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Inclusion of Children with Diabetes Mellitus in Czech Schools

PAVLA KUDLOVÁ, HELENA SKARUPSKÁ

Abstract: ***Main topic*** *– To inform teachers of the issue of children suffering from diabetes mellitus (hereinafter DM), and draw attention to the issue of the inclusion of these children within the Czech school system.*

Sequence of interpretation *– In the first section of the article, we want to focus on describing the disease and its specific features for school-age children. We also want to look at the biopsychosocial aspect of the disease, which is significantly affected not just by the child's success in the education process, but also by his or her socialisation and enculturation.*

Conclusions *– Around 4000 children live with DM in the Czech Republic. The task of the school, besides educating its pupils, is also to provide support and secure their health and safety. It is often the case that employees are not given due training with regard to "standard" and "crisis" care for children with DM, and in practice they do not know what to do. This paper aims to inform professional teachers of the biopsychosocial aspect of DM, which is significantly affected not just by the child's success within the education process, but also by his or her socialisation and enculturation. The conclusion of the article focuses on providing information to teachers and tutors on how to work with and support children with DM in learning and inclusion in class and school life.*

Keywords: *child, diabetes mellitus, inclusion, support measures*

INTRODUCTION

Diabetes mellitus (DM) is one of the most common severe chronic diseases of childhood. It comprises a heterogeneous group of diseases of varying aetiology whose common denominator is hyperglycaemia (an increased blood glucose level) (Kudlová, 2015, p. 31).

The one that is most common amongst children is DM type 1, comprising around 95% of cases (Šumník, 2014). DM type 2 currently comprises only around 1% of cases (excluding the USA and certain ethnicities), specifically amongst adolescents with obesity and metabolic syndrome on the basis of insulin resistance (ADA, 2020a; Šumník, 2014; Šumník, Průhová, & Cinek, 2016; Petruzelkova et al., 2015).

According to the Institute of Health Information and Statistics of the Czech Republic (Ústav zdravotnických informací

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a statistiky České republiky), in recent years the incidence of DM type 1 amongst children has been rising. In 2010, a total of 3016 children aged from six to 18 years were being treated for DM type 1, while by 2016 3652 such children were being treated, with the disease slightly more prevalent amongst boys than amongst girls (by 196 cases) (Request no. 017/2019-ÚZIS). 166 children were found to have diabetic complications – so-called diabetic nephropathy, which is the primary cause of terminal renal failure. Only 310 cases of DM type 2 were found amongst children in 2017. With the rise in obesity rates (every fifth child aged from five to 18 years is overweight or obese) amongst our child population, one can expect its occurrence to increase, in particular as a result of the Covid pandemic and the related restrictions on movement, education, and leisure activities. According to Tarant (2012, pp. 417–419), complications develop more frequently and rapidly amongst these children compared to children with DM type 1 and individuals who began suffering from DM after the age of 45 years.

Although the treatment of DM has changed significantly in the last ten years as a result of implementing modern technologies into everyday practice, the disease is still an incurable one, and can even be fatal if the treatment regimen is not observed. Only through high-quality blood glucose monitoring and responding immediately to blood glucose level fluctuations (through food, insulin application, or exercise) can we prevent severe acute DM complications (e.g. ketoacidosis), or limit or postpone late DM complications which can even result in death. We must realise that there is probably no other disease for which the treatment regimen is such a fundamental and crucial pillar.

The management of DM requires a large amount of internal discipline and subjecting one's life to certain rules. This complicated daily regimen has a major impact on the child's development. Besides the necessity of coping with their disease, the child must also deal with the common problems of childhood and adolescence, managing their DM regimen within the school environment. During school age, the dietary restrictions placed on children with DM are frustrating and socially stigmatising. Their dietary regimen marks them out as different from their peers. Another obstacle to children observing their meal plan may be difficulties in structuring it around school activities. The necessity of blood glucose checks, insulin application, and of observing other regimen measures also emphasises their difference, making such children less acceptable for their peers.

