

# **Dedication**

**To my parents**

**To my husband**

**To my family**

**To my friends**

## **Acknowledgments**

I would like to express my thank to my supervisor Dr Ghada Abdelrahman Elfadil for her kind guidance and support and all through the process of this study. Thanks for clinical chemistery staff in Sudan University of Science and Technology for their help and contribution .Thank for Alsir Abu Alhassan Center for Infertility for their support by collection of the specimens .Thank to patients who participate in this study.finally thanks to all who helped me to accomplish this research.

## Abstract

Back ground:Thyroid disease and polycystic ovary syndrome are of the most common endocrine disorder in general population ,although the etiopathogenesis of the thyroid disorder and PCO is completely different.The aim of study to evaluate the thyroid hormones among Sudanese women with polycystic ovary syndrome.

Materials and Methods:In cross sectional case control study 50 women with newly diagnosed polycystic ovary syndrome and 50 healthy apparently control were enrolled (match age).samples were collected in period between Febraury to May 2017 from Elsir Abo Alhassan Center for Infertility in Khartoum state .The clinical data were obtained and serum TSH,serum TT4 and serum TT3 level were measured using ELISA technique and the results were analysed using Statistical Pakage for Social Science (SPSS)computer programe.

Results:serum TSH ,serum TT4 and serum TT3 were insignificant differ between polycystic ovary syndrome group versus control group Mean  $\pm$ SD For TSH = (2.37 $\pm$ 1.68) versus control (2.09 $\pm$ 0.88) p.value =0.2 , For TT4 =( 95.3 $\pm$ 34.0) versus control ( 95.0 $\pm$ 22.0) p value =0.9 ,For TT3 = (1.69 $\pm$ 0.70) versus control 1.56 $\pm$ 0.74 p.value =0.3 .However body mass index was significant increase between bilateral polycystic ovary syndrome and unilateral polycystic ovary syndrome group p.value=0.04 .Also the result showed that there were correlation between BMI of PCO women and level of TSH (r=0.316 p.value=0.026).The frequency of thyroid disease, was 14% hypothyrodism and 2% was hyperthyroidism.

Conclusion:the study concluded that there were insignificant different in thyroid hormone level among polycystic ovary syndrome compared to control group and the frequency of thyroid disease was 14% hypothyrodism and 2% hyperthyroidism .

## المستخلص

امراض الغده الدرقيه ومتلازمه تكيس المبايض من امراض الغدد الصماء الشائعه بين عامه الناس بالرغم من اختلاف الاسباب المسببه للمرضين. الهدف من الدراسه تقييم هرمونات الغده الدرقيه بين النساء السودانيات المصابات بمتلازمه تكيس المبايض .

تم جمع 50 عينه من النساء المصابات حديثا بمتلازمه تكيس المبايض و50 من الافراد الاصحاء كمجموعه ضابطه في الفتره من فبراير الي مايو 2017 من مركز السر ابو الحسن للخصوبه وتم اخذ المعلومات الطبيه وتم قياس مستوي الهرمونات (الثيرويد استميلاتين هرمون -ثيروكسين -تري ايودوثيرونين) بي استخدام طريقه الاليزا وتم تحليل النتائج باستخدام الحزمه الاحصائيه للعلوم الاجتماعيه spss برنامج كمبيوتر .

اظهرت الدراسه انه لا يوجد اختلاف في هرمونات الغده الدرقيه بين النساء المصابات بي متلازمه تكيس المبايض المتوسط  $\pm$  الانحراف المعياري للمرضي مقارنة بي مجموعته التحكم

بالنسبه ثيرويد استميلاتين هرمون  $1.68 \pm 2.37$  مقابل  $0.88 \pm 2.09$  وكان الاحتمال الحصائي للمقارنه =0.2

ثيروكسين هرمون  $34.0 \pm 95.3$  مقابل  $22.0 \pm 95.0$  وكان الاحتمال الاحصائي للمقارنه =0.9

تري ايودو ثيرونين هرمون  $0.74 \pm 1.56$  مقابل  $0.70 \pm 1.69$  كان الاحتمال الاحصائي للمقارنه =0.3

اظهرت الدراسه ان هناك اختلاف معنوي في مؤشر كتله الجسم بين النساء المصابات بمتلازمه تكيس المبايض في مبيض واحد او مبيضين وكان الاحتمال الاحصائي للمقارنه =0.04. ايضا اظهر مستوي المعنويه ان هناك علاقه معنويه بين مؤشر كتله الجسم لدي النساء الذين يعانون من متلازمه تكيس المبايض ومستوي ثيرويد استميلاتين هرمون (معامل بيرسون للارتباط =0.316 ومستوي المعنويه =0.026).

كان تردد امراض الغده الدرقيه في الدراسه بنسبه 14% انخفاض في نشاط الغده الدرقيه و2% زياده في نشاط الغده الدرقيه .

خلصت الدراسه انه لا يوجد اختلاف في هرمونات الغده الدرقيه بين النساء المصابات بمتلازمه تكيس المبايض لكن يوجد تردد في امراض الغده الدرقيه بي نسبه 14% انخفاض في نشاط الغده و2% زياده في نشاط الغده .

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