

# *Dedication*

I would like to dedicate this research to my parents, my wife "Amaal", sons and daughters "Elaaf, Bushra and Ghutaiba, Ginwan and Ahmed"

# Declaration

This research was carried out by the undersigned at the Sudan University of Science and Technology. During the period December 2003- July 2004 and was not submitted for any degree before.

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# Abstract

The concentration of blood glucose and the thyroid gland hormones in 50 patients suffering thyroid disorder and in 10 apparently health persons (control) were monitored. The patients and control were met at Khartoum Teaching Hospital.

They are similar in age and including 39 of the suffering hyperthyroidism and 11 of hypothyroidism. All patients and control were seen at Khartoum Teaching Hospital where the clinical examination and chemical analysis were done.

The results obtained from this study indicated that patients with thyroid disorders have clear signs and symptoms of the thyroid disease, and all patients were females which indicate that disease is more common among females than males.

The study presented data indicating that alteration in thyroid gland hormones existed. TSH level was found to be increased in thyroidism patients over control value, with nearly a constant level in  $T_3$  or reduction level in  $T_4$ .

In hypothyroidism patients, over production of TSH was observed with clear underproduction of  $T_4$  and unchanged level in  $T_3$  . In hyperthyroidism, decrease of TSH value with an increase of  $T_4$  and unchanged level of  $T_3$  were also evident.

The study also showed that blood glucose concentration in thyroidism patients (hyperthyroidism and hypothyroidism) was altered and was observed to be an increase in hyperthyroidism than normal range. State of hyperglycaemia and hypoglycaemia was presented but not significant.

The study also indicated that blood glucose was negatively correlated with TSH in hypothyroidism and hyperthyroidism and positively correlated with  $T_4$  and  $T_3$ .

## ملخص الدراسة

أجري هذا البحث على 50 أنثى مريضة بمرض الغدة الدرقية، 39 منهن بزيادة إفراز الغدة و 11 بخمول إفراز الهرمون وعشرة نساء ليس لديهن مرض الغدة الدرقية (قياسي) جميعهن قوبلن في مستشفى الخرطوم التعليمي قسم الذرة وأجري الكشف الطبي في هذه الوحدة ، وقد ظهرت عليهن أعراض وعلامات المرض.

أجريت الدراسة في الاناث لتعرضهن لهذا المرض بنسبة ( 1-7) بالنسبة للذكور.

أجريت لكل واحدة فحوصات الهرمونات والجلوكوز في الدم لمعرفة أثر هرمونات الغدة الدرقية على معدل الجلوكوز في الدم وهل هنالك علاقة بين وظيفة الغدة الدرقية ومعدل الجلوكوز في الدم علماً بأن هذه العينات أخذت عشوائياً .

فخلصنا إلى أن هنالك علاقة كما اوضحت النتائج بين عمل هرمونات الغدة الدرقية ومعدل الجلوكوز في الدم وهي علاقة طردية مع T3- T4 وعكسية مع TSH لكنها علاقة غير معنوية. إذ وجدنا أن الجلوكوز يزيد في زيادة إفراز هرمونات الغدة وينقص في نقصان هرمونات الغدة، لكن الزيادة والنقصان ليس كما في عمل الأنسولين .