Long-term disease, which includes diabetes mellitus (DM), in various forms and to varying degrees, affects the daily activities and opportunities for an individual in the context of his or her personal wellbeing, and this also has an impact on their quality of life and relationships with the social group around them. Besides the requirement to adapt to the changed or new conditions caused by DM, living with DM also leads to a number of negative factors and experiences (pain, fatigue, exhaustion, etc.), while the presence of DM and its management can represent a substantial and significant stressor for children, their parents, and those around them. Decompensated DM can affect the mental state and behaviour of the child, disrupting their normal way of life and activities and resulting in new needs being created. The impact of DM can also be seen with regard to adaptation to the school environment and requirements essential for an effective educational process for pupils with DM. Furthermore, pupils with DM may exhibit specific personality traits such as suggestibility, egocentrism, hypersensitivity, etc, which can mutually influence and even potentiate each other (Zacharová, 2017; Jedlička, 2017; Gillernová et al., 2011; Křivohlavý, 2002), creating particular obstacles to effective disease management and representing a challenge for the child's (pupil's) surroundings, including the family and school environment. The child him- or herself, and also his or her siblings or peers (classmates), may perceive particular differing demands, non-homogeneous relationships, and other attributes arising from the specificities of DM, and they are often able to process these well cognitively, but not emotionally (Čermáková & Neugebauerová, 2001). The impact of these aspects affects the quality of life of children with DM; studies demonstrate a decreasing quality of life with increasing age, in particular for girls (Currie et al., 2008; Mareš et al., 2006).

How is the school system set up to assist in the inclusion of children who suffer somatic disease? Is the school capable of nurturing children with diabetes so that they can reach their full potential?

MEDICAL AND NURSING ASPECT

The classic symptoms of DM type 1 are frequent urination, feeling tired, night-time sweating, weight loss, mental changes, and stomach pains (development of diabetic ketoacidosis – DKA). Increased water loss leads to dehydration and thirst. If this condition is not treated (compensated for) in time, it can lead to loss of consciousness and subsequent coma, known as a hyperglycaemic coma. Any hesitation in observing the treatment regimen may be life-threatening for the diabetic, or result in life-long consequences (Škvor, 2011, p. 35). For type 2 diabetes, symptoms are more gradual, with DM type 2 often only diagnosed when late complications are manifested (wounds which are not healing, urovaginal infection, vision decline, etc.).

The treatment of children with DM is difficult and specific. Children with DM type 1 are dependent on the lifelong exogenous administration of insulin (Kudlová, 2015; ADA, 2020a). There have been major changes in the treatment of DM type 1 in recent years. The range and accessibility of insulin analogues have increased. Continuous glucose monitors (CGMs) have also undergone rapid development, and these can now be used to monitor the dynamics of one's own blood glucose level in real time. A sensor is inserted subcutaneously using special equipment at a site usually used for injecting insulin, or for the insulin infusion set. The actual application of insulin is also increasingly more comfortable. The insulin is applied subcutaneously using thin and short needles (insulin dosers/pens) or cannulas (insulin pumps) (Kudlová, 2015; ADA, 2020a). Modern insulin pumps are able to adjust insulin doses on the basis of data obtained from the CGM, thus preventing hypo- and hyperglycaemia (Szypowska et al., 2012; Šumník et al., 2019). The content of education has also changed and expanded. In educating parents and any older children with DM type 1, particular emphasis is placed on understanding the technology used, on grasping the principles of diabetic treatment, and on the ability to adjust treatment to an individual daily routine. One of the essential skills a type 1 diabetic needs is being able to count grams of carbohydrate in food, generally through the use of a mobile app or printed guide. Patients treated with a CGM are educated in the basic rules for evaluating the graphs produced by the sensor so that they are able to assess and adjust their treatment during periods between outpatient check-ups. Other educational topics are based on the patient's lifestyle and individual needs. Online sources are an increasing component of education. Educational videos produced by diabetes centres or technology companies are available online, alongside other online educational materials. Patients are also getting increasingly more information from social networks (Prázný et al., 2019).

Metformin in high dosages appears to be most effective in the treatment of DM type 2, and where there is an insufficient response, or where metformin is not tolerated or is contraindicated, the second or third step of DM type 2 treatment is initiated, in which another combination of medicines is selected on a highly individual basis in accordance with a number of criteria, or else insulin treatment is started (Inzucchi & Matthews, 2015; Flekač, 2017; Šumník, 2014; Škrha et al., 2020). Other DM type 2 treatment activities for children and adolescents include blood glucose self-monitoring, the implementation of regular physical activities (30-60 minutes per day), reducing their carbohydrate intake, and reducing the overall energy intake in the diet. Each more complex situation (e.g. the child vomiting, or intercurrent illness) leads to diabetes decompensation, which can result in hospitalisation. The symptoms of hypoglycaemia/hyperglycaemia also need to be dealt with in a suitable manner (Škvor, 2011, p. 35).

