

## ORIGINAL PAPER

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## Sociodemographic and clinical characteristics of patients with conversion disorder in Eastern Turkey

Accepted: 13 August 2002

**Abstract** *Background:* Conversion disorder (CD) is a common disease and its importance still continues in Turkey and particularly in Eastern Turkey. The aim of this study is to examine sociodemographic and clinical characteristics of CD. *Method* Among 198 consecutive patients having CD diagnosed by structured DSM-III-R clinical interview, the psychosocial characteristics of the patients were clinically investigated. *Results* The most common subtype of CD was non-epileptic seizure (NES) (41.4%). The psychosocial stress factors were found in the initiation or at the last episode of the disorder (88.9%). The most prominent problem related with primary support group was traumatic event (37.9%) followed by problems associated with migration and related economical problems which are the most important problems of the study area. The incidence of depressive disorders was high in patients with CD, and the histrionic personality disorder was the most prominent personality pathology among the patients. Direct referral to psychiatry clinics appeared to be low (12.1%). *Conclusion* Our findings have shown that traumatic events may have an important role in the occurrence, severity and duration of CD, and most of the patients seek help from religious healers. The study has also revealed that lower education level and socioeco-

nomical and sociocultural problems may play a role in the occurrence of the disorder as well as regarding its course.

**Key words** conversion disorder – sociodemographic – non-epileptic seizure – epidemiology – traumatic event

### Introduction

Though conversion disorder (CD) is not very frequent in western societies, it is very common in eastern societies [1–4]. As far as is known, large field studies about epidemiology of CD do not exist in Turkey but the incidence has been reported as 4.5–32% in various psychiatry outpatient units [5].

The region differs from Western societies and even from Western Turkey in terms of more frequently encountered CD which constitutes an important psychiatric disorder in the region. Another area of interest for us is the fact that most of the studies related to CD carried out in western countries were usually limited to pseudoseizures [6–9]. This stands as an obstacle to the better understanding of CD. The studies regarding CD are not sufficient in our country, either. For these reasons, this study was planned to determine sociodemographic, cultural and clinical characteristics of patients suffering from CD who are commonly encountered in clinical practice and to present patient profile by interpreting the findings.

### Subjects and methods

#### Subjects

The patients referred to Firat University Medical Center Psychiatry Outpatient Unit for the first time from January 1998 to June 2000 and diagnosed as having CD were included in the study. The study cohort consisted of the consecutive patients over 18 years old who accepted to take part in a detailed diagnostic interview. In total, 257 patients

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were diagnosed with CD by emergency or psychiatry departments. After two consecutive evaluations, all patients included in the study were observed once a month for at least 6 months. The patients who did not apply after first and second interview and did not come to any control examination for a period of 6 months were excluded. The remaining total number of patients was 198 (77%) and 38 of them (19.2%) were treated as in-patients. Informed consent was obtained from each patient.

### Study procedures

At the first interview, CD was diagnosed in the psychiatry or emergency unit by a psychiatry resident. Those patients diagnosed as having CD according to DSM-III-R [10] were referred to other co-workers of the study. The second interview was performed by a psychiatrist and a neurologist. The remaining patients were interviewed by an experienced psychiatrist, and the study instruments were applied by the same form.

In order to exclude organic causes neurologic, internal medicinal and laboratory evaluations that were recorded in the patient files before referral to our clinic were reviewed for each patient. The reviewed material consisted of all the physician's notes, consultations, laboratory and radiological evaluations and, when needed, routine blood, urine, biochemistry tests, awake EEG, and in the suspected cases activated EEG were performed. In the case of indication, CT and MRI (as needed) were also performed.

The exclusion criteria from the study were as follows: presence of a physical or neurologic disorder that may interfere with psychiatric symptom distribution of the patient; presence of mental retardation or level of education that is inadequate to maintain a sound psychiatric interview; alcohol and substance abuse that may effect symptom distribution within the last 2 weeks; presence of psychiatric disorder associated with a general medical condition at the first axis; factitious disease or malingering and somatization disorder.

### Instruments

#### Clinical interview and case evaluation form

An information form designed specifically for this study was completed for each patient to include sociodemographic data, the duration of illness and the clinical features of the patients. The form also asks whether the families of the patients have another person with mental illness or not, whether they are seeking religious help or using home remedies. While completing information forms, an interview with at least one of the family members (mother, father, spouse) was performed.

