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Clinical Characteristics and Comorbidities of Patients with Trichotillomania and Skin Picking Disorder Who Admitted to a Psychodermatology Outpatient Clinic: A Comparative Study

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SUMMARY

Objective: Trichotillomania (TTM) and Skin Picking Disorder (SPD) are psychiatric disorders characterized by chronic and compulsive pulling and picking to remove hair and skin. There are very few studies on the clinical and phenomenological differences of TTM and SPD. In this study we aimed to compare the clinical characteristics and comorbidities of patients diagnosed with TTM and SPD.

Method: We enrolled 56 TTM and 113 SPD patients who were assessed with SCID-I for DSM-IV. In addition, we evaluated the DSM-5 criteria for Obsessive and Compulsive Disorder spectrum. We also utilized sociodemographic form, the Clinical Global Impression Scale, the Beck Anxiety Inventory and the Beck Depression Inventory.

Results: Although patients with TTM and SPD had many common clinical features and comorbidities, statistically significant differences were determined in the number of the pulling/picking sites ($Z=-7.084$; $p<0.001$), the type of the outpatient clinics which they initially consulted ($\chi^2=19.451$; $p<0.001$), reasons for pulling/picking behavior ($p<0.05$) and comorbidities of depression ($\chi^2=3.878$; $p=0.049$) and onychophagia ($\chi^2=7.173$; $p=0.007$). Disease severity and depression and anxiety scores of patients with TTM and SPD who had comorbid diseases were statistically significantly higher compared to the patients without comorbidities ($p<0.005$).

Conclusion: TTM and SPD often present with common clinical characteristics and a high incidence of psychiatric comorbidities. Finding out the clinical characteristics, the triggering factors and determining the comorbidities are important to gain an understanding of the course and determine the appropriate treatment for these disorders. Hence, phenomenological studies on large patient populations are needed.

Keywords: Body focused repetitive behavior, comorbidity, skin picking disorder, trichotillomania.

INTRODUCTION

Trichotillomania (TTM) and skin picking disorder (SPD) are psychiatric disorders characterised by repetitive and compulsive pulling/picking of hair/skin, respectively (Snorrason et al. 2012a). TTM was first described by Hallopeau and SPD was first described by Erasmus Wilson as neurotic excoriation in 19th century (Grant et al. 2012). Until recently, these disorders were diversely conceptualised as impulse control disorder (Arnold et al. 2001), (Bienvenu et al. 2000), obsessive-compulsive disorder (OCD) (Dell'Osso et al. 2006, Ferrão et al. 2006), grooming disorder (Bienvenu et al. 2000), stereotypic movement disorder (Stein et al. 2007), behavioural addiction (Chamberlain et al. 2016) and body-focused repetitive behaviours (BFRBs) (Bohne et al. 2002). Since repetitive pulling/picking behaviour in SPD and TTM are phenomenologically similar to compulsive

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behaviours and the incidences of OCD and comorbidity are high in patients and their first-degree relatives, these were ultimately included in the category of 'Obsessive-compulsive disorder and related disorders' in the DSM-5 (APA 2013).

Although differing with respect to geographic regions, the prevalences for TTM and for SPD were reported, respectively, as 0.6-3% (Duke et al. 2010) and 1.2-7% (Hayes et al. 2009, Keuthen et al. 2010, Prochwicz et al. 2016). The prevalence is higher in women and the disorders usually develop during early puberty and show a chronic and fluctuating course. It has been suggested that these are heterogeneous clinical presentations which include focused (compulsive) and automatic (impulsive) subtypes (Snorrsan et al. 2012a). In the focused subtype, picking/pulling behaviour is for preventing an anxiety or fearful situation or in response to an obsession, with inability to stop the picking/pulling behaviour. The automatic subtype usually appears during sedentary actions, giving pleasure without the awareness of the picking/pulling (Grant et al. 2012).