Most children are able to perform insulin injection independently from eight to ten years of age, but this should be done under the supervision of an adult who should check the right dose of insulin is being used. Today, children with DM can eat almost everything, although the amount of food must be regulated, and there should not just be a focus on carbohydrates. There must be secured continuity between blood glucose self-monitoring, insulin application, and food consumption (self-management) in order to prevent blood glucose fluctuations. Older children are encouraged to cooperate actively, taking on greater responsibility for their health and other areas (Kudlová, 2015; Jirkovská & Kvapil, 2012; Venháčová, 2012; Škvor, 2011). Nevertheless, a very important role is still played by the education of the child, their loved ones, comorbidity therapy (concomitant illnesses), and mental wellbeing within the family (Lebl et al., 2018). The objectives of DM treatment of children should be realistic and respect the age of the child, the psychosocial environment, and the compliance of the child and his or her family (ADA, 2020b; IDF/ISPAD, 2011).

Psychosocial aspect

As an illness, DM can affect not just the physical aspect of the pupil's personality, but also the mental aspect, and this may express itself in various ways during teaching (e.g. fatigue, emotional lability, hyperactivity). Fluctuations in health and frequent hospitalisation represent adverse phenomena. Long-term DM may lead to difficulties with learning and behaviour, and this needs to be taken account of in education. The child may undergo periods of crisis or sorrow, which have a negative impact on his or her ability to concentrate and remember things. Severe and repeated hypoglycaemia may have a slightly negative impact on diabetic children's behaviour in certain areas of cognitive function, in particular with regard to intelligence, memory, learning, and verbal skills (Perušičová & Mohr, 2013, p. 86).

Some children with neonatal diabetes (NDM) experience severe neurological symptoms (delayed psychomotor development, epilepsy). This condition is referred to as DEND syndrome (Developmental delay – Epilepsy – Neonatal Diabetes syndrome) (Gloyn et al., 2004). In their study conducted on 51 children with the onset of early diabetes, Hannonen et al. (2010, pp. e143–e147) come to the conclusion that in their early school years these children are susceptible to minor learning difficulties as a result of insufficient phonological processing. By contrast, in their study of Danish schoolchildren Skipper et al. (2019, pp. 484–492) did not ascertain any significant difference in tests of mathematics and reading between children with DMT1 and healthy children.

A study entitled "Cognitive function following diabetic ketoacidosis in children with new-onset or previously diagnosed type 1 diabetes" (Ghetti et al., 2020) assessed whether one episode of diabetic ketoacidosis (DKA) was related to cognitive decline for children with newly diagnosed type 1 diabetes. The study investigated 758 children, for whom it was ascertained that medium to severe DKA had an impact on their intelligence quotient in terms of a fall in its value, alongside a slight decline in memory function.

Diabetic ketoacidosis and chronic hyperglycaemia appear to be more harmful than has previously been assumed, while a history of severe hypoglycaemia is perhaps less harmful. Neurocognitive deficits are manifested in a number of cognitive domains, including executive function and the speed of information processing. This is noted in a study by Cameron, Northam, and Ryan (2019).

A study by the Finnish authors Muukkonen et al. (2019) also confirms that children with persistent congenital hyperinsulinism demonstrate deficits in attention, memory, sight, and sensorimotor functions.

What do these studies suggest? These studies, undertaken in different parts of the world, clearly demonstrate that regardless of cultural or social aspects, children with DM may have fluctuations in cognition, IQ, memory, and attention.

DM treatment alone acts as a strong stressor which the ill child and his or her loved ones must deal with in some way. It affects the child's mental state (such children are often found to suffer from mood disorders and anxiety disorders). It disrupts his or her usual way of life, changes former daily routines, and restricts the child in his or her customary habits. It results in many needs not being satisfied. Over the course of the disease, particular personality traits may occur (suggestibility, egocentrism, sensitivity, etc.) which may interact or boost each other (Zacharová, 2017; Jedlička, 2017; Gillernová et al., 2011; Křivohlavý, 2002).

