

Conversion Disorder Comorbidity and Childhood Trauma

Fatma AKYÜZ¹, Peykan G. GÖKALP², Sezgin ERDİMAN³, Serap OFLAZ⁴, Çağatay KARŞIDAĞ⁵

¹Department of Psychiatry, Bakırköy Dr. Sadi Konuk Training and Research Hospital, İstanbul, Turkey

²Former Co-Director of Department of Neurosis, Bakırköy Prof. Dr. Mazhar Osman Mental Health and Neurological Diseases Training and Research Hospital, İstanbul, Turkey

³Department of Psychiatry, Balıkesir Atatürk State Hospital, Balıkesir, Turkey

⁴Department of Psychiatry, Former Lecturer İstanbul University İstanbul Medical Faculty, İstanbul, Turkey

⁵Department of Psychiatry, Bakırköy Prof. Dr. Mazhar Osman Mental Health and Neurological Diseases Training and Research Hospital, İstanbul, Turkey

ABSTRACT

Introduction: The aim of this study is to examine the socio-demographic and clinical characteristics, the presence of comorbidity, and the link with childhood traumatic experiences in patients with conversion disorder (CD) in a psychiatric outpatient clinic.

Methods: A total of 60 literate, female patients between 18 and 65 years of age who were referred to the general psychiatry outpatient clinic and who were diagnosed with conversion disorder according to the DSM-IV diagnostic criteria were included in the study. A questionnaire on sociodemographic and clinical characteristics, the Brief Psychiatric Rating Scale (BPRS), the Hamilton Depression Rating Scale (HDRS), the Hamilton Anxiety Rating Scale (HARS), the Childhood Trauma Questionnaire (CTQ), and the Dissociative Events Scale (DES) were used to assess the cases.

Results: The mean age of the participants was 36.27±11.18 years. 72% of the patients were married and 63% were primary school grad-

uates. The most common symptoms were asthenia (100%), aphasia (96.7%), and crying-convulsions (93%). The most common co-morbidities were depression (50%) and dissociative disorders (48.3%). Among the patients, 53.3% reported a history of exposure to physical violence and 25% reported a history of sexual assault in childhood. Assessment of the Childhood Traumatic Questionnaire revealed a significant positive relation between emotional, physical, and sexual abuse scores and DES score.

Conclusion: CD has not yet been fully analyzed in detail in health institutions; co-existence of another mental disorder and the presence of traumatic experiences in the past further complicate the issue. Consideration of these factors during treatment will have a positive impact on the course and prognosis of the disorder.

Keywords: Conversion disorder, co-morbidity, childhood trauma

INTRODUCTION

Conversion disorder (CD) was defined in the 19th century on the basis of research and investigations developed by Breuer and Freud. CD is described as the loss or alteration of motor, sensory, and neuro-vegetative system functions without any specific organic etiology (1,2). Later, around the mid-20th century, CD diminished in prevalence in western and westernized communities. In the past two decades, interest in CD has re-emerged due to awareness of traumatic stress and a steep increase in neuroscience research (3,4). Due to the large number of admissions of patients with CD and dissociative symptoms to neurology clinics, the condition has been named functional neurological symptoms and syndromes (FNSS). Although the findings of EEG and fMRI studies are diverse, evidence suggests that both subcortical and prefrontal regions are affected and cause dysregulation of emotions and altered network activity (5).

According to the DSM-IV and DSM-5, the diagnosis of CD requires the presence of a functional disorder with no evidence of a neurological illness; the condition must be related to psychological stressors and must not be simulated on purpose (6). The DSM-5 classifies CD under the title of "somatic symptom and related disorders" (7). In the ICD-10, CD is classified under the heading of "neurotic, stress-related, and somatoform disorders" and under the subtitle of "dissociative disorders" (8).

It is difficult to provide clear-cut findings on the epidemiology of CD. A two-year follow-up study in the city of Sivas, Turkey, demonstrated that prior to the DSM-IV, dissociative disorder, that is, an overt "psychological" dissociative condition, was present in 47.4% of CD patients (9). Similarly, in another study from Elazığ, Turkey, this ratio was 30.5% (10). CD is more frequent in rural regions and in populations with low socioeconomic status and lower educational levels. (11). The rate of CD is almost equal among girls and boys in the pre-pubertal period; however, after puberty, the disorder is 2- to 19-fold more common among girls (12,13).



