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The Evaluation of Psychiatric Symptoms with SCL-90-R in Adolescents: Cross-Sectional Study

Ergenlerde SCL-90-R ile Psikiyatrik Belirtilerin Değerlendirilmesi: Kesitsel Araştırma

Zahide YALAKİ[a], İlyas ÇAKIR[b], Filiz ŞİMŞEK ORHON[c]

[a]Clinic of Pediatrics, University of Health Sciences, Ankara Training and Research Hospital, Ankara, Türkiye
[b]Department of Mental Health and Diseases, Health Sciences University Ankara Health Application and Research Center, Ankara, Türkiye
[c]Department of Social Pediatrics, Ankara University Faculty of Medicine, Ankara, Türkiye

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ABSTRACT Objective: Adolescents sometimes develop some psychological problems that may escape their or parents' notice, which can lead to problems in later life. The aim of this study was to investigate the presence of unidentified psychiatric symptoms in adolescents. **Material and Methods:** This was a cross-sectional study that included 620 adolescents between 14-18 years of age. Participants were given a sociodemographic data form and Symptom Check List (SCL-90-R) screening test consisting of 90 items about psychiatric symptoms and complaints. **Results:** In evaluation of the SCL-90-R subscale, scores of the participating adolescents were found to be >1 regarding somatization (40.5%), anxiety (32.4%), obsessive compulsive disorder (45.5%), depression (34.8%), sensitivity in interpersonal relations (37.7%), psychotic symptoms (20.3%), paranoid thought (35.5%), anger (43.7%), and phobic (17.3%) which interpreted as indication of important psychological problems. Median scores of somatization, depression, anxiety, obsessive compulsive disorder, interpersonal sensitivity, anger, paranoid thought, phobic anxiety, additional score and general symptom index were found to be significantly higher in females ($p<0.05$). It was found that factors such as school success, cigarette use, mothers' employment, family income level, parents' marital status, and family history of psychiatric illness had significant effect on certain psychiatric symptoms. **Conclusion:** Previously unidentified psychiatric symptoms among adolescents, especially among females were observed. Despite the participating adolescents expressed no psychiatric complaints, the findings suggest psychiatric symptoms can easily be overlooked in this age group.

Keywords: Adolescent; anxiety; depression

ÖZET Amaç: Ergenlerde, kendilerinin veya ebeveynlerinin fark etmediği bazı psikolojik sorunlar gelişebilir ve bu da ileriki yaşamlarında sorunlara yol açabilir. Bu çalışmanın amacı, ergenlerde tanımlanamayan psikiyatrik belirtilerin varlığını araştırmaktır. **Gereç ve Yöntemler:** Çalışma, 14-18 yaşları arasındaki 620 ergeni kapsayan kesitsel bir çalışmadır. Katılımcılara sosyodemografik veri formu ile psikiyatrik belirti ve yakınmaları içeren 90 maddeden oluşan "Symptom Check List (SCL-90-R)" tarama testi verildi. **Bulgular:** Araştırmaya katılan ergenlerin somatizasyon (%40,5), anksiyete (%32,4), obsesif kompulsif bozukluk (%45,5), depresyon (%34,8), kişiler arası ilişkilerde duyarlılık (%37,7), psikotik belirtiler (%20,3), paranoyak düşünce (%35,5), öfke (%43,7) ve fobik düşünce (%17,3) gibi SCL-90-R alt ölçek puanlarının >1 olduğu saptanmış ve bu durum, önemli psikolojik sorunların göstergesi olarak yorumlanmıştır. Somatizasyon, depresyon, anksiyete, obsesif kompulsif bozukluk, kişiler arası duyarlılık, öfke, paranoid düşünce, fobik anksiyete, ek puan ve genel semptom indeksi ortanca puanları kızlarda anlamlı olarak daha yüksek bulunmuştur ($p<0,05$). Okul başarısı, sigara kullanımı, annenin çalışması, ailenin gelir düzeyi, anne-babanın medeni durumu ve ailede psikiyatrik hastalık öyküsü gibi faktörlerin bazı psikiyatrik belirtiler üzerinde anlamlı etkisi olduğu belirlenmiştir. **Sonuç:** Adölesanlarda, özellikle kızlarda daha önce tespit edilmemiş psikiyatrik belirtiler gözlenmiştir. Araştırmaya katılan ergenlerin psikiyatrik yakınmaları olmamasına rağmen bulgular, bu yaş grubunda psikiyatrik belirtilerin kolaylıkla gözden kaçabileceğini düşündürmektedir.

