

Epidemiology of Emotional and Behavioral Problems in Children and Adolescents Reared in Orphanages: A National Comparative Study

Zeynep ŞİMŞEK, Neşe EROL, Didem ÖZTOP, Özlem ÖZER ÖZCAN

Abstract

Objective: We examined the prevalence of emotional and behavioral problems, and associated factors in children and adolescents aged 6-18 years that were reared in orphanages. We aimed to compare these children and adolescents with a nationally representative age-matched sample that were raised by their own families and to identify mental health service needs in orphanages.

Method: This cross-sectional study included 674 children and adolescents aged 6-18 years that were selected from orphanages using stratified and probability cluster sampling. A socio-demographic information form, and the Child Behavior Checklist (CBCL), Teacher's Report Form (TRF), and Youth Self-Report Form (YSR) were used for data collection.

Results: According to the information provided by caregivers, teachers, and youths, the prevalence of problem behaviors ranged between 18.3% and 47% among those in institutional care versus between 9% and 11% among the national sample. Among those in institutional care, the prevalence of externalizing problems (21.4%-41.9%) was significantly higher than the prevalence of internalizing problems (6.2%-40.1%). At the syndrome level, the prevalence of social problems (5.7%-11.7%), thought disorders (7.2%-18.4%), and attention problems (7.7%-31.4%) among the youths in institutional care was higher than among the national sample (1.6%-5.8%). Age at first admission, receiving institutional care because of neglect and abuse, moves 2 or more times between institutions, recurrent physical illness, receiving poor quality care, lack of regular contact with parents or relatives, lack of regular contact with teachers and the institutional staff, poor problem-solving skills, fatalistic beliefs, tobacco and alcohol use, the feeling of stigmatization, and low-level competency were significantly associated with an increased risk of behavioral and emotional problems. In this representative study, only 2.4% of the children received any mental health care services.

Conclusion: There is an urgent need to develop alternative care models and routine screening for mental health. The training of professionals and development of mental health services for children in institutional care should be a priority.

Key Words: Orphanage care, behavioral problems, risk, protective factors

INTRODUCTION

Childhood is a developmental stage in which the importance of reciprocal emotional bonding between a child and his/her mother and father, or other caregivers, for healthy physical, psychological, and social development has been known for centuries. In cases of poverty and family problems, physical, psychological or mental problems in the mother and/or father, death of the mother or father, neglect or abuse, marriage during adolescence, abandonment due to giving birth out of

wedlock, or when a mother or father cannot sufficiently take care of their children the government protects children, raising them within a variety of care models (Koşar, 1992; Erol, 2004; Erol et al., 2005).

For the children that are wards of the state, there are several care models, which vary from country to country as well as intra-country, depending on the social, economic, and cultural structure of the country. One of the first care models is institutional care in which many children live in orphanages. Such large and crowded care

Received: 16.03.2007 – Accepted: 25.06.2007

Acknowledgements: We thank the Social Service and Child Protection Institution of Prime Ministry for their permission, the institutional personnel for their support and help, as well as the teachers and children.

Zeynep Şimşek MD., e-mail: zsimsek@harran.edu.tr

facilities were closed in Europe, Australia, and North America, but institutional care models (i.e. orphanages) are still widely seen in developing countries, especially third world countries (Koşar, 1992; Ekşi, 2004). In Turkey, there were 95 child care centers and 107 orphanages (total: 202 institutions) that actively provided services to 20,000 children in 2005 (Başbakanlık Sosyal Hizmetler ve Çocuk Esirgeme Kurumu, 2005). Among children that are wards of the state, 92% live in institutions, 4% live with parents that are their legal guardians, and 4% are adopted.

