Original Investigation
Orijinal Araştırma

DOI: 10.4274/turkderm.galenos.2020.36776
Turkderm-Turk Arch Dermatol Venereol 2021;55:87-91

Type D personality and quality of life in alopecia areata and vitiligo patients: A cross-sectional study in a Turkish population

Alopesi areata ve vitiligo hastalarında D tipi kişilik ve yaşam kalitesi: Türk toplumunda kesitsel bir çalışma

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Abstract

Background and Design: Vitiligo and alopecia areata (AA) can lead to stigma, shame, and embarrassment, and all of which can potentially result in social stress and poor quality of life (QoL). The incidence of Type D personality is higher in those with psychosomatic diseases. This study aimed to investigate the incidence of Type D personality in patients with vitiligo and AA in a Turkish population.
Materials and Methods: This study prospectively enrolled 39 patients with AA, 46 patients with vitiligo, and 46 healthy individuals as controls. All the patients and healthy volunteers completed the Hospital Anxiety and Depression scale (HAD), Type D Personality scale (DS-14), and Dermatology Life Quality index.
Results: There was no significant difference in the frequency of Type D personality among the three groups. The mean negative affectivity scores of the AA and vitiligo groups were significantly higher than those of the healthy controls (p=0.001). The mean HAD-A scores of the AA and vitiligo groups were significantly higher than those of the healthy controls (p=0.002).
Conclusion: Our results revealed a relationship between the DS-14 total score and QoL in patients with vitiligo, with a higher total score associated with poor QoL. On the other hand, we did not detect this relationship in patients with AA. Type D personality is associated with elevated levels of psychological distress; thus, it may be related to poor QoL in vitiligo patients. Although we found high rates of Type D personality in patients with AA or vitiligo, there was no significant difference in the prevalence of Type D personality in the patient populations compared with that in the healthy control group.
Keywords: Type D personality, vitiligo, alopecia areata

Öz

Amaç: Vitiligo ve alopesi areata (AA) sosyal strese neden olabilen ve yaşam kalitesini düşüren damgalanma ve utanmaya yol açabilen hastalıklardır. Psikosomatik hastalığı olanlarda D Tipi kişiliğin görülme sıklığı yüksektir. Bu çalışmanın temel amacı, Türk toplumunda vitiligo ve AA hastalarında D Tipi kişilik insidansını araştırmaktır.
Gereç ve Yöntem: Otuz dört AA hastası ve 46 vitiligo hastası ve kontrol grubu olarak 46 sağlıklı birey prospektif olarak çalışmaya alındı. Tüm hastalar ve sağlıklı gönüllülerden Hastane Anksiyete ve Depresyon ölçeği (HAD-Ö), D Tipi Kişilik ölçeği (DS-14) ve Dermatoloji Yaşam Kalitesi indeksini doldurması istendi.

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Received/Geliş Tarihi: 29.05.2020 **Accepted/Kabul Tarihi:** 17.12.2020 **ORCID:** orcid.org/0000-0003-3090-656X

Cite this article as: Atış G, Tekin A, Altan Ferhatoğlu Z, Göktay F, Yaşar Ş, Aytekin S. Type D personality and quality of life in alopecia areata and vitiligo patients: A cross-sectional study in a Turkish population. Turkderm-Turk Arch Dermatol Venereol 2021;55:87-91

Bulgular: Üç grup arasında D Tipi kişilik sıklığı açısından anlamlı fark yoktu. AA grubu ve vitiligo grubunun D Tipi kişilik ölçeğinin olumsuz duygulanım alt ölçeğinin ortalama skorları sağlıklı kontrollerden anlamlı olarak yüksekti (p=0,001). AA ve vitiligo gruplarındaki ortalama HAD-Ö ölçeğinin anksiyete (HAD-A) skorları sağlıklı kontrollerden anlamlı olarak yüksekti (p=0,002).
Sonuç: Sonuçlarımız, vitiligo hastalarında yüksek D Tipi kişilik ölçeği (DS-14) toplam skorunun düşük yaşam kalitesi ile ilişkili olduğunu ortaya koymuştur. Öte yandan AA'lı hastalarda bu ilişki saptanmamıştır. D Tipi kişilik yüksek psikolojik distres seviyesiyle ile ilişkili olduğundan, D Tipi kişilik vitiligo hastalarında düşük yaşam kalitesi ile ilişkili olabilir. Her ne kadar AA veya vitiligo hastalarında D Tipi kişiliğinde yüksek oranlar bulsak da, hasta popülasyonlarında D Tipi kişiliğinin prevalansı sağlıklı kontrol grubuna göre anlamlı farklılık göstermemiştir.
Anahtar Kelimeler: D tipi kişilik, vitiligo, alopesi areata

