MINAR International Journal of Applied Sciences and Technology
ISSN: 2717-8234
Article type: Research Article

Received: 20/04/2026 **Accepted:** 15/05/2026 **Published:** 01/06/2026

SEX AND AGE-DEPENDENT CHANGES IN LIPID PROFILE AND ANTIOXIDANT ENZYMES IN IRAQI PATIENTS WITH HYPOTHYROIDISM

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Abstract

A common endocrine condition called hypothyroidism is brought on by inadequate thyroid hormone production. It affects approximately 0.6% of the population. Thyroid hormones have physiological and clinical effects on carbohydrate and lipid metabolism. The purpose of this study is to evaluate, by age and sex, how thyroid hormone functions affect lipid profile parameters as well as antioxidant enzyme levels in Iraqi hypothyroidism patients. Using spectrophotometric enzymatic techniques based on absorbance measurements in the formation of a colored complex, serum levels of catalase (CAT), superoxide dismutase (SOD), and glutathione peroxidase (GPX), the lipid profile (triglycerides (TG), total cholesterol (TC), high-density lipoproteins (HDL), low-density lipoproteins (LDL), and very low-density lipoproteins (VLDL). Results indicated that patients with hypothyroidism had significantly higher CAT concentration (*P<0.0001) than healthy people from control group in all age and sex categories. Glutathione peroxidase (GPX) & superoxide dismutase (SOD), two antioxidant enzymes of hypothyroid people, were dramatically reduced by exposure to oxidative stress (P<0.0001). Lipid profile studies found TC, TG, LDL, and VLDL in patients with hypothyroidism were significantly higher among both younger and older age groups. whereas the levels of HDLa dropped. Age was found to be strongly positively correlated with both GPX and fat (TC, LDL, and VLDL). Higher cholesterol and antioxidant enzyme deficiencies were shown to be statistically significant differences between the patient group and the control group among age- and sex-matched groups, indicating the clinical importance of oxidative stress.

Keywords: *Hypothyroidism, Total Cholesterol, Glutathione peroxidase, Catalase, HDL, Age variable.*

http://dx.doi.org/10.47832/2717-8234.27.28

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