The child's chronic disease is influenced by his or her previous lifestyle and the functioning of the family, the nature of partnership and sibling relationships, and relationships with the extended family and with those around.

The immediate environment can refer to a specific individual with whom the family is most often in contact. This may be a medical employee (doctors, nurses, nutritional therapists), close family members, extended family members, friends, neighbours, and, last but not least, teachers and tutors at school, after-school classes, and clubs. Understanding the family's immediate environment and the provision of support from those close to it may help to avoid various pathologies within the family.

From a psychosocial perspective, studies in families are most often focused on diabetes and the period of adolescence. During this period, treatment complications occur, linked to a growing need for autonomy and the child's resistance towards his or her parents, amongst other matters (Říčan, Krejčířová et al., 2011; Lebl et al., 2018). The adolescent feels attacked by his or her parents' control over treatment, and feels control as an intervention in the process of shaping his or her personal identity (Fendrychová, Klimovič et al., 2018), and this may instead become projected as a backlash against the disease and its treatment, leading to many medical complications, including life-threatening ones (Lebl et al., 2018). In contrast, the period of early school age has only been marginally investigated. However, this age is crucial for shaping the child's approach to his or her diabetes and for the future positive course of treatment. During this period, it is the primary carer who has the main responsibility for diabetes compensation.

The primary carer (often the mother) progressively passes on the required knowledge and skills to the child during this period in accordance with his or her age and understanding, and trains the child's joint responsibility in treatment (Lebl et al., 2018). The primary carer also projects his or her perspective on the disease onto the child of early school age and functions as a model for responsibility and approach to the treatment regimen (Rubin, Young-Hyman, & Peyrot, 1989). The carer's approach immediately influences the child's perception and acceptance of the disease, shaping his or her approach to measures which are essential to preserve the child's health and life (Vágnerová, 2014; Zacharová, 2017).

Chronic disease represents one of life's greatest stresses. The processing of this stress occurs in phases which have specific courses and lengths according to the individual (Slowík, 2016). Sickness changes the social position of the ill pupil (within his or her group of classmates, with friends, and also within the family). Roles and relationships (sibling, partner) in the family and relationships with the extended family and those around also change. The previous lifestyle of the family and its values and standards also change. The child him- or herself, but also his or her siblings and peers (classmates), may perceive particular differing demands, non-homogeneous relationships, and other attributes arising from specific features of DM, and they are often able to process these well cognitively, but not emotionally (Čermáková & Neugebauerová, 2001). The impact of these aspects affects the quality of life of children with DM; studies demonstrate a decreasing quality of life with increasing age, in particular for girls (Currie et al., 2008).

For parents, the child's illness is an extremely stressful situation. Overall fatigue rises for all family members, and feelings of depression increase (Křivohlavý, 2002, p. 134). The child's disease may have a positive or negative impact on relationships and the functioning of the entire family (Kukla et al., 2016). The perceived level of social support can serve to increase personal effectiveness. This then boosts one's individual repertoire for managing difficulties in life (Pierce, Sarason, & Sarason, cit. by Křivohlavý, 2009, p. 93). The way in which the parents manage the stress and how they respond to it also jointly determine how great a burden the disease will be for the child. A functioning family plays an important role in everyone's life. If there are problems within the family, such as in dealing with the child's frequent illness, and these accumulate over time so that the family no longer performs its core function, help must be provided to these families, with a focus on eliminating the risk to the child and his or her successful development (Elišková, 2008, pp. 139–148). A study by Fox et al. (2020) identified possible new links between the characteristics of the patient and family and family conflict relating to diabetes. Conflict between the carer (their education) and child relating to diabetes was linked to a poorer quality of life, reduced adherence to treatment, and higher haemoglobin A1C.

EDUCATIONAL ASPECT

Although there are studies focused on determining effective school interventions to improve the health, quality of life, and educational performance of children with DM, their results are not convincing. Experimental proposals, longer follow-up studies, large sample sizes, and a higher number of schools involved would help to overcome some of the fundamental problems of these previous studies.

