Examination of Adult Separation Anxiety and Bonding Styles in Patients with Panic Disorder Who Applied to a Psychiatric Clinic

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SUMMARY

Introduction: The attachment processes give us a theoretical framework to understandpsychopathological development. Unsafe attachment type is often associated with the emergence of psychopathology in later periods of life.

Method: This study includes 65 patients from a psychiatry outpatient clinic with a diagnosis of panic disorder and 65 healthy volunteers as a control group.In order to determine clinical status and disease severity of patients with panic disorder according to SCID-I (Structured Clinical Interview for DSM Disorders-I) the Panic-Agoraphobia Scale, Adults Separation Anxiety Scale, and Relationship Scale Questionnaire were used.

Results: The panic disorder group and control group had a statistically significant difference in separation anxiety levels. According to means of attachment style, only the obsessive sub-dimension showed a statistically significant difference between the two groups. In the panic disorder group, separation anxiety had significant differences according to gender and the presence of agoraphobia. When attachment styles of patients with an early parent loss or divorce of parents was assessed for the anxious and obsessive sub-dimensions, the differences were found to be statistically significant.

Conclusion: High comorbidity of panic disorder (dominantly co-existing with agoraphobia) and adult separation anxiety was observed. This comorbidity was even higher in females. In both groups, obsessive attachment style was the highest among the attachment styles. In patients with panic disorder, there were no significant correlations between adult separation anxiety and/or existence of agoraphobia and attachment styles. Coexistence of adult separation anxiety and panic disorder was found to result in higher depression comorbidity rates.

Keywords: Panic disorder, separation anxiety, attachment styles

INTRODUCTION

Attachment processes, which begin to function in early stages of life and continue to be important throughout life, offer a theoretical framework for us to understand the emergence of psychopathology. Reliability of the attachment's anxiety is a required, normal developmental fact for harmony (Bowlby 1973).

Attachment is an important process that begins with the mother-child relationship, which is the first basic relationship, but also affects attachments in later life. The individual›s feeling of personal competence and positive self-esteem is based on the development of secure attachment. Secure attachment provides healthy emotional and social development and protects the individual from stressful conditions. The different attachment patterns direct the individual›s life, taking on different forms depending on the periods. It becomes effective in developing positive or negative relationships with other people in the future (Keskin and Çam 2009).

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While the patterns of insecure attachment are associated with the emergence of psychopathology in later life (Bowlby 1973), the pattern of secure attachment is associated with healthy developmental processes (Nakash-Eisikovits 2002). The associations of an insecure attachment pattern with major depressive disorder, postpartum depression, panic disorder, social phobia, obsessive-compulsive disorder, posttraumatic stress disorder, and pain disorder have been shown in various studies (Kökçü and Kesebir 2010).

When the individual is separated from the one s/he is attached to in early childhood, she has an intense emotional response called 'separation anxiety', whereas the intensity of this feeling diminishes as she grows. These symptoms are called "separation anxiety disorder" when they are excessive and developmentally inappropriate (Karlıdağ et al., 2002).

According to DSM-IV, this anxiety should last at least 4 weeks, start before 18 years of age, and should not lead to a clinically significant distress or deterioration in social, school (occupational), or other important functional areas. Separation anxiety disorder has been modified to be used for adults in DSM-5, and the duration has been increased to 6 months. When individuals with this disorder leave the home or separate from the people they are attached to, repetitive overstress and anxiety, concerns about themselves or the people they are attached to and a feeling that they will have an accident or get sick, fear of being lost, avoidance of going somewhere alone, adherence to mother or father, somatic complaints such as palpitation, dizziness, fatigue, stomach aches, headaches, nausea, and vomiting which arise in case of separation, as well as psychological symptoms such as inability to sleep alone and nightmares are commonly seen (Kültür et al). In the past, separation anxiety disorder was limited to childhood and adolescence, and separation anxiety disorder in childhood was considered to be a risk factor for adult panic disorder. However, studies conducted on community samples and on adult patients with anxiety disorders have shown that childhood separation anxiety symptoms extend into adulthood as well. Diagnostic criteria based on core symptoms of adult separation anxiety have recently been defined, and studies conducted on larger patient samples have begun to appear in the literature. Estimated lifetime prevalence of adult separation anxiety disorder is approximately 6.6%. Although the causes of adult separation anxiety disorder are not known precisely, both genetic and environmental factors are thought to contribute to its etiology and clinical manifestation (Alkın 2010).