Anahtar Kelimeler: Adölesan; anksiyete; depresyon

Adolescence is one of the most critical periods in human life and it is defined as the transition period from childhood to adulthood, not only physically but also hormonally, spiritually and socially. In this period, adolescents may encounter physical problems, behavioral problems and psychological problems.[1]

Correspondence: Zahide YALAKİ
Clinic of Pediatrics, University of Health Sciences, Ankara Training and Research Hospital, Ankara, Türkiye
E-mail: dr_zahide@yahoo.com

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While some adolescents go through this period relatively comfortably, others may develop psychological problems. It is reported that psychiatric symptoms such as mood disorders, school problems and behavioral problems, depression and anxiety disorder may develop in this period.[2]

In some studies, it was found that depression, somatization, and anxiety were more common among girls while anger and aggressive behaviors were more common among boys.[2-5] In a study conducted in Türkiye, it was found that somatization disorders in children and adolescents were accompanied with major depression and anxiety disorder in 15.7% and 37.2% of cases respectively.[6]

Early diagnosis of psychiatric problems in adolescents and a good understanding of their magnitude are of great importance in preventing these problems. Therefore, the purpose of this study was to determine the frequency of psychiatric symptoms in adolescent children during hospital visits and the sociodemographic factors affecting them.

MATERIAL AND METHODS

Our study was carried out between May 2018-October 2018 in the pediatric health and diseases polyclinic of a major hospital in central Anatolia. The ethics committee permission for the study was obtained from the Medical Specialization Training Board of the hospital on April 25, 2018 with document number 0043/441. The study was conducted per the principles of the Helsinki Declaration.

The study included those who applied to the child outpatient clinic for various reasons, who were in the 14-18 age group and agreed to participate in the study. Those with febrile illness, chronic systemic disease, previously diagnosed psychiatric illness were excluded. Finite population sampling formula was used to determine sample the size in the study.[7] When the finite population sampling formula was used at 95% confidence interval and p=0.50, the minimum sample size was calculated as 601. The study was completed with 620 adolescents who met the inclusion criteria at the time of implementation.

Adolescents and their parents who agreed to participate in the study were informed about the study and they were given informed consent forms. After collecting the signed informed consent forms, sociodemographic data form was given to adolescents and Symptom Check List (SCL-90-R) screening test was applied. Those who scored high on the test were directed to adolescent psychiatry clinic.

SCL-90-R was developed by Derogatis et al. in 1977 and it was adapted to Turkish by Dağ who conducted validity and reliability study of the scale in the Turkish context.[8,9] The test has been used as a measurement tool for determining individuals' psychiatric symptoms and their extent. The revised version of the SCL-90-R has the advantage of fast data collection and it is recommended in field studies.[10]

The SCL-90-R screening test, which includes psychiatric symptoms and complaints, has 10 subscales: somatization, obsessive compulsive disorder (OCD) symptoms, interpersonal sensitivity, depression, anxiety, anger-hostility, phobic anxiety, paranoid thought and psychotic symptoms. The test also includes the scale of additional symptoms (AS) (feelings of guilt, eating and sleep disorders). Each item is evaluated over 5 points scale ranging from 0 "none" to 4 "advanced." The general symptom index (GSI) is the average of the scores for all items and it is an important indicator of mental problems that can vary between 0.00 and 4.00. In the evaluation of the test, if the average scores calculated for each subgroup are <0.5, this is interpreted as "no problem"; if the scores are between 0.5-0.99, this is interpreted as "medium level problem"; if the scores are >1, this is interpreted as "significant mental problem."[8,9] At the end of the study, adolescents who scored high on the test were directed to adolescent psychiatry clinic.

STATISTICAL ANALYSIS

Data was analyzed with SPSS for Windows 20.0 (IBM Corp., Armonk, NY, USA) package program. Whether the distribution of continuous and discrete numerical variables is close to normal was investigated with the Kolmogorov Smirnov test. Descriptive statistics distributions are shown as median (smallest-largest) for continuous and discrete numerical variables, and as number of cases and as "%" for categorical variables. The significance of the difference between the groups in terms of median values

was investigated with Mann-Whitney U and Kruskal Wallis test. Categorical variables were evaluated with Pearson's chi-square test or Fisher's Precise Results chi-square test. Statistical significance level was accepted as $p<0.05$. To investigate the relationships between SCL-90-R sub scale scores, bivariate correlational comparison was performed and $p<0.001$ was accepted as significant.

RESULTS

In total, 620 adolescents included in the study. 65.3% of the adolescents participating in the study were female and median age of the participants was 16 (14-18 years old) years old. Table 1 shows sociodemographic data.

In the evaluation of SCL-90-R test findings, median scores in all subgroups except psychotic symptoms and phobic anxiety were ≥0.5 (Table 2). It was determined that 57 (9.1%) of adolescents received >1 point from all subscales of SCL-90-R test, while 355 (57.3%) received >1 point from at least one subgroup. In 208 (33.6%) of all adolescents participating in the study, the score from all subgroups was found to be <1. It was determined that the scores obtained from all subgroups positively correlated with each other (Table 3).

The girls included in the study had significantly higher scores in somatization, depression, anxiety, OCD, interpersonal sensitivity, anger, paranoid thoughts, phobic anxiety, AS, and GSI median scores compared to boys ($p<0.05$). In Table 4, the comparison of the median scores of the SCL-90-R subgroups with the sociodemographic data is given.