Correspondence Address: Peykan G. Gökalp, Bakırköy Prof. Dr. Mazhar Osman Ruh ve Sinir Hastalıkları Eğitim ve Araştırma Hastanesi, Nevroz Kliniği Em. Şef Yard., İstanbul, Türkiye
E-mail: peykangok@yahoo.com

Received: 16.06.2016 • **Accepted:** 05.09.2016

©Copyright 2017 by Turkish Association of Neuropsychiatry - Available online at www.noropsikiyatriarsivi.com

The presence of a comorbid psychiatric disorder is observed frequently in patients with CD. Mood disorders are the most common comorbid diagnoses (14). Childhood traumatic experiences preceding CD have been reported in numerous literature studies (15,16,17). Presenting symptoms in clinical settings generally include sensory, motor, neuro-vegetative, and other psychological symptoms, such as delusions and hallucinations (18,19,20,21,22). Because of the multi-faceted nature of these symptoms, CD can be easily misdiagnosed as neurological, medical, and other psychiatric disorders.

The Bakırköy Prof. Dr. Mazhar Osman Mental Health and Neurology Training and Research Hospital is the oldest mental health institute in Turkey; it was founded almost a century ago. At this hospital, CD patients have been treated in the emergency unit as well as in outpatient units for many years. A hypothesis exists that CD frequently coexists with dissociative disorders and that both disorders are frequently associated with a history of childhood trauma (15,23,24,25). It is also known that the clinical features and correlates of CD are more influenced by culture than many other psychiatric disorders (26,27). Surprisingly, however, few studies conducted in our country have examined the possible link between childhood trauma and CD (3,23,24,28).

This study aims to investigate the relationship between CD and childhood trauma and adversities in patients referred to a psychiatric outpatient facility. While conducting this study, comorbid conditions that might affect clinical outcome and prognosis in psychiatric practice were also assessed.

METHODS

Subjects

A total of 60 literate female patients between 18 and 65 years of age who were referred to the general psychiatry outpatient clinic and were diagnosed with CD according to the DSM-IV diagnostic criteria were included in the study. A psychiatric examination was conducted for all subjects, and other disorders were diagnosed according to their DSM-IV criteria. Patients with neurological diseases, mental retardation, alcohol and/or substance dependence, bipolar disorder, schizophrenia, other psychotic disorders, and tardive dyskinesia were excluded from the study. The study was approved by the local ethics committee and was performed in accordance with the ethical standards established in the Helsinki Declaration, 1989. All participants gave written informed consent after being informed about the study.

Instruments

Socio-Demographic and Clinical Features Questionnaire: This is a 39-item, semi-structured questionnaire developed by the investigators. It includes questions related to demographic characteristics, clinical history, life events and traumatic experiences, family burden, and symptoms.

Brief Psychiatric Rating Scale (BPRS): This scale was developed by Overall and Gorham to assess severity and alterations due to antipsychotic treatment in psychotic states observed in schizophrenia and other psychotic disorders (29). Studies on the validity and reliability of the Turkish version have been conducted by Soykan (30). In this study, this scale was used to evaluate pseudopsychotic symptoms.

Hamilton Depression Rating Scale (HDRS): This scale is used to measure a patient's level of depression and changes in its severity. The HDRS was developed by Hamilton (31). Validity and reliability studies of its Turkish version were conducted by Akdemir et al. (32)

Hamilton Anxiety Rating Scale (HARS): This scale was developed by Hamilton (33). The scale is utilized to determine a patient's anxiety level and symptom profile, as well as to measure changes in severity. It is a 5-point Likert-type scale comprising a total of 14 questions pertaining to both somatic and mental symptoms. Validity and reliability studies of its Turkish version have been conducted by Yazıcı et al. (34); however, the cutoff point has not been calculated.

Childhood Trauma Questionnaire (CTQ): This scale was developed by Bernstein et al. (35), and validity/reliability studies of its Turkish version have been conducted by Aslan and Alparslan (36). This self-administered 28-item structured questionnaire is suitable for individuals over 12 years of age; it is used to screen emotional and physical neglect and abuse, as well as sexual abuse prior to the age of 20.

Dissociative Events Scale (DES): This is a self-report scale developed by Bernstein and Putnam (1986) to screen dissociative events (37). Validity and reliability studies of the scale in Turkish were conducted by Şar et al. in patients with dissociative disorders (38).