In terms of clinical manifestation, the anxiety can be divided into generalized anxiety and panic attacks (Tükel 1997, Toy and Klamen 2007). Based on the results/conclusions in the literature it can be said that the Adult Separation Anxiety is closer to the group with panic attacks.

We planned this study to assess the association between panic disorder and adult separation anxiety in more detail. The aim of this study is to investigate adult separation anxiety and attachment patterns in panic disorder patients.

METHODS

The individuals included in this study were chosen from among the patients who had been admitted to Haydarpaşa Numune Training and Research Hospital Psychiatric Polyclinic consecutively for 6 months and followed up as outpatients, and volunteers who had never been admitted to the psychiatry outpatient clinic. A total of 130 individuals consisting of 65 patients diagnosed with panic disorder according to clinical interview (SCID-I) with DSM-IV and a control group of 65 healthy volunteers were included in the study. Physicians performed all interviews. The interviewees were informed about the study, and verbal and written consent were obtained from those who participated in the study. Ethics committee approval was obtained for the study. Panic-Agoraphobia Scale (PAS), Adult Separation Anxiety Scale (Adult Separation Anxiety Questionnaire (ASA), and Relationship Scales Questionnaire (RSQ) were applied to the patients diagnosed with panic disorder using SCID-I Scales apart from the Panic-Agoraphobia Scale were also used for the control group.

Inclusion Criteria for the Patient Group: Being between the ages of 18 and 65, being diagnosed with panic disorder according to DSM-IV, being literate, having no concomitant schizophrenia or similar psychotic illness, having no severe mental or physical illness that may interfere with interview, having no alcohol/substance addiction, having no general medical condition that may cause panic disorder due to physiological effects, and providing informed and verbal written consent for participating in a study.

Inclusion Criteria for the Control Group: Being between the ages of 18 and 65, having no known major psychiatric disorder according to DSM-IV, being literate, having no alcohol/substance addiction, having no severe mental or physical illness that may interfere with interview, being informed, and providing informed and verbal written consent for participating in a study.

DATA COLLECTION TOOLS

Sociodemographic Data Form: A form was prepared for researcher to collect various sociodemographic information and clinical characteristics of the patients participating in the study. Information on gender, age, marital status, educational status, employment status, income level, psychiatric illness, psychiatric treatment, the presence of psychiatric illness in the

family, and early loss of parents (while the patient was under 18 years of age) were questioned.

Structured Clinical Interview for DSM-IV-TR Axis I Disorders (SCID-I): SCID-I is a structured clinical interview scale for DSM-IV Axis I disorders. It was developed to increase the validity of diagnoses and to investigate symptoms systematically, providing a standard application for diagnostic assessment and facilitating the screening of DSM-IV diagnostic criteria (First et al., 1997). The adaptation and reliability studies of SCID-I for the Turkish population were performed by Çorapçıoğlu and colleagues (Çorapçıoğlu et al., 1999).

Panic-Agoraphobia Scale (PAS): The Panic-Agoraphobia Scale was developed by Bandelow (1995) and has clinical observer and patient self-report forms. It contains five sub-scales. Each sub-scale determines the component score, and the sum of all components determines the total intensity score. The Turkish adaptation was developed by Tural and colleagues (Tural et al., 2000).

Adult Seperation Anxiety Questionnaire (ASA): ASA is a self-report scale that was developed by Manicavasagar et al. (2003) and investigates the symptoms of separation anxiety in adulthood. The scale consists of 27 items, and it includes 4-point Likert type measurement, with each item ranging from 0 "never felt" to 3 "felt very often". The Turkish reliability study of the scale was performed by Diriöz and colleagues (Diriöz et al., 2012).

