15)

عنوان المشروع باللغة العربية - Title of the proposed project in Arabic	مستوي مضادات الاكسدة في مرضى سكري الحمل في النساء السعوديات
Title of the proposed project in English	Antioxidant Status in Saudi Women with/without of Gestational Diabetes Mellitus
المشرف الرئيس - PI	Prof. Nasser Al-Daghri
التخصص الدقيق للمشرف الرئيس - Specialty of PI	Clinical Biochemistry
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المدة المتوقعة لإنجاز البحث منذ الحصول على موافقة عمادة الدراسات العليا (بالشهور) - Expected time in month to finish	12 شهر
Abstract of the proposal (No more than 200 words)	The aim of the present study was to compare the total serum antioxidant capacity of patients with gestational diabetes mellitus (GDM) with that of healthy subjects in Riyadh

Hypothesis of the proposal	According to the International Diabetes Federation (IDF), the epidemiology of diabetes during pregnancy is unknown in many countries in the world [1]. Nevertheless, more than 21 million pregnancies were affected by diabetes during the year 2013 [1]. Saudi Arabia is among the top ten countries in the world with the highest prevalence of diabetes [1, 2]. A recent report from Saudi Arabia estimated the prevalence of gestational diabetes mellitus (GDM) in Riyadh, the capital city of Saudi Arabia, to be 4.3% and 24.3%, respectively [3]. This prevalence reflects high burden of diabetes among pregnant women compared to other populations in the world [4, 5]. In diabetic condition, several factors such as glucose oxidation, alterations in antioxidant defense system, lipid peroxidation, non-enzymatic glycation of proteins and following oxidative destruction of glycated proteins could result in production of free radicals [6-8]. Imbalance between the formation and inactivation of oxygen free radicals cause oxidative damage, which is associated with the destruction of membrane lipids and production of lipid peroxides and their products. Antioxidants which have low molecular weight, remove reactive oxygen species (ROS) [9]. Since oxidative stress is associated with T2D, its assessment in patients suffering from these disorders is useful for monitoring their progress and treatment, as well as for ameliorating the health-associated complications. Several biomarkers have been used for assessing oxidative stress levels in humans including total antioxidant capacity [10].
Specific objectives	The aim of the present study was to compare the total serum antioxidant capacity of patients with gestational diabetes mellitus (GDM) with that of healthy subjects in Riyadh.
Methodology & Major Techniques to be used	ELISA
Availability of Samples	Yes

Availability of Chemicals	Yes
Availability of Instruments	Yes
Ethical Approval	Ethical approval is available
Recent References	[1] International Diabetes Federation, IDF Diabetes Atlas, vol. 6th, International Diabetes Federation, Brussels, Belgium, 2013. [2] A. Majeed, A. A. El-Sayed, T. Khoja, R. Alshamsan, C. Millett, and S. Rawaf, "Diabetes in the Middle-East and North Africa: an update," Diabetes Research and Clinical Practice, vol. 103, no. 2, pp. 218–222, 2014. [3] H. Wahabi, A. Fayed, S. Esmaeil et al., "Riyadh mother and baby multicenter cohort Study: the cohort profle," PLoS ONE, vol. 11, no. 3, Article ID e0150297, 2016. [4] Y. Zhu and C. Zhang, "Prevalence of gestational diabetes and risk of progression to type 2 diabetes: a global perspective," Current Diabetes Reports, vol. 16, no. 1, article 7, 2016. [5] L. Guariguata, U. Linnenkamp, J. Beagley, D. R. Whiting, and N. H. Cho, "Global estimates of the prevalence of hyperglycaemia in pregnancy," Diabetes Research and Clinical Practice, vol. 103, no. 2, pp. 176–185, 2014. [6] Altan N, Dinçel AS, Koca C. Diabetes mellitus ve oksidatif stres. Turk J Biochem 2006;1:51-6. [7] Maritim AC, Sanders RA, Watkins JB 3rd. Diabetes, oxidative stress, and antioxidants: a review. J Biochem Mol Toxicol 2003;17:24-38. [8] Paolisso G, D'Amore A, Di Maro G, Galzerano D, Tesauro P, Varricchio M, D'Onofrio F. Evidence for a relationship between free radicals and insulin action in the elderly. Metabolism 1993;42:659-63. [9] Llesuy S, Evelson P, Campos AM, Lissi E. Methodologies for evaluation of total antioxidant activities in complex mixtures. A critical review. Biol Res 2001;34:51-73. [10] Dalle-Donne I, Rossi R, Colombo R, Giustarini D and Milzani A: Biomarkers

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