

## ISPAD Allan Drash Fellowship Report

**Host Center:** John Hunter Children's Hospital and Hunter Medical Research Institute (HMRI)

**Mentors:** Dr. Carmel Smart and Prof. Bruce King

**Duration:** 6 weeks (February 2<sup>nd</sup> to March 13<sup>th</sup>), 2020

In our center, Koç University Hospital, Turkey, we have been following up about 770 children and adolescents with type 1 diabetes. We organize two camps for children with diabetes and their families, monthly education programs for teachers and annual seminars for pediatric diabetes teams. Our team (Prof. Şükrü Hatun, Assoc Prof. Gül Yeşiltepe Mutlu, Psychologist Serra Muradoğlu, Diabetes Educator Ecem Can and Fellow Dr. Elif Eviz) is working on disseminating diabetes technology and good diabetes care.

Before I went to John Hunter Children's Hospital with this program, I thought that it would be an important opportunity to improve our team's work and provide a better life for our children, but everything was far beyond my expectations.

Each of the member of team warmly welcomed me and made me feel like a part of family. Dr. Smart has always been my mentor and I have always reading her papers to find my answers. I feel and know that these 6 weeks will be a milestone in my life because of learning a lot not only about work but also to have a good personality and life.

### **Observations about John Hunter Children's Hospital, Pediatric Endocrinology and Diabetes Department:**

- The team consists of 4 doctors, 3 part-time dieticians, 4 diabetes educators and a social worker.
- I attended outpatient clinics on Monday and Wednesday, pump trainings on Tuesday, CGMS trainings on Thursdays, catch up week and clinical research day on Friday.
- All patients who have a healthcare card can have CGM and insulin pump free of charge.
- In this human-friendly hospital there were libraries, playgrounds, volunteers and also teams who planned activities for inpatients.
- There is a patient registration system that all healthcare professionals have access to. In this way, everyone can access each other's notes about the patient.
- Diabetes camps are organized 4 times a year and these camps are organized separately according to age groups.  
Each patient enters the outpatient room with their HbA1c measurements and papers which they informed about the management of diabetes for the last 3 months.
- In each outpatient clinic, I observed that the first and most important thing is to check the growth of the child.

## **Experiences**

### **1. Inpatients clinical Rounds and Outpatients Clinics (all team members)**

I was lucky to spend time with all the team; doctors, diabetes educators, research assistants as well as the social worker involved in diabetes care. Besides having observed type 1 diabetes clinic, I had a chance to see patients with Cystic Fibrosis Related Diabetes and Type 2 diabetes. Since Australia has a multicultural structure, I was able to observe the eating patterns of people from other countries and how the diabetes team managed these differences both in inpatient and outpatient clinics. Since there are patients from every age group, it has enabled me to learn about diabetes treatment by age group (insulin strategies, nutritional approach in the toddler group, etc.).

I was very impressed by their multidisciplinary team meetings which were directed to the child / youth living with diabetes and the team's efforts to search for the solution at the source. This gave me insights into cost neutral changes in management to improve the lives of children living with diabetes.

In addition, I was able to make daily observations at two different hospitals (Royal North Shore Hospital, The Children's Hospital Westmead) in Sydney. I would also like to thank Sharon Youde and Anna Pham Short for accepting me, especially my mentors, for doing this organization.

### **2. Team Meetings**

I had the opportunity to present at clinical meetings held weekly and observe the team approach. In addition, after each outpatient clinic day, everyone evaluated the patients in terms of their own and shared their opinions with the whole team.

### **3. Pump Meetings and New Technologies**

I was able to shadow all dietitians (Carmel Smart, Marcelle Pappas, Leah Renee and Emma Fisher), diabetes educators' (Megan Paterson, Michelle Neylan, Helen Phelan, Alison Wright) and doctors (Bruce King, Donald Anderson, Tricia Crock, Rowen Seckold) routine throughout their entire Pump (Medtronic 670G and 640G, t-slim) and CGMS (Dexcom G5, Freestyle Libre, Guardian 3, Enlite Sensor) meetings. I was impressed by the fact that the whole team paid great attention to the use of technology and explained the effects to children to make their lives easier.

We know that the use of diabetes technologies has greatly improved the success of treatment of diabetes. Unfortunately, the government payment for diabetes technologies in our country is almost non-existent. I had a chance to learn the use of diabetes technologies that exist in our country and will come, especially how nutritional management is in these devices, and I had a chance to benefit from the experience of the team. **I want to make a difference in "technology and nutrition" for children with diabetes in my country. Learning how to achieve this with limited resources was one of the biggest outputs for me.**

### **4. Transition Meetings**

I had the opportunity to join transition meeting which is held once a year at John Hunter Hospital. It was a meeting for families attended by healthcare professionals working in both the adult and children's clinics. The meeting, which was directed by the transition coordinator and the diabetes educator of the adult clinic, addressed issues such as the differences between the child and adult clinics, and the introduction of the clinic.

The social worker informed the group about what rights young people have. I could see how useful a meeting was from the faces of young people with diabetes. We also decided to organize such a meeting with our own team.