Relationship Scales Questionnaire (RSQ): The RSO was developed by Griffin and Bartholomew (1994); the Turkish adaptation of the scale was performed by Sümer and Güngör (1999). The Relationship Scales Questionnaire consists of 17 items and aims to measure four attachment patterns. Participants are first asked to rate how well the statements describe themselves through 7-point scales (1 = not at all like me, 7 = very much like me). While the secure and dismissive attachment patterns are measured by five items, the preoccupied and fearful attachment patterns are measured by four items. According to the score obtained from the subscales, the participants are assessed and classified into the group in which they score the highest among the attachment patterns.

In the validity and reliability studies performed by Sümer and Güngör on the sample in which the scale was adapted to Turkish, it was seen that the Relationship Scales Questionnaire was composed of four factors as secure, dismissive, fearful and preoccupied; with the re-test method of the scale, secure coefficients in all dimensions were calculated with values ranging from 54 to 61 (Sümer and Güngör, 1999).

Statistical Analysis

Descriptive values of the obtained data were calculated as mean (Standard Deviation, SD) or number and percent, depending on the type of data, and given in the form of tables. Relationships between characteristics in various groups and categorical structures were investigated by Pearson chi-square or Fisher-Freeman-Halton test, depending on the magnitude of the frequencies in the formed tables. Independent t-test was used for comparison of various groups in cases where the numerical data showed normal distribution and Mann-Whitney U test was used for numerical data that showed non-normal distribution. The error rate was taken as 5% for the results to be accepted as statistically significant. PASW (version 18) program was used for the analysis of data.

RESULTS

The distributions of the categories for categorical socio-demographic characteristics of the cases included in the study in the control and patient groups are given in Table 1.

There was only a significant connection between the groups with the employment status variable. The employed ratio was higher in the control group while the housewife rate was higher in patients ($p<0.001$), and the rate of those whose employment status was other was similar in both groups. There was also no significant difference between the mean age of the control group (35.30 ± 10.38) and the patient group (34.98 ± 10.89) ($p=0.869$).

The presence of suicide attempts, loss of mother and/or father at an early age, parental separation,./ presence of psychiatric history in mother, father, or siblings, and the distribution of adult separation anxiety levels in number and percentage according to control and patient groups are given in Table 2.

When the mean scores of attachment patterns of the cases in the control and patient groups were investigated, only the mean score of the "preoccupied" attachment pattern was significantly higher in patients ($p = 0.001$), and there was no difference between the two groups in mean scores of other attachment patterns (Table 3). The control and patient groups were re-compared in terms of their attachment patterns considering the cases' experiences of early parental loss and parental separation, and the mean score of the "fearful" attachment pattern ($p=0.025$) was found to be significantly higher in the control group, and the mean score of the "preoccupied" attachment pattern ($p=0.020$) was found to be significantly higher in the patients. There were no differences between the two groups in the mean scores of secure and dismissive attachments (Table 3). When the mean scores of attachment patterns in the control and patient groups were compared according to the presence of adult separation anxiety, the mean scores of the attachment patterns of the cases in both groups were not statistically significant according to the presence of adult separation anxiety.

Table 1. Descriptive values of the socio-demographic variables of the control and patient groups and the comparison results of the groups

	Control Group		Patient Group		Total N	Chi-square value	p*
	n	%	n	%			
Gender							
Female	30	46.2	41	63.1	71	3.755	0.078
Male	35	53.8	24	36.9	59		
Marital Status							
Single	20	30.8	23	35.4	43	0.315	0.854
Married	44	67.7	41	63.1	85		
Divorced	1	1.5	1	1.5	2		
Educational Status							
Elementary school	20	30.8	21	32.3	41	0.0223	0.974
Secondary school	13	20.0	11	16.9	24		
High school	15	23.1	16	24.6	31		
College	17	26.2	17	26.2	34		
Job Status							
Employee	54	83.1a	21	33.2b	75	39.964	<0.001
Student	7	10.8	11	16.9	18		
Unemployed	2	3.1	7	10.8	9		
Retired	2	3.1	7	10.8	9		
Housewife	0	0.0a	19	29.2b	19		
Income Status							
Below 500 TRY**	22	34.4	13	20.0	35	8.715	0.069
500-1000 TRY	24	37.5	27	41.5	51		
1000-1500 TRY	4	6.3	13	20.0	17		
1500-2000 TRY	2	3.1	4	6.2	6		
Above 2000 TRY	12	18.8	8	12.3	20		