In the literature, both the physical and psychosocial health of children in institutional care have been widely investigated for nearly 70 years. Research findings indicate that children in institutional care have more emotional and behavioral problems, such as aggressive behavior and have higher levels of depression and anxiety, compared to children that are reared in a family environment (Tizard and Hodges, 1978; McCann et al., 1996; Voria et al., 1998; Wolff and Fesseha, 1999; Roy et al., 2000; Rushton and Minnis, 2002; MacLean, 2003; Yörükoğlu, 2003; Ellis et al., 2004; Şimşek, 2004; Erol et al., 2005; The St. Petersburg-USA Orphanage Research Team, 2005; Üstüner et al., 2005). Several studies have shown that institutional care has negative affects, especially on young children; however, only a few studies have investigated the prevalence rate of problems among these children and adolescents, the extent of care service needs, and risk and protective factors by collecting data from multiple informants.

The aims of the present study were to: 1) Examine the prevalence rate of emotional and behavioral problems among children aged 6-18 years in institutional care based on data collected from teachers and the children; 2) Compare children in institutional care with children raised by their families, in terms of emotional and behavioral problems. We also aimed to identify 3) the risk of emotional and behavioral problems in children in institutional care and the protective factors, and 4) the mental health service needs in these institutional settings.

METHOD

In this cross-sectional epidemiological study, we aimed to contact 720 children using a cluster sampling method at a 95% confidence level. The ratio of the number of children that were targeted for this study to the total number of orphanages was calculated. It was estimated that we needed to contact 425 children

between 6 and 11 years of age and 300 children 12 to 18 years of age. Twenty orphanages were selected from among 202 institutions using a random sampling method. The number of children that were proportional to the targeted total number of children was calculated for each institution from which we planned to collect information on between 12 to 60 children using a random sampling method. In all, we collected data for 674 children. The data collection response rates of caregivers, teachers, and adolescents were 94%, 87.5%, and 89.1%, respectively.

As a comparison group, we utilized data from a previous research project, The Psychological Health Profile in Turkey (Türkiye Ruh Sağlığı Profili Araştırması), (Erol and Şimşek, 2000). In that research project 4488 mothers of 4488 children, 2340 teachers, and 2206 adolescents were selected using clustered sampling, stratified sampling, and random sampling methods. The researchers collected data from mothers, teachers, and adolescents with the same instruments as used in the current study. The response rates of mothers, teachers, and adolescents in that study were 83.9%, 87.7%, and 79%, respectively (Erol and Şimşek, 1998; Ulusoy, 1998).

Among the children in institutional care sampled for the present study, 51.3% were female and 48.7% were male. In our community sample 49.8% were female and 50.2% were male. Mean age of the children in institutional care and children in the community sample was 11.3 ± 3.1 years and 11.5 ± 3.3 years, respectively. There were no significant differences between the children in institutional care and those in the community sample according to gender or age distribution ($P > 0.05$).

The Ankara University Medical School Ethical Community approved the study protocol and permission to conduct the study was granted by the Social Services and Child Protection Institution of the Prime Ministry.

INSTRUMENTS

Sociodemographic Information Form

This form collected data on risk and protective factors regarding children and their families. Based on the information in each child's file, a social service specialist, psychologist, or child development specialist completed the form. Predictive factors, such as current age, age at first admission, history for admission,

gender, place of residence prior to institutional care, the frequency of moving from one institution to another, having a sibling in the same institution, death of mother/father, and the frequency of the child's contact with his/her relatives, were recorded.

Child Behavior Checklist (CBCL/6-18)

