

Dear CPEG Fellowship Committee:

Thank you again for supporting me during this unanticipated transition. Please find summary of my research activities during clinical fellowship starting October 2019 as following.

Project: My Diabetes Coach, a Voice-Enabled Mobile Health Application for youth with Type 2 Diabetes: A Needs Assessment Study

Supervisor: Stasia Hadjiyannakis

The study aimed to survey youth with type 2 diabetes (T2DM) to determine the features they seek in an ideal mobile health(mHealth) app for T2DM management. This phase was initially planned to be carried out as phase I of our study prior to using “My Diabetes Coach” application in a pilot study with youth with T2DM. The study was initially designed to be carried out in the form of focus groups composed of 6 - 8 youth with T2DM followed by “My Diabetes Coach” prototype demo.

Summary of clinical fellow role:

- REB Board determined study does not requires REB approval as study as it was not defined as research as per TCPS 2 (Late July 2019).
- Given the involvement of an industry partner (Macadamian), CHEO legal officers recommended against the initial project design pending a legal agreement between CHEO and Macadamian Technologies
- Re-organized the study to be carried out in the form of a written questionnaire without “My diabetes Coach” app presentation and industry involvement
- Drafted and revised a multi-aspect questionnaire to assess the preferences of youth with T2DM regarding various components of a potential mobile health app to support them in the management of their diabetes
- Current status:
 - Youth with T2DM eligible for study were provided with questionnaire upon registration for their T2DM clinic January 10, 2020 – March 13, 2020 (last T2DM clinic before pandemic shut down).
 - Total of 13 out of 25 youth with T2DM consented to participate in the study and completed questionnaires.
 - Results will be submitted to CPEG annual scientific meeting

Project: My diabetes Coach” mobile health application: Pilot Study in youth with Type 2 Diabetes

Supervisor: Stasia Hadjiyannakis

The study initially aimed to use “My Diabetes Coach” app in a pilot group of youth with T2DM and assess short term metabolic and clinical effects of using “My Diabetes Coach” app as an adjuvant to standard of care. This study was also planned to be carried out as a phase II study where youth feedback from phase I is incorporated into the “My Diabetes Coach” prototype. Given executional changes in phase I of the study, researchers proposed various elements to

“My diabetes Coach” based on the current literature and the study aimed to assess the feasibility of using an optimized version of “My diabetes Coach” in a pilot group of youth with T2DM.

Summary of clinical fellow role:

- Reviewed current evidence on various aspects of current mobile health apps
- Proposed additional features to be added to initial “My Diabetes Coach” app prototype to improve activity level, monitor medication adherence and emotional well-being.
- Drafted and submitted REB application for REB Board review (January 2020)
- Current status:
 - Initial REB feedback received late February 2020.
 - Initial necessary steps were taken to address all recommendations made by REB board
 - Given the pandemic situation, Macadamian Technologies resources are currently actively engaged in other developments and the necessary changes for this pilot will be delayed until late 2020. Macadamian has not committed to making the recommended changes to the “My Diabetes Coach” app prototype at this time.
 - The study will be withdrawn from further review at REB Board.

Project: Retrospective Chart Review of Children and Adolescents with Obesity and Elevated TSH and their Associated Metabolic Risk Factors

Supervisor: Stasia Hadjiyannakis

Summary of clinical fellow roles:

- Reviewed current evidence on thyroid dysfunction in youth with obesity
- Drafted and submitted REB application for REB Board review (December 2019)
- Responded to REB feedback and received final approval from REB (January 2020)
- Current status:
 - Medical records of 346 youth with obesity followed at CHEO CHAL (Children’s Centre for Healthy Active Living) were reviewed and the following data was collected:
 - Baseline and 24-month thyroid function of all study population
 - Baseline, 12, and 24-month thyroid function of those with elevated TSH
 - Baseline, 12, and 24-month HbA1C, HOMA-IR, LDL, HDL, and ALT of those with elevated TSH
 - CRU is currently consulted for analysis of data
 - Results will be submitted to CPEG annual scientific meeting

Project: Retrospective chart review for Off-label treatment of children and adolescents with Type 2 Diabetes followed at CHEO's Type 2 Diabetes Clinic

Supervisor: Stasia Hadjiyannakis

Summary of clinical fellow roles:

- Reviewed current evidence on Off-label treatment in youth with T2DM

- Drafted and submitted REB application for REB Board review (January 2020)
- Responded to REB feedback and final approval was received from REB (Feb 2020)
- Current status:
 - Medical records of 39 youth with T2DM treated with off-label treatment were reviewed and the following data is collected:
 - T2DM baseline HbA1C
 - T2DM management history
 - Off-label treatments used in T2DM management
 - HbA1c level at initiation of off-label treatments
 - Results will be submitted to CPEG annual scientific meeting

Project title:

Enteral Iodinated Contrast Media Induced Hypothyroidism in Infants: A retrospective chart review

Supervisors: Drs David Saleh, Caroline Zuijdwijk, Sarah Lawrence, and Alexandra Ahmet

Summary of clinical fellow roles:

- Drafted manuscript for submission to Paediatrics & Child Health journal
- Revised draft manuscript as per supervisors' reviews
- Drafted and submitted REB application for REB Board to facilitate consent for case series (January 2020)
- Responded to REB feedbacks final approval was received from REB (Feb 2020)
- Current status:
 - REB approved
 - Cases requires to be approached to consent for study (on hold given COVID-19 pandemic)
 - Manuscript ready for submission pending consent of all cases

Project title:

Pubertal Suppression Effects on Bone mass and Body Composition of Youth with Gender Dysphoria

Supervisors: Drs Karine Khatchadourian and Margaret L. Lawson

Summary of clinical fellow roles:

- Drafted manuscript for submission to Paediatrics journal
- Revised draft manuscript as per supervisors' reviews
- Current status:
 - Manuscript under further review before submission