Psychotic symptom scores of those who defined school success as low were found to be higher ($p=0.007$). The median scores of anxiety ($p=0.045$), anger ($p=0.001$) and psychotic symptoms ($p=0.044$) were significantly higher in adolescents who smoked compared to the non-smoker adolescents.

The median of depression score of children who had working mothers was significantly higher ($p=0.02$). The depression subgroup score was higher in adolescents whose parents were separated ($p=0.041$). Anxiety ($p=0.043$), anger ($p=0.008$) and psychotic symptoms ($p=0.031$) subgroup scores were

TABLE 1: Sociodemographic characteristics of adolescents participating in the study.

	n	%
Gender		
Girl	405	65.3
Boy	215	34.7
School type		
Vocational	238	38.4
Private	175	28.2
Religious vocational	116	18.7
Anatolian	91	14.7
School success		
Good	252	40.6
Medium	281	45.3
Low	87	14.1
Do you smoke?		
Yes	206	33.2
No	414	66.8
Mother education		
Literate	67	10.8
Primary school	286	46.1
Middle school	118	19.0
High school-university	149	24.1
Father education		
Literate	34	5.5
Primary school	232	37.4
Middle school	153	24.7
High school-university	201	32.4
Mother occupation		
Housewife	464	74.8
Employed	156	25.2
Father occupation		
State officer	140	22.6
Self employed	355	57.3
Private employed	125	20.2
Family type		
Nuclear	412	66.5
Large	113	18.2
Parents separated	95	15.3
Number of children		
1	55	8.9
2	207	33.4
≥3	358	57.7
Monthly income of the family		
<2,000 TL	352	56.8
2,000-4,000 TL	268	43.2
>4,000 TL	0	0
Psychiatric illness in the family		
Yes	52	8.4
No	568	91.6

TABLE 2: Grouping of the scores of the adolescents participating in the study from the SCL-90-R subscales.

	<0.5 score n (%)	0.5-0.99 score n (%)	>1 score n (%)
Somatization (SOMA)	195 (31.5)	174 (28.1)	251 (40.5)
Anxiety (ANX)	246 (39.7)	173 (27.9)	201 (32.4)
OCD	170 (27.4)	168 (27.1)	282 (45.5)
Depression (DEPR)	261 (42.1)	143 (23.1)	216 (34.8)
Sensitivity to interpersonal relations (SIR)	236 (38.1)	150 (24.2)	234 (37.7)
Psychotic symptom (PSYC)	379 (61.1)	115 (18.5)	126 (20.3)
Paranoid symptom (PARA)	220 (35.5)	180 (29.0)	220 (35.5)
Anger	219 (35.3)	130 (21.0)	271 (43.7)
Phobic anxiety (PHOBIC)	407 (65.6)	106 (17.1)	107 (17.3)
Additional symptoms (AS)	187 (30.2)	152 (24.5)	281 (45.3)
General symptom index (G)	237 (38.2)	170 (27.4)	213 (34.4)

TABLE 3: Correlation of SCL-90-R subgroup scores.

		SOMA	ANX	OCD	DEPR	SIR	PSYC	PARA	ANGER	PHOBIC	AS	GSI
SOMA	r	1	0.766**	0.713**	0.669**	0.570**	0.633**	0.561**	0.626**	0.596**	0.704**	0.803**
	p value		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ANX	r	0.766**	1	0.778**	0.822**	0.766**	0.809**	0.730**	0.750**	0.763**	0.807**	0.920**
	p value	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
OCD	r	0.713**	0.778**	1	0.814**	0.778**	0.768**	0.731**	0.721**	0.686**	0.740**	0.895**
	p value	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
DEPR	r	0.669**	0.822**	0.814**	1	0.847**	0.804**	0.770**	0.728**	0.753**	0.797**	0.929**
	p value	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000
SIR	r	0.570**	0.766**	0.778**	0.847**	1	0.786**	0.782**	0.702**	0.720**	0.723**	0.882**
	p value	0.000	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000
PSYC	r	0.633**	0.809**	0.768**	0.804**	0.786**	1	0.763**	0.729**	0.752**	0.749**	0.891**
	p value	0.000	0.000	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000
PARA	r	0.561**	0.730**	0.731**	0.770**	0.782**	0.763**	1	0.703**	0.665**	0.703**	0.839**
	p value	0.000	0.000	0.000	0.000	0.000	0.000		0.000	0.000	0.000	0.000
ANGER	r	0.626**	0.750**	0.721**	0.728**	0.702**	0.729**	0.703**	1	0.605**	0.715**	0.831**
	p value	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000	0.000	0.000
PHOBIC	r	0.596**	0.763**	0.686**	0.753**	0.720**	0.752**	0.665**	0.605**	1	0.683**	0.818**
	p value	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000	0.000
AS	r	0.704**	0.807**	0.740**	0.797**	0.723**	0.749**	0.703**	0.715**	0.683**	1	0.872**
	p value	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
GSI	r	0.803**	0.920**	0.895**	0.929**	0.882**	0.891**	0.839**	0.831**	0.818**	0.872**	1
	p value	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

