



Mishti Guardian

(A CDiC Initiative to Empower the Parents and Families of Children with Type 1 Diabetes)

Issue VI, August 2018

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Dear Guardians,

The Mishti Guardian newsletter is a medium of connect amongst the caretakers of children with type 1 diabetes, diabetes educators and doctors. This is a special issue as many of the young children with type 1 diabetes with whom we are associated for the past six years have now grown up and entered college. We look forward to seeing these young adults starting independent lives in the coming years. This is a marker of the length of our association and it gives us great pride to see our children coming up in life successfully.

There is no doubt that all children with type 1 diabetes have amazing courage to deal with this chronic disease. We urge you to help them inculcate responsibility as well, which is essential for their future independence and growth. It will also help them in better management of diabetes in the long run.

In this issue, continuing our journey of strengthening diabetes education, we have an interesting article on

the "Management of diabetes in adolescents" by Dr Archana Sarada, which gives insights into how responsibility and independence need to come together for better management. Re-emphasizing the importance of love, laughter and hope, we have an enriching article by Dr Srikanta and team which shows why a holistic approach is essential while dealing with children with type 1 diabetes. We get an inspiring view of life with type 1 diabetes through a story from the KIDS CDiC center by Dr Alok Kanungo. Along with this we have an informative article by Dr Vijay Viswanathan on preventing foot complications.

Thank you very much for your support and commitment. We look forward to your valuable feedback and suggestions. Remember, this is your magazine, so please do send in your comments and contributions at cdicindia@novonordisk.com

With lots of best wishes.

Editorial Team



Management of Diabetes in Adolescents

– Dr Archana Sarda

As a child grows into adolescence, he or she usually attains a degree of independence and responsibility, begins to have an awareness of the future and wants to take his or her own decisions. Independence, self-esteem and a bright future are key concerns for both children and parents at this stage.

Management of type 1 diabetes during adolescence

So what is the impact of diabetes at this emotionally vulnerable age? Whether it is a child who has lived with type 1 diabetes for several years, or a recently diagnosed one, the impact of the disease seems to be much more on this group. It is difficult to manage diabetes in adolescents partly because of biological changes and partly because of developmental transitions and psychosocial factors.

Challenges faced by adolescents

Type 1 diabetes affects adolescence and adolescence affects type 1 diabetes in many ways.

Affect of adolescence on diabetes

- Poor blood sugar control - physiological changes like an increase in Growth Hormone act as anti-insulin agents. The release of adrenaline and other hormones triggers the release of stored glucose resulting in blood sugar levels that swing from too low to too high.
- Secondary sexual characteristics develop and in this growth spurt the requirements of insulin can be very high leading to weight gain and further high requirement.
- Changing doses need more intense monitoring and dietary care and exercise, all of which are often rejected by the adolescents due to psychosocial inhibition. This further worsens the control.
- This age is usually the time for temptation to experiment with alcohol and drugs both of which can harm the control significantly.

Affect of diabetes on adolescence

- Adolescents with diabetes carry the extra burden of managing diabetes and this can impact the quality of their lives as well as diabetes management.
- Poor self-esteem - a person needs to accept and love herself.



Dr Archana Sarda talking with children with type 1 diabetes

Adolescents with diabetes become aware that they are different and resent their treatment. Their fluctuating blood glucose levels can also lead to a feeling of helplessness. Most of them fear that they will not be accepted by the opposite sex and their peers.

- Concern for future – adolescents with diabetes may think that they will not be able to pursue their careers and live good quality lives like others due to their dependence on medications and its related restrictions.
- Sexual activity and driving are two new aspects of this age in most cultures. Diabetes seems as a limitation to both and can lead to frustration.

Challenges faced by parents

It is a tough time for parents as well:

- Most parents find it difficult to understand and accept fluctuating blood glucose levels
- One of the most important challenges as the parent of a child with type 1 diabetes is to decide how much to control and protect.