#### Structured clinical interview for DSM-III-R (SCID I and II)

SCID I and II are structured interview forms which have been developed for DSM-III-R classification to diagnose axis I and II disorders [11, 12]. The Turkish version was designed by Sorias et al. [13]. After collecting the above mentioned data, CD diagnosis was established by asking DSM-III-R conversion disorder diagnosis criteria one by one, because the CD module was not present in SCID I diagnostic interview. Subsequently, a second interviewer performed the interviews by using DSM-III-R structured forms that ensure first and second axis diagnosis according to DSM-III-R diagnosis criteria and clinical interview forms (SCID I, outpatient and inpatient forms) and DSM-III-R structured personality evaluation form (SCID II).

#### DSM-III-R psychosocial stress sources severity index

In grading the events according to their stress-causing effects, the DSM-III-R psychosocial stress sources severity index was used. In this index, a single event presenting at the beginning of the disorder was considered as important by the patient, and was taken into account when investigating traumatic life events. Since the disorder was classified into subtypes according to its symptoms in DSM-IV, subtypes were described according to DSM-IV for the first time [14].

### Statistical analysis

The analysis was performed by using SPSS version 6.0.  $P < 0.05$  was considered as statistically significant. In two group comparisons, the Student's *t*- and chi-square tests were used. Sociodemographic and family history characteristics were determined in absolute values and percentages.

## Results

Sociodemographic and clinical characteristics, and initiation and duration of the disorder are summarized in Tables 1 and 2.

The majority of the patients (88.9%) reported the presence of psychosocial and environmental problems in the initiation of the disorder. The psychosocial stress factor and traumatic events are presented in Table 3.

**Table 1** Sociodemographic and clinical characteristics of patients with conversion disorder\*

	Female (n = 153)		Male (n = 45)		Total (n = 198)	
	n	%	n	%	n	%
Age <sup>a</sup>						
19–30	95	62.1	28	62.2	123	62.1
31–40	35	22.9	16	35.6	51	25.8
41–50	14	9.1	1	2.2	15	7.6
51 and over	9	5.9	–	0.0	9	4.5
Mean age (± SD)	28.31±8.22		26.53±7.41			
Marital status <sup>b</sup>						
Married	118	77.1	24	53.3	142	71.7
Single	26	17.0	19	42.2	45	22.7
Widowed	9	5.9	2	4.5	11	5.6
Education level <sup>c</sup>						
Uneducated	38	24.8	2	4.5	40	20.2
Primary school	94	61.4	23	51.1	117	59.1
Elementary school	16	10.5	20	44.4	36	18.2
University	5	3.3	–	0.0	5	2.5
Occupation <sup>d</sup>						
Housewife	127	83.0	–	–	127	64.1
Workman-official	12	7.8	12	26.7	24	12.1
Self-employed	4	2.6	9	20.0	13	6.6
Student	10	6.6	6	13.3	16	8.1
Unemployed	–	–	18	40.0	18	9.1
Economical status <sup>e</sup>						
Poor	86	56.2	26	57.8	112	56.5
Average	59	38.6	14	31.1	73	36.9
Good	8	5.2	5	11.1	13	6.6
Living place <sup>f</sup>						
Village	31	20.3	8	17.8	39	19.7
Town	32	20.9	13	28.9	45	22.7
Urban	90	58.8	24	53.3	114	57.6
Distribution of symptoms <sup>g</sup>						
Motor symptom	14	9.1	27	60.0		
Sensorial symptom	57	37.3	9	20.0		
NES	74	48.4	8	17.8		
Mixed type	8	5.2	1	2.2		

\* Values are expressed as chi-square and Fisher's exact test

<sup>a</sup> $\chi^2 = 11.34, P < 0.05$ ; <sup>b</sup> $\chi^2 = 12.61, P < 0.05$ ; <sup>c</sup> $\chi^2 = 23.63, P < 0.001$ ; <sup>d</sup> $\chi^2 = 36.94, P < 0.001$ ; <sup>e</sup> $\chi^2 = 2.37, not\ significant$ ; <sup>f</sup> $\chi^2 = 1.26, not\ significant$ ; <sup>g</sup> $\chi^2 = 55.06, P < 0.001$