**Correlation is significant at 0.001 level (Bivariate correlation); SOMA: Somatization; ANX: Anxiety; OCD: Obsessive compulsive disorder; DEPR: Depression; SIR: Sensitivity to interpersonal relations; PSYC: Psychotic symptom; PARA: Paranoid symptom; PHOBIC: Phobic anxiety; AS: Additional symptoms; GSI: General symptom index.

higher in adolescents with a family member diagnosed with a psychiatric illness. Somatization, anxiety, OCD, anger, interpersonal sensitivity, psychotic symptoms subgroup scores and GSI scores were significantly higher among children with three or more siblings ($p<0.05$). In adolescents whose families' annual income level was <2,000 TL, somatization, anxiety, sensitivity in interpersonal relations, OCD and GSI scores were found to be significantly higher ($p<0.05$).

Table 5 shows the comparison of the adolescents with a score of >1 from the SCL-90-R test with sociodemographic data. It was found that the scores of somatization, depression, anxiety, OCD, interpersonal sensitivity, phobic anxiety, AS and GSI was

TABLE 4: Comparison of the median scores of SCL-90-R subgroups with sociodemographic data.

	SOMA	DEPR	ANX	OCD	SIR	ANGER	PSYC	PARA	PHOBIC	AS	GSI
Gender Girl Boy p value	0.91 (0-3.25) 0.58 (0-2.91) 0.000	0.76 (0-3.53) 0.46 (0-2.92) 0.000	0.70 (0-3.70) 0.50 (0-3.10) 0.000	1.00 (0-3.40) 0.70 (0-3.30) 0.000	0.77 (0-3.88) 0.55 (0-3.66) 0.000	0.83 (0-4.00) 0.66 (0-3.83) 0.005	0.30 (0-3.30) 0.30 (0-2.90) 0.117	0.66 (0-4.00) 0.50 (0-3.66) 0.002	0.28 (0-3.85) 0.14 (0-2.71) 0.003	0.85 (0-3.42) 0.71 (0-3.00) 0.001	0.76 (0-3.18) 0.56 (0-2.68) 0.000
School success Good Medium Low p value	0.75 (0-3.25) 0.83 (0-3.25) 0.75 (0-2.83) 0.245	0.55 (0-3.07) 0.69 (0-3.53) 0.61 (0-2.92) 0.274	0.60 (0-3.50) 0.60 (0-3.70) 0.60 (0-3.00) 0.070	0.85 (0-3.20) 0.90 (0-3.40) 0.80 (0-2.80) 0.101	0.66 (0-3.66) 0.77 (0-3.88) 0.77 (0-3.66) 0.119	0.66 (0-4.00) 0.83 (0-4.00) 0.83 (0-4.00) 0.070	0.20 (0-2.90) 0.30 (0-3.30) 0.40 (0-3.10) pa: 0.007	0.66 (0-3.66) 0.66 (0-4.00) 0.66 (0-2.83) 0.416	0.14 (0-3.00) 0.28 (0-3.14) 0.28 (0-3.85) 0.073	0.85 (0-3.14) 0.85 (0-3.42) 1.00 (0-3.00) 0.217	0.62 (0-2.72) 0.72 (0-3.18) 0.77 (0-2.68) 0.120
Do you smoke? Yes No p value	0.83 (0-3.25) 0.75 (0-3.25) 0.389	0.72 (0-3.30) 0.61 (0-3.53) 0.365	0.60 (0-3.70) 0.60 (0-3.50) 0.045	0.90 (0-3.30) 0.90 (0-3.40) 0.573	0.66 (0-3.77) 0.66 (0-3.88) 0.358	1.00 (0-4.00) 0.66 (0-4.00) 0.001	0.30 (0-3.30) 0.30 (0-3.10) 0.044	0.66 (0-3.83) 0.66 (0-4.00) 0.135	0.28 (0-3.14) 0.14 (0-3.85) 0.324	1.00 (0-3.42) 0.85 (0-3.42) 0.060	0.75 (0-3.18) 0.63 (0-2.96) 0.175
Mother occup. Housewife Working p value	0.75 (0-3.25) 0.87 (0-3.25) 0.231	0.61 (0-3.53) 0.76 (0-3.23) 0.020	0.60 (0-3.60) 0.60 (0-3.70) 0.220	0.90 (0-3.40) 1.00 (0-3.30) 0.085	0.66 (0-3.88) 0.77 (0-3.11) 0.307	0.83 (0-4.00) 0.83 (0-4.00) 0.169	0.30 (0-3.10) 0.40 (0-3.30) 0.181	0.66 (0-4.00) 0.66 (0-3.66) 0.308	0.14 (0-3.85) 0.28 (0-2.42) 0.142	0.85 (0-3.42) 1.00 (0-3.14) 0.035	0.63 (0-3.18) 0.74 (0-2.82) 0.083