The CBCL is designed to obtain parents'/caregivers' reports of their children's problems. (Achenbach, 1991a; Achenbach & Rescorla, 2001). The CBCL includes items for rating competencies and 113 items for behavioral and emotional problems. Items are rated on a 3-point scale as 0 = not true, 1 = somewhat or sometimes true, and 2 = very true or often true, based on preceding 6 months. The following eight syndromes are scored from the CBCL, Anxious/Depressed, Withdrawn/Depressed, Somatic Complaints, Social Problems, Thought Problems, Attention Problems, Rule Breaking Behavior, Aggressive Behavior. Anxious/Depressed, Withdrawn/Depressed, and Somatic Complaints syndromes comprise an Internalizing group, and the Rule Breaking Behavior and Aggressive Behavior syndromes comprise an Externalizing group, and Total Problems is the sum of scores on all problem items. The CBCL Total Competence score is obtained by summing the raw scores of the Activities and Social scales, plus School scale. The test re-test reliability was 0.84 for total problems and 0.88 for internal consistency (Erol et al. 1995). In the validity study, confirmatory factor analysis was conducted and 99% of the items were found to significantly, positively, and sufficiently measure what they were designed to measure ($P < 0.01$) (Erol and Şimşek, 2000; Dümenci et al., 2004).

Teacher's Report Form (TRF)

The 2001 edition of TRF, designed for ages 6 to 18 has 118 specific problem items, plus 2 open-ended problem items, all of which are rated on a 3 point scale as described for the CBCL (Achenbach, 1991b, Achenbach and Rescorla, 2001). Based on confirmatory factor analysis conducted with clinical and non-clinical samples, the scale is appropriate for an 8-factor structure (RMSEA = 0.07). The test-retest reliability of the Turkish TRF is .88 for Total Problems and Cronbach's alpha was .87 (Erol, Simsek, 2000). In the orphanage sample, the Cronbach's alpha is .84.

Youth Self Report (YSR)

The YSR (Achenbach, 1991; Achenbach and Rescorla, 2001) is a self-report questionnaire that is part

of the ASEBA family of assessment instruments. The YSR is designed to obtain 11-18-year-olds' self-ratings of emotional, behavioral, and social problems, plus an open-ended item for describing and rating somatic complaints not included among the more specific items. The YSR includes 17 items for rating adaptive characteristics and 112 items for behavioral and emotional problems. Items are rated on a 3-point scale as 0 = not true, 1 = somewhat or sometimes true, and 2 = very true or often true, based on preceding 6 months. The following eight syndromes are scored from the YSR; Anxious/Depressed, Withdrawn/Depressed, Somatic Complaints, Social Problems, Thought Problems, Attention Problems, Rule Breaking Behavior, Aggressive Behavior. Anxious/Depressed, Withdrawn/Depressed, and Somatic Complaints syndromes comprise an Internalizing group, and the Rule Breaking Behavior and Aggressive Behavior syndromes comprise an Externalizing group, and Total Problems is the sum of scores on all problem items. The YSR Total Competence score is obtained by summing the raw scores of the Activities and Social scales, plus Academic Performance. For the Total Problems, the test-retest reliability is .82 and Cronbach's alpha is .89 (Erol and Simsek, 2000). Confirmatory factor analysis conducted with clinical and normal samples indicated that scale is appropriate for an 8-factor structure (RMSEA= 0.04) (Erol and Şimşek, 2000).

We asked adolescents some questions on the method of approach of their caregivers, their problem-solving skills, and their thinking styles. The method of approach of their caregivers was evaluated with 2 questions: "Do your institutional caregivers provide help when you are in need?" and "Is there any personnel/worker in this institution that shares your cheer and grief?" The problem-solving skills of the adolescents were measured with items such as, "I can find alternative solutions to my problems" and "When I cannot solve a problem I get help from others and attempt to solve it again." Adolescents were expected to answer yes or no to these items. Thinking style was assessed with items like, "It does not matter whether I try or not, nothing will happen; I cannot do anything", "When encountered with a life event, I think that it is fate", and "I struggle up to my best".

On TRF, we asked teachers 6 additional questions about stigmatization. These questions were as following: "Is this student isolated from his/her friends?", "Do others make fun of him/her about his/her living in the institution?", "Do families of other children complain about this student?", "What is the general attitude of other teachers?", "What is the general attitude of workers?",

Table I. Sociodemographic characteristics of the children in institutional care.