Tips for helping teens with diabetes

- Self-care is key to the development of a child's independence and self-esteem. It is important that teenagers understand the dynamics of diabetes. Guardians can help them to become independent by:

T - Trusting the ability of the child (but still observing)

E - Engaging in education about life and diabetes

E - Enabling mutually acceptable decisions

N - Need to limit control

S - Stigma of social comments to be addressed.

- Parents can achieve this with accepting their child unconditionally and being a friend for these difficult years. Restrictions and judgement of a child's behavior leads to rebellion and bluffing.
- Adolescents with type 1 diabetes greatly benefit from support groups and diabetes camps, where they can meet their peers. Parents should not shy away from professional help if they believe their child is in serious trouble. Professional help is required if normal timing and magnitude of the pubertal growth spurt is not achieved.
- The ultimate goal of treatment is that children with type 1 Diabetes grow into mentally, emotionally, socially and physically balanced young persons.



Insights from Rali as told by Dr Alok Kanungo

"I want to become a doctor and help all children." - Rali, 15

Life insights

"When life gives you a problem, find a solution for yourself and for others."

Rali was diagnosed with diabetes in 2006 when she was just 4 years old. She was becoming weak and losing weight. The village doctor was not able to diagnose her ailment and told her parents that they were unnecessarily worried. Rali's parents then took her to the village priest who asked them to perform an expensive ritual. Over the next few days, Rali's condition worsened and her parents rushed to Bhubaneswar, where she was ultimately diagnosed. By then her condition had become so bad that she had to be immediately hospitalised. From here, she was referred to the KIDS hospital for better treatment.

Rali's father works at a factory and her mother is a housewife. Her parents were initially anxious about her future and the treatment costs. The situation became worse when her younger sister was born. It was at that time that Rali was enrolled with CDiC. Rali's mother loves to come to the hospitals and feels that Dr Kanungo's treatment and the support from all staff has given life to her daughter. Rali's family is very regular in attending diabetes education classes. Rali and her mother are able to titrate her insulin dosage easily and her mother keeps a close watch on her food habits. She is also very particular about her diet.

Now she is in class 9. Being a bright student Rali gets a lot of appreciation from her teachers and has received scholarships from CDiC and other benefactors. She takes part in various extra-curricular activities at school. Rali always supports younger children at the centre and teaches them not to be worried or depressed and to take diabetes as part of their life.



Rali



Frequently Asked Questions



FAQs

Q1 Can children with diabetes do well in studies?

Diabetes is a physiological disorder and does not have any effect on scholastic performance, if well managed. There are ample examples where a child with type 1 diabetes has grown and become a doctor, an engineer, a sportsperson and excelled in their chosen field. One very important thing is that since a child spends more than 1/3rd of his/her day in the school, it is very essential that teachers know diabetes in the child and also know about the management of hypoglycaemia and hyperglycaemia. This is going to be helpful for the child.

Along with this, it has been found that children with diabetes who study well and are self - dependant, do well in life. Hence as educators and parents we need to motivate children to study well.

Q2 Can a child with diabetes eat ice cream sometimes in small quantities

Summer is the season of ice creams. Children with diabetes, also crave for this yummy sweet cold dessert. Let us learn a few tips to include ice-cream into meal plans without disturbing blood glucose levels.

1. Do Budgeting- Use some of your meal's carbohydrate budget for ice cream. A typical carbohydrate allotment for one meal is 45-60 grams (3-4 servings). For example, if you were to eat a ½ cup of regular ice cream (15 grams of carbohydrate), your blood sugar would rise roughly the same amount as if you had eaten 1 slice of whole wheat bread or 1 small chapatti (also 15 grams of carbohydrate). You can now plan the rest of the carbohydrate foods to eat during your meal since you have already adjusted for dessert. Most people with diabetes are advised to have 1-3 snacks throughout the day, which includes at least 1 serving of carbohydrates. Instead of eating dessert with your meal, you can have it at snack time. For example in the evening, instead of your tea and biscuits, you can have ½ cup of plain icecream. Just remember to eat it at least 2 hours after your meal.

