

2019 ISPAD Allan Drash Clinical Fellowship Report

Clinical Fellow	Moriasi Nyanchoka Registered Dietician and Nutritionist at SIHA Nutrition, Kenya
Mentor	Francesca Annan Clinical Specialist Paediatric/Adolescent Diabetes Dietitian in University College London Hospitals (UCLH)
Host Center	Children's and Young People's Diabetes Center in the University College Hospitals, London (UCLH)
Training Team	Children and Young People's Diabetes Team in UCLH: Paediatric Diabetes Dietitians: Rebecca Margetts, Erica Mannix, Consultants: Prof. Peter Hindmarsh, Prof. Rusell Viner, Dr. Billy White, Dr. Rakesh Amin, Dr. Catherine Peters Clinical Nurse Specialists: Sam Abbott, Louise Potts, Nicole Birchmore, Jennifer Pichierri, Channing Lewis, Sophie Gray, Emily Newhouse
Duration	8 weeks (November 4, 2019 to December 20, 2019)

It was a great honor and privilege to be awarded the ISPAD Allan Drash Clinical Fellowship, and I was fortunate to be able to attend my fellowship at the Children's and Young People Diabetes Centre at the University College London, Hospitals (UCLH). It is a top-ranked center and the largest in the management of Diabetes in Children, Adolescents, and Young persons in the United Kingdom. The centre provides comprehensive care to children, adolescents, and young persons with diabetes which has one of the largest pediatric endocrinology programs in the United Kingdom providing excellent multidisciplinary clinical care including physicians, Paediatric diabetes nurses, paediatric diabetes dietitians, psychologist, and social workers, ensuring paediatrics receives comprehensive and coordinated care through adulthood.

It was a great learning opportunity to learn from **Francesca Annan**, the best Clinical Specialist Paediatric and Adolescent Diabetes Dietitian, and Sports and Exercise Specialist, I have come across and mentor. I am grateful to her for the valuable teachings, guidance, and support during this fellowship.

Before the start of the fellowship, my mentor Francesca Annan and I discussed my objectives and clinical learning plan via email. On my first day, I met my mentor Francesca Annan who further discussed my objectives and explained the schedule

of the specialty clinics and weekly multi-disciplinary team meetings. Later on, she introduced me to the Children and Young People's Diabetes (CYPD) Team.

My main goal was to get exposure to the integration of nutrition management and the use of technology in diabetes management among paediatrics, adolescents, and young adults. To get exposure to the current diabetes technology; use of insulin pumps, and application of continuous glucose monitoring sensors (CGMS). Best nutrition practices, evaluation, assessments, and support key in paediatric and adolescents with diabetes.

FELLOWSHIP EXPERIENCES

OUTPATIENT CLINICS

I attended different specialist diabetes clinics daily run by the CYPD team. During these clinics, I was mainly exposed to type 1 diabetes cases and fewer type 2 diabetes cases.

Multi-Disciplinary Team (MDT) Consultations

I attended MDT Specialized clinics which included a Physician Consultant, a diabetes nurse, and a diabetes dietitian. These clinics were physician-led. The paediatric diabetes clinic and an adolescent diabetes clinic were separate to cater to age-specific needs and concerns.

The clinic started by downloading data from the glucose meters, CGMs, Pumps, and measuring HbA1c followed by interpretation of data and discussing the state of diabetic control with patients and their families, adjust pump settings or insulin injections doses, and answering any inquiries. Attending the MDT clinics was a great opportunity to learn the importance of a team approach in educating and addressing patients' and families' concerns on living with diabetes.

Dietitian Clinic Consultations

These are dietitian led clinics for patients who need further diet and nutrition consultations to further improve their glycemic control and diabetes management. Most of the patients were identified during the multi-disciplinary team consultation clinics, nurse-led consultations, and pump school.

I was able to shadow excellent diabetes dietitians (Annan, Rebecca, Erica) in the consultations sessions education patients on eating well in diabetes, how healthy food choices helps manage blood glucose levels, glycemic index of different foods, carbs counting, sick day management, to further improve their diabetes management. This knowledge will help to improve how I manage diabetes patients at our clinic set up.

London being one of the most multicultural cities in the world, at UCLH, I was able to observe the diversity of eating patterns and cultures, and able to see how the dietitians managed these differences, and tailored nutritional approached to the differences. The education sessions were very insightful and would incorporate them in the future consultations, back home to support diabetic patients to better manage diabetes.

