Original Article

Distress tolerance levels in alopecia areata patients

Mehmet Gurkan Gurok[1], Nese Gocer Gurok[2]

[1]Department of Psychiatry, Faculty of Medicine, Firat University, Elazig, Turkey
[2]Department of Dermatology, Fethi Sekin State Hospital, Elazig, Turkey

Abstract

Aim: Alopecia areata (AA) is a clinical manifestation that is characterized with hair loss with hairs in sharp borders, and in a round or oval shape on the scalp or in any part of the body. It is considered that genetic factors, infections, autoimmune factors, neuropeptides and psychological factors play roles in its etiopathogenesis. As psychological traumas have an important role in the onset and exacerbation period of the disease, it is also considered as a psychosomatic one. Distress Tolerance (DT) is defined as the capacity to experience and survive negative psychological situations. DT is considered important in etiopathogenesis of diseases, and it is also considered as one of the factors that determine the response to treatment and is targeted to increase in psychotherapy. In the present study, the purpose was to determine the Distress Tolerance levels of AA patients, and compare them with healthy controls.

Material and Methods: A total of 36 patients, who applied to the dermatology clinic, and who did not have any other diseases except AA, were included in the study. In the Control Group, 36 healthy volunteers, who were matched in terms of age and gender with the Patient Group, and who did not have any physical or mental illness, were included. The Sociodemographic and Clinical Data Form (SCDF), Distress Tolerance Scale (DTS), and Hospital Anxiety and Depression Scale (HADS) were given to the Patient and Control Group.

Results: No significant differences were detected between the groups in terms of age and gender. A significant difference was detected in the Patient Group in terms of both the total score of DTS (p<0.001) and the DTS tolerance, DTS regulation and DTS self-efficacy subscales (p=0.004, p=0.008, p=0.006, respectively). When the groups were analyzed in terms of HADS results, the anxiety levels were higher at a significant level in the Patient Group (p<0.001), and no significant differences were detected in terms of depression scores (p=0.57).

Conclusions: In this study, the DT levels were determined as low in AA patients. The DT levels in AA, which is also considered as a psychosomatic disease, might be important for the onset, course and treatment of the disease. Meanwhile, it may also be aimed to increase the DT levels during the psychotherapy process.

Keywords: Alopecia areata; distress tolerance; anxiety; depression

INTRODUCTION

Alopecia areata (AA) is a disorder characterized by scarfree loss of hair, especially on the scalp or anywhere in the body, in sharp, oval-shaped or round patch areas. Sometimes it can progress to the total alopecia, where all hair is lost, as well as the universal form in which all body hair is lost. It is seen equally among men and women. It can be seen in any group and person without discrimination of race, age or gender. Its etiology is thought to be multifactorial; and autoimmune factors, genetic factors, infections, psychological factors and neuropeptides play a role (1). Psychiatric factors are very important among the triggering factors and psychiatric assistance should be provided to the patient if necessary (2).

It is also considered as a psychosomatic disease as mental trauma plays an important role in initial and inflammation phase of the disease (3, 4). However, there are psychiatric disorders such as anxiety disorders, obsessive compulsive disorder (OCD), depression, personality disorders that are reported to show comorbidity with AA (5-7). The presence of many psychiatric disorders and factors associated with AA suggests that the disease has a mutual interaction with the mental state. From this point of view, we can point out a mutual interaction in which mental disorders and stressful life events adversely affect the course of the disease and this causes increased mental problems.

Distress tolerance (DT) can be defined as the ability to experience and endure negative psychological conditions.

Although distress is deemed an emotional condition, it is accepted that it emerges as a result of cognitive or physical processes (8). DT covers all emotional states and also indicates whether these conditions can be controlled (9). Leyro et al. (10) expresses the level of distress tolerance as the capacity to withstand mental and/or physical events that are actually being experienced or perceived negative emotions and inhibitions. This can be interpreted as more psychiatric and psychosomatic symptoms can be seen in individuals with low capacity to tolerate distress. DT is thought to be one of the factors that determines the response to treatment and is intended to increase in psychotherapy as well as being important in the etiopathology of mental disorders (11). It is essential to identify psychiatric symptoms in AA patients and to study their relationship with the course of their disorders.

We believe that possible differences in DT level may have an effect on psychosomatic symptoms and therefore provide important data for AA. DT has been associated with many mental disorders such as depression, anxiety disorders, OCD, personality disorders and eating disorders (12-14). In this study, it was aimed to determine the levels of distress tolerance in AA patients and compare them with healthy controls.

