

# EVALUATION OF QUALITY OF LIFE IN EUTHYROID PATIENTS WITH HIGH AUTOANTIBODY TITERS

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## OBJECTIVES

Thyroid dysfunction affects quality of life (QoL) in untreated patients. However, patients with high thyroid autoantibodies complain about symptoms that resemble thyroid dysfunction even if they are euthyroid. The aim of this study was to evaluate QoL in euthyroid patients with elevated thyroid autoantibodies.

## METHODS

Patients who admitted to Endocrinology clinic with symptoms of thyroid dysfunction and no other disease were included in the study. Thyroid function tests and thyroid autoantibodies (anti-thyroglobulin and anti-thyroid peroxidase) were studied. Patients with normal thyroid functions but high autoantibody titers (n=100) were included as the patient group. Healthy individuals with normal thyroid functions and normal autoantibody (n=100) titers were included as the control group. Age, gender, marital status, education level, free T4, TSH, symptoms of thyroid dysfunction were compared between the two groups. Short Form-36 (SF-36) questionnaire was used to assess and compare QoL between the groups. The lower the score, the worse the QoL was. Beck Depression and Anxiety Inventories were used to determine whether the impact of thyroid autoantibody positivity on patients' QoL is affected by the presence of depression and anxiety. The higher the score, the more the patients had depression and anxiety.

**Table 1.** Comparison of demographical variables, free T4 and TSH levels between patient and control groups.

	Patients (n=100)	Controls (n=100)	p
Age (years)	36.8 ± 13.7	36.4 ± 13.8	0.756
Gender - n (%)			0.818
Male	10 (10)	11 (11)	
Female	90 (90)	89 (89)	
Marital status - n (%)			0.053
Married	66 (66)	50 (50)	
Single	30 (30)	47 (47)	
Widow/divorced	4 (4)	3 (3)	
Education level- n (%)			0.221
Illiterate	0 (0)	0 (0)	
Primary school	20 (20)	22 (22)	
Secondary school	15 (15)	8 (8)	
High school	23 (23)	17 (17)	
University	42 (42)	53 (53)	
Free T4 (ng/dL)	1.2 ± 0.3	1.1 ± 0.2	0.226
TSH (µIU/mL)	2.5 ± 1.5	2.04 ± 1.2	0.017

**Table 2.** Comparison of SF-36, Beck Depression and Beck Anxiety scores between patient and control groups.

	Patients (n = 100)	Controls (n = 100)	p
Physical functioning	81.6 ± 18.8	88.7 ± 15.2	0.004
Role physical	76.6 ± 31.7	90.6 ± 21.4	<0.001
Bodily pain	73.2 ± 20.5	70.9 ± 18.09	0.350
General health	65.5 ± 11.4	67.2 ± 10.5	0.263
Role emotional	69.0 ± 34.4	85.9 ± 27.8	<0.001
Social functioning	56.6 ± 16.7	62.3 ± 13.8	0.017
Mental health	63.8 ± 17.02	73.8 ± 14.2	<0.001
Vitality	57.8 ± 19.3	71.8 ± 17.8	<0.001
Physical component score	71.0 ± 13.06	77.8 ± 11.05	<0.001
Mental component score	62.5 ± 13.9	72.0 ± 11.4	<0.001
Beck Depression score	9.7 ± 6.8	5.4 ± 4.9	<0.001
Beck Anxiety score	10.8 ± 9.4	6.8 ± 5.5	<0.001

## RESULTS

Age, gender, marital status, education level and free T4 were not different between the groups (Table 1). TSH levels were significantly higher in the patient group (p = 0.017, Table 1). Symptoms of thyroid dysfunction were observed more frequently in the patient group than the control group. Physical functioning (p=0.004), role physical (p<0.001), role emotional (p<0.001), social functioning (p=0.017), mental health (p<0.001), vitality (p<0.001), physical (p<0.001) and mental (p<0.001) component scores were significantly lower in patients compared to controls. Beck Depression (p<0.001) and Anxiety (p<0.001) Inventory scores were significantly higher in the patient group. Only bodily pain and general health were similar between the groups (Table 2). In the patient group, all SF-36 domains were negatively correlated with both Beck Depression and Beck Anxiety scores, but no correlations with freeT4 and TSH levels were found. Bodily pain and general health were negatively correlated with disease duration. In regression analysis TSH did not affect SF-36, Beck Depression and Beck Anxiety scores, but had an effect on presence of some of the symptoms, namely muscle weakness, numbness, slow motion, slow speech and hoarseness (p's 0.004, 0.02, 0.02, 0.001 and 0.001, respectively).

## CONCLUSIONS

This study revealed that QoL in euthyroid patients with high autoantibody titers was worse compared to healthy controls, and also negatively affected with depression and anxiety. Both physical and mental components of QoL are affected. QoL parameters were correlated with depression and anxiety, but TSH levels did not have an effect on QoL. As a result, thyroid autoantibodies may affect QoL and well-being independent of thyroid function tests.