CDiC - INDIA
Newsletter

Issue: 13, May 2016

Editorial Desk

Changing Diabetes® in Children (CDiC) - Quarterly Update

World Health Day 2016

Children Camp

HCP Training

FAQs

Diabetes Educator Column

Quiz

Reaching Out Dashboard

<table>
<thead>
<tr>
<th>No. of Children</th>
<th>4063</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of HCPs Trained</td>
<td>4187</td>
</tr>
<tr>
<td>No. of Children Camps</td>
<td>425</td>
</tr>
</tbody>
</table>

Editorial Committee: Prof. P. Raghupathy, P. Dinakaran, Dr. Shuchy Chugh, Harshal.S Makasare, Dr. Neera Gupta
Dear Colleagues and Friends,

The CDiC programme is close to all our hearts and you will all agree that there are many reasons for this. Today, as I am writing this editorial, I am very sure that such a programme is an essential need to our society, until a definitive cure for type 1 diabetes is found. It is not just because of my emotional bonding with these children but because of the change I found in them, over the years. In my OPD today, a confident looking young lady came with a HbA1c report of 6.7. She is now in the last year of her engineering course and is getting ready for campus interviews. In 2011, when CDiC began, she was a thin and sick looking girl who had lost all hopes in life. Her parents felt that she was a burden. The journey of this girl is a true learning for all of us.

I am grooming another enthusiastic young lady with type 1 diabetes, to be a diabetes educator. She had come to me as a child many years ago and from a rural background. She is now a graduate, with a very positive and corrective attitude.

To ensure that all children with type 1 diabetes should succeed in their endeavour, we need to focus on strengthening scientific data on type 1 diabetes so that the lessons from their lives are shared among the medical community for betterment of all children with diabetes. We also need to create awareness about type 1 diabetes among public and government stakeholders for providing them with comprehensive care, avoiding social discrimination and overcoming psychosocial barriers for every affected child.

While looking forward to hearing from you, your invaluable ideas and thoughts concerning this programme and regarding ways to improve our care, I once again thank you for your passion and commitment.

With kind regards
Prof P Raghupathy
Chairperson CDiC

---

Dear Colleagues,

"Changing Diabetes in Children", program always had a vision of bringing better outcomes for children with type1 diabetes through comprehensive care. Together over the last four years, we have been able to contribute significantly for the quality of life of these needy children. Along with good care there has been immense learning and understanding on the management of children with type1 diabetes in India. It is our responsibility to collate our learnings and bring out scientific publications to share this impact with our fraternity. It will also go a long way to sensitize the health authorities & government on the burden and complex nature of type 1 diabetes. Also our endeavour to come up with a book of type 1 diabetes will further enhance the overall understanding and support capacity building of various HCPs to manage type 1 diabetes well in our country.

With Best Wishes
Prof. Ashok Kumar Das

---

Dear Friends,

We at Novo Nordisk, are committed to expanding access to medical treatment and care of people with diabetes across the country. CDiC has been a very special program supporting access to care of under privileged children with type-1 diabetes in India. Over the last four years, with all your support and commitment we are able to extend the care for these more than 4000 children on an ongoing basis. We are committed to run this program definitely for a few more years, with all your expertise and guidance in ensuring better health and lives for these children with type-1 diabetes.

Thanking you all for your support, care and commitment.

With Best Wishes
Melvin D’Souza
Managing Trustee NNEF
VP & GM Novo Nordisk India Pvt. Ltd.
Changing Diabetes® in Children (CDiC)

> 4 years of On-going journey of care & commitment for children with type-1 diabetes

CDiC is one of its kind programme addressing the multiple needs for proper treatment and good care for children with type-1 diabetes from poor socio-economic families. These children face neglect due to multiple reasons. There are 4063 children registered in the program through 21 main and 27 satellite CDiC centers located across India. The program offers free of cost, insulin, monitoring, diagnostic and doctor consultation. Apart from this the program also extends patient diabetes education, awareness on diabetes care for parents, training for Doctors and Para-medical staff, creation of basic type-1 registry and best practices sharing for improved and better type-1 diabetes management in India. The program is now envisaging to increase advocacy for reaching out to the Government and Policy Makers, mainly for making the care for these children sustainable in the long run. It also aims to enhance communication, follow-up and care for improved outcomes among the registered children.