Variables	Number	Percentage
Gender		
Male	328	48.7
Female	346	51.3
Age		
6-11 year	403	59.8
12-18 years	271	40.2
Age when institutionalized		
0-3 years	142	21.1
4-5 years	134	19.9
≥ 6 years	370	54.9
Unknown	28	5.8
Reason for institutionalization		
Poverty	93	13.9
Disturbed family integrity	428	63.9
Abuse	21	3.1
Abandonment	56	8.4
Other	48	7.1
Place of residence before institutionalization		
With family	371	55.0
Another institution	157	23.3
With relatives	55	8.2
Abandoned	56	8.4
No record	35	5.1
Siblings in the same institution		
Yes	611	90.7
No	63	9.3
Moves between institutions		
None or once	343	50.9
Two or more times	331	49.1
Death of mother/father		
At least 1 parent is alive	464	68.8
Both died	85	12.7
Whereabouts of the mother or father, or both is unknown	125	18.5
Total	674	100.0

“What is the attitude of the school directors concerning the acceptance of this student by the school?”

We constructed questions on the thinking style of adolescents, caregiver quality, problem-solving skills of adolescents, and stigmatization. These questions were

used in similar studies. Based on the frequency of problems mentioned in our focus group interviews with adolescents and teachers, these questions were developed.

Statistical Analysis

Data entry and data analysis were performed with

Table II. Prevalence rates (%) of internalization, externalization, and total problem according to gender and age.

	Internalization		Externalization		Total Problem	
	Institution	Family	Institution	Family	Institution	Family
According to mother/caregivers						
Female (6-11 years)	7.0	9.4	18.8	5.1	19.5	8.7
Female (12-18 years)	7.3	14.4	19.7	3.9	14.6	7.1
Male (6-11 years)	6.1	7.0	27.3	10.8	21.8	11.9
Male (12-18 years)	3.6	8.9	16.7	7.4	15.5	7.9
Total	6.2	9.9	21.4	6.9	18.3	9.0
	$\chi^2 = 7.102, P = 0.001$ PRR = 0.6; CI = 0.3-0.9		$\chi^2=122.94, P = 0.001$ PRR =3.7; CI =2.9-4.7		$\chi^2=43.687, P =0.001$ PRR = 2.3; CI =1.8-2.9	
According to teachers						
Female (6-11 years)	12.1	10.9	20.6	5.9	17.8	8.6
Female (12-18 years)	23.7	10.6	15.3	4.5	23.7	5.8
Male (6-11 years)	13.3	8.6	32.8	12.5	29.7	14.4
Male (12-18 years)	9.6	5.3	19.2	11.3	17.3	13.1
Total	15.6	8.9	22.7	9.3	23.2	11.0
	$\chi^2=17.050, P = 0.001$ PRR =1.7; CI =1.3-2.3		$\chi^2=66.46, P = 0.001$ PRR =2.5; CI =2.0-3.2		$\chi^2=46.16, P = 0.001$ PRR =2.1; CI =1.7-2.6	
According to adolescents						
Female (11-15 years)	38.3	10.1	40.7	9.7	49.6	9.4
Female (16-18 years)	47.4	13.8	28.6	11.7	50.0	12.0
Male (11-15 years)	33.3	10.6	42.9	9.8	42.0	9.3
Male (16-18 years)	45.2	13.9	48.7	14.7	42.9	11.3
Total	40.1	11.5	41.9	10.9	47.0	10.1
	$\chi^2=46.706, P = 0.001$ PRR =3.4; CI =2.9-4.1		$\chi^2=119.48, P = 0.001$ PRR =3.9; CI =3.2-4.6		$\chi^2=310.21, P = 0.001$ PRR =4.6; CI =3.9-5.5	

SPSS v.10.0 for Windows. In the study we used for comparison, The Mental Health Profile in Turkey, 1991 versions of CBCL, TRF, and YSR were used, whereas we used the 2001 versions of these scales; therefore, following data control, we extracted 6 out of 113 items, which were changed, from analysis. Moreover, we conducted analysis on social problems, thought problems, and attention problems, which were not included in the internalization and externalization general symptom groups.