In 2015, one of the most recent review studies was undertaken, focusing on ascertaining which school interventions had been implemented since the year 2000 in relation to the inclusion of pupils with DM (Pansier & Schulz, 2015). This literature review demonstrated an increase in school interventions since 2005 for children with DM. Studies undertaken up until 2006 were largely focused on resolving the lack of informed and trained staff at schools, their limited knowledge and their erroneous ideas about DM, and increasing their level of knowledge and self-confidence. Since 2005, there have been studies focused on integrating children with DM through support for better care co-ordination, cooperation between all care providers, and securing a safe school environment. These studies also measured levels of what is called glycated haemoglobin (Hba1c), which indicates the long-term average blood glucose concentration, and they also measured the quality of life of pupils/students. Tests undertaken before and after the chosen intervention demonstrated a significant improvement for the diabetic children. This systematic literature review does not, however, give any definitive instructions for optimal school interventions for pupils with DM because of the marked heterogeneity of the evaluation tools used, and limited assessments in some cases. It does show, however, that increasing efforts are being made, and it provides evidence which can be made use of to develop future school interventions. The studies also demonstrate the great usefulness of school nurses. Nevertheless, these studies do need to continue. Only then can a safe school environment be supported, and can we ensure that children with DM have the same educational opportunities as other children around the world (Pansier & Schulz, 2015).

Compulsory school attendance is defined in the Education Act, Decree no. 561/2004 Coll., as amended (hereinafter the “Education Act”). The Education Act (section 2 para. 1a) guarantees **equal access to education** without any discrimination to all citizens, and this expressly includes for reasons of the citizen’s health. The management and organisation of basic education falls within the responsibility of the Ministry of Education, Youth, and Sports (Ministerstvo školství, mládeže a tělovýchovy) of the Czech Republic. A crucial document regarding the implementation of education is the Framework Educational Programme. According to Section 16 of the Education Act, a child with DM is included within the group of pupils/students with special educational needs. The rules for educating children, pupils, and students with special educational needs and educating pupils as given in Section 16 para. 9 of the Act and the education of gifted children are governed by Decree no. 27/2016 Coll., as amended. Support measures are provided independently or in combinations of different types and levels in accordance with the pupil's ascertained special educational needs. Support is specified according to requirements for the support of pedagogical work with the pupil during lessons, for support of movement, moving within the premises, communication, and self-care.

Data on the child/pupil's disadvantage and data on medical fitness for education and health problems which may have an impact on the course of education are a component of the school's documents (the School Register) in accordance with section 28 para. 2f of the Education Act. Legal guardians are obliged to inform the school of any changes to their child's medical fitness or of any health problems or any other serious circumstances which may influence the course of education and which could prevent the pupil from attending school or from attending events organised by the school. According to section 29 para. 2, schools and school facilities are required to ensure the health and safety of pupils during their education. If a child suffers from a disease which is required to be taken account of in education (e.g. DM), then according to the Education Act and the Labour Code it is within the school principal's authority to impose on school employees the duty to provide special care for the ill child. No legislative measure, however, gives a precise description of how and to what extent the school and its employees should secure such special care and thus meet the specific needs of children with DM. The school and teachers should be familiar with the basic principles and regimen measures for pupils with DM, its particular features, and the first aid which accompanies the child. They should be able to recognise the symptoms of hypo- and hyper-glycaemia incidents and be able to provide adequate help to the diabetic child, and only in this way will pupils with DM be able to complete their school attendance without serious complications. Besides educating its pupils, it is also the task of the school to provide them with support and secure their health and safety. Adhering to the medication prescribed by the doctor is essential for a child with DM's positive development. Non-application of medicines (in this case insulin) could lead to severe medical problems, and even to the death of the child.

Teaching staff are not banned from giving medicine to children, but neither is it an obligation for them unless the child is at risk of severe harm to his or her health. According to section 9 para. 4b of Act no. 20/1966 Coll., on the Care of People's Health, as amended, all persons are required to provide or secure essential help to anyone who is in mortal danger or who shows signs of a severe health impairment. Thus, at the current time it is up to the decision of school management whether to allow the administration of medicine to children, or whether cooperation can be established with external service providers. Measures are indicated for physical disabilities and health issues (section 9 of Decree no. 27/2016 Coll.). With regard to DM, these in particular involve securing the essential application of prescribed medication (insulin), which is facilitated by an inclusive environment which does not exclude the pupil from the group.

