

**RESEARCH
ARTICLE**

Yunus Tan¹
Erkan Melih Sahin¹

¹Department of Family
Medicine, Canakkale
Onsekiz Mart University
Medical Faculty,
Canakkale, Turkey

Corresponding Author:
Yunus Tan
Department of Family
Medicine, Canakkale Onsekiz
Mart University Medical
Faculty, Canakkale, Turkey
mail: ynstns@hotmail.com
Phone: +90 2862200200

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konuralptipdergi@duzce.edu.tr
konuralptipdergisi@gmail.com
www.konuralptipdergi.duzce.edu.tr

The Association Between Somatic Symptoms and Sociodemographic and Clinical Characteristics

ABSTRACT

Objective: Somatization is a psychiatric condition characterized by recurring somatic symptoms that cannot be fully explained by the general medical condition of the individual and are not attributable to another mental disorder. There are physical, psychological and social factors that affect somatic symptoms of individuals. The aim of this study is to screen somatic symptoms of patients admitted to our clinic and to investigate the relationship between scanning results and sociodemographic and clinical characteristics of the patients.

Methods: This cross-sectional study included 414 participants aged 18-65 years who admitted to the Family Medicine Clinic of Çanakkale Onsekiz Mart University Medical Faculty between February 2018 and November 2018. Sociodemographic data form and SCL90-R (Symptom Checklist 90-Revised) psychological symptom screening test was applied to the participants through face to face interview method.

Results: Of all the participants, 256 (61.8%) were female and 158 (38.2%) were male and the mean age was 33.7±13.6 years. Of all the participants, 47.3% were university graduates or had a higher educational background. The mean score of the somatization subscale of the SCL90-R screening test was 1.0±0.6. The factors increasing the somatic symptoms were female gender, increasing number of children, being an immigrant, decreasing education level, increasing amount of drug use, increasing number of applications to health institutions, and implementation of alternative medicine techniques, presence of mental illness in families and their relatives.

Conclusions: In the present study, the prevalence of somatic symptoms was found to be high and clinically significant. In particular, the social position of women in Turkey, their lifestyles, and their specific characteristics such as using body language more are associated with high somatic symptoms. Emotional disability caused by migrations makes individuals be at greater risk in terms of somatization. The personality development that increases with the education level and increased communication skills reduce the risk of somatization. Symptoms of patients who frequently use health care and treatment options and apply alternative medicine are more significant in terms of somatization.

Keywords: Somatization, Clinical Characteristics, Sociodemographic Characteristics

Somatik Belirtilerin Sosyodemografik ve Klinik Özellikler İle İlişkisi ÖZET

Amaç: Somatizasyon bireyin genel tıbbi durumu ile tam olarak açıklanamayan ve başka bir ruhsal bozukluğa atfedilemeyen yineleyici bedensel semptomlar ile karakterize psikiyatrik bir durumdur. Bireylerin somatik belirtilerini etkileyen bedensel, ruhsal ve sosyal faktörler mevcuttur. Çalışmamızın amacı kliniğimize başvuran hastalarda somatik belirtileri taramak ve tarama sonuçlarının hastaların sosyodemografik ve klinik özellikleri ile olan ilişkisini araştırmaktır.

Gereç ve Yöntem: Kesitsel, tanımlayıcı desende yürütülen çalışmaya Şubat 2018-Kasım 2018 tarihleri arasında Çanakkale Onsekiz Mart Üniversitesi Tıp Fakültesi Aile Hekimliği Kliniği'ne başvuran 18-65 yaş arası 414 katılımcı dahil edildi. Katılımcılara yüz yüze görüşme metoduyla sosyodemografik veri formu ve SCL90-R Psikolojik Belirti Tarama Testi uygulandı.