The following activities have been undertaken in the first four months of 2016 -

- 36 structured, "children diabetes camps", have been conducted, reaching out to around 1500 children
- In these camps, topics like, Taking insulin, Glucose Monitoring, New year resolutions, Diet & Diabetes, Examinations and Diabetes, and Holidays and Diabetes were discussed. These camps have enabled good follow-up, to help reach around 30% of the registered children so far this year
- Around 15 activities were conducted by various CDiC centers on the occasion of "World Health day" this year, which is dedicated to create awareness about diabetes.
- As a part of World Health Day campaign, 3 "Do's & Don'ts" emails were sent to all CDiC centers, focused on improving awareness on type-1 diabetes, insulin and monitoring.

- Four, “CDiC Type-1 DM updates” for Doctors, were conducted on 24th Jan at Samatvum, 7th Feb at IGICH CDiC center in Bengaluru, 7th April at KIDS CDiC center at Bhubaneshwar and 24th April at Gandhi Hospital, Hyderabad attracting around 250 Doctors and 75 other HCPs. All the programs were accredited by the respective medical council namely Karnataka Medical Council, Orissa Medical council and Telangana Medical Council.
- A thought provoking life story of a child (privacy managed) with type-1 diabetes registered in CDiC was released in the 4th Volume of Journal of Social Health and Diabetes.

The program is finding ways to work with the policy makers and other government stakeholders to find ideal long term sustainability plans for children with type-1 diabetes from poor socio-economic class.
World health day

In 1948, the WHO held the First World Health Assembly. The Assembly decided to celebrate 7 April of each year, with effect from 1950, as the World Health Day (WHD). Each year, on this day focus is brought on healthy behaviour. Along with this WHO also directs its attention on some disease or disorder causing huge burden to mankind. In 2016, the focus will be on diabetes which is now affecting 69.2 million people in India and is growing at alarming rate.

As part of the WHD campaign, CDiC centers across the country conducted many patient education and awareness activities.
World Health Day activities were conducted All India, reaching out to around 800 children & 2000 people. In these events the participating children were encouraged to

- Take a pledge to create awareness about diabetes.
- Improve knowledge on diabetes to prevent & manage it.

<table>
<thead>
<tr>
<th>S.No</th>
<th>Center</th>
<th>Health Camp Date</th>
<th>No of children attended</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>SPAD, Kanpur</td>
<td>27th March</td>
<td>54</td>
</tr>
<tr>
<td>2</td>
<td>Samatvam, Bengaluru</td>
<td>3rd April</td>
<td>38</td>
</tr>
<tr>
<td>3</td>
<td>IGICH, Bengaluru</td>
<td>4th April</td>
<td>32</td>
</tr>
<tr>
<td>4</td>
<td>Tapadia, Hyderabad</td>
<td>6th April</td>
<td>58</td>
</tr>
<tr>
<td>5</td>
<td>KEM, Mumbai</td>
<td>7th April</td>
<td>45</td>
</tr>
<tr>
<td>6</td>
<td>Sarda, Aurangabad</td>
<td>7th April</td>
<td>157</td>
</tr>
<tr>
<td>7</td>
<td>KIDS, Bhuveshwar</td>
<td>7th April</td>
<td>21</td>
</tr>
<tr>
<td>8</td>
<td>IID, Trivandrum</td>
<td>7th April</td>
<td>29</td>
</tr>
<tr>
<td>9</td>
<td>PMCH, Patna</td>
<td>7th April</td>
<td>50</td>
</tr>
<tr>
<td>10</td>
<td>BDH, Bengaluru</td>
<td>10th April</td>
<td>90</td>
</tr>
<tr>
<td>11</td>
<td>BRIDE, Karnal</td>
<td>10th April</td>
<td>91</td>
</tr>
<tr>
<td>12</td>
<td>Jehangir, Pune</td>
<td>23rd April</td>
<td>50</td>
</tr>
<tr>
<td>13</td>
<td>Gandhi Sat Center, Hyderabad</td>
<td>28th April</td>
<td>50</td>
</tr>
<tr>
<td>14</td>
<td>Delhi &amp; Jalandhar</td>
<td>10th April</td>
<td>41</td>
</tr>
</tbody>
</table>