## **5. Attend the ADEA-ACT/NSW Conference**

I joined the conference which was called "Diabetes: Thinking outside the square", attended by all Diabetes Educators in Australia. It was very beneficial for diabetes management especially in adolescents.

## **6. School Meetings**

One of the diabetes educators, Megan, often went to schools of children with diabetes treated at the John Hunter Children's Hospital to educate teachers about "Diabetes management at school". I also had a chance to attend 4 school education sessions. From the teachers' participation and interest, I can say that the lives of all children with diabetes who will study at that school will be easier from now on. Various awareness-raising activities have been carried out in our country within the scope of the "Diabetes at School Program" for 10 years and we are a part of these activities as a team. I am happy that I will contribute to the development of the program in our country with what I learned in this center.

## **7. Research Project**

Before I came to John Hunter, I hadn't known how to conduct clinical research. I observed the background of the research and how it was designed and made specifically about the management of proteins and fats.

Also, especially in young children in our country, a habit of drinking milk before going to bed is a common problem in diabetes management causing hyperglycaemia before bed. Therefore, we developed a research project based on defining the glycaemic impact of a bedtime snack in children and young people with type 1 diabetes on multiple daily insulin injection (MDI) therapy. Our aims are:

- a. to determine if children using MDI therapy between the ages 10-18 require a bedtime snack to maintain overnight glycemia.
- b. to determine the impact of different types of commonly consumed carbohydrates (cow milk and yoghurt) on overnight glycaemia.

This will be the first study undertaken nationally and by our team that investigates the needs and nutritional composition of bedtime snacks.

## **8. Fat and Protein Counting, Preparing sources for Turkish Children**

The team at the John Hunter Children's had created very important documents on the management of excess protein and fats in the diet and shared them with every patient needed. These documents also show the protein and fat content of commonly consumed food and beverages in Australia. Thus, people can easily calculate the amount of protein and fat in their food and manage their meals and insulin.

The protein and fat content are high in most of the commonly eaten foods in our country. Therefore, we prepared the documents about foods which contains high fat and high protein and are commonly eaten in Turkey, under the leadership Dr. Carmel and Prof. Bruce. These documents also contain information about how to manage bolus insulin for high fat and high protein foods for Pump users and MDI treatment. On behalf of my team and our children, I am grateful.

## **9. Exercise Management**

During my stay, I observed a few children who were doing various types of sports such rugby, surfing, soccer etc. I witnessed that exercise management is evaluated not only with food, but with basal and

bolus doses, child's preferences and daily life. I admired the learning efforts of children with diabetes to exercise more by taking the necessary precautions instead of fear of exercise.

#### **10. Sharing All Documents, Papers and Experiences**

We held a meeting every Tuesday to discuss my questions with Prof. Bruce and Dr. Carmel. These meetings allowed me to think in terms of both physician and dietitian. It was very useful to talk how we can manage diabetes with the possibilities in our country and adapt to cultural needs. They shared all documents they used in clinic with us as well as their experiences. It was great that they answered my questions with their papers.

Because of their multicultural life, they are working on a project where they try to gather the contents of food in other world cuisines together. It was a pleasure to contribute to the Turkish Foods part.

#### **11. Present Our Clinic/Team to Team**

In my last week, I made a presentation introducing my own team and our clinic. Once again, I would like to thank my team for their unconditional support, encouragement and love. Unfortunately, in general, it is not common to support healthcare professionals other than the doctor.

We talked day by day, they encouraged me and shared their opinions with me at any time. In this way, it was a more efficient process for me. I feel very lucky.

#### **12. Summary of Key Learning/Achievements:**

The John Hunter Diabetes team have new approaches to diabetes treatment. For example; "Additional carbohydrates are not recommended after initial hypoglycemia treatment for both Pump and MDI therapy" and "Recommended target blood glucose levels are between 3.5- 8 mmol/L".

The summary of my key learnings about new approaches for Type 1 diabetes treatment are below:

- Hypoglycemia treatment
- BGL targets
- Management of toddlers
- Fat and protein quantification
- Fat and protein insulin blousing
- Bedtime snack approaches
- Meal routines
- Structured learning objectives
- Development of dietary research protocols
- Development of culturally appropriate food resources
- Development of culturally appropriate fat and protein insulin dosing resources

#### **13. Special Notes and Visits**

As someone who went to Australia for the first time, I always felt at home from the first day. This process has added much more than what I have learned only professionally.

One of the Diabetes Educators, Megan Paterson, and her gorgeous family opened not only the doors of their home for six weeks, but also their heart to a person they never knew, and shared their meals,

friends, special times and everything they have. Even today I am amazed how such a good people they are. Their daughter Jessica has diabetes and has to eat gluten free foods. I also experienced what life is like in a family with diabetes.

Scientific learnings, as well as my enthusiasm to work and produce and my resilience have increased. I am grateful for every contribution they have brought into my life.

As the first dietitian working only in Pediatric Endocrinology and Diabetes in Turkey, I would like to thank my team and Koç University Hospital managers for all the opportunities, especially the ISPAD and John Hunter Team. I will do my best with these opportunities provided to me.

Warmest Regards,

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