**Table 2** The age at initiation and duration of conversion disorder

Age	n	%	< 5 years		> 5 years	
			n	%	n	%
5–15	27	13.6	2	7.4	25	92.6
16–25	137	69.2	51	37.2	86	62.8
26–35	32	16.2	15	46.9	17	53.1
36+	2	1.0	1	50.0	1	50.0

$$\chi^2 = 11.96, P < 0.05$$

**Table 3** Psychosocial stress factors and traumatic experience of patients with conversion disorder

	n	%
<b>Psychosocial stress factors</b>		
Problems with primary support group	75	37.9
Housing and economic problems	61	30.8
Problems related to the social environment	25	12.6
Educational problems	10	5.1
Occupational problems	6	3.0
Others	14	7.1
Unspecified	7	3.5
<b>Traumatic experience</b>		
Migration and economic problems	61	30.8
Intrafamilial conflict	54	27.3
Loss of friend	11	5.5
Sexual abuse	13	6.6
Separation from loved/significant person	11	5.5
Physical trauma	16	8.1
Education problems	10	5.1
No problem reported	22	11.1

There were some other psychiatric disorders comorbid CD. The most common of them were depressive disorders ( $n = 71$ , 35.9%), followed by anxiety disorders ( $n = 69$ , 34.8%) (Table 4).

Among the study group, the most common personality disorders were histrionic and borderline personality disorders (Table 5).

First referral to psychiatry clinics appeared to be low ( $n = 24$ , 12.1%). The patients had usually referred to emergency units ( $n = 89$ , 44.9%) and neurology clinics ( $n = 45$ , 22.7%), followed by internal disease ( $n = 9$ , 4.6%) and other clinics (otorhinolaryngology, physical medicine and rehabilitation, ophthalmology, etc.).

The mean interval between the beginning of the disorder and referral to a psychiatrist was found to be 6.3 years ( $SD = 3.7$ , range = 1.5–12.5) in females and 4.1 years ( $SD = 3.4$ , range = 0.5–13.7) in males ( $P < 0.01$ ). Of the patients, 173 (87.4%) stated that at some time during their disorder, and especially in the early phase, they had sought non-medical help, such as using home remedies, visiting religious healers or holy places. All of the patients with NES sought such non-medical help at least once during their disorder.

**Table 4** Comorbid axis I disorders in patients with conversion disorder

Psychiatric disorders	n	%
<b>Depressive disorders</b>	71	35.9
Major depression	14	7.1
Dysthymia	46	23.2
Depressive disorders NOS	11	5.6
<b>Anxiety disorders</b>	69	34.8
Generalized anxiety disorder	35	17.7
PTSD	17	8.6
OCD	8	4.0
Panic disorder	6	3.0
Phobias	3	1.5
<b>Dissociative disorders</b>	19	9.6
Multiple personality disorder	6	3.0
Psychogenic fugue	1	0.5
Psychogenic amnesia	1	0.5
Depersonalization disorder	2	1.0
Dissociative disorder NOS	9	4.6
<b>Somatoform disorders</b>	9	4.6
Body dysmorphic disorder	3	1.6
Hypochondriasis	6	3.0
<b>Alcohol and drug abuse</b>	1	0.5
<b>Eating disorders</b>	1	0.5
No comorbidity	28	14.1

**Table 5** Personality characteristics of patients with conversion disorder

	Female (n = 153)		Male (n = 45)		Total (n = 198)	
	n	%	n	%	n	%
<b>Type A*</b>	4	2.5	5	11.1	9	4.5
Paranoid	2	1.3	3	6.7	5	2.5
Schizoid	1	0.6	1	2.2	2	1.0
Schizotypal	1	0.6	1	2.2	2	1.0
<b>Type B*</b>	51	33.4	13	28.9	64	32.3
Histrionic	33	21.6	2	4.5	35	17.7
Narcissistic	2	1.3	1	2.2	3	1.5
Borderline	16	10.5	6	13.3	22	11.1
Antisocial	–	–	4	8.9	4	2.0
<b>Type C*</b>	23	14.0	3	6.6	26	17.2
Avoidant	8	5.2	1	2.2	9	4.6
Obsessive compulsive	8	5.2	1	2.2	9	4.6
Dependent	7	4.6	1	2.2	8	4.0
<b>NOS*</b>	9	5.9	6	13.4	15	7.6
Passive aggressive	5	3.3	4	8.9	9	4.6
Mixed type	4	2.6	2	4.5	6	3.0
Undetermined*	66	43.2	18	40.0	84	42.4

