaemia and moderate or severe episodes will be likely to need

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treating by a third party, especially if a child is young. High blood sugar effects the concentration levels significantly and is very harmful to the health of the child. In the short term high blood sugar causes frequent urination, blurred vision and difficulty concentrating and can make children feel very unwell.

High blood sugar is extremely harmful to the cells in the body, particularly those of the eyes, kidneys, circulatory system and nerves. Not treating high blood glucose levels can eventually lead to a condition called ketoacidosis, which, if not treated can be fatal. Hypoglycaemic episodes can occur despite best care practice, and it is therefore essential that an alternative trained school staff member is available within school hours; to respond to a hypoglycaemic episode, should one occur. This training is essential, because on rare occasions, a child with hypoglycaemic coma may not recover within 10 minutes, despite appropriate therapy. It has been advised that under no circumstances should further treatment be given, especially intravenous glucose, until the blood glucose level is checked and still found to be subnormal, without specialist training, overtreatment might occur.

Overtreatment of hypoglycaemia can lead to cerebral edema and death. (Craig et al: 2009) Another concern for the SDN is likely to be the fact that Type 1 DM is not a stated concern within schools. Because Type 1 DM is as disease, there is no provision within education, to treat a child with this disease under any educational ' Special Needs' criteria. Nonetheless, a child with Type 1 DM is likely to suffer from educational deprivation, as they will require attention by the school nurse, lasting approximately 20 minutes per session, twice daily, five a days a week, resulting in 3. 35 hours of lost

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education weekly, and this could be more, if the needs of V require more than two interventions a day within school hours. Since there is no funding in place for extra support, whether this be for children needing general supervision with snacks and blood tests, for help to administer injections or for an extra trained staff member, to ensure safety on a school trip etc.

, whilst most parents do not consider their child with diabetes, to be disabled, or to have “ learning difficulties” as such, all children diagnosed with diabetes should be considered under the Code of Practice (DfES 2001) as having SENs due to their medical needs. The Code of Practice acknowledges a relationship between a child’s medical status and educational needs, at paragraph 7. 65, it says that: “ Medical conditions may have a significant impact on a child’s experiences and the way they function at school. The impact may be direct in that the condition may affect cognitive or physical abilities, behaviour or emotional state. The impact may also be indirect, perhaps disrupting access to education through unwanted effects of treatments or through the psychological effects that serious or chronic illness or disability can have on a child and their family. Type 1 diabetes, and its treatment, has a substantial effect on a child’s health and education because of the wide-ranging impact on the ability to learn and upon cognitive functions.

It is vital for schools to fully understand diabetes and how best to support a child with this medical condition in order for the child to access the full curriculum. Discussion with the parents and the school is therefore advisable, so that V is not marginalised educationally as a result of her disease. Parental role and responsibilities Provided the correct support and

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information is given to the parents, V's disease can be regulated and managed appropriately to achieve best outcomes. Nonetheless, as V gets older, it is likely that she will want to manage her own medication and she should be taught and encouraged to do so. This training falls primarily within the role and responsibility of the parents, and they are likely to be the people who will provide V with the correct training, as well as the dietary information that V will require to enable and empower her to manage her disease.

Appropriate exercise, coupled to a healthy diet can minimise the impact that V will experience as a result of her condition. It is also the responsibility of the parents to ensure that V attends the clinic at the arranged times, and that she is encouraged to participate as fully as she is able in all of the schools curricula and non-curricular activities. Other social aspects of V's life must also be considered and addressed. For normalisation to occur, (Osburn 2006) V must be encouraged to view her disease in the most productive manner. Others must also be encouraged to view V's disease in a way that does not lead to V's friends and other social relationships, treating V as anything other than a normal child.

Other parents should be encouraged to invite V to their children's birthday parties, without becoming concerned that V might become hypoglycaemic if she has a slice of birthday cake. Conclusion As evidenced in this case study, as identified by NICE, it is important to have a multidisciplinary approach to the care and management of Type 1 DM. If the appropriate care package is provided for V, her condition need not become a life burdening millstone around her neck, and V can look forward to having a quality of life that is on <https://assignbuster.com/case-study-of-type-1-diabetes/>

Parr with other people who do not have a disability or disease. Whilst the prognosis for V is dependent upon other factors outside of her control, provided her parents, as well as those professionals who are involved with the well-being of V, contribute to a best outcomes approach, then hypoglycaemic episodes in V's life will be greatly reduced, as a consequence of their input. Word count 2166 References Craig ME, Wong CH, Alexander J, Maguire AM, Silink M.

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