Bulgular: Katılımcıların 256'sı (%61,8) kadın, 158'i (%38,2) erkek, yaş ortalaması 33,7±13,6, %47,3'ü fakülte ve üzeri eğitim seviyesinde idi. SCL90-R tarama testinin somatizasyon alt ölçeğinin ortalama puanı 1,0±0,6 idi. Kadın cinsiyet, çocuk sayısının artması, göç etmiş olmak, eğitim seviyesinin azalması, ilaç kullanım miktarının artması, sağlık kuruluşlarına başvurma sayısının artması, alternatif tıp tekniklerini uygulamak, aile ve akrabalarında ruhsal hastalık varlığı somatik belirtileri artırıyordu.

Sonuç: Çalışmamızda somatik belirti yaygınlığı yüksek ve klinik önem gösterir düzeyde saptanmıştır. Özellikle toplumumuzdaki kadınların sosyal konumları, yaşam tarzları ve beden dilini daha çok kullanmaları gibi özgül özellikleri somatik belirtilerin yüksek olması ile bağlantılıdır. Göçlerin bireylerde yarattığı duygusal engellilik göçmenleri somatizasyon açısından daha riskli kılmaktadır. Eğitim seviyesinin artması ile gelişen kişilik yapısı ve artan iletişim yetisi bireyin somatizasyon riskini azaltır. Sağlık hizmetleri ve tedavi seçeneklerini sık kullanan, alternatif tıp yöntemlerini uygulayan hastaların semptomları somatizasyon açısından daha anlamlıdır.

Anahtar Kelimeler: Somatizasyon, Klinik Özellikler, Sosyodemografik Özellikler

INTRODUCTION

Somatization, in general, is described as a psychiatric condition characterized by recurring physical and bodily symptoms that cannot be fully explained by the general medical condition of the individual and are not attributable to another mental disorder (1). Expressing the problems caused by psychological, social and cultural factors with physical symptoms causes mental events to be felt as organic symptoms. There are also studies describing somatic symptoms as an unconscious defence mechanism against awareness and expression of psychological distress. These symptoms are not made up by the individual; the individual experiences them, but there is no pathophysiological process for the organ and region concerned (2).

About 80% of the population is known to show somatic symptoms at least once a month and admit to physicians. In a study in the literature, 25% of the participants were found to have fatigue, 25% had headache, 25% had chest pain, 24% had abdominal pain, and 23% had back pain symptoms, however, 31% of these symptoms could not be explained medically. These symptoms led to an increase in the amount of drug use and decrease in vital activities in 84% of the patients (3)(4). In another study, 1000 participants who applied to primary health care were followed up for three years and 14 most common symptoms were detected. Of the participants, 38% was found to have at least one of these symptoms and only 16% of them had an organic basis(5).

Patients with these symptoms are frequently encountered in almost all health care institutions that provides services in the field of medicine, however, the rate is higher particularly in primary health care institutions (6). Statistics show that the prevalence of somatic symptoms varies between 19–57,5% in patients admitted to primary health care services (2). Physicians have been reported to allocate a significant portion of their time to these symptoms and 10-20% of health expenses are directed to this patient group(7). In many studies on the general population, somatic symptoms have been presented most commonly with musculoskeletal pain, headache, dizziness, fatigue, respiratory system-related symptoms, and gastrointestinal system-related symptoms (8).

Somatization is a multifactorial and complex phenomenon that is affected by the sociodemographic characteristics, social status, and psychodynamic and biological structure of the individual. In a study conducted abroad, female gender, living alone, low socio-economic level, and advanced age were found to be sociodemographic factors associated with somatic symptoms (9). A study conducted in our country has reported that gender, age, education level and working status were the factors affecting the occurrence of somatic symptoms (10). There are studies reporting that

individuals with depression and anxiety were more at risk for somatic symptoms (11). Physical assault, domestic violence, trauma, and natural disasters, to which individuals are exposed, have been shown to cause an increase in psychological anxiety and the emergence of somatic symptoms (12).

The aim of this study was to investigate somatic symptoms in patients admitted to the Family Medicine Clinic of Çanakkale Onsekiz Mart University Medical Faculty and to investigate the relationship between scanning results and sociodemographic characteristics and clinical history of patients.