TTM causes hair loss and ingestion of hair can lead to gastric trichobezoar formation with the possibility of intestinal obstructions (Grant et al. 2008). SPD can cause generalised including injury, ulceration and infection of the skin or even fatal outcomes (Odlaug and Grant 2008a). Hair loss or skin injuries lead to shame and reduced self-esteem resulting in social isolation, difficulties in professional, academic and social life and overall reduction in quality of life (Odlaug et al. 2010). Also, depression and anxiety comorbidities can cause increase in alcohol and drug use (Duke et al. 2010, Flessner et al. 2006), sleep disorders (Ricketts ve ark. 2017) and the risk of suicide (Machado et al. 2018).

Many studies have demonstrated clinical similarities between TTM and SPD on the age of onset, symptoms, course, aetiology, gender based differences, treatment response and psychosocial impairment (Lochner et al. 2002, Odlaug (Grant 2008b, Odlang et al. 2010, Snorrason et al. 2012b). However, there are differences between TTM and SPD on the basis of the time spent per day for pulling/picking, the triggers of these behaviours (Odlaug and Grant 2008a), prevalences of the focused and the automatic subtypes (Lochner et al. 2002), comorbidities (Lochner et al. 2002, Odlaug and Grant 2008a) and the efficacy of selective serotonin reuptake inhibitors (SSRIs) (Jones et al. 2018).

It is known that more than half of the patients with SPD or TTM have at least one psychiatric comorbidity, with depression, anxiety disorders and BFRBs observed as commonly accompanying comorbidities (Grant et al. 2012). It was reported that the comorbidities of depression or anxiety in TTM and SPD aggravate these disorders resulting in reduced quality of life (Grant et al. 2017b, Odlaug et al. 2010, Ricketts et al. 2018). The relatively recent inclusion of TTM and SPD in the DSM-5 with new diagnostic criteria, and the paucity of data on the underlying psychopathologies have led to increased investigations on the subject. Furthermore, understanding the course, clinical features, comorbidities and subtypes have gained importance for treatment purposes. Determination of the triggering factors in each patient would be beneficial in planning behavioural interventions and protection against recurrences This study aimed to compare the patients with SPD and TTM consulting the psychodermatology outpatient clinic, with respect to their clinical characteristics and comorbidities and compare each disorder separately for clinical characteristics by dividing patients into groups based on the presence/absence of comorbidities.

METHOD

The outpatients consulting the Psychiatry and Dermatology clinics of Sisli Hamidiye Etfal Teaching and Research Hospital and diagnosed with TTM or "acne excorieé" and SPD or "neurotic excoriation" were referred to the psychodermatology outpatient clinic for the purposes of this study. These patients were re-evaluated according to the DSM-5. Between February 2017 and October 2018, 56 patients with TTM and 113 patients with SPD were found compatible with the inclusion criteria which comprised being between the ages of 16-70, literacy and agreeing to participate in the study. Current and lifetime comorbidities of patients were determined by a psychiatrist in reference to the Structured Clinical Interview for DSM-IV (SCID-I and the DSM-5 category of obsessive- compulsive and related disorders of body dismorphic disorder (BDB), hoarding disorder, OCD, TTM and SPD. Patients completed sociodemographic form, the Beck Depression Inventory (BDI), the Beck Anxiety Inventory (BAI), the Clinic Global Impressions (CGI). Exclusion criteria of the study were determined by diagnosis of mental retardation or dementia according to the DSM-V criteria, ii) a diagnosis of dementia in the past; iii) illiteracy iv) diagnosis of both TTM and SPD. The patients were explained the purpose and design of the study and informed consents were obtained. The trial was given the approval 'No 2456' by the Ethics Committee University of Health Sciences of Şişli Hamidiye Etfal Teaching and Research Hospital.

