REPORT OF FIRST ISPAD DIABETES IN PRACTICE (DIP):

TRAIN THE TRainers CONFERENCE

8th-10th October 2019. Yaoundé, Cameroon
Organisers

Dr Fomenky Njiandock, Pediatric Endocrinologist (PETCA Graduate)

Dr Chetcha Adele Bodieu, Pediatric Endocrinologist (PETCWA Graduate)

Dr Mbono Ritha, Pediatric Endocrinologist

Dr Sap Suzanne, Pediatric Endocrinologist

Supervisors

Pr Jean Claude Mbanya

Pr Sobngwi Eugene

Dr Dehayem Mesmin

Trainers

Pr Antoinette Moran (University of Minnesota Children’s Hospital, USA)

Dr Angela Badaru (University of Minnesota Children’s Hospital, USA)

Carol Brunzell (University of Minnesota Children’s Hospital, USA)

Terra Clausen (University of Minnesota Children’s Hospital, USA)

Dr Phil Plager (University of Minnesota Children’s Hospital, USA)
Sponsors

ISPAD

University of Minnesota Children’s Hospital

CDiC Cameroon

Addressed to

ISPAD, ASPAE, CDiC, Ministry of Public Health Cameroon
INTRODUCTION

Childhood diabetes is one of the most common complex chronic metabolic diseases of childhood characterized by a permanent rise in blood glucose.

According to the statistics from the International Diabetes Federation (IDF) of 2017, 96000 children under the age of 15 are diagnosed with diabetes each year, type I diabetes accounting for more than 90% of cases and an increasing number of diabetes in children under 5 years of age has been observed since 1995.

In Africa, type I diabetes accounts for only 5-10% of cases in the general population. This figure is underestimated because many children die in the community or in health facilities due to lack of early diagnosis and adequate management due to complications related to the disease. Cameroon has nearly 600 children diagnosed with diabetes. This underestimation is believed to be due to community ignorance, lack of knowledge of health care workers and also a lack of trained staff to manage this disease.

We have come a long way in Cameroon with 10 childhood diabetes clinics being established through the development of the CDiC (Changing Diabetes in Children) project since 2009, led by Prof. Jean Claude Mbanya's team. Much remains to be done. Although childhood diabetes management equipment (insulin, syringes, glucometers and strips) is free, we still see poor follow-up of these patients, and hence a high mortality rate associated with the condition.
This justifies why the Paediatric Endocrinologists in Cameroon in association with the Ministry of Public Health of Cameroon, solicited the assistance of Prof Antoinette Moran’s team of the University of Minnesota, USA. The International Society for Pediatric and Adolescent Diabetes (ISPAD), which is the reference institution in the childhood diabetes recommendations, very generously supported this venture, as it has already been done in other African countries, together with CDiC Cameroon, and an ISPAD DIP training of trainers course was organized in Cameroon in order to increase the level of awareness among health care workers wherever they may be in the country.

The general national aim for pediatric diabetes in Cameroon is to screen, diagnose and properly manage children living with diabetes early to ensure "No deaths related to childhood diabetes", which is the leitmotif of ISPAD.

Thus, the curriculum of this training focused on diagnosis (clinical and biological signs), adequate management (insulin therapy, adjustment of insulin doses based on review of glucose measurement or according to the amount of carbohydrates consumed in the diet and intensity of physical exercise) as well as sick day and management of emergencies (acute and chronic) related to childhood diabetes.

