

عنوان المشروع باللغة العربية	دراسة لمنع داء السكري من النوع ٢ من خلال تعديل لنمط الحياة في السعودية مع اختلال السكر في حالة الصيام
عنوان المشروع باللغة الإنجليزية	A Study on the Prevention of Diabetes Mellitus Type 2 through Lifestyle Modification in Saudis with Impaired Fasting Glucose
المشرف الرئيس	Prof. Nasser Al-Daghri
التخصص الدقيق للمشرف الرئيس	Clinical Biochemistry
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المدة المتوقعة لإنجاز البحث منذ الحصول على موافقة عمادة الدراسات العليا	12 months
Abstract or synopsis of the proposal (200 words or less):	In this 18-month feasibility study, we aim to prevent the onset of DMT2 among 240 male and female Saudi patients with IFG by improving their glycemic and metabolic profile through intensive lifestyle modifications. A total of 240 adult male and female Saudi subjects diagnosed with IFG from the RIYADH COHORT Study of the Biomarkers Research Program (BRP), KSA, will be enrolled in this interventional study. They will be divided into 3 arms: control group (standard lifestyle advice alone), intensive lifestyle group (intensive lifestyle modification support with dietetic and physical activity modification) and metformin group (lifestyle advice only + 500mg metformin 3 times daily). Baseline anthropometric which includes body fat composition, glycemic and metabolic profile will be taken and will include fasting plasma glucose, HBA1c and lipid profile to be repeated every 3 months. They will be individually educated and instructed about DMT2 and how lifestyle modifications such as switching to a healthy diet, be active physically and weight loss can reverse DMT2 onset. Detailed instructions will be reinforced in monthly follow-up visits, with blood sugar monitored for each visit. Improvement of glycemic and metabolic profile will be documented, and barriers, challenges, and obstacles in the implementation of the program will be noted.
Hypothesis or scientific justification of the proposal	In this 18-month feasibility study, we aim to prevent the onset of DMT2 among 240 male and female Saudi patients with IFG by improving their anthropometric, glycemic and metabolic profile through 3 different lifestyle modifications.
Specific objectives	<ol style="list-style-type: none"> 1. Determine the baseline glycemic and metabolic profile of 240 Saudi subjects with IFG, and monitor these parameters every 3 months through follow-up visits. 2. Introduce an intensive lifestyle modification focusing on weight loss, healthy diet, physical activity and metformin. 3. Take note not only of favorable metabolic changes but also the obstacles faced by IFG patients in the intensive program to improve compliance and efficacy that will set the stage for a larger cohort and longer follow-up study.

Methodology & Major Techniques to be used	<ol style="list-style-type: none"> 1. Routine Biochemistry 2. Electrochemiluminiscence 3. Luminex
Availability of Samples	YES
Availability of Chemicals	YES
Availability of Instruments	YES
Availability of Ethical Approval (if needed)	YES
Recent References	<ol style="list-style-type: none"> 1. Al-Daghri NM, Alfawaz H, Aljohani NJ, Al-Saleh Y, Wani K, Alnaami AM, Alharbi M, Kumar S. A 6-month "self-monitoring" lifestyle modification with increased sunlight exposure modestly improves vitamin D status, lipid profile and glyceimic status in overweight and obese Saudis with varying glyceimic levels. Lipids Health Dis 2014 May 26; 13(1):87