Assessment Tools

Sociodemographic Data Form: This form designed for the study, included questions about the patients' age, gender,

educational status, employment status, family history of psychiatric disorders, habits, history of medical diseases, medication use, referring clinic, any previous treatment interventions, psychiatric medications and disorder characteristics (age of onset, duration of disorder, causes of pulling/picking behaviour, presence of stressor at the onset of disorder, triggers for pulling/picking behaviour, sites of pulling/picking, pulling/picking frequency, time spent pulling/picking per day). Options including "to reduce tension", "to avoid the displeasing appearance", "to relieve itching", "habit", "pleasure". were taken from the Milwaukee Inventory for the Dimensions of Adult Skin Picking (MIDAS) and the Milwaukee Inventory for Styles of Trichotillomania-Adult Version (MIST-A) (Flessner et al. 2008, Walther et al. 2009) and added to the question about causes of pulling/picking behaviour. The choices of "to reduce tension", "to avoid the displeasing appearance" and "to relieve itching" were thought to indicate the focused subtype, while "habit" and "pleasure" were thought to indicate the automatic subtype.

The Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-I): The interview was developed by First et al (1997) for the current and lifetime prevalence of other psychiatric disorder. Its validity and reliability of the SCID-I in the Turkish language was determined by Çorapçıoğlu et al. (1999).

DSM-5 Obsessive Compulsive and Related Disorders Category: OCD, BDB, TTM, SPD, hoarding disorder criteria under this diagnostic category were questioned and these comorbidities were determined according to the criteria defined here (APA 2013).

T**he Beck Depression Inventory (BDI):** The BDI is a self-report scale consisting of 21 items. It is used to determine the presence and severity of depressive symptoms. Reliability and validity study for the population in Turkey was carried out by Hisli (1989).

The Beck Anxiety Inventory (BAI): The BAI consists of 21 items. It is a self-report questionnaire designed to differentiate anxiety and depression symptoms, questioning common anxiety symptoms such as feeling nervous, fear, death fear. It is a Likert type scale with 4 options. The BAI reliability and validity study for the population in Turkey was conducted by Ulusoy et al. (1998).

The Clinic Global Impressions (CGI): The CGI is a scale with its items evaluated between 1 and 7 points according to the severity of the illness (1 = normal, not sick, 2 = borderline mental illness, 3 = mildly ill, 4 = moderately ill, 5 = significantly ill, 6 = severely ill, 7 = most severely ill) (Guy 1976). The CGI scores are calculated by considering the picking/pulling frequency, distress and impaired functionality caused by the disorder and the need for social support (Hougton et al. 2015).

Statistical Analysis

The data were analyzed using the SPSS 20 program for Windows. For descriptive statistics, numerical variables were expressed in terms of the mean, standard deviation, minimum, maximum and the categorical variables were presented as numbers and percentages. Comparison of numerical variables in two independent groups were made using the student's t-test when data were normally distributed; and by the Mann-Whitney U test when data were not normally distributed. Comparison of ratios in independent groups were made by the chi-square test. Statistical significance was defined by a p value of <0.05.

RESULTS

Sociodemographic and clinical characteristics of patients with TTM and SPD included in study are summarised in Table 1. Mean age of patients with SPD was statistically significantly higher than that of patients with TTM ($Z=-3.278$; $p=0.001$). The average number of sites of picking in patients with SPD was statistically higher compared to patients with TTM ($Z=-7.084$; $p<0.001$).

Marital status of the SPD patients differed from that of the TTM patients ($\chi^2=14.222$; $p=0.001$). Statistically significantly more patients with TTM initially consulted the psychiatry outpatient clinic as compared to the SPD patients ($\chi^2=19.451$; $p<0.001$). The TTM and SPD patients did not differ significantly with respect to factors of gender ($\chi^2=0.248$; $p=0.618$), educational status ($Z=-1.002$; $p=0.316$), employment status ($\chi^2=3.845$; $p=0.279$), age of disease onset ($Z=-0.859$; $p=0.390$), duration of the disorder ($Z=-0.618$; $p=0536$), family history of psychiatric disorders ($\chi^2=0.384$, $p=0.535$), and the scores on the BAI ($Z=-0.157$; $p=875$), the BDI ($Z=-1.233$; $p=0.218$) and the CGI ($Z=-0.131$; $p=0.896$).