$$*\chi^2 = 10.21, df = 4, P < 0.05$$

## Discussion

In this study, the ratio of female patients is much higher than that of male patients, nearly 3:1, and the finding is consistent with other studies reporting CD as more frequent in females than males [4, 15]. CD may be interpreted as a non-verbal communication method especially for women, since 77.3% of the cases are female. Thus, it has been emphasized that women cannot express their feelings adequately and somatization of the

internal distress (conflicts) is more common and, consequently, CD is more frequent in women [1]. The finding among the higher portion of females in the study group seems to provide enough evidence for this interpretation. The high ratio of marriage stems from the following factors: the female population in the study area do not continue their education beyond primary school, and they are forced to marry at an early age by their family. The home remedies referred to the female patient with NES may become free from the disease if she gets married. In studies from other countries, a female rate between 86 and 92 % has been reported [16, 17]. In the west of Turkey female-male ratio is 10:1 [5]. It is a noteworthy finding that conversion disorder seems to occur more than twice as often in males in the study area compared to in males living in western parts of Turkey.

CD has been reported to be more frequent in uneducated or primary school graduate population, middle-low income group, housewives and unemployed men [18–20]. It has been observed that the education level of our study group was low, the subjects were from low-middle income group and the majority of them were housewives. It has been reported that while striking, absurd, exaggerated conversion symptoms are more common in the under-educated and rural population, the symptoms of the educated cases may rather resemble the symptoms of an organic disease and may cause difficulty in differential diagnosis [21]. It has been reported that CD is more frequent in the population of lower socioeconomic levels and rural areas [19, 22, 23].

Conversion symptoms observed in adults have been reported as fainting, paralysis, aphonia and akinesia according to their frequency in several studies [24–26]. In our study, NES was the most common conversion subtype followed by paresia and paralysis. As male patients have referred to clinics due to motor symptoms, females have referred due to NES and sensory loss. Our findings are consistent with the literature [19, 26].

It has been reported that CD may occur at any age but it is more common in young adults and adolescents and there may be difficulties in differential diagnosis for this age group [27]. The mean beginning age of CD is 10.3 years and prevalence changes between 0.5 and 10 % in children and pubescents [28]. Likewise in our study, it has been determined that in 27 (13.6 %) cases the disorder began between 5 and 15 years of age. Chandrasekaran et al. [4] indicated that the beginning of the disorder is more common at 16–20 (37.5 %) and 21–25 (37 %) years of age. Our study has also shown that the beginning of the disorder is more common between the ages of 16 and 25 years. It has been stressed that early onset conversion symptoms have a tendency to become chronic even though the symptoms may diminish from time to time [17]. In our study, the duration of the disorder was over 5 years in 111 cases (56.1 %) where the beginning age of the disorder was under 25. This finding also supports the assumption that early onset may involve an increased risk for becoming chronic. Additionally, in the region, the majority of the patients with CD

seek help from religious healers and home remedies because of religious interpretations, especially in the cases of psychiatric disorders. This situation may cause long duration of illness in the majority of the patients. The importance of persistence is frequently emphasized especially in publications about NES [16, 17, 29].

It has been suggested that in CD and especially those forms with fainting incidents, exposure to sexual abuse during childhood may play an important role [30, 31]. Bowman [17] has reported incidence of exposure to sexual abuse as high as 77 % in cases having NES and emphasized that physical abuse along with sexual abuse is important in the initiation of conversion symptoms [31]. In our study, sexual trauma history was presented in only 13 (6.6 %) of the patients. This rate is much lower than the rate reported by Bowman. We concluded that the difference may arise from the dissimilarity of study populations or concealment of these kinds of traumatic life event by our study population. In fact, in our other study, the patients admitted such traumatic events after long-term follow-up of some CD cases and the establishment of a reliable patient-doctor relationship [32]. Family conflicts, divorce or separation, accidents, surgical operations and serving in the army (for men) have been reported as risk factors in the occurrence of CD [33]. In our study, we determined similar risk factors in 32 (71.1 %) male patients.

