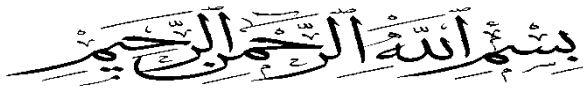

**قال تعالى :**

**{ وَمَا أُوتِيتُم مِّن الْعِلْمِ إِلاَّ قَلِيلاً }**

**صدق الله العظيم**

**سورة الإسراء الآية : 85**

# Dedication

To my father my mother and my wife

,All the love from me for their love and support, and for their effort

and patience . and understanding and encouragement

. During the research period

. To my children . for their patience and their understanding

.For their support of me and understanding me during the years of my studies

All my love and sincerity and loyalty

## ACKNOWLEDGEMENTS

We sincerely thank the participants without whom the study would have not have been feasible. Special thanks are due to the Sudan University of Science and Technology- College of Medical Radiological Science Khartoum-Sudan and the Radiology Department at Modern Medical Center. I would like to thanks all of Dr. Caroline Edward Ayad, and Dr. Al Safi Ahmed Abdalla for their full .information that they give me

**ABSTRACT**

Morphometric studies of the corpus callosum (CC) are essential to have .normative values for revising gender, race/ethnicity and age -related differences Morphometry of the (CC) for Sudanese population was done using sagital MRI scans. The study was obtained in the modern Medical Center in Khartoum during the period from August 2013 up to February 2015.The measured parameters included: (CC) length, genue, body and splenius thickness as well as corpus callosum index (CCI). 100 Sudanese subjects were included of both .(genders (50 were females and 50 were males

Results showed that (CC) Length was 74.24±7.9(mm), 77.26±6.0(mm),genu thickness was 17.48 ±2.1(mm),17.61±2.2(mm), body thickness was 6.85±1.0(mm),6.94±1.2(mm), splenum thickness was 16.14.±2.5(mm),17.39±2.3(mm) and(CCI) was 0.53±0.09, 0.53±0.08 ,for males and females respectively with no significant difference noticed between both genders at $p < 0.005$ . The relation between the (CC) thickness and (CCI) with age was found to be significant at $p<0.005$.The (CC) morphology for Sudanese .population varied from the values documented in the other population

We concluded that in studies subjected to (CC) with respect to pathological differences; it will be useful to consider the same age group records as reference values for Sudanese. Knowledge of (CC) morphology and the gender as well as age-related changes, thus is likely to be helpful in providing baseline data for .the diagnosis of presence disease

**ملخص الدراسة**

**الدراسات المظهرية للجسم الثفني- ضرورية للمراجعة بين- الجنسين لديهم القيم المعيارية العرق والعمر ذات الصلة بالخلافات .**

**وقد تم قياس الأشكال من الجسم الثفني- للشعب السوداني بإستخدام التصوير بالرنين المغناطيسي السهمي**

**وكانت الدراسة التي تم الحصول عليها في المركز الطبي الحديث بالخرطوم خلال الفترة من أغسطس 2013 حتى فبراير 2015 شملت المعلمات قياس الجسم الثفني , طول جنوى , والجسم وسمك الطاحلة وكذلك مؤشر الجسم الثفني ,**

**كان موضوع الدراسة على 100 سوداني من كلى الجنسين ( 50 من الإناث و 50 من الذكور )**

**وأظهرت الدراسة أن :**

| | ذكور | اناث |
|---|---|---|
| طول الجسم الثفني | 74.24± 7.9 (ملم) | 77.26± 6.0 (ملم) |
| سمك الجنوى | 17.48± 2.1(ملم) | 17.61 ± 2.2 (ملم) |
| سمك الجسم | 6.85±2.0 (ملم) | 6.94 ± 1.2 (ملم) |
| سمك الطاحلة | 16.14 ± 2.5 (ملم) | 17.39 ± 2.3 (ملم) |
| مؤشر الجسم الثفني | 0.53 ± 0.09 (ملم) | 0.53± 0.08 (ملم) |

**مع ملاحظة عدم وجود فرق كبير بين الجنسين في** $p > 0.005$

**العلاقة بين سمك الجسم الثفني- ومؤشر- الجسم الثفني- تم العثور مع التقدم في السن أن تكون كبيرة في** $p < 0.005$ **وتشكل الجسم الثفني لدى السودانيين تباينت من القيم الموثقة في الفئات الأخرى أستنتجنا إنه في الدراسات تعرض للجسم**

الثفني- مـع احـترام الإحتلافـات المرضـية . وسـوف يكـون مـن المفيـد تنظـر نفـس سجلات الفئة العمرية كقيم مرجعية للسودانيين .

لمعرفة أن الجسم الثفني وكذلك التغيرات المرتبطة بالعمر , وبالتالي من المرجـح أن تكون مفيدة في توفير البيانات لتشخيص وجود المرض

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## ABBREVIATIONS

| | |
|---|---|
| Magnetic Resonance Imaging | MRI |
| Agenesis of the corpus callosum | ACC |
| Central Nervous System | CNS |
| Peripheral Nervous System | PNS |
| Colorless Cerebrospinal Fluid | CSF |
| Internal Carotid Arteries | ICA |
| Vertebral Arteries | VA |
| Electroencephalographic | EEG |
| Fast Spin-Echo | FSE |
| Fraction Anisotropy | FA |
| Susceptibility-Weighting Imaging | SWI |
| Time-of-Flight | TOF |
| Nuclear Magnetic Resonance | NMR |
| Central Processing Unit | CPU |
| Net Magnetization Vector | NMV |
| Free Induction Decay | FID |