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**Assessment of Cardiac Enzymes in Obese Sudanese Subjects in
Khartoum state**

**A thesis submitted in partial fulfillment of the requirement for
the degree of M. Sc in Biochemistry**

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الآية

قال زعزاع:

﴿ اقرأ باسم ربك الذي خلق (1) خلق الإنسان من
علق (2) اقرأ وربك الأكرم (3) الذي علم
بالقلم (4) علم الإنسان ما لم يعلم (5) ﴾

صديق الله الأعظم

سورة العلق الآية (1 - 5)

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DEDICATION

**This work is dedicated
to my mother's spirit
to my father who support me
to my sisters and brothers
to my husband and sons
to all those who love me,
to all those who know me true
to the heaven that stands above me and awaits my
spirit too.**

MARWA

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Abstract

Assessment:

Assessment of cardiac enzymes in obese individuals is an important subject which was investigated by a number of researchers in different countries. Since this problem was not investigated in Sudan. The present study was designed to investigate the cardiac enzymes in obese subjects in Khartoum State.

A group of 50 obese male and female subjects were randomly selected from two fitness centers in Khartoum State (International university of Africa and University of Science and Technology students) according to the following criteria:

1. Age range from 18-25 years.
2. Obese subjects without any other systemic conditions.
3. All Subjects were examined using the Body Mass Index, WC, AGE, GENDER and SEX, and Clinical Attachment.

The results revealed that cardiac enzymes with a mean and standard deviation of (1.1 ± 0.5) , and the prevalence was 96%. However a correlation was done between the body mass index there was a significant association ($P= 0.029$). Another correlation was done between the level of Clinical Attachment Loss and the Body Mass Index also showed a significant association ($P=0.000$). Taking into consideration the results of this study it is recommended that health providers must increase the awareness to obese individuals about their health status to improve their cardiac health and should be advised to more professional and periodontal treatment.

المستخلص:

تقييم الانزيمات القلبية في البدناء موضوع هام تحري من قبل عدد من الباحثين في البلدان المختلفة. هذه المشكلة لم تتحري في السودان, الدراسة الحالية صممت لتحري الانزيمات القلبية في البدناء في ولاية الخرطوم.

مجموعة من 50 ذكور واناث بدناء اختير بشكل عشوائي من مركزي في ولاية الخرطوم (طلاب جامعة افريقيا العالمية وطلاب جامعة العلوم والتقانة) طبقا للمعايير التالية :

1. مدي عمر من 18-25
2. البدناء بدون اي شروط شاملة
3. محيط خصر كل البدناء فحصت باستعمال دليل كتلة الجسم ,عمر وجنس وارتباط سريري

كشفت النتائج ان الانزيمات القلبية مع متوسط وانحراف معياري (1.1 ± 0.5) , والانتشار كان 96% علي اية حال ارتباط عمل بين دليل كتلة الجسم كان هناك جمعية هامة $p= (0.029)$ الارتباط الاخر عمل بين مستوي خسارة الارتباط السريرية ودليل كتلة الجسم $p= (0.000)$ اخذ بعين الاعتبار نتائج هذه الدراسة التي توصي اصحاب الاختصاص بزيادة مستوي الوعي بين الافراد البدناء حول حالتهم الصحية لتحسين صحة القلب يجب اخذ النصح من المحترفين في هذا المجال .

Abbreviations :

BMI	Body mass index
AMI	Acute myocardial infraction
WC	Waist circumference
AST	Aspartate transaminase
CK	Creatine phosphokinase
LDH	Lactate dehydrogenase
ATP	Adenosine triphosphate
ECG	Electro cardiogram
WHCR	Waist hip circumference ratio
CHF	Coronary heart failure
HTN	Hypertension
CVD	Cardio vascular disease
LDL	Low density lipoprotein
HDL	High density lipoprotein
HbA1c	Hemoglobin A1c
DM	Diabetes mellitus
BRFSS	Behavioral risk factor surveillance system