Introduction

The brain and skin originate from ectoderm; thus, it is not surprising that skin diseases and psychiatric disorders and difficulties are closely related. Skin diseases, especially those that affect visible areas, such as vitiligo and alopecia areata (AA), can lead to stigma, shame, and embarrassment, and all of which can potentially result in social stress[1]. Vitiligo is a dermatological disease that is accompanied by depigmented lesions. Disfigurement caused by these lesions results in low self-esteem and poor quality of life (QoL). Patients with vitiligo may exhibit a range of psychiatric comorbidities, such as anxiety, depression, suicidal ideation, and social phobias[2]. AA is a form of nonscarring hair loss affecting the scalp, eyebrows, eyelashes, and other body parts. Hair loss can lead to emotional stress and poor self-esteem. Psychiatric disorders were found in 70% of AA patients[1]. Both vitiligo and AA are considered psychosomatic skin disorders and have a negative effect on QoL[3].

Type D personality (distressed personality) is considered a stable personality type, which is characterized by two dimensions: a high level of social inhibition (SI) and negative affectivity (NA). Irritability, anxiety, and feelings of dysphoria, in addition to avoiding social interactions, are features of Type D personality[4]. The incidence of Type D personality is increased in those with psychosomatic diseases with a poor prognostic course[5]. Type D personality is also common in patients with psoriasis[4-6]. There are no studies in the literature on the incidence of Type D personality in vitiligo and AA patients. This study aimed to investigate the incidence of Type D personality in patients with vitiligo and AA in a Turkish population and to detect the relationship between Type D personality and QoL in vitiligo and AA patients by comparing their QoL with a healthy population.

Material and Methods

This study prospectively enrolled 39 patients with AA and 46 patients with vitiligo admitted to our dermatology outpatient clinics. A total of 46 healthy individuals were enrolled as controls. A dermatologist collected and recorded the participants' sociodemographic data in a standard form. All the patients and healthy volunteers completed the Hospital Anxiety and Depression scale (HAD-S), Type D Personality scale (DS-14), and Dermatology Life Quality index (DLQI).

Our study was approved by the Ethical Committee of Haydarpaşa Numune Training and Research Hospital, University of Health Sciences Turkey (approval number: HNEAH KAEK 2016/KK/64).

Sociodemographic form

The form included sociodemographic data, such as age, sex, marital status, working status, educational status, smoking habits, alcohol consumption, and accompanying medical problems.

HAD-S

The scale was developed by Zigmond and Snaith[7]. On the scale, increased scores on the anxiety (HAD-A) or depression (HAD-D) subscales are associated with elevated levels of anxiety or depression. Aydemir et al.[8] previously confirmed the validity and reliability of the scale in a Turkish population.

DS-14

The scale was developed by Denollet[9]. DS-14 has two subscales: NA and SI. The scale includes 14 items, and each item is scored between 0 and 4. Individuals who score 10 points and above in the NA and SI subscales are considered to have Type D personality. The validity and reliability of DS-14 in a Turkish population were confirmed by Alçelik et al.[10]

DLQI

The DLQI was developed by Finlay. Higher scores on the scale are associated with impaired QoL[11]. Oztürkcan et al.[12] demonstrated the validity and reliability of the scale for a Turkish population.

Statistical Analysis

The SPSS 16.0 program for Windows (SPSS Inc., Chicago, IL, USA) was used to analyze the data. The sample size of the study was calculated based on the 95% confidence interval. The normality distribution of continuous variables was evaluated using the Shapiro-Wilk test. Differences between categorical variables in groups were determined using a chi-square test. For comparisons of variables that did not fit a normal distribution, the Kruskal-Wallis test was conducted. The Bonferroni correction was used for post-hoc analyses. Spearman's correlation test was performed to evaluate correlations of the scales. The significance level was accepted as $p<0.05$ for all tests.

Results

There were no statistically significant differences in sociodemographic data among the AA, vitiligo, and healthy groups (Table 1).

The frequency of Type D personality was 25.6% (n=10) in the AA group, 23.9% (n=11) in the vitiligo group, and 10.9% (n=5) in the healthy group. There was no significant difference in the frequency of Type D personality among the three groups. The mean NA scores of the AA (14.2±7.9) and vitiligo (13.2±6.8) groups were significantly higher than those of the healthy controls (8.6±6.2; p=0.001). The mean HAD-A scores of the AA (8.6±4.8) and vitiligo (8.6±4.2) groups were significantly higher than those of the healthy controls (5.9±3.6; p=0.002; (Table 2).

The DS-14 total score was positively correlated with the HAD-A (r=0.51) and HAD-D (r=0.61) scores in the AA group. The NA score was positively correlated with the HAD-A (r=0.57) and HAD-D (r=0.62) scores in the AA group. SI was positively correlated with HAD-A (r=0.34) and HAD-D (r=0.52) scores in the AA group (Table 3).