MATERIALS AND METHODS

Study Design and Participants

Characteristic: The sample size was calculated by using the sample size formula for cases of a known population to determine the study sample. Since Çanakkale (including Kepez town) had a population of 149513 people and the frequency of more than one mental health problem would be investigated, the desired deviation value was determined as 0.05, $\alpha=0.05$ according to the study population rate of 0.5 and the confidence interval was determined as 95% and it was determined that the study sample should consist of at least 384 people. Taking into consideration the number of applications to the family medicine clinic, data was decided to be collected between 1 February 2018 and 1 November 2018.

Participants continued to be registered in the study until the target number of patients was reached, excluding those who applied between the specified dates and who were in the appropriate age range, who had a disease or disability that would prevent the adaptation to the study method (such as being bedridden, having a psychiatric disease that would impair the assessment of reality, and having dementia). The study was conducted with 414 participants who met the study criteria

Measures: Oral and written informed consent was obtained from 414 patients and sociodemographic data form and SCL90-R psychological symptom screening questionnaire were administered. For some patients, questions were read and answers were recorded by the researcher.

Sociodemographic Data Form: It includes questions about the participants' demographic characteristics, medical history, chronic diseases, applying for health care services, and their habits. The trial was applied to 10 patients who admitted to the Family Medicine Clinic of ÇOMU Medical Faculty for various reasons and selected from different socioeconomic levels outside the study population to determine the legibility and comprehensibility of the questions prepared by the researcher. After the necessary corrections were made, the questionnaire was finalized.

Psychological Symptoms Screening Test (SCL90-R, Symptom Checklist 90-Revised): SCL90-R is a tool developed by Derogatis et al. as a screening tool for psychological symptoms, showing the level of mental symptoms in individuals and indicating the direction of these symptoms with its subscales. The scale was designed as a self-rating scale consisting of 90 items based on a five-point Likert-type assessment (not at all/a little bit/moderately/quite a bit/extremely) in order to screen the psychological and physical symptoms. The three general indicators of the SCL90-R test showing the general symptom level with different approaches are the General Symptom Index, the Sum of Positive Symptoms, and the Positive Symptom Level. Apart from that, there are nine subscales: Somatization, Obsessive-Compulsive, Interpersonal Sensitivity, Depression, Anxiety, Hostility, Phobic Anxiety, Paranoid Ideation, and Psychoticism (13). In this manuscript, the data of Somatization subscale of SCL90-R Psychological Symptom Screening Test is presented.

Each question of the scale is rated from 0 to 4. Subscale scores are calculated by dividing the sum of the scores obtained from the questions of each subscale by the number of questions in that subscale and a score of 0.00 to 4.00 is obtained. Increased score is interpreted as an increase in somatic symptoms. Studies related to the original and Turkish version of the scale have proven that the scale is valid and reliable (13).

Ethical Approval and Statistical Analysis: International ethical rules were followed in this study. This paper contains the data of the Somatization subscale of the medical specialty thesis which includes the results of the SCL90-R Psychological Symptom Screening Test. Ethical approval was obtained from Çanakkale Onsekiz Mart University Medical Faculty Local Ethics Committee for the dissertation study. Informed consent forms were obtained from each participant. Written information form prepared by Çanakkale Onsekiz Mart University Medical Faculty, which includes the answers given by the researcher to study questions, was used as the consent form.

After the data were transferred to the digital media, the frequency and distribution of the variables were examined. One-Sample

Kolmogorov-Smirnov Z test was used to determine whether or not the variables were normally distributed. Data were evaluated by using frequency tables, cross tabulation tables, chi-square and correlation tests, Kruskal-Wallis test, Mann-Whitney U test, Kendall's Tau-b test, and linear regression tests. Dunn test and Bonferroni corrections were performed for post-hoc analyzes. In each case, the test constants and absolute p values were provided. The general significance limit was accepted as 0.05.

RESULTS

The data of 414 patients who participated in the study was analyzed.

