بِسْمِ اللّهِ الرَّحْمَنِ الرَّحِيمِ

قال الله تعالى

يَرْفَعِ اللَّهُ الَّذِينَ آمَنُوا مِنكُمْ وَالَّذِينَ أُوتُوا الْعِلْمَ دَرَجَاتٍ}

صدق الله العظيم

سورة المجادلة الآية 11

Dedication

This work is dedicated to those who are suffering of Beta-thalassemia in Sudan and all over the world.

Acknowledgment

First off all I would like to deep thank Allah for guide me to make this research.

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Abstract

This a cross sectional study was undertaken at Mabroka village in the Gazeera state between November 2008-Fabruary 2009. The study aimed at assessing of the complete blood count and the fetal haemoglobin level in the parents and siblings of beta thalassemia patients. Fetal haemoglobin level was measured by an alkali denaturation procedure. A total number of 50 relatives of beta thlassemia patients were consecutively recruited. The age of the study group were found to be ranged from 10 to 98 year old. The mean of the total haemoglobin level within males was 12.6 ± 1.6 g/dl and within females was11.7 ± 1.4 g/dl. The mean of the MCV for all population was 79.6 ± 8.7 fl, the mean of the MCH was 23.8 ± 3.8 pg, the mean of the MCHC was 30 ± 1.4 g/dl and the mean of the fetal haemoglobin was 3 ± 1.4 %. The study revealed that, there was no correlation between the age and fetal haemoglobin level among the study population. The results strongly suggested that these participants might be carriers to B-Thalassemia gene.

The study recommended for comprehensive programs in the future to know the actual prevalence of thalassemia in the study population also health education is needed to increase the awareness among that population.

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هذه الدراسة المـ قطعية تم اجرائها في منط قة مبروكة بو لاية الجزيرة في الفترة مابين نوفمبر 2008 الي فبراير 2009. تهدف الدراسة □□□□□□ □□□□□□ □□□□ ومستوي خضاب الدم الجنيني في عينات دم الأشخاص المشاركين فيها. و قد أستخدمت طريـ قة التمسخ الـ قلوي لـ قياس خضاب الدم الجنيني. ويبلغ عدد المشاركين 50 شخص من أسر الأطفال المصابين بأنيميا البحر الأبيض المتوسط البائية. تراوحت أعمار المشاركين في الدراسة ما بين 10 – 98 سنة. بلغ متوسط مستوى خضاب الدمِ الكليِّ ومتوسط الهيموغلوبينِ الجنيني عند الذكور 12.6 ± 1.6 جرام/دسي لتر وعند الاناث 11.7 ± 1.4 جرام/دسي لتر. بلغ متوسط حجم كريات الدم الحمراء 79.6 ± 8.7 فمتو لتر ومتوسط خضاب الدم بالخلية الحمراء 23.8 ± 3.8 بيكوجرام ومتوسط تركيز خضاب الدم بالخلية الحمراء 30 ±3.8 جرام/دسي لتر ومتوسط مستوي خضاب الدم الجنيني 3 ± 1.4 %.

وكشفت الدراسة عن أنـه لاتوجد عـلا قة بين مستوي الهيمو قلوبين الجنيني واختلاف العمر. تو قعت الدراسة بأن الأشخاص المشاركين قد يكونو حاملين لجين مرض الثلاسيميا البائية, ولذا توصي الدراسة باجراء برنامج مسح مكثف في المسـ قبل لمعرفة الانتشار الفعلي للمرض في عينة الدراسة بالمنط قة وأيضا التثـ قيف الصحي مطلوب لزيادة الوعي بين اولئـ الأشخاص.

List of Consents

List of abbreviation

g/l	Gram per liter
g/dL	Gram per deci liter
CBC	Complete blood count
PCV	Packed cell volume
MCV	Mean cell volume
MCH	Mean cell haemoglobin
MCHC	Mean cell haemoglobin concentration
D.W	Distilled Water
OD	Optical density
WHO	World health organization
SD	Standard deviation
Hb	Haemoglobin
Hb F	Fetal Haemoglobin
Min	Minute
Sec	Second
nm	Nanometer
RBCs	Red blood cells
WBCs	White blood cells
Plts	Platelets
2-3 DPG	2,3-diphosphoglycerate
ELISA	Enzyme-linked immunesorbent assay
–ve	Negative
ζ	Zeta
ε	Epsilon
α	Alpha
γ	Gamma
β	Beta
δ	Delta

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