Many measures have already been implemented within schools, while others have not been enshrined in law (e.g. the application of medicines). According to Lebl et al. (2018), it should be the shared objective of all those involved in the care, education, and treatment of children with DM to ensure that the child grows up as a well-balanced individual and that they should be handicapped as little as possible amongst their fellow-pupils.

Within the Czech school system, inclusion is set up in a very general way. It generally focuses on disease which is visible and obvious for those around the child. For most children with chronic autoimmune diseases, their disease is not externally visible, and yet their life is at risk if treatment and care are neglected. Since at times the pupil appears entirely healthy and on other days they are inattentive, not very active, and tired, and thus their school results fluctuate greatly, teachers have a tendency to underestimate the disease. Teachers must be made aware that a pupil with DM may have fluctuating results in all cognitive function components, there may be fluctuations in IQ, and the child may have problems with attention and information processing speed. One day the child may be quick, attentive, and perceptive, while the next day may see a huge decline, with the child unfocused, with things he or she knows causing great problems, and everything taking much longer.

It is therefore important that the teacher should respect the circumstances of each of the ill pupil's school performances and approach them from a comprehensive perspective. This means that they should not assess only the quality or extent of a task that is fulfilled, but they should also pedagogically direct and assess the pupil in line with their current health and individual needs (Fischer & Škoda, 2008).

Although according to Section 16 of the Education Act, the education system does not look at the pupil in terms of type of disability or disadvantage, but rather in terms of level of need for support measures, the teacher should be aware of the following facts when working with a pupil suffering from DM:

- a pupil with DM may demonstrate fluctuating performances in all components of cognitive functions;

- a pupil with DM may demonstrate fluctuations in IQ;
- a pupil with DM may have problems with attention and speed of information processing (i.e. they may be quick, attentive, and perceptive one day, with a rapid decline the following day, with the pupil unfocused on things he or she knows and this causing great problems, and everything taking much longer). The teacher must be able to differentiate between when the child is acting in this way because of disease, and when it may just be a cover when he or she does not want to do anything. The teacher must be patient, willing to work with differences, and in particular feel a continuous need for self-education. They need to be able to exploit the latest findings in didactics and know how to apply them to pupils with various types of specific needs.

SOME ADVICE AND PRINCIPLES FOR TEACHERS AND TUTORS DESIGNED TO SUPPORT CHILDREN WITH DM IN LEARNING AND INTEGRATION INTO CLASS AND SCHOOL LIFE

It is very important for the teacher to understand the nature of the disease, its course, possible risks, and its treatment and impacts on the pupil's school performance. The Catalogue of Support Measures (Michalík et al., 2015) lists a number of principles which a teacher should follow when teaching a pupil with diabetes:

- the teacher should recognise a state of hypoglycaemia and be able to intervene;
- the teacher should allow an immediate interruption of activities and provide the opportunity to eat or drink immediately for a pupil who does not feel well, to enable their blood glucose level to go back to normal;
- the teacher should always carry a source of sugar (ideally a sachet of sugar in his or her pocket);
- the teacher should treat the pupil like the other intact pupils in the class and should plan events in such a way that pupils with diabetes can also take part;
- the teacher should allow pupils to administer treatment in the school, always upon consultation with parents.