Significantly more patients with SPD reported the cause of picking behaviour to be for "avoiding displeasing appearance" ($\chi^2=3.975$; $p=0.046$) and to "relieve itching" ($\chi^2=14.097$; $p<0.001$), while significantly more patients with TTM reported the cause of picking behaviour as being "habit" ($\chi^2=5.362$; $p=0.024$) or pleasure" ($\chi^2=7.673$; $p=0.006$). Statistically significant differences for stressor factors causing the onset of disorder, triggering factors for picking/pulling behaviour and time spent picking/pulling per day were not observed between the TTM and SPD patients ($p>0.05$)

Table 1. Sociodemographic and Clinical Characteristics of Patients

	SPD	TTM	p
	(n=113)	(n=56)	
Age(years)	33.8 ±15	25.4 ±8.8	0.001
Female, n(%)	87 (77)	45 (80.4)	0.618
Marital Status, n(%)			
Married	47 (41,6)	10 (17.9)	0.001
Single	57 (50.4)	45 (80.4)	
Widow/Divorced	9 (8)	1 (1.8)	
Working status, n(%)			
Employed	34 (30.1)	15 (26.8)	0.279
Unemployed/Disability	32 (28.3)	15 (26.8)	
Homemaker/Retired	21 (18.6)	6 (10.7)	
Student	26 (23)	20 (35.7)	
Education (years)	10 ±4.3	11 ±3.2	0.316
Age of Onset	23.7 ±16.3	18.2 ±7.8	0.396
Duration of disorder(years)	8.6 ±9.8	7.4±6.6	0.536
Number of sited picked/pulled	3 ±1.3	1.4 ±0.6	<0.001
CGI	4.2 ±11	4.2 ±1.3	0.896
BDI	19.2 ±14.1	19.2 ±14.1	0.875
BAI	18.5 ±12.4	20.2 ±11	0.218
Psychiatric medication	47(41.6)	23(41.1)	0.948
Applied to psychiatric outpatient clinic, n(%)	55(48.7)	47(83.9)	<0.001
At least one psychiatric disease in family, n(%)	48(42.5)	21(37.5)	0.535
OCD related disorder in first degree relative, n(%)	21(18.6)	10(17.8)	0.908

CGI: Clinic Global Impression, BDI: Beck Depression Inventory, BAI: Beck Depression Inventory, SPD: Skin Picking Disorder, TTM: Trichotillomania

(Table 2). Sites of picking in SPD were the face (49.6 %), back (36.3 %), fingers (33.6%), arms (31%), legs (30.1%), trunk (28.3 %), scalp (12.4 %), foot (6.2 %), the pubic area (5.3 %) and the ears (2.7 %); while the sites of hair pulling in TTM were hair (85.7 %), eyebrows (14.3 %), eyelashes (14.3 %), beard (8.9 %), the pubic area (5.4 %) and the armpits (1.8 %).

Lifetime and current diagnoses of patients with SPD and TTM according to SCID-I are shown in Table 3. The incidence of at least one lifetime psychiatric comorbidity was 91.1 % in TTM and 84.1 % in SPD, without any statistically significant differences between the two groups (χ^2=1.561; p=0.212). Lifetime prevalence of onychophagia comorbidity was significantly higher in TTM (48 %) as compared to SPD (27.4 %) (χ^2= 7.173; p=0.007). The current prevalence of major depression comorbidity was significantly higher in TTM (32.1 %) in comparison to SPD (18.6 %) (χ^2= 3.878; p=0.049).