*: Chi-Square Analysis., ** Turkish lira(TRY)

Table 2. Distribution of Life Events, Psychiatric History Status in First Degree Relatives and Adult Separation Anxiety Status According To Control and Patient Groups and Their Relationship with the Groups

	Control Group		Patient Group		Total N	Chi-square value	p*
	n	%	n	%			
Suicide Attempt							
Yes	1	1.5	7	10.8	8	4.795	0.062
No	64	98.5	58	89.2	122		
Loss of mother-father at an early age							
Yes	9	13.8	18	27.7	27	3.786	0.082
No	56	86.2	47	72.3	103		
Parental separation							
Yes	2	3.1	5	7.7	7	1.359	0.440
No	63	96.9	60	92.3	123		
Psychiatric History in Mother							
No	60	92.3	52	80.0	112	5.143	0.074
Anxiety Disorder	3	4.6	11	16.9	14		
Mood Disorder	2	3.1	2	3.1	4		
Psychiatric History in Father							
No	64	98.5	62	95.4	126	4.032	0.248
Anxiety Disorder	0	0.0	3	4.6	3		
Mood Disorder	1	1.5	0	0	1		
Psychiatric History in Sibling							
No	60	92.3	53	81.5	113	5.536	0.093
Anxiety Disorder	3	4.6	10	15.4	13		
Mood Disorder	2	3.1	1	1,5	3		
Psychotic Disorder	0	0.0	1	1.5	1		
Adult Separation Anxiety							
<22	36	64.3a	26	36.7b	65	11.203	0.001
>=22	20	35.7a	45	63.3b	65		

*: Chi-Square Analysis

Table 3. Comparison Results of Control and Patient Groups In Terms Of Attachment Patterns, Who Experienced Loss of Mother-Father and Parental Separation at Early Ages

Attachment Patterns	Control Group	Patient Group	p*
	Mean ± SD	Mean ± SD	
All individuals			
Secure	4.17 ± 1.16	4.05 ± 1.17	0.559
Fearful	3.82 ± 1.54	3.71 ± 1.28	0.665
Preoccupied	3.51 ± 1.06	4.20 ± 0.97	0.001
Dismissive	4.27 ± 1.42	4.43 ± 1.33	0.493
Those who experienced loss of mother-father and parental separation at early ages			
Secure	3.80 ± 1.07	4.00 ± 1.26	0.639
Fearful	4.66 ± 1.53	3.51 ± 1.18	0.025
Preoccupied	3.30 ± 0.85	4.18 ± 1.13	0.020
Dismissive	4.85 ± 1.00	4.24 ± 1.59	0.223

*: Mann-Whitney U Test

Table 4. Distribution of specific features* in patients according to the Presence of Adult Separation Anxiety

	Adult Separation Anxiety					Chi-square	p**
	<22		>=22		Total		
	n	%	n	%	N		
Gender							
Female	8	40.0	33	73.3	41	6.61	0.014
Male	12	60.0	12	26.7	24		
Education							
Elementary school	4	20.0	17	37.8	21	5.499	0.137
Secondary school	5	25.0	6	13.3	11		
High school	3	15.0	13	28.9	16		
College	8	40.0	9	20.0	17		
Duration of Panic Disorder							
0-1 Years	6	30.0	11	24.4	17	0.338	0.943
1-5 Years	7	35.0	18	40.0	25		
5 Years and Above	7	35.0	16	35.6	23		
Comorbid Psychiatric Disorder							
No	15	75.0	28	62.2	43	1.01	0.400
Yes	5	25.0	17	37.8	22		
Labor loss							
No	7	35.0	10	22.2	17	1.171	0.361
Yes	13	65.0	35	77.8	48		
Agoraphobia							
No	16	80.0	18	40.0	34	8.88	0.003
Yes	4	20.0	27	60.0	31		

*Gender, Educational Level, Duration of Panic Disorder, Comorbid Psychiatric Disorder, Labor Loss and Agoraphobia . **: Chi-Square Analysis

When the patient group was investigated, it was determined that the mean age (32.70 ± 10.10) of the group who did not experience adult separation anxiety (<22) was not significantly different compared to the mean age (28.02 ± 11.37) of the group who did experience adult separation anxiety (> = 22).