Family type Nuclear Large Parents separate p value	0.75 (0-3.25) 0.66 (0-3.25) 0.91 (0-3.08) 0.342	0.61 (0-3.38) 0.61 (0-3.53) 0.84 (0-3.23) pe: 0.041	0.60 (0-3.50) 0.60 (0-3.60) 0.70 (0-3.70) 0.089	0.90 (0-3.40) 0.90 (0-3.30) 1.10 (0-3.30) 0.278	0.66 (0-3.77) 0.77 (0-3.88) 0.88 (0-3.55) 0.203	0.83 (0-4.00) 0.83 (0-4.00) 1.16 (0-3.83) 0.145	0.30 (0-3.10) 0.30 (0-2.90) 0.30 (0-3.30) 0.323	0.66 (0-4.00) 0.66 (0-3.83) 0,66 (0-3.66) 0.669	0.14 (0-3.85) 0.28 (0-3.14) 0.28 (0-2.42) 0.804	0.85 (0-3.42) 0.85 (0-3.42) 1.00 (0-3.14) 0.385	0.64 (0-2.95) 0.68 (0-3.18) 0.78 (0-2.82) 0.234
Family history Yes No p value	0,91 (0-2,83) 0,75 (0-3,25) 0,152	0,76 (0-2,92) 0,61 (0-3,53) 0,148	0,75 (0-2,90) 0,60 (0-3,70) 0,043	1,00 (0-3,20) 0,90 (0-3,40) 0,232	0,88 (0-2,77) 0,66 (0-3,88) 0,233	1,16 (0-4,00) 0,83 (0-4,00) 0,008	0,45 (0-2,00) 0,30 (0-3,30) 0,031	0,74 (0-2,66) 0,66 (0-4,00) 0,083	0,28 (0-2,57) 0,14 (0-3,85) 0,306	1,00 (0-3,00) 0,85 (0-3,42) 0,154	0,87 (0-2,51) 0,64 (0-3,18) 0,074
Number of child. 1 2 ≥3 p value	0.83 (0-2.58) 0.66 (0-3.16) 0.83 (0-3.25) ph: 0.005 pi:0.064 pj: 0.959 pk: 0.002	0.69 (0-3.15) 0.61 (0-3.53) 0.61 (0-3.38) 0.397	0.90 (0-2.70) 0.50 (0-3.70) 0.60 (0-3.60) ph: 0.011 pi:0.008 pj:0.191 pk: 0.020	0.90 (0-3.40) 0.80 (0-3.20) 0.90 (0-3.30) ph: 0.044 pi: 0.123 pj: 0.781 pk: 0.017	0.66 (0-3.77) 0.66 (0-3.55) 0.77 (0-3.88) ph:0.038 pi: 0.097 pj: 0.787 pk: 0.016	0.83 (0-4.00) 0.66 (0-3.83) 0.83 (0-4.00) ph: 0.027 pi: 0.027 pj:0.255 pk: 0.030	0.40 (0-3.10) 0.20 (0-2.80) 0.30 (0-3.30) ph:0.016 pi:0.028 pj: 0.420 pk:0.011	0.66 (0-4.00) 0.50 (0-3.66) 0.66 (0-3.83) 0.141	0.28 (0-2.57) 0.14 (0-2.57) 0.28 (0-3.85) 0.644	1.00 (0-2.71) 0.71 (0-3.28) 0.85 (0-3.42) 0.082	0.84 (0-2.95) 0.56 (0-2.82) 0.73 (0-3.18) pa: 0.028 pb: 0.037 pc:0.442 pd:0.020
Monthly income of the family <2,000 TL 2,000-4,000 TL p value	0.83 (0-3.16) 0.66 (0-3.25) 0.001	0.61 (0-3.30) 0.61 (0-3.53) 0.089	0.60 (0-3.70) 0.50 (0-3.10) 0.032	0.95 (0-3.40) 0.80 (0-3.20) 0.014	0.77 (0-3.88) 0.66 (0-3.66) 0.022	0.83 (0-4.00) 0.74 (0-4.00) 0.106	0.30 (0-3.30) 0.30 (0-2.90) 0.075	0.66 (0-4.00) 0.66 (0-3.66) 0.416	0.28 (0-3.85) 0.14 (0-2.71) 0.108	0.85 (0-3.42) 0.85 (0-3.42) 0.415	0.75 (0-3.18) 0.61 (0-2.90) 0.033

a: all success; b: good and medium; c: good and low; d: medium and low compared (pb: 0.016; pc: 0.005; pd: 0.301)

e: nuclear family; extended and parents separated; f: nuclear family and parents separated; g: extended family and parents separated (pf: 0.018, pg: 0.025)

TABLE 5: Comparison of >1 scores from SCL-90-R test with socio-demographic data of adolescents.