MATERIALS and METHODS

Thirty-six patients between the ages of 18 and 65 who did not have any dermatological or mental disorder, admitted to Firat University Dermatology outpatient clinic between 03/15/2018 and 03/15/2019, were included in the study. As a control group, 36 healthy volunteers, who had any physical, dermatological or mental disorder, matched with the patient group in age and gender, were included in the study. Sociodemographic-Clinical Data Form (SCDF), Distress Tolerance Scale (DTS), Hospital Anxiety and Depression Scale (HADS) were applied to patients and healthy volunteers. Before starting the study, the necessary permission and approval was obtained from the Ethics Committee of Firat University, Faculty of Medicine (ethics committee approval number 04/02 dated 15.02.2018). All patients and controls were informed prior to this study and their consents were obtained.

Distress Tolerance Scale: Distress Tolerance Scale (DTS), developed by Simons and Gaher, aims to measure the personal differences in the level of distress tolerance. (8). The increase in scale scores indicates the high level of the participants' DT levels. In addition to the total score of the scale, there are 3 sub-scales: tolerance (DTS-1), regulation (DTS-2) and self-sufficiency (DTS-3). Validity and reliability studies in our country were conducted by Sargın et al. (15).

Hospital Anxiety and Depression Scale: It was developed to determine the risk of occurrence of anxiety and depression and to measure the severity and changes of these symptoms. It was developed mainly for people with physical diseases and those who are admitted to the primary health care group. The test is a self-assessment scale (16). Turkish validity and reliability studies were carried out (17).

Statistical analysis

SPSS Ver. 22 was used for statistical analysis. Descriptive statistics for continuous (quantitative) variables are expressed as mean, standard deviation, minimum and maximum values, while categorical variable number is expressed as (n) and percentage (%). The compatibility of the data to the normal distribution was examined statistically and visually and parametric tests were determined as it was compatible with the normal distribution. The characteristic features and categorical data of the patients were evaluated by Ki Square test. Two dependent groups were analyzed by data analysis, dependent groups by Student t test, independent two groups were analyzed using independent groups Student t test. ANOVA test was performed in cases where there are more than two variables. The correlation between numerical variables was evaluated by Pearson correlation analysis. The significance rate (α%5) was considered p =0.05.

RESULTS

Thirty-six AA patients and 36 healthy subjects, who were matched in age and gender with the patient group and had no history of psychiatric and dermatological disease in their past and present, as control group were included in the study. Sociodemographic information and psychiatric scale results of both groups were noted. Demographic information and scale results of patients are summarized in Table 1.

Table 1. Characteristics parameters of patients		
	Alopecia Areata	**Control**
	31.39±11.25	31.08±10.675
Marital Status	Female: 10 (27.7%)	Female:12 (33.3%)
	Male: 26 (72.3%)	Male: 24 (66.6%)
Gender	Positive= 4 (11.1 %)	
	Negative= 32 (88.9%)	
History	Positive = 5 (13.9%)	
	Negative = 31 (86.1%)	

No significant differences were found between the groups in terms of age and gender. The mean age of the patient group was 30.37±9.45 and the mean age of the control group was 32.97±10.57. In the patient group, significant difference was found in terms of the total score of DTS (patient; 42.083±12.968, control; 58.194±7.285) (p<001) and DTS tolerance (patient 25.694±8.667, control 36.555±5.546), DTS regulation (patient 7.305±3.709, control 9.583±2.545) and DTS self-sufficiency sub-scales (patient 9.08±3.06, control 12.055±2.0416) in comparison with the control group (p=0.004, p=0.008, p=0.006 respectively). When the groups were evaluated in terms

of HADS results, anxiety values were significantly higher in the patient group (HADS-A 3.277±1.11 for control group, 7.555±2.454 for patient group) (p < 0.001). There was no significant difference between patient and control groups in terms of depression values (Control HADS-D 3.361±0.682, patient group 3.5±1.298) (p=0.57) (Table-2).