When the mean of attack frequency in the last disease period was investigated in patients in the patient group, there was no significant difference (p=0.525) between those who did not experience adult separation anxiety (mean±SD: 2.0±0.79) and those who did experience adult separation anxiety (mean±SD: 1.82±0.77).

It was determined that the education level of the patients in the patient group and duration of panic disorder did not change according to the presence of adult separation anxiety, whereas in the adult separation anxiety group (>=22), the rate of women was significantly higher than that of men (p=0.014, Table 4).

The distribution of comorbidity (additional diagnosis) according to the presence of adult separation anxiety of the patients in the patient group was investigated, and no statistically significant association was observed between the presence of comorbidity and the presence of adult separation anxiety (Table 4). Accompanying comorbidities were depression (n=14), generalized anxiety disorder (n=9), obsessive-compulsive disorder (n=1), and social phobia (n=1).

It was determined that the labor loss of the patients in the patient group did not depend on the presence of adult separation anxiety (Table 4). The presence of agoraphobia in patients in the patient group was found to be significantly higher in the group with adult separation anxiety (p=0.003, Table 4).

Patients with and without agoraphobia were compared in terms of the mean values of attachment patterns for patients in the patient group, and it was determined that the mean of the four attachment patterns was not significantly different between those with and without agoraphobia. In secure, fearful, preoccupied and dismissive attachments, the mean ± standard deviations in the non-agoraphobic group were 4.09±1.22, 3.53±1.32, 4.24±1.03 and 4.24±1.25, respectively. In the agoraphobic group, the means ± standard deviations were 4.01±1.14, 3.91±1.23, 4.16±0.93 and 4.65±1.40, respectively (p values were 0.654, 0.159, 0.963 and 0.422, respectively).

In the control (n=11) and the patient (n=21) groups who had early loss of mother and father or parental separation, the rates of those with adult separation anxiety did not show any significant difference in the control (n=15, 45%) and patient group (n=15, 71%) (p=0.250).

In order to assess the predictor characteristics of panic disorder symptoms in the variables of gender, marital status, educational level, history of school fear, income status, presence of physical illness, history of psychiatric illness in mother, father and sibling, loss of mother-father, parental separation, ASA, and attachment scale that were addressed in the study, multiple logistic regression analysis with backward stepwise elimination was performed to minimize Type II error that may occur due to the suppressor effect. According to this, all variables that did not cause significant change in step 10 were removed from the model.

Table 5. Multivariate Logistic Regression Analysis for Predicting Panic Disorder Symptoms

	Variable	B	S.E	Wald	Sig	Exp (B)	Confidence Interval	
							Lower	Upper
	Marital Status (Married)	1.019	0.509	4.003	0.045	2.771	1.021	7.522
Step 10	Physical illness (Yes)	2.280	0.707	10.388	0.001	9.78	2.444	39.133
	Psychiatric history in father (Yes)	2.498	1.27	3.867	0.049	12.164	1.008	146.723
	Loss of mother-father (Yes)	1.383	0.599	5.328	0.021	3.987	1.232	12.902
	ASA*	0.049	0,017	8.722	0.003	1.051	1.017	1.086
	Fearful	-0.333	0.017	3.698	0.054	0.717	0.511	1.006
	Preoccupied	0.701	0.228	9.448	0.002	2.016	1.289	3.154
	Stable	-0.309	1.22	0.064	0.8	0.734		

Backward Stepwise Elimination (LR) p<0.05. * Adult Separation Anxiety Questionnaire