	SOMA	DEPR	ANX	OCB	SIR	ANGER	PSYC	PARA	PHOBIC	AS	GSI
Gender n (%) Girl Boy	188 (46.4) 63 (29.3)	163 (40.2) 53 (24.7)	151 (37.3) 50 (23.3)	203 (50.1) 79 (36.7)	168 (41.5) 66 (30.7)	190 (46.9) 81 (37.7)	89 (22.0) 37(17.2)	153 (37.8) 67 (31.2)	83 (20.5) 24 (11.2)	198 (48.9) 83 (38.6)	165 (40.7) 48 (22.3)
p value	0.000	0.000	0.000	0.001	0.008	0.027	0.160	0.101	0.003	0.014	0.000
School type n (%) Vocational Private Religious vocational Anatolian	107 (45.0) 63 (36.0) 49 (42.2) 32 (35.2)	98 (41.2) 68 (38.9) 39 (33.6) 20 (22.0)	77 (32.4) 66 (37.7) 35 (30.2) 23 (25.3)	115 (48.3) 79 (45.1) 53 (45.7) 35 (38.5)	98 (41.2) 67 (38.3) 42 (36.2) 27 (29.7)	106 (44.5) 85 (48.6) 48 (41.4) 32 (35.2)	48 (20.2) 45 (25.7) 22 (19.0) 11 (12.1)	91 (38.2) 70 (40.0) 35 (30.2) 24 (26.4)	45 (18.9) 36 (20.6) 18 (15.5) 8 (8.8)	111 (46.6) 88 (50.3) 47 (40.5) 35 (38.5)	85 (35.7) 67 (38.3) 38 (32.8) 23 (25.3)
p value	0.199	0.035	0.201	0.459	0.277	0.195	0.069	0.070	0.085	0.194	0.183
Do you smoke? n (%) Yes No	87 (42.2) 164 (39.6)	79 (38.3) 137 (33.1)	77 (37.4) 124 (30.0)	95 (46.1) 187 (45.2)	79 (38.3) 155 (37.4)	109 (52.9) 162 (39.1)	55 (26.7) 71 (17.1)	88 (42.7) 132 (31.9)	40 (19.4) 67 (16.2)	105 (51.0) 176 (42.5)	75 (36.4) 138 (33.3)
p value	0.531	0.196	0.063	0.823	0.826	0.001	0.005	0.008	0,316	0,046	0,448
Mother occupation n (%) Housewife Working	180 (38.8) 71 (45.5)	153 (33.0) 63 (40.4)	142 (30.6) 59 (37.8)	201 (43.3) 81 (51.9)	167 (36.0) 67 (42.9)	195 (42.0) 76 (48.7)	85 (18.3) 41 (26.3)	159 (34.3) 61 (39.1)	71 (15.3) 36 (23.1)	199 (42.9) 82 (52.6)	150 (32.3) 63 (40.4)
p value	0.139	0.093	0.096	0.062	0.121	0.145	0.032	0.275	0.026	0.036	0.067
Family type n (%) Nuclear Large Parents separated	165 (40.0) 44 (38.9) 42 (44.2)	134 (32.5) 38 (33.6) 44 (46.3)	122 (29.6) 40 (35.4) 39 (41.1)	181 (43.9) 49 (43.4) 52 (54.7)	144 (35.0) 47 (41.6) 43 (45.3)	171 (41.5) 49 (43.4) 51 (53.7)	75 (18.2) 22 (19.5) 29 (30.5)	139 (33.7) 42 (37.2) 39 (41.1)	67 (16.3) 20 (17.7) 20 (21.1)	183 (44.4) 50 (44.2) 48 (50.5)	132 (32.0) 40 (35.4) 41 (43.2)
p value	0.707	0.038	0.075	0.143	0.113	0.097	0.026	0.372	0.533	0.541	0.117
Number of children n (%) 1 2 ≥3	23 (41.8) 69 (33.3) 159 (44.4)	24 (43.6) 72 (34.8) 120 (33.5)	25 (45.5) 57 (27.5) 119 (33.2)	27 (49.1) 80 (38.6) 175 (48.9)	19 (34.5) 75 (36.2) 140 (39.1)	27 (49.1) 76 (36.7) 168 (46.9)	17 (30.9) 31 (15.0) 78 (21.8)	22 (40.0) 64 (30.9) 134 (37.4)	13 (23.6) 25 (12.1) 69 (19.3)	32 (58.2) 84 (40.6) 165 (46.1)	24 (43.6) 62 (30.0) 127 (35.5)
p value	0.035	0.341	0.036	0.053	0.696	0.043	0.019	0.227	0.039	0.060	0.130
Monthly income of the family n (%) <2,000 TL 2,000-4,000 TL	157 (44.6) 94 (35.1)	132 (37.5) 84 (31.3)	128 (36.4) 73 (27.2)	176 (50.0) 106 (39.6)	143 (40.6) 91 (34.0)	158 (44.9) 113 (42.2)	80 (22.7) 46 (17.2)	125 (35.5) 95 (35.4)	67 (19.0) 40 (14.9)	163 (46.3) 118 (44.0)	134 (38.1) 79 (29.5
p value	0.017	0.111	0.016	0.010	0.090	0.498	0.088	0.987	0.180	0.573	0.026
Psychiatric illness in the family n (%) Yes No	23 (44.2) 228 (40.1)	22 (42.3) 194 (34.2)	23 (44.2) 178 (31.3)	29 (55.8) 253 (44.5)	24 (46.2) 210 (37.0)	31 (59.6) 240 (42.3)	16 (30.8) 110 (19.4)	23 (44.2) 197 (34.7)	11 (21.2) 96 (16.9)	28 (53.8) 253 (44.5)	21 (40.4) 192 (33.8)
p value	0.565	0.238	0.057	0.120	0.191	0.016	0.50	0.168	0.437	0.197	0.339

