

# **Determination of the Relationship between Thyroid Hormones, Anti- TPO and Anti-Tg and Depression, Anxiety and Quality of Life in Patients with Hashimoto's Thyroiditis**

Stj. Dr. Melis AYDEMİR  
Prof. Dr. Ertuğrul TAŞAN

Bezmialem Vakıf University  
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# Plan



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# Hashimoto's Thyroiditis

Hashimoto's disease, also known as autoimmune thyroiditis, is accepted as the most common autoimmune disease as well as being the most common endocrine disease causing hypothyroidism. The disease is characterized by anti-thyroid peroxidase (anti-TPO) and anti-thyroglobulin (anti-Tg) detected in the circulation.



Hypothyroidism is a syndrome that arises from a deficiency of thyroid hormones.

Depression and anxiety disorders are very common psychiatric illnesses. In recent years, it has been discovered that there is a relationship between autoimmunity-related diseases such as Hashimoto's thyroiditis, which is known to be more common in women, and psychiatric disorders.

If depression and anxiety are not treated, they adversely affect mental health and quality of life. Both of these conditions can occur as a result of some chronic diseases.

Studies have shown that untreated hypothyroidism is associated with depression.

# Aim and Importance of Research



- The aim of our study is to show whether there is a relationship between the blood levels of thyroid hormones and thyroid auto antibodies and depression, anxiety and quality of life in patients with Hashimoto's thyroiditis. We think that our research will contribute to the subject, thus contributing to the elimination of depression, anxiety and quality of life problems that can be seen in patients with Hashimoto's thyroiditis.



**MATERIAL**

**and**

**METHOD**

# Study Design



Our study will include 47 patients diagnosed with Hashimoto's Thyroiditis according to hormone and antibody tests, who applied to the Endocrinology and Metabolism Polyclinic of Bezmialem Vakıf University Faculty of Medicine.

Data on thyroid hormones, Anti-TPO and Anti-Tg levels will be used in the controls that the patients have come for in the last 1 month. Beck Depression Inventory, Beck Anxiety Rating Scale and World Health Organization Quality of Life Scale will be administered to the patients in the presence of a doctor.



# Analysis of Data



A minimum of 47 patients are required for our research, with a confidence level of 95%, a power of 80%, and a correlation coefficient of  $r=0.40$ . The results will be analyzed with the IBM SPSS Statistics 22.0 package program. The relationship between continuous variables will be examined with the Pearson correlation coefficient. The mean standard deviation and correlation coefficient ( $r$ ) will be given as descriptive statistics.  $p<0.05$  will be considered statistically significant.

# RESULTS

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In our study, we applied Beck Depression Inventory, Beck Anxiety Rating Scale and World Health Organization Quality of Life Scale tests to 47 patients diagnosed with Hashimoto's thyroiditis. While we found a statistically significant positive high correlation between depression and anti-TPO, moderate correlation with anti-Tg, we could not find a correlation with TSH and T4. In addition, we found a statistically significant positive moderate correlation between anxiety and anti-TPO and anti-Tg, but we could not find a correlation with TSH, T4. There was a statistically significant positive low correlation between quality of life and anti-TPO; however, there was no correlation with anti-Tg, TSH, T4.

			Depresyon	Ansiyete **	YaşamKalitesi	AntiTPO	AntiTG	TSH	T4
Spearman's rho	Depresyon	Correlation Coefficient	1,000	,744 **	,547 **	,761 **	,676 **	0,045	-0,063
		p		0,000	0,000	0,000	0,000	0,766	0,675
		N	47	47	47	47	47	47	47
	Ansiyete	Correlation Coefficient	,744 **	1,000	,561 **	,546 **	,470 **	-0,057	-0,130
		p	0,000		0,000	0,000	0,001	0,704	0,383
		N	47	47	47	47	47	47	47
	YaşamKalitesi	Correlation Coefficient	,547 **	,561 **	1,000	,400 **	0,201	0,053	-0,034
		p	0,000	0,000		0,005	0,176	0,723	0,822
		N	47	47	47	47	47	47	47
	AntiTPO	Correlation Coefficient	,761 **	,546 **	,400 **	1,000	,661 **	-0,046	-0,014
		p	0,000	0,000	0,005		0,000	0,760	0,923
		N	47	47	47	47	47	47	47
	AntiTG	Correlation Coefficient	,676 **	,470 **	0,201	,661 **	1,000	0,106	0,059
		p	0,000	0,001	0,176	0,000		0,477	0,692
		N	47	47	47	47	47	47	47
	TSH	Correlation Coefficient	0,045	-0,057	0,053	-0,046	0,106	1,000	-,395 **
		p	0,766	0,704	0,723	0,760	0,477		0,006
		N	47	47	47	47	47	47	47
	T4	Correlation Coefficient	-0,063	-0,130	-0,034	-0,014	0,059	-,395 **	1,000
		p	0,675	0,383	0,822	0,923	0,692	0,006	
		N	47	47	47	47	47	47	47

# Discussion



The results of our research show that anti-TPO and anti-Tg levels are associated with depression, anxiety and quality of life. Contrary to other studies, when we divided anti-TPO levels as high and very high, we found that depression and anxiety were more severe in the very high group, but the quality of life was lower.

As a result, according to the results of the research, physicians can refer their patients to psychiatric control by looking at the antibody level. Thus, a significant increase in the quality of life of patients can be achieved and worsening of depression and anxiety can be prevented.

# References



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