Table 6. Classification Table Obtained from Multivariate Logistic Regression Analysis Model for Predicting Panic Disorder Symptoms

Step 10		Suicide Attempt (Estimated)		Correct Classification %
Suicide Attempt (Observed)		No	Yes	
	No	52	12	81.3
	Yes	15	50	76.9
Classification Percentage				79.1

According to multiple logistic regression analysis, marital status, physical illness, psychiatric history of the father, loss of mother-father, ASA, and fearful and preoccupied attachment variables went into the model. The predictors in the obtained model were assessed to be statistically significant ($\chi^2(7)=53.121$ p<0.01, Nagelkerke R2=0.450) and were also found to be highly compatible according to Hosmer and Lemeshow test ($\chi^2(8)=8.627$, p=0.375).

When other variables remained stable, being married increased the risk of panic disorder symptoms 1.02-fold, presence of physical illness increased it 2.28-fold, psychiatric illness history of the father increased it 2.50-fold, loss of mother-father increased it 1.383-fold, a one-unit increase in the ASA score increased it 0.05-fold, and a one-unit increase in the preoccupied attachment score increased it 0.70-fold, whereas a one-unit increase in the fearful attachment score decreased the risk of panic disorder symptom 0.34-fold (Table 5).

According to the classification table obtained by using the model backward stepwise elimination method, the success rate of classification was found to be 79.1%. This classification is 57% higher than the rate of linear classification obtained from the model in which only the fixed variable is used. The data of this classification are as shown in Table 6.

DISCUSSION

Although normal separation anxiety is not considered a childhood disorder, in recent years, there have been studies conducted arguing that adult separation anxiety, which begins in childhood, can be carried into adulthood, or that this disorder may also begin in adulthood (Manicavasagar et al. 2000, Shear et al. 2006, Manicavasagar et al. 2010, Silove et al.2010). It was shown in the study by Silove et al. (2015) that separation anxiety disorder began after 18 years of age in 43.1% of those who indicated lifelong separation anxiety. On the other hand, the age of onset was given as 10.3 years in a recent meta-analysis (Lijster 2017). One of the most studied topics is the association between separation anxiety and panic disorder. The assumption that childhood separation anxiety increases the risk of panic disorder in adulthood is widely accepted in the literature (Manicavasagar et al. 2000, Shear et al. 2006). Although this study did not investigate childhood separation anxiety symptoms, it can be concluded that separation anxiety in childhood as well as adulthood is associated with panic disorder. There are studies indicating that adult separation anxiety caused predisposition to anxiety disorders and depressive disorders (Manicavasagar et al., 1998, Wijeratne and Manicavasagar, 2003). There are also publications in the literature suggesting a link between adult separation anxiety and panic disorder (Manicavasagar et al., 2010, Silove et al., 2010, Gittelman and Klein 1984, Manicavasagar et al., 2009). As stated in the literature, in our study, a statistically significant difference was also found between panic disorder and adult separation anxiety.

Although the gender distribution was found to be similar in both groups when the socio-demographic data obtained in the study were investigated, female-to-male ratio was 63.1% to 36.9%. The patients were accepted according to the order of admission, and the ratio of female to males was found to be F/M = 1.71, which is close to the female/male ratio (F/M=1.67) found in the Turkish Mental Health Profile study in which the prevalence of panic disorder in the last 12 months was found as 0.5% in females and as 0.3 in males (Alkın 2010). This suggests that the sample in our study reflects our society well in terms of gender distribution.

In the comparison between two groups in terms of occupational status, the ratio of employees in the panic disorder group (33.2%) was significantly lower; on the other hand, the ratio of housewives was significantly higher (Manicavasagar et al., 2010). It has been mentioned in several studies that adult separation anxiety plays an important role in labor loss (Ural et al., 2015, Tukel 2000). In our study, there was no significant difference between the panic disorder group and the panic disorder with the separation anxiety group in terms of adult separation anxiety and labor loss. The fact that most of the patients in the study were housewives may have lead to this result.