Healthy Tip - You can add more salads in that meal, so that you do not feel hungry and have sufficient fibre also.

2. Use Alternatives- Nowadays you can find ice creams which are made from low- and non-calorie sweeteners. This can be used as a way to cut down on carbohydrate

intake. But don't forget to account for the carbohydrates that may still be in the food you are eating like milk and nuts of ice cream.

Health Tip - Whether you make sugar free ice-cream or buy one, do not over indulge. Have ½ to 1 cup depending upon carbohydrate servings.

3. Step up your physical activity for the day. Exercising to burn more calories can help with weight management and blood sugar control. Because ice cream or any other dessert can add not only carbohydrates but also add extra fat and calories, consider incorporating some extra physical activity before or after having your ice cream.

Health tip- Consider cleaning your room for having a treat of ice cream or increasing your walk time for 15 minutes.

Dot not forget – Do monitor your blood sugar levels, especially when you are exchanging an item in your daily diet or are having a treat. Sometimes, your exchange may not be perfect but this can help you to take the next step correctly in order to maintain normal blood glucose levels. "Count Carbs, check blood glucose and enjoy some ice cream!"



LOVE, LAUGHTER AND HOPE – THE THREE ESSENTIALS FOR CHILDREN WITH DIABETES

S. Geetha Rao, Dr. Reshma and "Team DISHA - Samatvam Jnana Sanjeevini" under guidance of Dr Srikanta

The recent economic spurt in India has contributed to improving the health care standards of the nation. However, the disparity in wealth and health between the 'haves' and 'have nots' remain. We have children who use the best insulin and also world-class insulin pumps. They have a facility for glucose monitoring through CGMS (Continuous Glucose Monitoring Device) and abundant strips. On the other hand, we have children whose parents have difficulty in arranging food for them and insulin is beyond their reach. Since 2011, the Changing Diabetes® in Children (CDiC) programme has given all these children dignity and hope to live a healthy life.

Other than the availability of essential treatment, there is something which makes a world of difference. In our practice of last the 40 years, our team and I have found that along with insulin, there are a few other things which make a huge difference.

These are: love, laughter and hope.

Insulin and Love

Besides the physiological substitution of insulin, psychosocial care is probably the most important part of the management of diabetes in children and adolescents¹.

This is well known by every experienced clinician, but very difficult to document scientifically². Love is essential for all classes of society. These youngsters need consistent, lifelong and genuine love and care, from all concerned - family, society and the diabetes care team.

- The psychological crisis of the child who gets diabetes and his / her family members, needs utmost attention, both during the initial diagnosis [a life changing event for the entire family], and during the remainder of the life [with its numerous medical and non-medical challenges].
- The attitudes and devotion of not only doctors but the numerous medical staff involved in the lifelong health care are most crucial.
- Children facing other life challenges along with diabetes like being part of broken families, having only a single parent, or alcoholic parents are the most poor respondents to treatment. They require lots of love and psychological assistance from the centre staff, which many a times is made possible with great difficulties, even from the most dedicated and passionate staff as there is already a huge burden on them for counselling.

We can cure physical diseases with medicine, but the only cure for loneliness, despair and hopelessness is love. Thus, the collective goal of all diabetes healthcare professionals must be to develop a holistic "care model" [for both poor and rich], that improves long term glycaemic control and overall health and well-being of children, youth and young adults with type 1 diabetes, and their family members, in India and the world over.

Insulin, Love and Laughter

Despite the provision of enhanced materials and emotional support, sometimes it is difficult to improve the long-term glycaemic control and overall health and well-being of children, youth and young adults with type 1 diabetes. We all know that negative emotions such as anxiety, fear, and sorrow are factors that elevate the blood glucose level³. On the other hand positive emotions such as laughter can modify the levels of neuroendocrine factors involved in negative emotions⁴. **Therefore, we have a new rule, find one positive aspect of the patient situation, diabetes related or otherwise, and celebrate it.** Tell a joke, laugh and spread happiness.