The DS-14 total score was positively correlated with HAD-A (r=0.49), HAD-D (r=0.59), and DLQI (r=0.30) scores in patients with vitiligo. The NA score was positively correlated with HAD-A (r=0.44) and HAD-D (r=0.31) scores in vitiligo patients. The SI score was positively correlated with the HAD-D score in patients with vitiligo (r=0.65). The HAD-A score was also positively correlated with the DLQI score in vitiligo patients (r=0.59; Table 4).

Discussion

This is the first study in the literature to investigate the prevalence of Type-D personality in patients with AA and vitiligo.

Previous studies demonstrated that Type D personality was associated with tension-type headache[13], schizophrenia[14], and dermatological diseases, such as psoriasis[4-6]. Tekin et al.[5] reported that the frequency

Table 1. Comparison of sociodemographic features of groups

		Alopecia areata group, mean ± SD or (n, %)	Vitiligo group, mean ± SD or (n, %)	Healthy controls, mean ± SD or (n, %)	p
Age		33.5±11.6	39±14.8	35.4±8.7	0.120
Gender	Female	16 (41.0)	20 (43.5)	20 (43.5)	0.950
	Male	23(59)	26 (56.5)	26 (56.5)	
Marital status	Married	23 (59)	30 (65.2)	32 (69.6)	0.623
	Single	16 (41)	16 (34.8)	14 (30.4)	
Education	Primary	19 (48.7)	20 (43.5)	17 (37)	0.727
	High	11 (28.2)	12 (26.1)	17 (37)	
	University	9 (23.1)	14 (30.4)	12 (26.1)	
Occupation	Yes	24 (61.5)	22 (47.8)	31 (67.4)	0.159
	No	15 (38.5)	24 (52.2)	15 (32.6)	

SD: Standard deviation

Table 2. Comparisons of DS-14, HAD-A, HAD-D, and DLQI scores and disease severity of the groups

Scale		Alopeciaareata group, mean ± SD	Vitiligo group, mean ± SD	Healthy controls, mean ± SD	p
DS-14, negative affect		14.2±7.9	13.2±6.8	8.6±6.2	**0.001[1]**
DS-14, social inhibition		4.05±6.2	5.8±5.3	5.2±4.4	0.287[1]
DS-14 total		18.2±12.5	18.9±9.9	13.9±9.1	0.054[1]
HAD-A		8.6±4.8	8.6±4.2	5.9±3.6	**0.002[1]**
HAD-D		6.03±3.7	7.3±4.2	6.04±3.4	0.197[1]
DLQI		9.3±5.3	9.4±4.9	-	0.804[2]
Type D	Present, n(%)	10 (25.6)	11 (23.9)	5 (10.9)	0.162[1]
	Absent, n(%)	39 (74.4)	44 (95.7)	41 (89.1)	

[1]Comparisons of both groups and healthy controls, [2]Comparisons of the alopecia areata and vitiligo groups
SD: Standard deviation, DS-14: Type D Personality scale, DLQI: Dermatology Life Quality Index, HAD-D: Hospital Anxiety and Depression scale-Depression, HAD-A: Hospital Anxiety and Depression scale-Anxiety

Table 3. Correlations of the scores of the various scales in the alopecia areata group

		DS-14	NA	SI	HAD-A	HAD-D	DLQI
DS-14	r	-	**0.927**	**0.876**	**0.507**	**0.605**	0.149
	p	1.000	**<0.001**	**<0.001**	**0.001**	**<0.001**	0.365
NA	r	-	-	**0.666**	**0.570**	**0.618**	0.072
	p	-	1.000	**<0.001**	**<0.001**	**<0.001**	0.662
SI	r	-	-	-	**0.337**	**0.516**	0.156
	p	-	-	1.000	**0.336**	**0.001**	0.343
HAD-A	r	-	-	-	**-**	**0.576**	0.055
	p	-	-	-	1.000	**<0.001**	0.738
HAD-D	r	-	-	-	-	-	0.090
	p					1.000	0.588

DS-14: Type D Personality scale, SI: Social inhibition, NA: Negative affectivity, HAD-D: Hospital Anxiety and Depression scale-Depression, HAD-A: Hospital Anxiety and Depression scale-Anxiety, DLQI: Dermatology Life Quality Index

Table 4. Correlations of the scores of the various scales in the vitiligo group Spearman's rho p

		DS-14	NA	SI	HAD-A	HAD-D	DLQI
DS-14 total	r	-	0.843	0.710	0.488	0.586	0.296
	p	1.000	<0.001	<0.001	0.001	<0.001	0.046
NA	r	-	-	0.286	0.444	0.314	0.278
	p	-	1.000	0.054	0.002	0.034	0.062
SI	r	-	-	-	0.272	0.646	0.186
	p	-	-	1.000	0.067	<0.001	0.215
HAD-A	r	-	-	-		0.502	0.588
	p	-	-	-	1.000	<0.001	<0.001
HAD-D	r	-	-	-	-	-	0.289
	p	-	-	-	-	1.000	0.051