The objectives were based on the following findings: The mortality of children with diabetes in Africa remains very high and more than half of the health care workers (doctors and nurses) are not well trained nor very confident in the management of childhood diabetes.
ACTIVITIES CARRIED OUT

The training took place from the 8th – 10th October, 2019 in the conference room of the GTLABO laboratory at Tsinga, Yaoundé - Cameroon under the supervision of the Ministry of Public Health. The trainers were representatives of the ISPAD (Pr Antoinette Moran, Pr Ass. Angela Badaru, Dr. Phil Plager, Carol Brunzell, Terra Clausen) of the University of Minnesota in the United States. Professor Jean Claude Mbanya presided over the opening ceremony. The training was attended by 12 doctors of which 4 pediatric endocrinologists (02 trained in Petcwa-Lagos and Petca-Nairobi respectively and two others trained in France), 4 adult endocrinologists, 2 Paediatricians, 2 general practitioners and 10 nurses from 8 out of 10 regions of Cameroon, 02 dieticians, CDiC and Ministry of Public Health representatives. The two official languages, French and English were used throughout the training, with the help of 3 interpreters.

The seminar began at 8:30 a.m. on the first day with the reception of the participants followed by the welcome address from the pediatric endocrinologists. In their remarks, they stated that the main objective of this training was to provide extensive training to key medical staff about diagnosis, early and chronic management, emergency management related to complications of childhood diabetes. These trained personnel are then to serve as trainers among fellow staff, caregivers, patients and their various communities at large about childhood diabetes.
The rest of day 1 and subsequent days of the conference went on as follows:

1- A brief journey of where we were before 2009, how far Cameroon has gone since then and the current state of the different clinics as well as the shortcomings was presented by the adult endocrinologist who has mainly been in charge of the CDiC project in Cameroon since 2009. Participants went on to share the expectations they had of the seminar. Most participants hoped that at the end of the seminar they should be able to diagnose more cases of diabetes in children in their communities, learn more about how to handle insulin, the different types of insulin, their action and how to calculate / adjust insulin doses based on meals (carbohydrate counting) and blood sugars more confidently, how to diagnose and manage diabetic emergencies, how to build efficient diabetes teams.

2- The training proper on day 1 began at 11 am after a group photo and coffee break with a presentation on the pathophysiology and the situation of pediatric diabetes in Africa. A presentation on diet and carbohydrate counting followed the first presentation. Carbohydrate counting was practically demonstrated at lunch time (and at every meal thereafter) by labeling all food items with the amount of carbohydrates contained per portion, thanks to our dietitian and instructor, Carol Brunzell. This exercise helped participants have a visual representation of how to advise patients on meal portions and carbohydrate content in relation to insulin doses and adjustments. The afternoon continued with presentations on types and action of insulin and its adjustment according to blood sugar levels and carb content of the food. The evening ended with a "walk in their shoes" session which aimed to make participants live through what diabetic children go through on a daily basis. Each participant, after receiving a free glucometer, strips and an insulin
syringe, were able to take their blood glucose, interpret blood sugar numbers, draw the adequate dose of insulin and administer it.
3- The second day of the seminar began at 8:30 a.m. with listening to the experience of the trainers (diabetic patient, parent of a diabetic child). We understood that living with diabetes is not easy at all. It is a very long and difficult way where good and bad days rub shoulders. But the lesson learned was that the diabetic child can live as long and normal a life as any other non-diabetic child if diagnosed early and well followed-up. Then we were taught on the diagnosis and appropriate management of diabetic emergencies (diabetic hypoglycemia and ketoacidosis) as well as the management of diabetes in particular situations (school, illness, physical activities). Very interesting practical clinical cases were discussed, with particular focus on using blood glucose levels to adjust insulin doses.

Personal experience of trainers (T. Clausen & Dr P. Plager)

Lecture by Prof Ass. A. Badaru

Practical clinical cases: Nurses’ group

Practical clinical cases: Doctors’ group
4- The third day was marked by lectures on the management of micro and macro vascular complications as well as obesity and type II diabetes. The latter sees its prevalence and incidence increase with the increase in the number of obese children. This increase is linked to our poor eating habits (consumption of high-calorie foods: too much fat, too much sugar... etc.), physical inactivity (lack of physical exercise, number of hours spent in front of the television... etc.). Obesity is now considered a disease of civilization. The focus has been on the early diagnosis of children at risk of developing obesity knowing that childhood obesity is a major risk factor for the development of type II diabetes, hypertension, hepatopathy and cancer in adulthood, so it is important to take care of it early. A presentation on therapeutic education followed. This therapeutic education which is the cornerstone for better monitoring of childhood diabetes should be continuous and done with patience, be carried out by a qualified staff. It can be done individually or as a group.