Total 806

Main activities undertaken around the WHD 2016 campaign

- Walk to create awareness
- Patient education camps
- At BDH, CDIC centre, children thanked all the sponsors and doctors for taking care of them.
- At Sarda, CDIC center, children along with doctor and educators developed innovative diabetes education games.
In India, Diabetes has become one of the leading threats to the health of its citizens. It is estimated that without major interventions being undertaken, the number of people with diabetes in India will exceed 123.5 million from 69.2 million in 2015 (estimated growth 78.2%). Over 52% people in India are not aware that they have diabetes.

Uncontrolled diabetes is a well-recognized cause of premature death and disability, increasing the risk of cardiovascular disease, kidney failure, blindness and lower-limb amputation. In recent decades, the prevalence of diabetes has been increasing globally, and has been particularly accelerated in low and middle-income countries.

As part of our endeavour to change diabetes, we released this poster and initiated an e-mailer campaign on World health day reaching out to around 1000 people which included corporates, doctors, teachers and general public. This email campaign was launched to create awareness about diabetes and its management.

**Time to act is now.**

World Health Day 2016:
Follow medical advise, Beat diabetes

For more details, contact us at: diabeteseducation.india@novonordisk.com

*Selected mail will be replied back. The content is not intended to be a substitute for professional medical advice. Always seek the advice of your doctor or other qualified healthcare provider with any questions you may have regarding a medical condition or medical treatment.
One pager notes are created for improving understanding on type-1 diabetes for better management and avoid untoward complications. Three such notes were released currently in the form of an e-mailer. (1) Type-1 diabetes, (2) Insulin, (3) Monitoring. It is planned to be a continuous activity.

- It contains five correct and five incorrect notions about the subject along with infographics.
- It also contains two socially relevant key facts about the topic.

**Type 1 diabetes**

*World Health Day 2016: Follow Medical Advise, Beat Diabetes*

- Type 1 diabetes can happen to anyone
- Children with type 1 diabetes always require insulin
- Type 1 diabetes requires constant management 24 x 7 x 365
- Love, encouragement and education are soul of diabetes management
- When properly managed, children with type 1 diabetes can live healthy and long lives.

- Type 1 diabetes is same as type 2 diabetes.
- Stop taking insulin and monitoring blood sugar levels in any circumstances.
- Focus or emphasis only on a single aspect of diabetes management, either on diet, exercise, insulin or monitoring.
- Make a healthy life style plan only for the child with diabetes and exclude all others in the family and friends.
- Put a BIG NO for fun activities in the life of a child with type 1 diabetes.

**Pancreas**

Islet Cell are not able to produce insulin

**Type 1 diabetes**

**If your child is suddenly:**

- Unnating more
- Wetting the bed or crib
- Feeling tired
- Often thirsty
- Losing weight

See your doctor it could be a sign of type 1 diabetes

Key facts

There is nothing which the mother or father could have done to prevent type 1 diabetes in the child

We know, you are looking for cure, Lots of research is going on and we have a hope in near future, but till then it is good to stick to the treatment plan
Children Camps

CDIC program is truly comprehensive, since along with taking care of the 4 pillars of diabetes management for these children, viz., insulin, monitoring, diet and exercise, the program also works on diabetes education, counselling and peer support for these children. Children camps are conducted to provide all these three elements to the children in a friendly manner.