Table 2. Comparison of psychometric values between groups			
	Alopecia Areata (n=36)	Control (n=36)	p[a]
DTS-Total	42.083 ± 12.968	58.194 ± 7.285	<0.001**
DTS-1	25.694 ± 8.667	36.555 ± 5.546	0.004*
DTS-2	7.305 ± 3.709	9.583 ± 2.545	0.008*
DTS-3	9.08 ± 3.06	12.055 ±2.0416	0.006*
HAD-A	3.277 ± 1.11	7.555 ± 2.454	<0.001**
HAD-D	3.361 ± 0.682	3.5 ± 1.298	0.57

DTS = Distress Tolerance Scale, HAD-A= Hospital Anxiety and Depression Scale-Anxiety, HAD-D= Hospital Anxiety and Depression Scale-Depression
[a] student t test, *p<0.05, **p<0.001

When the scores of all scales and sub-scales are evaluated; no significant correlation was found between scale scores and gender, marital status, nail involvement and duration of illness.

DISCUSSION

DT levels were found low in both total score and all sub-scales in AA patients as a result of this study. Moreover, it is noted that the anxiety scores of the patient group are higher. According to these results, it is understood that the AA patients evaluated in the study had low DT faculty and high anxiety levels.

In recent studies, AA which is considered a disease associated with multiple systems; shows frequent comorbidity with rheumatoid, atopic, thyroid, metabolic and psychiatric disorders (18). The clinic of AA, which frequently causes recurrent, chronic and cosmetic problems, was held responsible for the frequent occurrence of psychiatric comorbidity (19). In addition to trauma, stressful life events and anxiety are known as the most important triggering factors of AA (20). Psychiatric disorders such as anxiety disorders, alexithymia, OCD and depression are significantly higher in AA patients than in the general population (6,21). It is thought that stress and anxiety conditions may be associated with hair loss with various mechanisms. One of them is the deterioration caused by the corticotrophin releasing hormone (CRH) in the hair follicles due to the increased hypothalamic–pituitary–adrenal axis (HPA) triggered by stress. When the relationship between hair loss and psychiatric symptoms is evaluated in AA patients; it may be considered that higher psychiatric comorbidity will be seen in patients with higher AA severity, while more severe AA symptoms will be observed in patients with psychiatric disorders

(5, 22). This view is supported by the positive effects of psychiatric therapies such as antidepressants and hypnotherapy on the clinic of the disease (19). Although the relationship between psychiatric comorbidities and AA is well known, the mechanism of this relationship is still unclear and this matter needs to be clarified.

There are studies reporting that the relationship between anxiety, psychological problems and AA is related in both cause and effect and this impairs the quality of life in AA patients (23, 24). In the findings of this study, we found that anxiety levels in AA patients were higher than in the control group. These mental problems seen in patients and negative repercussions on quality of life may result in psychiatric disorders.

Distress tolerance can be defined as the ability of people to cope with their negative emotional lives. Inability to tolerate distress has been associated with many mental disorders such as depression, anxiety disorders, OCD, personality disorders and eating disorders (9, 12, 25). As far as we know, this study was the first in the literature to examine DT levels in AA patients. The low DT levels we obtained in AA patients may indicate that the patients experience mental problems more frequently and that they feel they cannot cope with these problems. Significant low levels in the distress tolerance subscales can be construed as the AA patients have low level of distress tolerance (DTS-1), ability to regulate distress (DTS-2) and their self-sufficiency in this regard (DTS-3) is not sufficient as they evaluate themselves. DT level is thought to be determined as multifactorial factors such as genetic, personality and environmental factors (11). Increasing DT levels with psychotherapy methods such as cognitive behavioral therapy, which its effectiveness has previously been shown, can be a good target for AA patients (11). Many mental symptoms such as anxiety, alexithymia observed in AA patients may be associated with DT levels. However, it is difficult to make such a generalization because this study was the first study to show low distress tolerance levels in AA patients. Further study is needed in this area.

There are some limitations of this study with the findings we have obtained. First of all, the number of patients may have a negative effect on the interpretation. Secondly, the data we obtain may be influenced by factors that we cannot foresee because they include the scales that patients fill themselves. Thirdly, the cross-sectional nature of the study has limited the data obtained from this area.

CONCLUSION

In this study, low DT levels were found in AA patients. DT levels in AA, which is also seen as a psychosomatic disease, may be important for the onset, course and treatment of the disease. It can also be aimed at increasing DT levels during psychotherapy. It is important for clinicians to notice psychiatric comorbidities in AA patients in terms of holistic approach to the patients. Thus, more appropriate support and treatment can be provided to the patients, both spiritually and dermatologically.