5- The training ended on the afternoon of the 3rd day with the award of certificates of participation to all participants as well as the handing out of gifts to the trainers by the representative of the Minister of Public Health. A family photo was also taken to commemorate this event.
End of first ISPAD DIP: Train the Trainers Conference, Yaoundé with representative of the Minister of Public Health of Cameroon (8th - 10th October, 2019)
6- A local leadership session consisting of the home team only, was held immediately after the conference. The aim was for the newly-trained Cameroon trainers to develop a roadmap for the proper functioning of our childhood diabetes teams over the next 1 year. The following recommendations were made from this meeting:

**To the medical staff:**

a) Maintain efficient teamwork that is essential for the smooth running of our clinics

b) All children should be on NPH+ Actrapid, instead of Mixtard, because this provides greater flexibility in dose adjustments and hence better glycemic control.

c) Organize awareness and staff training sessions within our health facilities as well as in the community once every 3 months. In particular, nurses need extra training.

d) Create a collaboration between health workers and traditional doctors, clergy and thought leaders since, according to our remarks, these people are the main people our diabetic patients go to for alternate options of treatment or “cure”. This would help the patients to be taken care of if these community leaders refer them early or re-direct them to health facilities.

e) Maintain and enhance the registry that already exists and improve on the data collection for better visibility in statistics and actions to be taken for the future.

f) Collect data on each diabetes activity on the ground every month and give reports of all activities every 3 months.
To the Ministry of Public Health:

a) Increase human resources: Training and recruitment of qualified staff on childhood diabetes

b) Continuous training of already qualified staff for knowledge upgrade

c) The posting of trained staff in the management of childhood diabetes to other posts of duty is strongly discouraged. If, however, this becomes indispensable, such trained staff should strictly be posted within health facilities where a diabetes clinic already operates. This is not only to ensure the adequate follow-up of the diabetic child, but also to reduce costs of training in the future.

d) Each clinic should have a diabetes nurse educator, a dietician for children, a therapeutic educator trained in childhood diabetes, a psychologist, a doctor (if possible) motivated in the management of childhood diabetes.

Working session
BRIEF SUMMARY OF LONGTERM FOLLOW-UP PLANS

1) Following the first ever ISPAD DIP training in Cameroon, there is a need for ongoing training and assessment of knowledge of participants, especially for the nurses. We therefore suggested the creation of a WhatsApp group where all trainers / participants will be added. The group will serve as a forum for monthly online training by assigned pediatric endocrinologists, with quizzes at the end to assess knowledge. There shall be daily ongoing support in case of any on-site problems so they are resolved promptly. This forum shall be initially monitored by the four pediatric endocrinologists.
2) Reports of activities at various clinics will be obtained once every 3 months.
3) We strongly intend to start working on a five year plan for childhood diabetes in Cameroon. The first meeting still has to be scheduled.
4) A reunion of local conference participants will be held in 1 year to revise the plan.
5) We plan to have a larger nationwide conference scheduled to take place in 18-24 months’ time. We would want to involve more pediatricians, general practitioners, dietitians, psychologists, nurses, traditional healers, stakeholders, patients and caregivers.
CONCLUSION

This conference was a major stride towards building solid diabetes care teams in Cameroon. The caliber of teaching was second to none and we are very grateful to all our instructors and sponsors for this wonderful opportunity. We heartily thank all our sponsors for their unwavering support in making this conference a reality. We definitely will work towards the realisation of our short and long term goals in seeing that the diabetic child in Cameroon has a well-trained, confident team of professionals they can rely on for the best quality of healthcare and life they can get.