While the mean age of onset for panic attack was 32.70 +/- 10.10 in the healthy control group accompanied by adult separation anxiety, it was found to be 28.02 +/- 11.37 in the panic disorder group. This difference was not statistically significant.

Shear et al. suggested in their study, in which childhood separation anxiety was investigated retrospectively, that childhood separation anxiety was more common in women, whereas in males, adult separation anxiety was generally more common in adulthood and thus, the gender ratio was equalized in adulthood. Furthermore, in this study, they found that adult separation anxiety was associated with poor education, unemployment, and divorce (Shear et al., 2006). In case of concomitant adult separation anxiety in panic disorder group, no significant difference was found in our study from the point of education and duration of panic disorder, only that adult separation anxiety was significantly higher in females compared to males in terms of gender. This condition is thought to be related to the role of women and the way of raising a childin our country.

We found in our study that being married could be a predictor for panic disorder. Although there is a limited amount of research conducted on marital status, being married has been found to be preventive for the majority of mental illnesses in an international study. It has been observed that being married is preventive in terms of panic disorder only for men, but for women, a mild risk increase may arise (Scott et al., 2010). However, in a more recent study, marriage was found to be preventive for patients suffering from major depressive disorder accompanied by anxiety disorder (Kessler RC et al. 2015). It was found in another study conducted in this regard that the secure attachment of couples in marriage and problem-solving skills were positive indicators (Marcaurelle R et al., 2005). On the other hand, in a study conducted on stress in marriage, it was observed that while marriage stress generally increased anxiety disorders, it did not cause this effect when panic disorder was taken specifically (Whisman 2007). These studies referred to do not involve the Turkish patient population, and our findings are thought to be related to the sociocultural characteristics and the qualities of marriages of patients who were admitted to the psychiatry clinic. Further studies in this area are needed in the Turkish population. One of the findings in our study is that the presence of panic disorder history in the father is a predictor for panic disorder. Previous studies have shown that the presence of psychiatric history both in the mother and father increased the risk of panic disorder (Hirshfeld-Becker et al., 2012, Havinga et al., 2017).

Insecure attachment patterns (fearful, preoccupied, dismissive) develop as a result of unsatisfied or destructive relationships between children and parents during early childhood (Tükel 2000). In our study, the mean scores of preoccupied and fearful attachment patterns were identified to be higher in both groups than in other subgroups when individuals who experienced loss of mother-father and parental separation in patient and control group were investigated.

In the study, loss of mother-father and parental separation at early ages were found to be predictors for panic disorder. There are many studies suggesting that early life events, such as loss of mother-father or separation, may be predictors for panic disorder (Bandelow B et al., 2002; Farayelli et al., 2007).

In a large community-based twin study, loss of mother-father or parental separation was observed to be associated with a large number of psychiatric illnesses, including panic disorder (Otowa 2014). One hypothesis is that PD (panic disorder) symptoms may develop secondary to separation anxiety after loss of mother-father (Battaglia 2015). Another hypothesis is that loss of mother-father at early ages increases the CO2 sensitivity on the HPA axis of the opiate system, resulting in separation anxiety and is a risk factor for PD (Pterter and Klein 2014). However, the referred studies have contradictory results with our findings (Newman and Shen 2016). In a study comparing generalized anxiety disorder and PD patients to healthy controls, no difference could be found in any group in terms of loss of mother-father/parental separation (Newman et al., 2016). In another study, early separation and loss were found to be partially effective (Bandelov et al., 2002). Although separation from mother-father at early ages was found to be an independent predictor from separation anxiety, it is assessed to be associated with separation anxiety, as stated in the literature. It is thought that this issue needs to be studied with larger sample groups.

Traumatic experiences such as developmental traumas (early separation and loss), childhood sexual and physical abuse, and stress sources in life (such as chronic poverty, chaotic family environment) are risk factors for both panic disorder and separation anxiety disorder, which is one of the findings that support our study (Li and Darcy 2016). The absence of a specific tool to study childhood traumatic experiences is a disadvantage of our study.