SOMA: Somatization; DEPR: Depression; ANX: Anxiety; OCD: Obsessive compulsive disorder; SIR: Sensitivity to interpersonal relations; PSYC: Psychotic symptom; PARA: Paranoid symptom; PHOBIC: Phobic anxiety; AS: Additional symptoms; GSI: General symptom index.

higher in girls compared to boys (p<0.05). Those who attend vocational high schools had depression scale scores >1 more often (p=0.035); adolescents who smoked received scores >1 more frequently in anger, psychotic symptom, paranoid thought and AS scales (p<0.05).

The children of working mothers received >1 scores from the psychotic symptom, phobic anxiety and AS scales, which were significantly higher (p<0.05). In adolescents whose parents were separated, the frequency of >1 scores on the depression and psychotic symptom subscales was found to be higher (p<0.05). The frequency of getting >1 score from different subscales was significantly higher in adolescents with siblings of ≥3, as well as in adolescents with no siblings (p<0.05). In adolescents with a family income of <2,000 TL, the ratio of those who received >1 point from somatization, anxiety, OCD and GSI subgroups was higher (p<0.05). In adolescents with a family history of psychiatric illness, the frequency of those who scored >1 on the anger scale was found to be significantly higher (p=0.016).

DISCUSSIONS

Psychiatric problems are reported to increase during adolescence, an important transition period in human life.[11] Our study was conducted with adolescents who did not report any psychiatric complaints; however, evaluation of their SLC-90-R tests showed that many of them had >1 score in a subscale, indicating a mental problem. The percentage of >1 scores in subscales were 40.5% somatization, 32.4% anxiety, 45.5% OCD, 34.8% depression, 37.7% sensitivity to interpersonal relationships, 20.3% psychotic symptoms, 35.5% paranoid thought, 43.7% anger, 17.3% phobic anxiety, 45.3% AS and 34.4% GSI index. In a similar study conducted with university students in Türkiye, many students had >1 score in a subscale. The reported percentage of >1 scores were 24.8% somatization, 31.3% anxiety, 40.8% depression, 61.2% OCD, 25.3% psychotic symptoms, 55.1% paranoid thought, 39.4% anger, 50.6% sensitivity in interpersonal relations, 13.8% phobic anxiety, and 11.6% GSI subscales.[12] In another study conducted with vocational high school students, the scores of depression, anxiety, interpersonal sensitivity, psychotic symptoms and GSI subscales were found to be >1.[9] Considering these data, it can be interpreted that psychiatric symptoms are gradually increasing in adolescents.

It was observed that 57.3% of the adolescents in our study received high scores from more than one subgroup, that is, more than one mental symptom was present in majority of adolescents. In the literature, it was stated that adolescents could have more than one psychiatric symptom (depression, psychotic symptoms, etc.).[11,13,14]

Studies have shown that psychiatric symptoms are more common in girls during adolescence.[10,12,15,16] In the literature, it was stated that 60% of the patients diagnosed with somatization disorder had an additional psychiatric diagnosis and this was most frequently found to be anxiety disorder.[6] In our study, in accordance with the literature it was found that somatization, depression, anxiety, OCD, interpersonal sensitivity, anger, paranoid symptoms, phobic anxiety and AS were more common in girls than in boys. In our society, boys are expected to be more sociable and contentious while girls are expected to be silent, submissive, and shy. Because of this, when unable to cope with problems, girls are thought to show psychomatic symptoms move often.

The frequency of OCD in children and adolescents was reported to be 0.25-4%.[5] Although it was thought to be more common in boys during adolescence, similar to our study some studies found that the frequency of OCD was higher in girls during adolescence.[17,18]

In our study, 41.2% of those attending a vocational high school had >1 point from the depression scale, while this rate was 22% for those attending in Anatolian High Schools. Since no other study was found in the literature that was conducted with high school students that had similar design to our study, sufficient comparisons could not be made. However, in a study conducted with vocational high school students in Türkiye; it was reported that 46% of students chose vocational high schools due to economic reasons.[10] For this reason, it was thought that there may be an increase in depression scores of these students because of the stress they experience as a result of low socioeconomic level or school failures.

In the literature, a study conducted with 12-18 age group adolescents who applied to a psychiatry outpatient clinic, it was reported that 24.7% of girls and 40.7% of boys applied for reasons related to school failure and they were diagnosed with anxiety, behavioral disorder, and psychotic disorder.[11,12,19] In our study, the psychotic symptom subgroup median was observed to be high in those who defined their school success as low. It was thought that school success is an important factor in development of psychiatric symptoms; and stress caused by low school success and family pressure are influential in developing psychiatric symptoms.