Statistical Analysis

Statistical Package for the Social Sciences 15.0 for Windows (SPSS Inc.; Chicago, IL, USA) was used in the statistical analysis (39). A total of 60 patients were included in the analysis. Frequency tables were prepared for the categorical variables, and descriptive statistics were presented for the numerical variables (mean, standard deviation, median, minimum, maximum). Cross-table statistics were prepared for categorical comparisons between the groups, and significance levels were determined by the chi-square test. In numerical comparisons, the Mann-Whitney U test was used for paired independent groups without a normal distribution pattern, while the Kruskal-Wallis test was utilized for more than two independent groups. The Spearman correlation coefficient was calculated to test the interaction of variables that did not show normal distributions. The statistical significance level was set as a p value of <0.05 .

RESULTS

The mean age of the participants was $36.27(\pm 11.18)$ years. The sociodemographic characteristics of the patients are presented in Table 1. Of the sample, 81.78% were living in a nuclear family and 18.3% were living in an extended family. A history of parental divorce was present in 11.7% of the patients and a history of migration in the family was present in 73.3%. 43.3% ($n=26$) of the patients had a history of parental loss. The deceased parent was the father in 65.4% ($n=17$) of cases, the mother in 19.2% ($n=5$), and both parents in 15.4% ($n=4$). Of the sample, 15% ($n=9$) experienced paternal loss and 3.3% ($n=2$) experienced maternal loss before 18 years of age. 51.7% ($n=31$) of the patients had a history of psychiatric disorders among their relatives. The relative with a positive psychiatric history was a parent in 54.8% ($n=17$), a sibling in 25.8% ($n=8$), an aunt or uncle in 16.1% ($n=5$), and a son or daughter in 3.2% ($n=1$) of the 31 cases.

The mean scores were $11.02(\pm 5.94)$ for BPRS, $18.67(\pm 9.81)$ for HARS, $14.45(\pm 7.01)$ for HDRS and $23.97(\pm 14.25)$ for DES. The co-existing psychiatric disorder was depression in 50% ($n=30$), dissociative disorder in 48.3% ($n=29$), anxiety disorder in 10% ($n=6$), and panic disorder in 6.7% ($n=4$) of our cases. None of the patients were currently diagnosed with post-traumatic stress disorder in a clinical evaluation conducted according to the DSM-IV.

The precise age of onset of CD was not available during the interview. The duration of psychiatric treatment was between 6 months and 1 year in 31.7% ($n=19$), 1–5 years in 33.3% ($n=20$), 5–10 years in 33.3% ($n=21$), and more than 10 years in 1.7% ($n=1$) of the participants.

Assessment of the CTQ showed the mean scores of each subscale to be 14.23(\pm 6.63) for emotional neglect, 11.08(\pm 3.10) for physical neglect, 12.18(\pm 6.08) for emotional abuse, 9.78(\pm 6.52) for physical abuse, 7.42(\pm 4.05) for sexual abuse, and 54.70(\pm 21.29) for the total CTQ-28. Among the individuals comprising the sample, 53.3% (n=32) had been exposed to physical violence and 25% (n=15) had been exposed to sexual assault during childhood (Table 2).

In our study, the most common stressful life events were family conflict in 71.7% (n=43) and financial problems in 68.3% (n=41) of cases. The stressful life events to which the subjects were exposed and their correlations with the score of each scale are presented in Table 3. The BPRS, HARS, and HDRS scores as well as the emotional neglect, physical neglect, and abuse sub-scale scores were higher in patients who had been exposed to paternal violence, either toward the patient him/herself or toward the patient's mother. Moreover, the DES and physical abuse scores were higher in patients who experienced parental loss before 18 years of age. Similarly, higher physical abuse scores were found in patients with divorced/separated parents. Patients with physical illnesses had significantly higher total HARS scores. Although patients with financial problems had statistically significantly higher HARS, HDRS, DES, emotional and physical neglect, and abuse scores, their minimization scores were significantly lower. The HDRS total scores were higher in patients facing problems at work and in patients who had been fired from their jobs. Patients who had relatives with positive psychiatric histories had statistically significantly higher HDRS and DES scores.