When first-degree relatives were assessed in terms of psychiatric illness history, the prevalence of anxiety disorders was

found to be higher in those whose father had a history of psychiatric disorder compared to control group.

In conclusion, it is seen in this study that the association between panic disorder (especially concomitant agoraphobia) and adult separation anxiety is very strong, is more common in female gender, and that preoccupied attachment is more common than other attachment patterns in both the panic disorder group and the healthy control group.

In this study, a statistically significant difference was found between panic disorder and adult separation, as stated in the literature (Preter and Klein 2014, Bandelov et al. 2002, Farayelli et al. 2007). The increase in ASA scores was predictive of PD symptoms. These findings are consistent with the data in the literature, suggesting that separation anxiety was commonly observed in mood and anxiety disorders (Gesi et al., 2016). On the other hand, separation anxiety was also detected to be associated with treatment resistance in anxiety disorders and was thought by authors that it should be considered separately as a primary treatment target (Milrod et al., 2016). No study reporting otherwise could be found in our literature review. Although this may be due to the high incidence of comorbidity in psychiatric disorders, as well as the association between the separation anxiety and panic disorder, it may be due to the fact that our review was not a consumer.

When the mean values of attachment patterns were investigated in the study in the control and patient groups, the mean of preoccupied attachment pattern was found to be statistically higher in both groups compared to the other attachment patterns. Generally speaking, while in Western countries, dismissive attachment pattern ranks second after secure attachment pattern, preoccupied attachment pattern ranks second after secure attachment pattern in studies performed in Turkey, (Sümer and Güngör 1999). While the secure attachment pattern ranked first in the measurements of Sümer and Güngör (1999), which was conducted on a Turkish sample, preoccupied ranked second, dismissive ranked third, and fearful attachment pattern ranked last. In this study, preoccupied attachment pattern ranked first in the healthy control group, which was a different result arising from this study. However, there is also a thesis study conducted among university students in our country in 2004, in which preoccupied attachment pattern was seen on the first rank in the literature (Ural et al., 2015).

After statistical analysis, it was found in our study that preoccupied attachment increased the risk of panic symptoms in adulthood, while fearful attachment reduced this risk. These findings are not exactly consistent with the literature. A study by Manicavasagar et al. found an association between agoraphobic panic disorder and anxious attachment patterns (preoccupied, fearful) (Manicavasagar et al., 2009). Although anxious and dismissive attachment was associated with panic disorder in a study by Newman et al. (2016), it was observed that this association was weak and more related to general anxiety disorder. While both fearful attachment and avoidance were found to be high in anxiety disorder patients in the study by Picardi et al. (2013), there was no difference between the diagnostic groups. In another study, no association was found between attachment patterns and panic disorder (Bifulco et al., 2006). Literature data are partially inconsistent. In the light of all of these, it is thought that further investigation is required to determine why preoccupied attachment increases panic disorder symptoms, while fearful attachment reduces them. It was also observed that the presence of agoraphobia or adult separation anxiety does not affect attachment patterns. It was similarly observed in a study that separation anxiety and attachment patterns were different, whereas the presence of separation anxiety increased the severity of panic symptoms (Pini et al., 2014). There are other studies in which there is a strong association between adult separation anxiety disorder and panic disorder with concomitant agoraphobia (Gittelman and Klein 1984). Similarly, there was also a statistically significant relationship between adult separation anxiety and panic disorder with agoraphobia in this study. In the light of this knowledge, there is a need for new studies to investigate the association between agoraphobia and separation anxiety.

There are a lot of studies on panic disorder in the literature. However, the number of studies on adult separation anxiety and attachment patterns is limited. This study is one of the few studies conducted in this field, and the limited numbers in our samples is a limitation of our study. Furthermore, the fact that the control group was not homogeneous enough about employment compared to the research group may weaken the representation.

As another limitation of our study, in the commentary section it is written as "the majority's being of housewife"the control group, however there is no analysis if the majority in the panic disorder group are employee and if this "majority" is statistically significant or incidental.

There is a need for more detailed and comprehensive studies related to early childhood experiences, attachment patterns, and separation anxiety.

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