Of all the participants, 256 of them (61.8%) were female and 158 (38.2%) of them were male. The mean age was 33.7 ± 13.6 years and median was 30 (minimum: 18, maximum: 65) years. Socio-demographic characteristics of the participants are given in Table 1.

Table 1. Socio-demographic characteristics of the participants

	n	%
Marital status		
Married	205	49,5
Single	197	47,6
Divorced	12	2,9
Employment status		
Employed	185	44,7
Student	125	30,2
Unemployed	52	12,6
Retired	52	12,6
Education status		
Primary school graduates	39	9,4
Secondary school graduates	16	3,9
High school graduates	60	14,5
College graduates	103	24,9
University graduates	169	40,8
Doctoral degree	27	6,5

The mean score of the SCL90-R somatization subscale of the 414 patients was 1.0 ± 0.6 (minimum: 0, maximum: 3.1). The somatization score of the female participants (1.0 ± 0.6) was significantly higher than those of male participants (0.8 ± 0.6) ($U=16573.5$; $p=0.002$). Analysis results are given in Tables 2, 3 and 4.

Table 2. Kruskal-Wallis analysis results related to somatization

Variable	Variable groups	Results
Marital status	Married	X ² =0.528; p=0.768
	Single	
	Divorced/widowed	
Employment status	Employed	X ² =5.059; p=0.168
	Unemployed	
	Retired	
	Student	
Smoking groups	Using	X ² =0.655; p=0.721
	Not using	
	Quitting	
Migration status	Involuntary migration	X ² =6.104, p=0.047 * Z=-1.265, p=0.618 ^a Z=1.775, p=0.228 ^b Z=1.983, p=0.142 ^c
	Voluntary migration	
	No migration	

*Dunn's post hoc analysis was performed for the groups and no significant difference was observed (a=voluntary migration - involuntary migration, b=voluntary migration-no migration, c=involuntary migration-no migration)

Table 3. Mann-Whitney U analysis results related to somatization

	Yes	No	U	p
Alcohol use	0.9±0.6	1.0±0.6	17676.0	0.002
Hypothyroidism	1.2±0.6	0.9±0.6	3718.0	0.025
Gastrointestinal system disease	1.6±0.6	0.9±0.6	631.0	0.003
Chronic disease	1.1±0.6	0.9±0.6	14013,5	<0.001
Underwent an operation	1.0±0.6	0.9±0.6	17453.0	0.009
Implement alternative medicine	1.1±0.6	0.9±0.6	14264.0	0.001
Family or relatives had any mental illness	1.3±0.7	0.9±0.6	5083.0	0.006
Exposed to physical violence in childhood	1.2±0.6	0.9±0.6	7404.5	0.008
Exposed to physical violence from own husbands	1.4±0.6	0.9±0.6	1147.5	0.019
Violated own children even once	1.3±0.7	0.9±0.6	4166.5	0.003

Table 4. Spearman's rho analysis results related to somatization

	Rho	p
Age	0.056	0.253
Educational status	-0,144	0.003
Number of children	0.128	0.009
Amount of tea use	0.689	<0.001
Amount of coffee consumption	-0.017	0.729
Amount of alcohol use	-0.162	0.001
Number of applications to health institutions	0.220	<0.001
Number of drugs used in a day	0.179	0.01

Somatization score was not significantly different between the patients who stated that they were doing physical exercise for at least 30 minutes or more in 3 days a week regularly and those who were not doing any exercise (U=19106.5; p=0.060). The somatization scores of the patients diagnosed with hypertension, diabetes, and hyperlipidemia were not significantly different from those without these diagnoses (U= 7217.0; p= 0.218, U= 4400.0; p= 0.275, U= 2709, p= 0.533 respectively). The somatization score of those who lived alone was not significantly different from those who did not live alone (U= 10989.0; p= 0.249).

Correlation analysis was performed by grouping the relationships of the participants with their families and spouses according to the relationship level such as 'We are always in conflict, never get along with each other', 'We are always in conflict, but we do not break apart', 'We always resolve our serious disputes together', and 'We have a harmonious relationship in general'. A significant negative correlation was observed between the somatization score and the relationship with family and spouse (Rho=-0,169; p=0.001).