When patients in the TTM and SPD groups were compared within their groups with respect to having or not having had a lifetime psychiatric comorbidity, statistically significant differences were not observed in SPD patients on the basis of gender (χ^2=1.258; p=0.256), number of sites of skin picking (Z=-0.222; p=0.824), age of disease onset (Z=-0.397; p=0.692) and duration of the disorder (Z=-1.765; p=0.078). However, the BDI (Z=-3.451; p=0.001), BAI (t=3.402; p<0.001) and the CGI-S (Z=-2.219; p=0.026) scores of the patients with comorbidities were significantly higher and more patients were referred by the psychiatry outpatient clinic (χ^2=5.996; p=0.014). Statistically significant differences were detected in the TTM patients with or without comorbidities on the basis of gender (Fisher's exact test, p=0.251), duration of the disorder (Z=-2.149; p=0.594), number of the sites of hair pulling (Z=-1.460; p=0.144), age of disease onset (t=1.383; p=0.172) and referral by psychiatry outpatient clinic (Fisher's exact test, p=0.580). However, the BDI (t=2.828; p<0.001), BAI (t=2.299; p<0.001) and the CGI-S (t=4.204; p=0.001) scores of patients with comorbidities were statistically higher (Table 4).

Tablo 2. Stressors, Triggers, Causes of Picking/Pulling Behaviour in Skin Picking Disorder and Trichotillomania

	SPD (n=113)	TTM (n=56)	p
Time spent pulling/picking per day, n(%)			
1-15 min	10 (8.8)	9 (161)	0.611
16-30 min	18 (15.9)	7 (12.5)	
31-60 min	33 (29.2)	17 (30.4)	
1-3 hrs.	44 (38.9)	18 (32.1)	
≥ 4 hrs.	8 (71)	5 (8.9)	
Causes of picking/pulling behaviour, n(%)			
Reduce tension	41 (36.3)	26 (46.4)	0.204
Avoid displeasing appearance	39 (34.5)	11 (19.6)	0.046
Habit	6 (%5.3)	9 (16.1)	0.024
Pleasure	13 (11.5)	16 (28,6)	0.006
Relieve itching	35 (31)	3 (5.4)	< 0.001
Stressor factors in the first picking/pulling, n(%)			
Conflict about marriage/Divorced	12 (%11,5)	8 (%7,1)	0,487
Stress of exam or school	11 (%9,7)	11 (%19,6)	0.072
Moving	2 (%1,8)	3 (%3,6)	0.600
Unemployment/Stress in work	3 (%2,7)	4 (%7,1)	0.222
Sexual abuse	3 (%2,7)	1 (%8)	0.596
Conflict with children or relatives	13 (%11.5)	8 (%14,3)	0.606
Death/Illness	13(%11,5)	4(%7,1)	0.375
Not specified	57 (%50,4)	19 (%33,9)	0.042
Triggers,n (%)			
Emotional	45 (39.8)	18 (32.1)	0.331
Sedentary activities	32 (28.3)	22 (39.3)	0.150
Insomnia/Tired	2 (1.8)	2 (3.6)	0.600
Requiring concentration	12 (10.6)	11 (19.6)	0.107
Feel	5 (4.4)	4 (7.1)	0.481
Sight	4 (3.5)	2 (3.6)	0.649
Before sleeping	13 (11.5)	5 (8.9)	0.609
Not specified	36 (31.9)	15 (26.8)	0.499

Table 3. Lifetime and Current Comorbidities in Patients with Trichotillomania and Skin Picking Disorder

	SPD (n=113)	TTM (n=56)	p
Comorbid Lifetime Disorder, n(%)			
At least one psychiatric comorbid disorder	95 (84.1)	51 (91.1)	0.212
Depression	46 (40.7)	22 (39.3)	0.859
Dysthymia	12 (10.6)	7 (12.5)	0.716
Bipolar disorder	15 (13.3)	7 (12.5)	0.888
Panic disorder	9 (8)	2 (3.6)	0.341
Generalised anxiety disorder	28 (24.8)	15 (26.8)	0.778
Social anxiety disorder	10 (8.8)	6 (10.7)	0.152
Specific phobia	10 (%8.8)	8 (14.3)	0.281
Obsessive-compulsive disorder	23 (%20.4)	10 (17.9)	0.700
Body dysmorphic disorder	10 (8.8)	2 (3.6)	0.341
Onychophagia	31 (27.4)	27 (48.2)	0.007
Hoarding disorder	5 (4.4)	7 (12.5)	0.064
Posttraumatic stress disorder	10 (8.8)	8 (14.3)	0.281
Acute stress disorder	6 (5.3)	0	0.079
Attention deficit hyperactivity disorder	4 (3.3)	1 (1.8)	1
Eating disorder	8 (7.1)	2 (3.6)	0.499
Somatoform disease	13 (11.5)	4 (7.1)	0.375
Alcohol/substance addiction	5 (4.4)	2 (3.6)	1
Psychotic disorder	1 (0.9)	0	1
Tic disorder	1 (0.9)	0	1