Insulin, Love, Laughter and Hope

Can as medical professionals we be sure that that any child in front of us will grow, join school, one day enter college, graduate, obtain a job, get married, raise a family, and live long? No, and it is the same for children with diabetes too. So, instead of talking about unpleasant things and complications, my team and I prefer to talk about hope despite the circumstances in which a child lives and despite high blood glucose levels. We prefer to motivate a child for good action towards a healthy lifestyle, **think positive and talk hope.**

1. The world will remain great and life will remain beautiful.
2. Life will continue to be the way it is: be good and do good.



Children enjoying during the camp

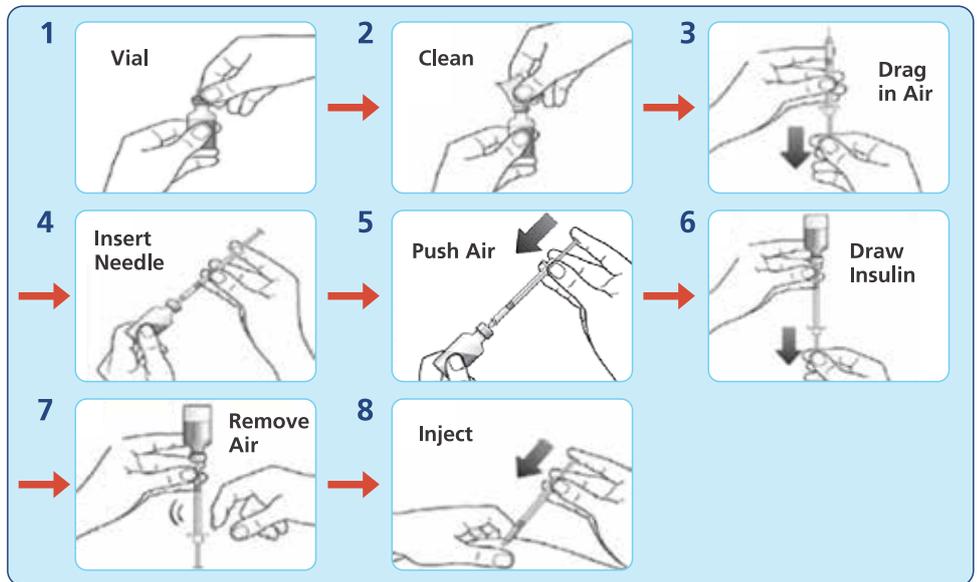
ⁱ *Horm Res.* 1989, 31(5-6):204-9. *Insulin, love and care.* Ludvigsson J.

ⁱⁱ Srikanta S (2013) *Childhood Diabetes and Poverty: Limitation of which resource? Physical, spiritual or both?* Oral presentation: Conference of IDF Life for a Child with Diabetes, Chicago, USA.

ⁱⁱⁱ Surwit RS, Schneider MS: *Role of stress in the etiology and treatment of diabetes mellitus.* *Psychosom Med* 55:380-393, 1993Abstract/FREE Full TextGoogle Scholar

^{iv} Berk LS, Tan SA, Napier BJ, Eby WC: *Eustress of mirthful laughter modifies natural killer cell activity (Abstract).* *Clin Res* 37:115, 1989Google Scholar

World Insulin Day - JULY 30



When insulin is essential, take it the right way.



Prevention of Diabetic Foot Complications -

Dr. Vijay Viswanathan

Diabetic foot problems are one of the most feared and common complications from diabetes contributing to increased physical, physiological and financial burden for the patients and society.

The risk of ulceration and amputation among diabetic patients increases by two to four folds with the progression of age and duration of diabetes regardless of the type of diabetes¹. It has been calculated that diabetic foot amputations contribute to two thirds of all non-traumatic amputations².