The child/pupil with DM must also comply with certain specific requirements and approaches in education. A quiet place must be found and secured where the child can perform insulin injections, since it is a daily activity and the child should not be stressed about doing it. It is very important for them to observe their diet and time between injections and serving of food and to calculate the correct dosage of food and insulin. Consultation between parents and teachers and other school employees, in particular the school kitchen staff in connection with the setting up of a diabetic menu, should also be a matter of course. Diabetics can eat all ingredients, but it is still very important to monitor amounts and sugar levels within the food. Pupils with DM need not be excused from taking part in physical education classes, and they can exercise alongside the other children. However, high levels of physical exercise lead to a fall in glucose levels in the blood. Thus, if required the pupil should always have something sweet available to them to balance their glucose level and prevent hypoglycaemia. Problems may occur when there are day-long or multiple-day trips (e.g. school trips, ski courses, field trips). For smaller children, the presence of parents is important and it is therefore appropriate for parents to go as assisting staff so that the child need not feel excluded from the group because of their disease. When they are older, children become self-sufficient and parental involvement is not necessary even for longer school trips (Červinková, 2014). For the pupil, it is very important that they take part in shared activities and do not feel excluded from the group. Because of frequent absence, mainly as a result of frequent hospitalisation (especially when DM is diagnosed during the age of school attendance, when treatment must be set up and the pupil must be educated in the treatment regimen), it is harder for these children to establish, maintain, and strengthen relationships within the class. Here, the teacher plays an indispensable role in offering support and mediation, in being a communicator and counsellor. The teacher should endeavour to strengthen relationships within the group and inform the class of the particular disease and related aspects, in particular regarding acute complications (hypo-/hyper-glycaemia) and how to respond to these appropriately. The teacher should also focus on topics such as tolerance (applying insulin and measuring blood glucose), feeling a sense of belonging and being willing to help (see e.g. the Catalogue of Support Measures, 2015). It is very important to establish friendships with other classmates, and it is therefore a good idea for classmates to be informed of the pupil's condition by the teacher, and that they know that through acting appropriately they can help the ill child to integrate into the group within the classroom. The core objective is to include the pupil in shared activities, but even during activities which the pupil cannot do the pupil need not be isolated from the group. The pupil can, for example, actively follow the class's work and so be of benefit not just for him- or herself, but also for his or her classmates. In situations where the chronically ill pupil has frequent long-term absences from the school, an individual education plan needs to be drawn up so that requirements for the pupil's current needs can be met.

CONCLUSION

Although DM treatment has undergone significant transformation over the past ten years, it remains very challenging. It places great demands on understanding and observing the treatment regimen and the mastery of modern technologies. It puts stress not just on the child but also those around him or her. Decompensated DM can also affect the child's mental state and behaviour, disrupting his or her normal way of life, activities, and quality of life. The impact of DM can also be seen with regard to adaptation to the school environment and requirements essential for an effective educational process for pupils with DM. Support from educational and medical institutions which works is an important protective factor which helps to achieve a comparable quality of life for the family to before the illness. It is our conviction that the information provided here can help teachers and tutors who work with diabetic children to promote activities focused on supporting children with DM in teaching and integrate them into class and school life.

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Pavla Kudlová
Department of Health Care Sciences, Faculty of Humanities, Tomas Bata University in Zlín, Czech Republic; email: kudlova@utb.cz

Helena Skarupská
Department of Pedagogical Sciences, Faculty of Humanities, Tomas Bata University in Zlín, Czech Republic; email: skarupska@utb.cz

KUDLOVÁ, P., SKARUPSKÁ, H. Inkluze dětí s diabetes mellitus v českých školách

Hlavní cílem *článku je informovat učitele o problematice dětí s diabetes mellitus (dále jen „DM“) a upozornit na problematiku začleňování těchto dětí do českého školského systému.*

Postupnost interpretace: *V první části článku se chceme soustředit na popis a specifika tohoto onemocnění u dětí školního věku. Dále se chceme zabývat biopsychosociální stránkou tohoto onemocnění, která výrazně ovlivňuje nejen úspěšnost dítěte ve výchovně-vzdělávacím procesu, ale také v jeho socializaci a enkulturaci.*

Závěr: *V České republice žije přibližně 4000 dětí s diabetes mellitus. Úkolem školy je kromě vzdělávání těchto žáků také poskytovat jim podporu a zajistit jejich zdraví a bezpečnost. Často se stává, že zaměstnanci nejsou řádně proškoleni v oblasti „standardní“ a „krizové“ péče o děti s DM a v praxi nevědí, co mají dělat. Předkládaná práce si klade za cíl informovat profesionální učitele o biopsychosociálním aspektu DM nemoci, která je významně ovlivněna nejen úspěchem dítěte v procesu vzdělávání, ale také jeho socializací a enkulturací. Závěr článku se soustředí na poskytnutí informací pedagogům a vychovatelům, jak pracovat a podporovat dítě s DM v učení a v začlenění do života třídy a školy.*

Klíčová slova: *dítě, diabetes mellitus, inkluze, podpůrná opatření*