Continue to Table 3

	SPD (n=113)	TTM (n=56)	p
Current Comorbid Disease, n(%)			
At least one psychiatric comorbid disorder	86 (76.1)	48 (85.7)	0.147
Depression	21 (18.6)	18 (32.1)	0.049
Bipolar disorder	15 (13.3)	7 (12.5)	0.888
Dysthymia	12 (10.6)	5 (8.9)	0.731
Panic disorder	7 (6.2)	2 (3.6)	0.719
Generalised anxiety disorder	28 (24.8)	13 (23.2)	0.823
Social anxiety disorder	8 (7.1)	6 (10.7)	0.554
Special phobia	8 (7.1)	7 (12.5)	0.260
Obsessive-compulsive disorder	18 (15.9)	8 (14.3)	0.780
Body dysmorphic disorder	6 (5.3)	2 (3.6)	1
Hoarding disease	3 (2.7)	6 (10.7)	0.061
Onychophagia	25 (22.1)	16 (28.6)	0.357
Posttraumatic stress disorder	7 (6.2)	5 (8.9)	0.535
Attention deficit hyperactivity disorder	4 (3.5)	1 (1.8)	1
Eating disorder	2 (1.8)	2 (3.6)	0.600
Somatoform disease	10 (8.8)	3 (5.4)	0.548
Alcohol/substance addiction	2 (1.8)	2 (3.6)	0.600
Tic disorder	1 (0.9)	0	1

Tablo 4. Clinical Characteristic of Patients with Trichotillomania and Skin Picking Disorder with/without Lifetime Comorbid Disorders

	SPD		p	TTM		p
	With Comorbidity (n=95)	Without Comorbidity (n=18)		With Comorbidity (n=51)	Without comorbidity (n=5)	
Age (years)	34.33 ±14.58	30.89 ±17.49	0.162	25.55 ±8.99	19 ±2	0.172
Female,n(%)	75 (%78.9)	12 (%66.7)	0.358	42 (%82.4)	3 (%60)	0.251
Duration of disorder (years)	9.37 ±10.5	4.3 ±2.49	0.078	6.93 ±6.73	7.6 ±5.22	0.594
Disease onset age (years)	23.69 ±15.86	23.5 ±18.8	0.397	18.63 ±7.94	13.6 ±4.93	0.132
Number of sited picked/pulled	2.78 ±1.37	2.61 ±0.85	0.824	1.39 ±0.69	1	0.144
CGI	4.26 ±1.07	3.67 ±0.97	0.026	4.33 ±1.29	3.2 ±0.44	0.001
BDI	20.22 ±12.6	9.67 ±5.78	0.001	21.07 ±10.56	7.8 ±4.49	<0.001
BAI	21.11 ±14.12	9.28 ±9.56	<0.001	20.2 ±14.06	5.6 ±2.19	<0.001
Referred by Psychiatry Outpatient Clinic, n(%)	51 (%53.7)	4 (%22.2)	0.014	42 (%82.4)	5 (%100)	0.580

DISCUSSION

Primary objective of this study was to compare the clinical characteristics and psychiatric comorbidities of patients with TTM and SPD, and the secondary objective was to compare the clinical characteristics of the patients in each group with respect to the presence or absence of comorbidities. TTM and SPD are thought to have common aetiopathogenesis because of the similar core symptoms, deficits in motor inhibition processes (Grant et al. 2011), incidences of OCD comorbidity and presence of BFRB in the first-degree relatives (Grant et al. 2012). Therefore, these disorders are included in impulsive-compulsive spectrum (Ferrão et al. 2006, Oliveira et al. 2015). Results of our study are in agreement with others in the literature with respect to higher prevalence in female population, age of disease onset and frequency of comorbidities of depression and anxiety (Odlaug and Grant 2008b, Odlaug et al. 2010, Snorrason et al. 2012a).