Table 1. Demographic characteristics of the sample

	n (%)
Age (Mean \pm SD)	36.27 \pm 11.18
Education	
Literate/illiterate	7 (11.6)
Primary school	38 (63)
High school	13 (21.7)
University	2 (3.4)
Marital status	
Married	43 (71.7)
Single	9 (15)
Separated/widowed	7 (11.6)
Living together	1 (1.7)
Work status	
Employed/student	14 (23)
Unemployed	4 (6)
Retired/housewife	42 (70)
Place of birth	
Province	22 (36.7)
Village	15 (25)
City	23 (38)
Economic status	
Low income	35 (58)
Middle income	23 (38)
High income	2 (4)

Symptoms such as asthenia (100%), aphasia (96.7%), and crying-convulsions (93%) were more common among our CD patients (Table 4). Comparison of the symptoms with the scores of the scales revealed that patients with clinical manifestations similar to grand-mal epilepsy had significantly higher BPRS (13.60 \pm 6.52) and HARS (22.67 \pm 10.62) scores. Similarly, cases with impairment of consciousness-orientation had higher BPRS (15.50 \pm 7.09), HARS (29.08 \pm 12.98), and HDRS (19.42 \pm 5.71) scores; aphasic patients had higher BPRS scores (11.31 \pm 5.8) and cases with pseudopsychotic delusions and derealization had higher DES scores (23.47 \pm 14.21). When the symptoms of CD were compared with CTQ subscale scores, a positive significant correlation between crying-convulsions and emotional neglect (p=0.034) was found. Moreover, positive but non-significant correlations were found between consciousness-orientation impairment and emotional abuse (p=0.054) and between pseudopsychotic symptoms and physical abuse (p=0.055).

Assessment of the scale scores of patients who reported sexual assault when answering the demographic questionnaire revealed statistically significantly higher DES scores in these patients. A significant positive correlation between DES score and emotional, physical, and sexual abuse scores was found during evaluation of the CTQ. Similarly, high DES scores were found in patients who reported emotional and physical neglect. The correlations between DES score and the scores of the remaining scales is presented in Table 5.

DISCUSSION

This study aimed to demonstrate possible links between the clinical manifestations of CD, childhood trauma, and stressful life events. It has been demonstrated that the most common psychiatric disorders coexisting with CD are depression (50%) and dissociative disorder (48.3%); it was also found that almost 70% of the sample had experienced childhood trauma. Although it is well known that puberty and early adulthood are the periods in which the onset of CD occurs, this study demonstrated a mean age of 36.27 years. The duration of past psychiatric treatment was between 6 months and 1 year in 31.7%, 1-5 years in 33.3%, 5-10 years in

Table 2. Rates of trauma in childhood

	n (%)
Violence in childhood	
Exposed (total)	32 (53)
Frequently exposed	20 (33)
Sometimes exposed	9 (15)
Seldom exposed	3 (5)
Offender of violence	
Mother	24 (40)
Father	9 (15)
Mother and Father	9 (15)
Relative	8 (13)
Elder /Younger Brother	6 (10)
Foster mother/father	4 (7)
Sexual abuse	15(25)
Sexual offender	
Older relative	6 (40)
Stranger or other	6 (40)
Elder brother	2(13)
Peer relative	1 (6.7)

Table 3. Stressor life events, their rates, and their correlations with the scores of each scale

	n (%)	BPRS		HARS		HDRS		DES		CTQ	
		m (±SD)	p	m (±SD)	p	m (±SD)	p	m (±SD)	p	m (±SD)	p
Family conflict	43 (72)	11.51 (5.5)	0.309	18.14 (8.56)	0.516	14.56 (6.95)	0.851	25.95 (13.91)	7.01	55.23 (21.19)	0.761
Financial problems	41 (68)	10.85 (5.52)	0.758	20.71 (10.51)	0.172	16.24 (7.07)	0.03*	27.63 (13.07)	0.03*	60.15 (22.14)	0.03*
Illness of close relative	21 (35)	12.00 (6.16)	0.351	20.57 (10.58)	0.274	16.76 (6.89)	0.60	29.14 (11.65)	0.38	54.57 (20.61)	0.973
Job loss/conflict at work	17 (28)	13.12 (6.29)	0.085	21.00 (11.87)	0.250	17.53 (7.09)	0.31	27.53 (11.94)	0.226	48.94 (19.63)	0.190
Use of alcohol/substances	16 (27)	9.50 (5.59)	0.236	17.56 (11.52)	0.603	11.19 (5.93)	0.028*	24.31 (14.00)	0.911	51.75 (18.94)	0.522
Separation from spouse/partner	12 (20)	11.00 (5.62)	0.991	16.67 (6.89)	0.435	17.08 (6.76)	0.147	27.58 (11.06)	0.330	54.42 (22.42)	0.959