During the last 4 months, 36 structured “children diabetes camps”, have been conducted reaching out to around 1500 children. The key topics discussed were:

- **Diet and Diabetes** - Focusing on the understanding of good and bad carbohydrates and importance of meal planning
- **Examination and diabetes** - Giving information on how to manage blood sugar levels before and during examination, when children need to study for long hours and are usually stressful.
- **Holiday and diabetes** - Giving information about how they can have fun from holidays and still manage diabetes with needed discipline. It has special emphasis on travelling and diabetes.
- **Importance of monitoring** - How monitoring can empower children and their parents to take right decision.

Knowledge on management of Type-1 Diabetes is very critical for all those supporting these children, viz., the parents and sibling, so they are also encouraged to attend the camp. The children, parents and siblings who attend these programs really gain more confidence in managing the condition and we see that there is marked improvement in the quality of life of these children and the psychological state of the family.
The main modules covered in these programs are

- Insulin regimens and role of insulin analogues in T1DM
- Overview of T1DM and differential diagnosis of Diabetes in young
- Diet & exercise in T1DM
- Monitoring of type-1 DM
- Diabetes in children - global and Indian scenarios
- Management of DKA & sick days
- New advancements in treatment of type-1 diabetes
- Psychosocial aspects of management of type-1 diabetes.

The primary objectives of the CDiC program is to improve access to proper medication, monitoring, diagnostics & consulting for children with type-1 diabetes. The program also incorporates other key elements of diabetes management. This includes training of healthcare professionals (HCPs) to enhance their capabilities in diagnosis and treatment of children with type1 diabetes. In 2016, we had conducted 4 HCP training programs and 1 nurses education program so far.

These programs were held in Bengaluru, Bhuvneshwar and Hyderabad. All the programs were accredited by the respective medical council namely Karnataka Medical Council, Orissa Medical council and Telengana Medical Council. Nurses education program was conducted at Fortis Hospital, Cunningham Road Bengaluru on 26th April.

<table>
<thead>
<tr>
<th>Date</th>
<th>Centre</th>
<th>Place</th>
<th>Doctors</th>
<th>Diabetes Educators</th>
</tr>
</thead>
<tbody>
<tr>
<td>24th Jan</td>
<td>Samatvam</td>
<td>Bengaluru</td>
<td>82</td>
<td>25</td>
</tr>
<tr>
<td>7th Feb</td>
<td>IGICH</td>
<td>Bengaluru</td>
<td>72</td>
<td></td>
</tr>
<tr>
<td>7th Apr</td>
<td>KIDS</td>
<td>Bhuvneshwar</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>24th Apr</td>
<td>Gandhi Hospital</td>
<td>Hyderabad</td>
<td>70</td>
<td></td>
</tr>
<tr>
<td>26th Apr</td>
<td>Fortis Hospital</td>
<td>0</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>256</td>
<td>75</td>
</tr>
</tbody>
</table>
FAQs

Q1 What can be done to prevent type-1 diabetes in children?

It is always difficult to explain why type-1 diabetes occurred in any child. There is nothing parents could have done to prevent type-1 diabetes in their child. Although scientists think that it has something to do with genes or exposure to something like a virus, but still it is not confirmed.

It is a confirmed fact that type-1 diabetes is not contagious and also eating too much sugar does not result in type-1 diabetes. Even if there is a family member with type-1 diabetes, there’s no reliable way to predict who can and will get type-1 diabetes. Although there are certain tests which can predict if a child can develop type-1 diabetes, these tests aren’t done routinely, because doctors don’t have any way to stop a child from developing the disease until now, even if the tests are positive till now.

Q2 Does one need to monitor blood sugar levels even when they are feeling fine?