While the onset age of TTM shows a bimodal distribution in early childhood and puberty (Flessner et al. 2010), SPD was reported to develop usually at about 13 years of age, with about 10% of the patients presenting with the symptoms in middle adulthood, at about 42 years of age, thus causing SPD to be observed in a wider age range (Ricketts et al. 2018). Differences in clinical severity, disease course and impairment of cognitive functions were reported in TTM based on the age of disease onset and early-onset and late-onset subtypes were differentiated(Flessner et al. 2010). Although there is not enough evidence for early- and late-onset subtypes of SPD,

one study indicated that the disorder developed in middle adulthood shows a higher association with comorbidities of depression and anxiety and traumatic experiences (Ricketts et al. 2018). While the mean age of onset was about 13 years in other studies, our study showed a later age of onset with mean ages of 18.2 years for TTM and 23.7 years for SPD. This disagreement with other results in the literature might have resulted from inclusion in our study of patients who were referred by the dermatology outpatient clinic, since it has been reported that most patients who consulted dermatology outpatient clinics developed the disorder in middle adulthood (Snorrason et al. 2012b, Yalcın et al. 2015).

Picking/pulling from multiple and easily accessible points is commonly observed in TTM and SPD. In line with the literature, our results indicated that the face was the most common site of skin picking followed by the fingers, hands and the pubic area (Flessner et al. 2006, Odlaug and Grant 2008b). In TTM, the most common site is the hair on the scalp followed by the eyebrows, eyelashes and the pubic hair, as also observed in our work (Grant 2019). Odlaug and Grant (2008a) reported an average of 2 sites of picking/pulling for both TTM and SPD. However, our results indicated that on the average 3 sites were excoriated in SPD patients which was higher than in TTM with hairpulling being on the average at 1.4 sites. According to one study, patients with SPD pick their skin simultaneously at secondary sites in order to let the primary site recover from bleeding, ulceration and pain which leads to the involvement of multiple sites of skin picking (Odlaug and Grant 2008a).

Our results showed that more patients with TTM reported the cause of pulling behaviour as pleasure and habit, while more patients with SPD reported the cause of picking behaviour was to avoid a displeasing appearance or to relieve itching, the differences in the reported causes being statistically significant. Repetitive picking/pulling behaviours in TTM and SPD are reported to be suggestive of both the compulsive behaviours of OCD and the core characteristics of addiction with repetitive and compulsive persistence of the behaviour despite the negative outcomes, the reduced control over the behaviour, and feeling an excessive urge followed by pleasure (Chamberlain et al. 2016). From a different point, TTM and SPD are suggested to have "automatic" or "habit" and "focused" subtypes (Snorrsan et al. 2012a). Whereas the picking/pulling occurs in the focused subtype despite the individual's awareness of the behaviour as an irresistible urge in response to obsession or in order to prevent a situation causing anxiety or fear. In the automatic subtype the behaviour occurs without awareness, often during sedentary activities and gives pleasure. It has been reported that majority of TTM patients are of the automatic subtype, while the majority of patients with SPD are of the focused subtype (Grant et al. 2012). We did not use a scale for subtyping in this study. However, the responses of the patients were consistent with the literature, indicating that TTM patients mostly exhibit hair pulling behaviour as a habit and thus tend to be on the impulsive extreme, while the SPD patients mostly exhibit skin picking behaviour of the focused subtype and can be said to be close to the compulsive end of the spectrum.