*p<0.05
 BPRS: Brief Psychiatric Rating Scale; HARS: Hamilton Anxiety Rating Scale; HDRS: Hamilton Depression Rating Scale; DES: Dissociative Experiences Scale; CTQ: Childhood Trauma Questionnaire; SD: standart deviation

Table 4. Distribution of conversion symptoms in the sample

	n (%)
Asthenia	60 (100)
Aphasia	58 (97)
Crying-convulsions	56 (93)
Numbness in extremities	55 (92)
Fainting-falling	49 (82)
Loss of strength in the extremities	33 (55)
Pseudopsychotic delusion	31 (52)
Derealization	31 (52)
Similar to grand mal seizure	30 (50)
Impaired consciousness-disorientation	12 (20)

33.3%, and more than 10 years in 1.7% of the participants; this demonstrates that the majority of patients applied to the mental health facility for the first time at ages of approximately 25-35 years.

This finding may be due to the fact that CD patients tend to be referred to clinics other than psychiatry clinics during the initial stages of the disorder due to barriers to mental health care and concerns about stigma. Because the psychological aspects of the disorder are not addressed in medical facilities, the patients are referred to psychiatric care after a long period of time (11). Another explanation may be that certain circumstances, especially possible retraumatization at a later period, may aggravate conversion symptoms and cause patients to seek help from mental health facilities at a later age.

The educational levels and incomes of the patients in our study were consistent with previous data. The majority of the study participants are female, at low to middle income levels, with primary school education and without any personal income. These findings suggest that CD is more prevalent among individuals with lower socioeconomic status and lower education levels (17).

Co-existence of another psychiatric diagnosis is a common finding in CD. It has been reported that mood disorders are found in 45%–85% of CD cases who have symptoms of convulsions or breath-holding spells; the most common co-morbid mood disorder is major depressive disorder (17%–29%) (12,23). Consistent with these data, a psychiatric co-morbidity was present in 73.3% of our CD patients. The most common co-morbid psychiatric diagnoses were depression (50%) and dissociative disorder

Table 5. Correlation of DES scores and scores of other scales

	Mean	SD	Rho	p
BPRS	11.02	±5.94	0.163	0.213
HARS	18.67	± 9.81	0.255	0.049
HDRS	14.45	±7.01	0.359	0.005
CTQ Subscales				
Emotional neglect	14.23	±6.63	0.344	0.018
Physical neglect	11.08	±3.10	0.631	<0.001
Emotional abuse	12.18	±6.08	0.383	0.008
Physical abuse	9.78	±6.52	0.461	0.001
Sexual abuse	7.42	±4.05	0.395	0.006
Minimization	0.92	±0.996	-0.595	<0.001

BPRS: Brief Psychiatric Rating Scale; HARS: Hamilton Anxiety Rating Scale; HDRS: Hamilton Depression Rating Scale; DES: Dissociative Experiences Scale; CTQ: Childhood Trauma Questionnaire

(48.3%); this is also similar to the findings of previous studies (11,23,24,40). Studies from Turkey clearly demonstrate the co-existence of a dissociative disorder in one third to one half of CD patients (9,10,28). Similar to the findings of a study by Şar et al. (41), our study showed that high rates of pseudopsychotic delusions (52%) were correlated with coexisting symptoms of dissociative disorder. The most commonly reported dissociative symptoms in our patients were talking to oneself, impaired consciousness-disorientation, pseudopsychotic delusions, and derealization.

In this study, we demonstrated that the most common symptoms in CD patients are severe asthenia, aphasia, crying-convulsions, and fainting-falling. Asthenia was present in 100% of cases and aphasia was present in 96.7% of cases. Crying-convulsions and fainting-falling were observed in 93.3% and 50% of cases, respectively. These findings are consistent with the results of previous studies that have suggested that the most common symptoms are aphasia, loss of consciousness, paresthesia, convulsions, dyspnea, paralysis, psychogenic pain, and astasia-abasia (12,22,41). Although symptoms such as loss of consciousness, paralysis, blindness, or aphonia are seldom observed in western countries, they are common in developing countries (15,42,43). Our results related to presenting symptoms were consistent with previous results. BPRS and HARS scores were significantly higher in patients presenting with clinical symptoms of grand-mal epilepsy and aphasia. In countries such as Turkey, where rural populations exist, there is a higher tendency toward somatization; also, somatic symp-

toms are dominant in the clinical presentations of depressive and anxiety disorders. This in turn leads to the development of similar types of conversion symptoms (42).