Monitoring blood sugar levels with a home blood glucose meter is an important pillar of managing diabetes. Even if one is feeling fine, it is not a guarantee for blood sugar levels to be in the target range. It is essential to understand that symptoms of high blood sugar levels do not appear very clearly and occur only when the sugars are constantly elevated for longer periods of time.

Complications of uncontrolled diabetes may happen even when the blood sugar is only slightly elevated. Regular blood sugar monitoring can help you keep your blood sugars in control and prevent serious damage to your eyes, kidneys and nerves. Ask your doctor about your goals of blood sugar levels.

Treatment goal for children with Type-1 diabetes are

<table>
<thead>
<tr>
<th>Diabetes</th>
<th>Age</th>
<th>Pre-prandial (Before Food) capillary plasma glucose</th>
<th>Bed Time/Overnight capillary plasma glucose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type1</td>
<td>0-6 years</td>
<td>100 - 180 mg/dl</td>
<td>110 - 200 mg/dl</td>
</tr>
<tr>
<td>Type1</td>
<td>6-12 years</td>
<td>90 - 180 mg/dl</td>
<td>100 - 180 mg/dl</td>
</tr>
<tr>
<td>Type1</td>
<td>13-19 years</td>
<td>90 - 130 mg/dl</td>
<td>90 - 150 mg/dl</td>
</tr>
</tbody>
</table>

If your sugar levels are above the values shown in the table, it is essential to consult your doctor.

Q3 If due to any reason, one takes their insulin injection twice by mistake. What should he/she do?

Seek medical attention urgently in the case of an insulin overdose. Mistakes do happen, but this mistake can be slightly risky. Taking too much insulin can lead to hypoglycaemia or low blood sugar levels. This can become particularly serious if insulin dose was significantly more than it should have been. It also depends upon, which insulin, you have taken twice. If it is short acting insulin, the effect can remain up to 8 hours and if it is long acting insulin, the effect can remain up to 24 hours.

As soon as one realizes that one had overdosed on insulin, it is essential to take simple fast-acting carbohydrate like glucose or sugary drink immediately, followed by slow acting carbohydrate like fruit or bread and seek advice from health team. While remaining at home, one need to check blood sugar levels every 1 – 1.5 hours and eat or drink accordingly.

- It is common to need 10 -15gm of carbohydrate to counteract each unit of insulin. It’s generally safer to have too much than too little carbohydrate when treating an overdose of insulin.
- Avoid having fatty foods, if possible, as fat tends to slow down how quickly the carbohydrate acts.

If you feel hypo symptoms, perform a blood test more frequently.

Symptoms of hypoglycemia which can result from an insulin overdose:

- Depressed mood, Dizziness, Drowsiness, Fatigue, Headache, Hunger, Inability to concentrate, Irritability, Disorientation, Nausea, Nervousness, Personality changes, Rapid heartbeat, Restlessness, Sleep disturbances, Slurred speech, Pale skin, Sweating, Tingling, Tremor, Unsteady movements.

If you have administered a larger dose of insulin, more severe symptoms can include: Coma, Disorientation, Seizures.
Diabetes Educator Column

(Tips for parents on physical activity, exercise and sports)

Physical exercise should be encouraged in all children including children with diabetes. Exercise provides a child an improved sense of wellbeing, teaches discipline and helps in leading a normal childhood. Along with this exercise helps to limit the rise of blood glucose after meals and in weight control. Exercise also aids in keeping heart rate, blood pressure and lipid levels normal.

As educators, it is our duty to counsel children and parents for physical activity, time and again. Please find few important points.

There can be different impacts of physical activity on a person with Type-1 diabetes. It is important to understand impact of physical activity on diabetes and plan exercise session so that a child with diabetes can be safe before, during and after exercise.