More than half of the patients with TTM and SPD develop at least one DSM-IV Axis I disorder over their lifetime. Lifetime prevalence of depressive disorder (13-48%), anxiety disorders (8-40%), OCD (10-36%) and bipolar disorder (12-38%), eating disorder (7-21%) and BFRB (32-70%) was reported to be very high (Duke et al. 2010, Grant et al. 2012 In our study, 91.1% of patients with TTM and 84.1% of patients with SPD were observed to have at least one lifetime comorbid psychiatric disorder such as depressive disorders, anxiety disorders, BFRBs, OCD and bipolar disorder. Some studies reported that the incidences of alcohol and drug use are increased by 17-25% in TTM and SPD patients in order to reduce the urge of picking/pulling behaviour (Flessner et al. 2006, Hougton et al. 2016).

According to our results the incidence of alcohol/drug addiction was 4.4% in SPD and 3.6% in TTM. These lower levels in comparison to other studies might have resulted from the sociocultural differences or the possibility of having hidden their alcohol/drug use by the patients. While some studies did not report differences between SPD and TTM with respect to current and lifetime psychiatric diagnoses (Odlaug and Grant 2008a, Odlaug et al. 2010), Lochner et al. (2002) found a higher incidence of dysthymia in SPD compared to TTM. In our study, the incidence of current depression comorbidity was significantly higher in TTM as compared to SPD. Studies have reported that only one fifth of TTM and SPD patients sought treatment and consulted psychiatry outpatient clinics for comorbid depression and anxiety which might have led to high incidences of psychiatric comorbidity diagnoses (Tucker et al. 2011, Woods et al. 2006). Majority of the TTM patients included in our study were consulting the psychiatry outpatient clinics, while the SPD patients did not discriminate between the dermatology or psychiatry outpatient clinics. Thus, it can be said that most TTM patients consulted the psychiatry outpatient clinics possibly with depressive complaints, while some of the SPD patients consulted the psychiatry outpatient clinics for psychiatric complaints, with the others going to the dermatology outpatient clinics solely for skin problems such as itching, lesions and ulcerations, without awareness of the underlying psychiatric cause and subsequently get referred to the psychiatry department.

Onychophagia is defined as biting/picking nails mostly as a habit; which often develops during early childhood, around 4-6 years of age, and decreases after puberty (Pacan et al. 2014). As such, it resembles the clinical manifestation of

early-onset TTM. Similar lifetime incidences of 30-40% onychophagia were observed in TTM and SPD (Grant et al. 2012). Incidences of onychophagia in SPD and TTM were observed to be similar in our study, but the lifetime prevalence of onychophagia was higher in TTM. Based on this finding, it can be assumed that the diagnosis of onychophagia may precede the future development of TTM.

We also found that disease severity was higher in SPD and TTM patients with comorbidities in comparison to those without. Picking/pulling behaviour is believed to decrease anxiety and improve mood by leading to dissociative experiences and thereby partly serving as an emotion regulating function (Gupta 2017). Therefore, stressful situations and negative emotions increase picking/pulling behaviour. In line with our results, it was reported that comorbidities of depression and anxiety in patients with TTM lead to a higher disease severity and a poorer quality of life compared to those without comorbidities, without any differences in neurocognitive functions (Grant et al. 2017a, 2017b). Detecting the presence of comorbidities is important in selection of medications for the treatment of TTM and SPD (Jones et al. 2018). Even if the patients benefit from treatment, untreated comorbidities can still lead to an increase in picking/pulling behaviour.

Our study has some limitations. Firstly, our participants do not reflect the general population by consisting only of patients seeking treatment. Secondly, disorder severity was based on the evaluation by a clinician. The validity and reliability studies of the self-report scales used by the patients are not yet standardised for the Turkish population. Thirdly, the subthreshold diagnoses of patients were not evaluated. Therefore, generalisation of study results has been prevented.

In conclusion, TTM and SPD are included in the OCD spectrum and usually have common clinical characteristics and high incidence of psychiatric comorbidities. Contrary to popular belief, these two common diseases can be neglected in outpatient settings. Knowing the clinical characteristics and the triggers and determining the comorbidities are important to gain an understanding of the course and provide treatment in these disorders. Thus, phenomenological studies with large patient populations are needed

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