Sports and Exercise Consultation Clinics

One of the highlights of my observership was attending teaching sessions on sports and exercise clinics, conducted by Francesca Annan, an expert in diet and exercise in diabetes. In these informative sessions, I was able to learn how different activities affect blood glucose levels, during and after activity. It provided patients with more knowledge of sports and exercise, for better glycemic control, and better their sports/exercise performance in schools, clubs, or at home.

These sessions made me realize the other key factors to look at in exercise management other than diet alone; glycemic levels before, during, and after exercise, type of foods and influence of glycemic levels before, during, and after exercise, type of exercise/sport, and glycemic changes, the impact of exercise on blood glucose levels for the next 12 to 24 hours after the activity, and adjustments of basal and bolus doses depending on timings of sports/exercise. I learned much that I would incorporate in the future in counseling sessions, and help reduce the fear of exercise for diabetic patients, especially type 1 diabetes.

Pump School

I had the opportunity to shadow the specialist nurses and dietitians throughout the entire pump school meetings; initiation and pump upgrade meetings. I attended pump schools educating patients about the theory of insulin pump therapy, how it works, and its difference with insulin injections.

With the patients, I was able to learn the steps required before successfully starting a pump; on how on the use of different insulin pumps and their sensors, how to calculate insulin doses, managing food using the pump, how to set the insulin units required at different times in the pump, how to fill and replace cartridges of insulin, how to check the efficiency of the pump, how to download glucose readings and share the information to the UCLH diabetes team, and advised to contact them should they face any challenges when using the pumps.

At the pump school, I was exposed to different pumps (Tandem T-slim X2, Medtronic MiniMed 640G, Insulet Omnipod) and CGMS (Dexcom G5, Freestyle Libre). I also attended a teaching day arranged by Medtronic-UK about CGM and how to interpret insulin pump and sensor downloads.

At these sessions, I learned the importance of detailed and comprehensive patient and family education on insulin pump therapy and the importance of continued diabetes support to improve the adaptability of the patients and improve their outcome.

Nurse Clinic Consultations

I attended nurse-led clinics which provided patients and their families with more knowledge about diabetes, insulin injections, glucometers, insulin pumps, glucose sensors, and demonstrations on insertion techniques and usages.

Multi-Disciplinary Team (MDT) Meetings

I attended the weekly MDT meetings where all the CYPD team were present. An overview of challenging inpatient and outpatient cases encountered was presented, and discussed in detail by team members. I had an opportunity to observe the team approach.

Inpatient services:

I had an opportunity to shadow the paediatric diabetes nurse specialist and dietitian as they provided support to a new-diagnosed type 1 diabetes patient. I observed the education sessions, broken into simple sessions to support to a newly diagnosed patient and family, to prevent overwhelming the patient with information.

Research:

During my stay, I did not have an opportunity to participate in research. However, we had a session with my mentor, Annan, and discussed research, and offered to assist me in future research in diabetes.

Conferences/Training:

I was able to attend Applied Flash Glucose Monitoring, Crowne Plaza, London, November 2019.

I attended a training day arranged by Medtronic-UK about CGM and how to interpret insulin pump and sensor downloads.

Key Learnings:

This fellowship has given me confidence in the management of diabetes in paediatric, adolescents, and young persons, especially type 1 diabetes. I will incorporate lessons learned during the fellowship when I get back to Kenya and provide the best care to diabetic patients.

Key learnings and observations during my stay:

- Multi-Disciplinary Team consultations are key to achieve a successful target glycemic control and in providing the best comprehensive care for diabetes patients
- Diabetes technologies are key in improving diabetes outcomes
- Flexible diabetes management plans support patients to fit diabetes in with everyday life.
- Working with schools is very important to ensure adequate support of patients in the school environment, and it improves outcomes.

- Pump school is very important, as they provide detailed and comprehensive education before initiation or use of technology in diabetes management by patients.

Acknowledgments:

I would like to express my gratitude to ISPAD for the fellowship opportunity to further knowledge and skills in the management of diabetes in children and young persons. Special thanks to my mentor Francesca Annan, and the entire Children and Young People's Diabetes Team in UCLH for being great hosts, supportive, resourceful, willingness to teach, and share experiences during my fellowship. Great wealth of knowledge and expertise was learned from the UCLH, CYPD Team.

Kind Regards,

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