In the linear regression model related to the somatization subscale, the following variables; age, gender, marital status (single, married, divorced/widow), number of children, being a

student, income perception, voluntary migration status, involuntary migration status, smoking, quitting smoking, consuming alcoholic beverages, amount of tea, coffee and coke consumed, presence of hypertension, diabetes, hypothyroidism, psychiatric illness, and gastrointestinal disease, amount of over the counter drug use, herbal medicine use, and total drug use, applying a special diet, presence of physical disability, body mass index, living with someone, presence of someone who can help the person in case of an emergency, presence of someone who can help the person

regarding health problems, number of visits to family health center, number of visits to university hospital, exposure to physical violence during the marriage, exposure to physical violence during the childhood, and violating his/her children even once in the past or present were excluded from the model via backward elimination method because they were not effective. The overall model had statistical significance ($F=6.135$, $p<0.01$) and adjusted R^2 was calculated as 0.199. The analysis results are presented in Table 5.

Table 5. Regression model results related to somatization

	p	β	%95 CI	
			Lower	Upper
Constant	<0,001			
Employed*	0,006	-0,153	-0,314	-0,053
Unemployed *	0,001	-0,170	-0,495	-0,118
Retired*	0,011	-0,164	-0,523	-0,069
Educational Background	0,017	-0,122	-0,098	-0,010
30 minutes exercise 3 days per week	0,028	0,099	0,013	0,224
Presence of hyperlipidemia	0,045	-0,107	-0,673	-0,008
Amount of prescription drug use	0,034	0,134	0,004	0,115
Presence of previous surgery	0,048	0,094	0,001	0,228
Implementation of alternative medicine techniques	<0,001	0,158	0,091	0,321
Presence of mental illness in family and relatives	0,005	0,129	0,082	0,456
Height	0,001	-0,186	-0,190	-0,005
Weight	0,032	0,122	0,000	0,009
Number of applications to public hospitals	0,010	0,135	0,039	0,292
Number of applications to health institutions within the last 3 months	0,011	0,127	0,010	0,072
How the person describes his/her relationships with his/her family	0,004	-0,133	-0,167	-0,032

*compared to student (employment status)

DISCUSSION

Mental disorder symptoms and their relationship with demographic characteristics are of interest to all mental health services. Although it varies from society to society, somatization is a common psychiatric condition presenting to physicians from all branches. The family physician has a special position in recognizing mental symptoms, since they usually apply to primary health care institutions in the first place. Knowing the relationship between sociodemographic and clinical characteristics with somatization symptoms is important in terms of accurate diagnosis and avoiding unnecessary treatments.

In our study, no correlation was found between age and somatization and age was excluded from the model during linear regression analysis of somatization. In his study, Karasu investigated the prevalence of mental disorders and their relationship with sociodemographic variables in primary health care facilities and found no significant relationship between somatization disorder and age groups (14). However, a significant correlation was found between somatization disorder and age in a study carried out by Keskin in Eskişehir, Turkey (10). In the study

conducted in Adana, Turkey, Kurt divided the participants into two groups according to their age and found that the somatization score of the participants aged 40 years and over was significantly higher than those under 40 years of age (15). Turkey Chronic Diseases and Risk Factor Study carried out by the Ministry of Health in 2013 reported that somatization disorder increases with age and is more common particularly in the age group of 55–64 (16). Somatization has not been researched in detail in older individuals. Increasing depression rate and presence of chronic diseases may cause more somatic complaints in older ages.