A history of physical and sexual trauma in childhood was found to be prevalent in our study. Similar to the findings of previous studies (3,16,17,24,40), 53.3% of our CD patients reported a history of physical trauma and 25% reported sexual trauma in their childhood. Sexual and physical abuse, as well as physical neglect, have been reported in patients with dissociative symptoms (17,35,36,42). In a follow-up study with 38 patients, sexual abuse, physical abuse, emotional abuse, and emotional neglect were higher in the CTQ sub-scales (3). Consistent with the literature, higher DES scores were found for patients in our study with histories of emotional, physical, and sexual abuse. The DES scores were also significantly higher in cases reporting emotional and physical neglect.

The demographic features of the majority of the sample were low to middle income and lower educational level (primary school), with no personal income and experience of physical and sexual trauma. These findings suggest the possibility of "invisible victims" who cannot speak out. Due to the difficult circumstances they face and the disturbance that the results may cause in the community, CD patients do not receive adequate attention and have not been recruited for research studies (28). In our study, the participants reported that although they had received psychiatric treatment for long periods of time in various mental health care facilities, their personal histories of issues related to trauma had never been questioned before. This finding emphasizes the significance of the time allocated to patients in mental health services, as well the significance of addressing the issues of child abuse and neglect during residency training.

In 50% to 55% of our sample, a stress factor was mentioned as a trigger at the onset of CD. This finding is similar to the findings of previous studies (43,44,45). Studies conducted in our country have revealed that the rate of a stress factor preceding CD is 17% to 45% (19,32). Çelikel and Saatçioğlu (46) demonstrated that among CD patients, 45% had lost a relative and 40% had family/marital problems. Consistent with the literature (18,41), parental loss was frequent in our study. Patients who experienced parental loss before 18 years of age had higher DES and physical neglect scores. Parents have an important role not only in the physical care but also in the psychological-emotional development of their children. In patients who had a history of exposure of to father-to-mother violence, the BPRS, HAS, HDDÖ, emotional neglect, physical neglect, and physical abuse scores were higher. It was also found that patients with divorced parents had higher physical neglect scores.

Another finding of our study revealed that more than one third of the sample had received pharmacotherapeutic treatment only for more than five years. In previous studies, it has been reported that the rate of a co-morbid psychiatric disorder increases the treatment duration (11). As the duration of treatment increases, we should search for co-morbid psychiatric disorders, low socioeconomic conditions, and lack of insight, as well as long-hidden, unspoken childhood trauma or other adversities.

The main limitations of this study were the relatively small sample size, the lack of a control group, and the exclusively female sample. The latter limitation could be considered relatively minor, as most patients with CD in clinical settings are women.

Longitudinal studies with larger sample sizes and control groups and with follow-up periods would provide further insight into the clinical course of CD and inform possible treatment modalities.

In conclusion, comorbid psychiatric diagnosis is common in patients with CD, and the rate of comorbid dissociative disorders is very high. The presence of previous traumatic events further complicates the presentation and evaluation of this disorder in clinical settings. Comprehensive assessment of the trauma history of a patient would contribute to the clinician's integrative management and understanding when helping the patient. Increasing the awareness of society regarding child abuse and neglect may also alleviate the pain experienced by trauma survivors.

Ethics Committee Approval: Ethics committee approval was received for this study from the ethics committee of Bakırköy Prof. Mazhar Osman Mental Health and Neurological Diseases Training and Research Hospital (2007).

Informed Consent: Written informed consent was obtained from patient who participated in this study.

Peer-review: Externally peer-reviewed.

Author Contributions: Concept - F.A., P.G.; Design - F.A., P.G.; Supervision - P.G.; Resource - F.A.; Materials - F.A., S.E.; Data Collection and/or Processing - F.A., S.E.; Analysis and/or Interpretation - Ç.K., S.O.; Literature Search - F.A., P.G., S.O.; Writing - F.A., P.G.; Critical Reviews - P.G., S.O.