In order to identify the prevalence rate of problem behaviors, we computed each scale's cut-off point. Subscales scores in the 98th percentile, and internalization, externalization, and total problem scores in the 90th percentile were used as cut-off points (Achenbach and Rescorla, 2001). In addition, predictive relative risk (PRR) and confidence intervals (CI) were calculated to

show the absolute effect of institutional care on problem behaviors. The confidence level of all analyses was 95%.

In order to compare the CBCL, YSR, and TRF scores of the children in institutional care and those living with their families, we used t-test (for 2 mean scores) and a variation analysis -Tukey's multiple comparison method (for 3 or more mean scores). To compare frequency rates in terms of independent variables, we used the chi square test. To examine the relationships between continuous variables, we utilized Pearson's correlation test. We used multiple regression analysis in order to measure the total and independent effect of independent variables that showed significant differences in univariate analysis on total problem score in each sub-test. Multiple regression analysis was conducted for each scale. The appropriateness of the models was checked with Durbin-Watson

Table III. Prevalence rates (%) of social problems, thought problems, and attention problems according to gender and age.

	Social problems		Thought problems		Attention problems	
	Institution	Family	Institution	Family	Institution	Family
According to mother/caregivers						
Female (6-11 years)	7.0	3.0	5.5	2.2	14.8	2.4
Female (12-18 years)	6.6	2.1	4.4	2.4	8.0	2.4
Male (6-11 years)	13.3	5.0	9.1	3.5	12.7	3.7
Male (12-18 years)	6.0	2.6	10.7	3.7	14.3	5.4
Total	8.8	3.2	7.2	2.9	12.3	3.5
	$\chi^2=38.15$, P =0.001 PRR=2.9; CI =2.1-4.1		$\chi^2=24.89$, P =0.001 PRR=2.6; CI =1.7-3.7		$\chi^2=81.94$, P =0.001 PRR= 3.9; CI =2.8-5.3	
According to teachers						
Female (6-11 years)	4.7	2.0	9.3	2.0	5.6	1.7
Female (12-18 years)	4.2	1.0	8.5	1.5	6.8	0.0
Male (6-11 years)	9.4	3.4	14.8	4.0	10.9	3.5
Male (12-18 years)	1.9	1.8	9.6	2.9	5.8	2.0
Total	5.7	2.2	10.9	2.7	7.7	2.1
	$\chi^2=15.21$, P =0.001 PRR=2.5;CI =1.6-4.1		$\chi^2=60.17$, P =0.001 PRR=3.9; CI =2.8-5.9		$\chi^2=38.14$, P =0.001 PRR=3.7; CI =2.4-5.8	
According to adolescents						
Female	10.6	2.7	19.0	1.9	32.2	2.6
Male	12.3	3.1	17.1	2.2	30.1	2.2
Total	11.7	2.9	18.3	2.0	31.4	2.4
	$\chi^2=57.37$, P =0.001 PRR =4.0; CI =2.7-5.9		$\chi^2=190.82$, P =0.001 PRR =8.9; CI =6.2-12.9		$\chi^2=418.94$, P =0.001 PRR =13.1; CI =9.5-17.8	

PRR = predictive relative risk; CI = 95 % confidence interval.

analysis and the significance of the models was evaluated with F analysis (Aksakoğlu, 2001).

RESULTS

Gender, age, and data on the institutional care of 674 children are shown in Table I. The distribution of age and gender were similar. Nearly half of the children were placed in institutions when they ≥ 6 years of age. Out of given five children, one of them were institutionalized at age three or younger ages than three. In most cases, disruption to family integrity was the cause for institutional care. Nearly 70% of children had a least 1 parent that was alive.