REFERENCES

1. Arca E, Kurumlu Z. Alopesi areatada etyopatogenez, klinik ve tanı. Dermatose 2003;2:83-9.
2. Garcia-Hernandez MJ, Ruiz-Doblado S, Rodriguez-Pichardo A, Camacho F. Alopecia areata, stress and psychiatric disorders: a review. J Dermatol 1999;26:625-32.
3. Madani S, Shapiro J. Alopecia areata update. J Am Acad Dermatol 2000;42:549-66.
4. Folks DG, Kinney FC. The role of psychological factors in dermatolologic conditions. Psychosomatics 1992;33:45-54.
5. Mulinari-Brenner. Psychosomatic aspects of alopecia areata. Clin Dermatol 2018;36:709-13.
6. Baghestani S, Zare S, Seddigh SH. Severity of depression and anxiety in patients with alopecia areata in Bandar Abbas, Iran. Dermatol Reports 2015;7:6063.
7. Ghanizadeh A, Ayoobzadehshirazi A. A review of psychiatric disorders comorbidities in patients with alopecia areata. Int J Trichology 2014;6:2-4.
8. Simons JS, Gaher RM. The distress tolerance scale: Development and validation of a self-report measure. Motiv Emot 2005;29:83-102.
9. Brown RA, Lejuez CW, Kahler CW, et al. Distress tolerance and early smoking lapse. Clin Psychol Rev 2005;25:713-33.
10. Leyro TM, Zvolensky MJ, Bernstein A. Distress tolerance and psychopathological symptoms and disorders: A review of the empirical literature among adults. Psychol Bull 2010;136:576-600.
11. Zvolensky MJ, Bernstein A, Vujanovic AA. Distress Tolerance: Theory, Research, and Clinical Applications: Guilford Publications 2011;80-3.
12. Anestis MD, Selby EA, Fink EL, et al. Themultifaceted role of distress tolerance in dysregulated eating behaviors. Int J Eat Disord 2007;40:718-26.
13. Brown RA, Palm KM, Strong DR, et al. Distress tolerance treatment for early-lapse smokers: rationale, program description, and preliminary findings. Behav Modif 2008;32:302-32.
14. Buckner JD, Keough ME, Schmidt NB. Problematic alcohol and cannabis use among young adults: the roles of depression and discomfort and distress tolerance. Addict Behav 2007;32:1957-63.
15. Sargın AE, Özdel K, Utku Ç, et al. Distress Tolerance Scale: A Study of Reliability and Validity. JCBPR 2012;1:152-61.
16. Zigmond AS, Snaith PR. The Hospital Anxiety and Depression Scale. Acta Psychiatr Scand 1983;67:361-70.
17. Aydemir Ö, Güvenir T, Küey L. Hastane Anksiyete ve Depresyon Ölçeği Türkçe formunun geçerlilik ve Güvenilirliği. Türk Psikiyatri Derg 1997;8:280-7.
18. Lee S, Lee H, Lee CH, Lee WS. Comorbidities in alopecia areata: A systematic review and meta-analysis.J Am Acad Dermatol 2019;80:466-77.e16.
19. Lee S, Lee WS. Management of alopecia areata: updates and algorithmic approach. J Dermatol 2017;44:1199-211.
20. Manolache L, Benea V. Stress in patients with alopecia areata and vitiligo. J Eur Acad Dermatol Venereol 2007;21:921-8.
21. Schmitt JV, Riberio CF, Souza FH, et al. Hair loss perception and symptoms of depression in female outpatients attending a general dermatology clinic. An Bras Dermatol 2012;87:412-7.
22. Okhovat JP, Marks DH, Manatis-Lornell A, et al. Association Between Alopecia Areata, Anxiety, and Depression: A Systematic Review and Meta-analysis.J Am Acad Dermatol. 2019;0190-9622:30890.
23. Chu SY, Chen YJ, Tseng WC, al. Psychiatric comorbidities in patients with alopecia areata in Taiwan: a case-control study. Br J Dermatol 2012;166:525-31.
24. Villasante Fricke AC, Miteva M. Epidemiology and burden of alopecia areata: a systematic review. Clin Cosmet Investig Dermatol 2015;24:397-403.
25. Keough ME, Riccardi CJ, Timpano KR, et al. Anxiety symptomatology: The association with distress tolerance and anxiety sensitivity. Behav Ther 2010;41:567-74.