DS-14: Type D Personality scale, SI: Social inhibition, NA: Negative affectivity, DLQI: Dermatology Life Quality Index, HAD-D: Hospital Anxiety and Depression scale-Depression, HAD-A: Hospital Anxiety and Depression scale-Anxiety

of Type D personality was 33.4% in psoriasis patients in a Turkish population and Type D personality negatively affected the QoL of psoriasis patients. In our study, although the difference in the frequency of Type D personality in the three populations was not statistically significant, the frequency of this personality type was higher in the AA and vitiligo groups than in the healthy group. Thus, it seems that Type D personality is more common in patients with AA and vitiligo.

The present study is the first to investigate Type D personality in patients with AA and vitiligo. To the best of our knowledge, only a limited number of studies have investigated the relationship between personality traits and AA or vitiligo. Previous reports showed that physical appearance influenced AA patients' psychological status. Negative feelings, such as social discomfort, fear, low self-esteem, anger, and anxiety, were more common in AA patients[15,16]. In our study, the NA scores of AA patients were higher than those of healthy controls. Alfani et al.[17] reported that the incidence of depression and anxiety was higher in patients with AA than in healthy controls. Brajac et al.[18] found that trait anxiety was more common in patients with AA. In the present study, HAD-A scores of AA patients were higher than those of healthy controls, consistent with the literature.

Previous research demonstrated that patients with vitiligo suffered from psychological stress because of disease-related lesions[19]. The research also showed that vitiligo can be accompanied by impaired self-esteem and QoL, sleep disturbances, embarrassment, and psychiatric disorders, such as depression, anxiety, and paranoia, in addition to social avoidance and limited personal or sexual relationships. Stigmatization was common in patients with vitiligo[19]. Krüger and Schallreuter[19] showed that avoidance behaviors, such as not swimming/bathing, taking part in sports, getting undressed in changing rooms, or shaking hands, were common (66.7%) in patients with vitiligo. In our study, the SI scores of the vitiligo group were higher than those of the healthy controls, although the difference was not statistically significant. The higher SI scores of the vitiligo group may be explained by social avoidance in these patients. As reported previously, socially inhibited individuals may be more sensitive to the reactions of others[20]. In this study, HAD-A scores were higher in the vitiligo group, consistent with the literature.

Type D personality can be accompanied by poor QoL in patients with dermatological diseases. Molina-Leyva et al.[4] reported that Type D personality was associated with poor QoL in patients with psoriasis. Tekin et al.[5] also found a relationship between increased Type D personality scores and poor QoL in psoriasis patients. In another study, stigmatization was associated with Type D personality in patients with psoriasis[20]. Our results revealed a relationship between the DS-14 total score and QoL in patients with vitiligo, with a higher total score associated with poor QoL. Meanwhile, we did not detect this relationship in patients with AA. As Type D personality is associated with elevated levels of psychological distress, Type D personality may be related to poor QoL in vitiligo patients. Future studies are needed to explain the background of this relationship.

Study Limitations

Our study has some limitations. First, psychiatric evaluations of the patients were made only with questionnaires, and detailed psychiatric examinations could not be performed. Second, this study was conducted in a single center in İstanbul; therefore, our data may not be representative of data in Turkey related in psychiatric disorders of AA and vitiligo. Multicenter data collection is needed to have a comprehensive knowledge of psychiatric disorders of AA and vitiligo patients in Turkey.

Conclusion

Although we found significant rates of Type D personality in patients with AA or vitiligo, there was no significant difference in the prevalence of Type D personality in the patient populations compared with that in the healthy control group. Future studies can help detect the prevalence of Type D personality in other dermatological diseases.

Ethics

Ethics Committee Approval: Our study was approved by the Ethical Committee of Haydarpaşa Numune Training and Research Hospital, University of Health Sciences Turkey (approval number: HNEAH KAEK 2016/KK/64).

Informed Consent: It was obtained.

Peer-review: Externally peer-reviewed.

Authorship Contributions

Surgical and Medical Practices: G.A., A.T., Z.A.F., Concept: G.A., A.T., Z.A.F., F.G., Ş.Y., S.A., Design: G.A., A.T., Data Collection or Processing: G.A., A.T., Z.A.F., Analysis or Interpretation: G.A., A.T., Z.A.F., F.G., Ş.Y.,

S.A., Literature Search: G.A., A.T., Z.A.F., F.G., Ş.Y., S.A., Writing: G.A., Z.A.F.

Conflict of Interest: No conflict of interest was declared by the authors.

Financial Disclosure: The authors declared that this study received no financial support.

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