Although things seem grave, it is also true that this is the most preventable complication. Simple interventions can

reduce amputations by up to 70% through activities that reduce the risk factors³. The need of the hour is to teach children the right precautions and actions to help them protect their feet throughout their lives.

The most common questions which parents ask regarding preventing foot complications are: "Can my child play? What happens if my child gets injured, wouldn't it be a risk for the child?" Having diabetes never means that a child should not play or participate in physical activities. It is just a question of giving proper and timely first aid like cleaning the wound and dressing it, just as with children without diabetes. Parents of children with diabetes may need

to be a bit **more careful in ensuring the wound is kept clean and the dressing is changed at regular intervals.**

Parents should take the child to a doctor if he or she shows any of these symptoms

- Excessive bleeding from the injury site
- Occurrence of high fever
- Unexplained high blood sugar levels
- Wound not healing even after five days.

Along with aiming for HbA1c less than 7.5%, there are many other things which need to be taught to the child to prevent foot problems.

Take care of your feet

It is important to take care of my feet - not doing so can lead to complications

1 I check my feet everyday
Check your feet for: cuts, sores, red spots, swelling and infected toenails
Cuts, Sores, Red spots, Swelling, Infected toenails

2 Wash your feet everyday

3 Dry your feet properly

4 Put lotion on your feet
LOTION

Keep your nails short and clean

Put your feet up to rest

Always wear shoes

Be active

Ask your nurse or doctor to check your feet with you

Ask your doctor to examine the child's feet regularly. Your doctor will also check the pulse points, sensation, skin, nails, joints, and let you know if the child requires any treatment.

¹ Katsilambros N, Tentolouris N, Tsapogas P, Dounis E. *Atlas of Diabetic Foot*. Chichester, UK: Wiley-Blackwell; 2003.

² Boulton AJM, Vileikyte L, Ragnarson-Tennvall G, Apelqvist J. *The global burden of diabetic foot disease*. *Lancet*. 2005;366:1719-1724. [View Article](#) • [PubMed/NCBI](#) • [Google Scholar](#)

³ Krishnan S, Nash F, Baker N, Fowler D, Rayman G. *Reduction in diabetic amputations over 11 years in a defined U.K. population: benefits of multidisciplinary team work and continuous prospective audit*. *Diabetes Care*. 2008;31: 99-101. [View Article](#) • [PubMed/NCBI](#) • [Google Scholar](#)



D

Diet:

- inappropriate quality
- quantity
- timing of food



Drugs: Intake of drugs which cause high blood glucose levels, Eg.:-

- steroids
- over the counter drugs like cough syrups
- indigenous drugs of unknown nature



I



Insulin:

- inappropriate dosage
- skipping a recommended insulin dose
- taking wrong insulin



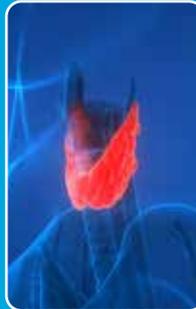
Illness, infection

- any seasonal illness
- skin, ear, nose, throat, teeth, chest, foot, urinary tract infections
- any surgery

E

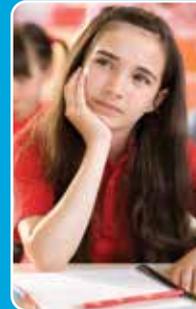
Other Endocrine and autoimmune disorders, Eg.

- thyroid disorders
- coeliac diseases
- PCOD (Polycystic ovarian diseases)



Emotions:

- any kind of stress
- feeling low
- lack of sleep



T



Testing:

- inappropriate timing of testing
- wrong testing (not washing hands / pressing too hard)
- wrong readings (expired strips)



Technique - Inappropriate technique or site of taking insulin
Teaching - Lack of diabetes education and hence not balancing appropriately between Diet ~ Exercise ~ Monitoring ~ Insulin

S

Somogyi Phenomenon - a rebound high blood glucose level in response to low blood glucose

Support - Lack of support from family, friends and community



Sports

- lack of physical activity
- less exercise
- Inappropriate exercise