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

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

REFERENCES

1. Breuer J, Freud S. Studies on hysteria, in *The Standard Edition of the Complete Psychological Works of Sigmund Freud*, Vol. II. Edited and translated by Strachey J, Strachey A. London, Hogarth Press and the Institute of Psycho-Analysis, 1955, pp vii–xxxii, 1-311 (orijinal makale 1893-1895).
2. Öztürk MO. Ruh Sağlığı ve Bozuklukları. 11. Basım (Mental Health and Its Disorders. 11th Edition), Feryal Matbaası, Ankara, 2008 s. 514-537 389-425 (in Turkish).
3. Roelofs K, Spinhoven P. Trauma and medically unexplained symptoms: Towards an integration of cognitive and neuro-biological accounts. *Clin Psychol Rev* 2007; 27:798-820.
4. Nicholson TR, Stone J, Kanaan RA. Conversion disorder: a problematic diagnosis. *J Neurol Neurosurg Psychiatry* 2011; 82:1267-1273.
5. van der Kruis SJ, Bodde NM, Carrette E, Lazeron RH, Vonck KE, Boon PA, Langereis GR, Cluitmans PJ, Feijs LM, Hofman PA, Backes WH, Jansen JF, Aldenkamp AP. Neurophysiological correlates of dissociative symptoms. *J Neurol Neurosurg Psychiatry* 2014; 85:174-179.
6. American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders*. 4th edition, American Psychiatric Association, Washington D.C, 1994.
7. American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders*, Fifth Edition, American Psychiatric Association, Washington D.C, 2013.
8. World Health Organization. *International Classification of Diseases*, 10th Edn. (ICD-10). World Health Organization, Geneva, 1992.
9. Şar V. Epidemiology of Dissociative Disorders: An Overview. *Epidemiology Research International* Vol. 2011, Article ID 404538, 8 pages.
10. Tezcan E, Atmaca M, Kuloğlu M Geçici O, Büyükbayram A, Tutkun H. Dissociative disorders in Turkish inpatients with conversion disorder. *Compr Psychiatry* 2003; 44: 324-330.
11. Uğuz S, Toros F. Sociodemographic and clinical characteristics of patients with conversion disorder. *Türk Psikiyatri Derg* 2003; 14:51-8.
12. Gülseren Ş, Özmen E, Önal C. The distribution of symptoms and sociodemographic characteristics in patients with conversion disorder. *İzmir Devlet Hastanesi Tıp Dergisi* 1993; 31: 373-77.
13. Bhatia MS, Vaid L. Hysterical aphonia-an analysis of 25 cases. *Indian J Med Sci* 2000; 54: 335-338.