The comorbidity rate of psychiatric disorders has been found to be 31–71 % [15, 24, 26, 34]. In recent studies about NES, life-time comorbidity of mood disorders was found to be 64–85 %, dissociative disorder 91 %, post traumatic stress disorder 33–49 % and somatoform disorders 89 %. These data were obtained by using structured interviews [17, 31] and it has been reported that the most common accompanying disorders in conversion reaction are: depressive disorders, somatization disorder, panic disorder and drug abuse [29, 35, 36]. Since so many psychiatric conditions accompany CD, it has been concluded that conversion symptoms may be a response to stress [18]. In our study, we found that in 170 cases another psychiatric condition accompanied CD, the most common one being dysthymia. Alcohol and drug abuse was determined only in one male patient, this finding is important in terms of reflecting the cultural and social differences between the countries. Problems related with alcohol and drug abuse are much less frequently encountered in Turkey and especially in the study region. Our results may reflect this fact.

It has been a general opinion since ancient times that CD and histrionic personality are usually observed together. Lately, it has been accepted that a relation between histrionic personality and CD was not obligatory [37]. A variety of severe personality disorders have been reported to accompany CD [36–39]. We think that conversion reaction may function as a mechanism for managing psychosocial conflicts or as a defence mechanism. In other words, it may be claimed that personality disorders seem to have a direct contribution to the occurrence of CD like other accompanying psychiatric condi-

tions. Only 14.1% of our patients have pure CD, 85.9% of them have first axis and 57.6% second axis comorbidity; so we have concluded that the key role of other psychiatric conditions in the etiology of CD appears to be undeniable.

It has been reported that in addition to provoking CD, severe organic diseases and physical traumas have an impact on the type of conversion symptoms. It has been emphasized that conversion symptoms may occur at a site or organ system, which is affected by a previous organic disorder. For example, NES may develop even after the disease has been controlled by anticonvulsants in epileptic patients [20]. In daily psychiatric examinations, it is diagnosed that CD accompanying epilepsy in case neurology department has been asked for consultancy in patients having NES even after proper anticonvulsant therapy. We have not included these kinds of cases in our study since they did not meet the above-mentioned study criteria, but seven cases that were included in the study by diagnosis of CD initially incurred epileptic seizures during the study. They were sent to a neurology clinic for consultancy and were diagnosed as epileptic. Later, two patients were diagnosed as having multiple sclerosis. This finding supports the studies [29, 40] claiming that after long-term follow-up patients diagnosed as having CD may develop seizures or another organic disease. It is thought that as the follow-up period increases this rate may also increase.

Available data have shown that the patients referred to an emergency unit or a neurology clinic in the first instance and that direct referral to a psychiatric clinic is rarer. This finding may be a consequence of the observation that the patient or his/her relatives perceive the disease as a physical disease rather than a psychological one.

Also the majority of the patients have sought help from religious healers and home remedies because of mystical interpretations or low education level. First application to religious healers and home remedies was reported at a rate of 9% in Yemen, 12% in India, 13% in Pakistan and 54% in Indonesia [41]. This rate was found to be 54.5% in the west of Turkey [42] and 74% in a study performed in the east of Turkey [43]. A lot of female patients having CD other than NES which has been present for a long time are mistreated by their relatives after a certain time by approaches such as "she has no illness, comfort bothers her, she is malingering" and another noteworthy observation of ours is that even some doctors or nurses do not take patients with NES seriously.

Another important finding in our study is that female patients spent more time comparing themselves to males before referring to psychiatric examination after the initiation of their disorder. Social bias leads to the tendency to consider that CD in females is unimportant and may be cured by home remedies, but the search for a medical remedy is more rapid when the disorder occurs in males since they are the provider of the family's socioeconomic needs.

Finally, the majority of cases were persons that were

raised in an elderly or male dominant rural environment where violence including physical abuse (being hit by husband) and intrafamilial sexual abuse prevails. They were usually married at an early age and devoid of education because of family pressure and were affected negatively by compulsory migration to urban areas from rural settings. The presence of people in need of care or the patients who the study cases consider themselves obliged to look after within the family was a remarkable finding. In the light of these findings, we concluded that CD appears to maintain its importance as a non-verbal communication method, and conversion disorder will continue to be an important disorder in Eastern Turkey as long as the following conditions persist: presence of economic and traumatic problems, forbidding female children to receive higher education, forcing male children to stay at the same house with the household even after their marriage, viewing sexuality as a taboo and maintaining interventionist and traditional family attitudes. The main limitation of our study is that we could not include a healthy control group in the study.

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