According to our results, somatization score was significantly higher in females than males. According to Turkey Chronic Diseases and Risk Factor Study, somatization disorder is seen three times more in women (6.9-8.0%) than men (1.8-2.4%) (16). In a study carried out by Dönmez et al. in Antalya, Turkey female gender has been found to increase the risk of somatization disorder by 1.9 times (17). In a study conducted with SCL90-R questionnaire in Germany and in another study carried out in Japan examining the clinical characteristics of patients with somatization

symptoms, somatization disorder was found to be more prevalent in women (18)(19). In the study by Kaya et al. on the epidemiology of Somatoform Disorders, it was emphasized that the male-dominated structure of the society and the more passive use of the body language of the women who remain in a passive position from childhood can cause somatization disorders to be seen more frequently in women (20). Neuroendocrine factors and subjective life events such as menopause and responsibilities related to childcare cause depression and somatization to be more common in women (21). The positive correlation between the number of children and somatization in our study supports this view. Our analysis results have shown that the somatization score of the participants, who was exposed to physical violence by their spouses, was high. In a study by Ekemen with women aged 15-49 years, the prevalence of somatization was found to be high in women with low level of education and women who were exposed to domestic violence (22). Şimşek et al. have reported that the history of domestic violence and traumatic experiences are risk factors leading to mental disorders in women (23).

In the analysis of the educational status of our study, a negative correlation was found between somatization and education level. The low level of education during linear regression analysis of somatization provided a significant increase in the model alone. In the study conducted by Karasu with 1011 participants in Eskişehir, Turkey it was found that there was a statistically significant relationship between somatization disorders and education level (14). Dönmez et al. investigated mental illnesses in patients admitted to primary health care institutions and found the low level of education as a risk factor (odds ratio: 3.9) for somatization disorder (17). In a study by Sağduyu et al. titled somatization in patients admitted to primary health care institutions, somatization was found to be more common in patients received education for five years or less than those who were high school graduates or with a higher educational background (24). In a study by Çermik et al. investigating the factors affecting somatization in 252 female participants, somatization symptoms were seen the most in the uneducated patients and the least in those who were high school and college graduates. Primary school graduates were between those two groups (25). It can be said that the low level of education causes the individual to have limited vocabulary which the individual uses to express his feelings and this results in the individual to express his discomfort with his body.

Somatization disorder affects patients' lives to a great extend; they often change their doctors and try various medications (26). In the present study, during linear regression analysis of

somatization, the amount of prescription drug use, application of alternative medicine techniques, the number of applications to public hospitals, and the number of applications to health institutions in the last 3 months alone increased significantly in the model. Researches have proven that physicians prescribe too many drugs to patients with somatization disorder (26). Sack et al. have found that patients with somatization disorder receive too much medical and surgical treatment and reported that such interventions will not be necessary if physicians question patients in a more detailed way and they can diagnose somatization disorder in the early period (27).

There was a significant difference between the immigration status variables of the patients in the present study. Involuntary migration group (1,2) was seen to receive the highest somatization score, which was followed by voluntary migration (1.0) and no migration (0.9) groups. In a study by Çevik on the psychosocial aspect of anxiety disorder, somatic signs and symptoms of anxiety disorder were found to be more prominent in patients who experienced internal migration from villages and towns to the city center (28). Minas et al.'s study with immigrant Turks in Australia found that the loss of conventional environmental support intensely caused somatic disorders. Particularly the feelings of despair and frustration caused by forced migration, and the fact that immigrants are in an involuntary emotional disability make it more understandable that immigrants admit to somatization quite frequently (29).

Since the participants in the present study were community-based individuals aged 18-65 years, children and geriatric individuals over 65 years of age were not included. As the psychological symptoms were screened in the questionnaire, participants 'fear of stigma' may have caused them to give false answers to the questions. Since our study was not based on follow-up, we could not detect any mental changes that could be observed within a certain period of time. Since the questionnaire was applied for screening purposes, the participants could not be provided with diagnosis and treatment.

Researches show that the mental health of human, as biopsychosocial being, is affected by different factors in different ways. It is a common condition in our society that mental problems, that cannot be expressed, are reflected as somatic symptoms. As the primary health care institutions are easily accessible and the number of people contacted is more, somatization should be kept in mind in the patient-physician relationship. Analyzing the risk of somatization through the physical, psychological and social characteristics of the individual will guide us, the physicians, in struggling with this disease.

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