14. Pehlivan Türk B, Ünal F. Conversion disorder in children and adolescents: clinical features and comorbidity with depressive and anxiety disorders. *Türk J Pediatr* 2000; 42: 132-137.
15. Roelofs K, Spinhoven P, Sandjck P Moene FC, Hoogduin KA. The Impact of early trauma and recent life-events on symptom severity in patients with conversion disorder. *J Nerv Ment Dis* 2005; 193: 508-514.
16. Mulder RT, Beautrais AL, Joyce PR, Fergusson DM. Relationship between dissociation, childhood sexual abuse, childhood physical abuse, and mental illness in a general population sample. *Am J Psychiatry* 1998; 155:806-811.
17. Sobot V, Ivanovic-Kovacevic S, Markovic J, Misic-Pavkov G, Novovic Z. Role of sexual abuse in development of conversion disorder: case report. *Eur Rev Med Pharmacol Sci* 2012; 16: 276-279.
18. Ford CV, Folks DG. Conversion disorders: an overview. *Psychosomatics* 1985; 26:371-383.
19. Şenol S, Önder M, Özalp E. Blindness as a Conversion Symptom: A Case Report. *Türk Psikiyatri Dergisi* 1994; 5:291-294
20. Nakoya M. True auditory hallucinations as conversion symptoms. *Psychopathology* 1995; 28:214-219.
21. Lesser RP. Psychogenic seizures. *Neurology* 1996; 46:1499-1407.
22. Özen Ş, Özbek Ö, Altındağ A. Sociodemographic characteristics, stress factors, I. and II. axis comorbidity of the patients in the emergency department with the diagnosis of conversion disorder. *Türkiye'de Psikiyatri* 2000; 2:87-96.
23. Şar V. Dissociative Identity Disorder: Psychopathology associated with childhood traumas. *Klinik Gelişim* 2009; 22:26-33.
24. Şar V, İslam S, Öztürk E. Childhood emotional abuse and dissociation in patients with conversion symptoms. *Psychiatry Clin Neurosci* 2009; 63:670-677.
25. Brown RJ, Schrog A, Trimble MR. Dissociation, childhood interpersonal trauma, and family functioning in patients with somatization disorder. *Am J Psychiatry* 2005; 162:899-905.
26. Seligman R, Kirmayer LJ. Dissociative Experiences and Cultural Neuroscience: Narrative, Metaphor and Mechanism. *Cult Med Psychiatry* 2008; 32:31-64.
27. Kirmayer L, Sartorius N. Cultural Models and Somatic Syndromes. *Psychosom Med* 2007; 69:832-870.
28. Şar V, Akyüz G, Doğan O. Prevalence of dissociative disorders among women in the general population. *Psychiatry Res* 2007; 149:169-176.
29. Overall JE, Gorham DR. Brief Psychiatric Rating Scale. *Psychol Rep* 1962; 10:799-812,9-176.
30. Soykan Ç. Institutional differences and case typicality as diagnosis system severity, prognosis and treatment. Postgraduate Dissertation Thesis, Orta Doğu Teknik Üniversitesi 1990.
31. Hamilton M. A rating scale for depression. *J Neurol Neurosurg Psychiatry* 1960; 23:56-62.
32. Akdemir A, Örsel S, Dağ İ, Türkçapar H, İşcan N, Özbay H. The validity, reliability and clinical use of Hamilton Depression Rating Scale. *Psikiyatri Psikoloji ve Psikofarmakoloji Dergisi* 1996; 4:251-259.
33. Hamilton M. The assesment of anxiety states by rating. *Br J Med Psychol* 1959; 32:50-55.
34. Yazıcı MK, Demir B, Tannverdi N, Karaağaoğlu E, Yolaç P. Interrater reliability and validity study of Hamilton Anxiety Rating Scale. *Türk Psikiyatri Dergisi* 1998; 9:114-117.
35. Bernstein DP, Fink L, Handelsman L, Foote J, Lovejoy M, Wenzel K, Sapareto E, Ruggiero J. Initial reliability and validity of a new retrospective measure of child abuse and neglect. *Am J Psychiatry* 1994; 151:1132-1136.
36. Aslan SH, Alparslan ZN. Reliability, validity and factor structure of the Childhood Trauma Scale in a sample of university students. *Türk Psikiyatri Dergisi* 1999; 10:275-285.
37. Bernstein EM, Putnam FW. Development, reliability and validity of a dissociation scale. *J Nerv Ment Disord* 1986; 174:727-735.
38. Şar V, Kundakçı T, Kızıltan E, Bakim B, Yargıç LI, Tutkun H. The validity and reliability of the Dissociative Experiences Scale (DES-II). 33. National Psychiatry Congress, full-text proceedings book 1997; 55-64.
39. SPSS Inc. Released 2006. SPSS for Windows Vers. 15.0 Chicago, SPSS Inc.
40. Karamustafaloğlu OK, Özçelik B, Gönenli Tokar S, Bakim B, Cengiz Ceylan Y, Akpınar A, Uzun U, Tankaya O, Çevik M, Yavuz B, Karabulut V, Toprak E. Comorbid Bipolar Disorder Among Patients with Conversion Disorder. *Journal of Mood Disorders* 2013; 3:58-63.
41. Sar V, Akyüz G, Kundakçı T, Kızıltan E, Dogan O. Childhood Trauma, Dissociation, and Psychiatric Comorbidity in Patients with Conversion Disorder. *Am J Psychiatry* 2004; 161:2271-2276.
42. Deveci A, Özmen E, Demet M, İçelli İ. Sociodemographic and clinical features of outpatients with conversion disorder in the psychiatry department of a university hospital. *Anadolu Psikiyatri Dergisi* 2002; 3:28-33.
43. Pu T, Mohamed E, İmam K, el-Roey AM. One hundred cases of hysteria in Eastern Libya. A sociodemographic study. *Br J Psychiatry* 1986; 148:606-609.
44. Rechlin T, Loew TH, Joraschky P. Pseudoseizure "status". *J Psychosom Res* 1997; 42:495-498.
45. Chandrasearon R, Goshami U, Sivakuner V, Chitralkha KT. Hysterical neurosis: a follow up study. *Acta Psychiatr Scand* 1994; 89:78-80.
46. Çam Çelikel F, Saatçioğlu Ö. Konversiyon bozukluğunda aleksitiminin depresyon ve anksiyeteye etkisi (Effects of alexithymia on depression and anxiety in conversion disorder). *Klinik Psikiyatri* 2002; 5:229-234.