**Effect of activity on children with type-1 diabetes**

**Hypoglycaemia**
- Any aerobic activity like walking, running, swimming or cycling can result in low blood sugar levels both during and after the exercise.
- Hypoglycaemia is more likely to happen if the activity is prolonged and intense.
- The most likely time of hypoglycaemia is 1 to 3 hours after taking of short acting insulin.
- Hypoglycaemia is more likely to happen if child is injected near the active muscle used while exercising like thigh before a football match. Abdomen is good site for injection before running.
- No food or less food intake prior to any activity can increase the chance of developing hypoglycaemia.

**Hyperglycaemia**
- Activities like sprinting or weight lifting and short periods of any intense activity can cause an increase in blood glucose levels due to release of hormones like adrenalin and glucagon.
- Less quantity of insulin and excessive food intake can also result in hyperglycaemia.
- Stress of any activity can result in immediate hyperglycaemia and subsequently hypoglycaemia, some hours later.

**Diabetic ketoacidosis**
- Exercising when blood glucose levels are continuously high and there are low levels of circulating insulin can result in diabetic ketoacidosis. Diabetic ketoacidosis can be life threatening if not treated on time.

**Education on exercising with diabetes, essential for enjoying its benefits**
- If blood glucose monitoring is not possible frequently, then child should be encouraged to participate in lower intensity activity at approximately the same time daily.
- Ideally the child or person with diabetes should monitor their blood glucose values before participating in daily physical activity.
- It is advised not to exercise when sugars are very high or low or when ketones are positive in blood and urine.
- Physical activity should also be limited or avoided if there is an acute illness, or there is inadequate food or water during the activity or afterwards.
- All activity should allow eating snack like apple or 2 biscuits every 30 minute during exercise.
- Children should be advised to carry something like hard candy or juice handy in case blood sugar level drops too low.
- After prolonged activity, the child should have an additional snack like biscuits with milk or a scoop of ice cream (containing fat or protein) to prevent later hypoglycaemia.
- It is good to advise drinking plenty of water before, during and after exercising for everyone.
- Child should wear proper shoes and socksthat fit well and are comfortable during exercise. This is to prevent any kind of foot injury.
- Ensure that the child with diabetes should always carry their diabetes identification card while going outside or for exercise, even in their own neighbourhood.

The ultimate goal for treatment is to maintain blood glucose levels near normal. Just as there is no one medication that works for all people with diabetes there is no single way of exercising. So, a child with diabetes needs to be active and should adopt any of the sports, exercise or even activity like walking or dancing in their daily routine. Exercise in any form is always considered beneficial for every one of us; children with diabetes are no different. It is always good to consult the doctor before starting any new activity plan.
Changing Diabetes® in Children

An estimated 542,000 children under the age of 15 are living with type-1 diabetes around the world with an expected 86,000 new cases each year. Many of them live in low and middle-income countries (IDF, 2015). Pilot studies conducted in under developed countries like Africa, showed that many children die due to type-1 diabetes even before diagnosis and also those diagnosed have very poor prognosis because of limited resources and access to diabetes care. Even in India, many children with diabetes had poor access to diabetes care and also the overall understanding of type-1 diabetes amongst HCPs was low.

As a response, Novo Nordisk launched the Changing Diabetes® in Children programme in 2009 to change the future of children with type-1 diabetes in developing countries. Established as a public-private partnership, the programme has reached more than 14,000 children in nine countries in Africa and South East Asia.

Please find a quiz here on CDiC program India. You can send your answers to CDICIndia@novonordisk.com. First 3 correct answers will be acknowledged in next issue of our newsletter

Q1 When did CDiC program come to India?

Q2 How many CDiC centers do we have Pan India?

Q3 Is CDiC program dealing with only children with type-1 diabetes?

Q4 What is the focus of World Health Day – 2016?

Q5 Can you recognize any three patient education tools featured in this newsletter?

Q6 What are five most important components of treatment of type-1 diabetes?

Q7 Can we do anything to prevent type-1 diabetes in children?

“We thank everyone for your kind efforts in implementation of the changing diabetes in children program. Please write to us about your views, stories and ideas which can add value to this program and to the newsletter at CDICINDIA@novonordisk.com.”