In our study, it was found that the median of depression score was higher among children of working mothers and the number of these adolescents with >1 scores in psychotic symptoms, phobic anxiety and AS was higher. In a study conducted in Türkiye, an increase in anxiety, OCD, psychotic symptoms, interpersonal sensitivity and phobic anxiety was detected in adolescents whose mothers worked, while there was no correlation with father's occupation. In another study conducted in Tehran, the highest rate of psychiatric disorders among adolescents in regards to their parents' job was detected in the group of unemployed fathers (30.8%) and in the group of mothers working in private centers (36.6%).[12,20] It was interpreted that working parents do not take enough care of their children when they come home because of busy work schedule and they do not notice adolescents' problems in time which seems to be a factor in emergence of psychiatric symptoms.

Families with high socioeconomic status may impose fever restrictions for their children; while families with low socioeconomic level generally put more pressure on their children. It is reported that children of lower socioeconomic level are often mocked because of their behavior or what they say and they are often raised with scolding and physical punishment.[21]

It is suggested that financial problems in childhood are associated with the onset of psychiatric disorders more often in older ages, especially in adolescence and early adulthood.[21,22] It was determined in our study that the adolescents with families whose income level was <2,000 TL received >1 point from somatization, anxiety, OCD and GSI scales and their scores of sensitivity in interpersonal relationships scale was higher. This result was similar with the findings in the literature. It was thought that adolescents with higher socioeconomic status are more successful in controlling their feelings, adjusting to the changes that comes with adolescence, and establishing a harmonious relationship with their families compared to adolescents with lower socioeconomic status and thus have less psychiatric problems.

In some studies, it was reported that the reaction of each child to parental separation is different. Adolescents >12 years of age have introversion or more aggressive and angry behaviors and depression; boys between the ages of 15-17 adopt harmful habits such as alcohol use and smoking, while girls mostly attempt suicide during this period.[23,24] In our study, the rate of those who had a score of >1 on the scale of depression and psychotic symptoms was found to be higher among adolescents whose parents were separated. These findings suggest that adolescents are seriously influenced from separation of parents and develop psychiatric symptoms.

In the literature, it has been reported that in families with a high number of children, the communication of parents with their children decreases, the care of children is divided, older children are treated more negatively, and parents show a more protective attitude to younger siblings.[24,25] In our study, anxiety, anger, psychotic symptoms and median scores of GSI were higher in adolescents who were the only child compared to those who had one sibling; while anxiety, OCD, anger, interpersonal sensitivity, psychotic symptoms and GSI scale scores of adolescents with ≥3 siblings were higher than those who had 2 siblings. It was thought that families with 2 children have a more balanced in-family communication, while in families with more kids, because of unequal distribution of care among children, various psychiatric symptoms may arise among adolescents.

The relationship between family dysfunction and the psychiatric consequences of this dysfunction on children and adolescents are likely related to factors such as genetic, socioeconomic, and parental

psychopathology.[26] In some studies, it was reported that the risk of depression in the children is 27-30% if there is an affective disorder in one of the parents, and the risk increases to 50-75% if there is an affective disorder in both parents.[27-30] In our study, while the median scores of all subgroups were found to be higher in adolescents with a family history of psychiatric illness, the difference in the subgroups of anxiety, anger and psychotic symptoms was statistically significant, and the number of adolescents who received >1 point from the anger scale was higher.

In the literature, very few studies investigating more than one psychiatric symptom among university students and students attending vocational high schools were found. However, no similar study was found about adolescents who applied to pediatric outpatient clinics for different reasons without psychiatric complaints. Because of this, comparisons were made with limited number of studies. We could not access the psychiatric evaluation of adolescents who were directed to a psychiatric clinic because of personal information protection regulations, which was a limitation for this study.

CONCLUSION

Although adolescents included in our study did not have a significant mental complaint, it was thought that the high level of determined psychiatric symptoms were important and that mental problems could easily be overlooked in this age group. The SCL-90-R test that we used in this study was easy to use, it was effective in multi-dimensional evaluation of psychopathology in individuals and therefore it can be routinely used in monitoring of adolescence health. It is thought that monitoring the cases found as a result of proper screening in pediatric outpatient clinics and follow up in psychiatric clinics is important for the protection of the mental health of the adolescents.

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Conflict of Interest

No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.

Authorship Contributions

Idea/Concept: *Zahide Yalaki, İlyas Çakır, Filiz Şimşek Orhon;* ***Design:*** *Zahide Yalaki, İlyas Çakır;* ***Control/Supervision:*** *Zahide Yalaki, Filiz Şimşek Orhon;* ***Data Collection and/or Processing:*** *Zahide Yalaki;* ***Analysis and/or Interpretation:*** *Zahide Yalaki, İlyas Çakır;* ***Literature Review:*** *Zahide Yalaki, İlyas Çakır, Filiz Şimşek Orhon;* ***Writing the Article:*** *Zahide Yalaki, Filiz Şimşek Orhon;* ***Critical Review:*** *Filiz Şimşek Orhon, İlyas Çakır.*

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