Internalization, Externalization, and Total Problems

According to mother/caregiver reports, children in

institutional care had significantly fewer internalizing problems, but had 3.7 times more externalizing problems and 2.3 times more total problems than children living with their families ($P<0.05$) (Table II). In terms of age and gender, girls and young boys receiving institutional care, and girls 12-18 years of age living with their families had significantly more internalizing problems compared to the other groups ($P<0.05$). Young boys in institutional care and those living with their families had significantly more externalizing problems and total problems than the other groups ($P<0.05$).

According to teacher reports, children in institutional care had significantly more externalizing problems, internalizing problems, and total problems than children living with their families (Table III). Teachers reported that among the institutionalized children, older girls had significantly more internalizing problems and younger aged

Table IV. Summary of the results of multiple regression analysis of the total problem predictive factors of CBCL, TRF, and YSR scores.

Independent variables	CBCL		TRF		YSR	
	P	95% CI	P	95% CI	P	95% CI
Age	0.975	(-1.3)-(-1.1)	0.018	(-2.9)-(-0.30)	0.185	(-1.2)-(-5.9)
Gender (male)	0.564	(-4.9)-(9.0)	0.324	(-3.5)-(-10.6)	--	--
Age at institutionalization	0.017	(-.23)-(-0.1)	0.017	(-.2)-(-.02)	--	--
Institutionalized due to abuse	0.045	(8.4)-(13.4)	0.024	(2.4)-(13.4)	--	--
Institution change (2+)	0.028	(1.2)-(20.6)	0.124	(-14.0)-(1.7)	--	--
Regular contacts with relatives	0.064	(-29)-(9.4)	0.014	(-20.)-(-2.4)	--	--
Involvement in activities	0.098	(-3.6)-(-11)	0.001	(-31)-(-11)	--	--
Total competency	0.001	(-1.2)-(-0.4)	0.001	(-4.7)-(-3.5)	--	--
Recurrent medical problems	0.012	(2.9)-(23.9)	--	--	--	--
Collaboration between school and institution	--	--	0.018	(-24)-(-2.2)	--	--
Stigmatization	--	--	0.001	(10.1)-(67)	--	--
Supportive caregivers	--	--	0.001	(-24)-(-5.9)	0.011	(-7.8)-(-0.7)
Fatalistic thinking style	--	--	--	--	0.020	(1.5)-(14)
Problem-solving skills	--	--	--	--	0.008	(-2.8)-(-15)
Academic success	--	--	--	--	0.984	(-9)-(8.8)
Social relationships	--	--	--	--	0.889	(-2.1)-(2.4)
Tobacco use	--	--	--	--	0.001	(6.0)-(19)
Alcohol use	--	--	--	--	0.001	(5.9)-(24)
R; R ² ;F;P Durbin-Watson	0.38; 0.23; 2.32;.021 1.849		0.78; 0.73;6.64;0.001 1.912		0.780; 0.33;4.19; 0.001; 1.912	

*Variables change in accordance with the source of information. CI

;confidence interval; R: indicates relationship between variable set that covers total problem score and all independent variables; R²: shows total variation ratio that is explained by independent variables in the equation; F: indicates if there is a significant linear model; P:significance level.

children had more externalizing and total problems than the older aged children ($P<0.05$). Among the children living with their families, females in all age groups had more internalizing problems than males, whereas males had significantly more externalizing problems and total problems than females ($P<0.05$).

Adolescents in institutional care reported significantly 2-4 times higher prevalence rates compared to other sources of informants ($P<0.05$). According to the adolescents' reports, the prevalence rates of problem behaviors, according to age and gender, were similar among chil-

dren in institutional care and children living with their families ($P>0.05$).

Social Problems, Thought Problems, and Attention Problems

According to the reports of mothers/caregivers, teachers, and adolescents, children in institutional care had significantly more social problems, thought problems, and attention problems than children living with their biological parents ($P<0.05$) (Table III). Mothers/caregivers and adolescents reported more attention prob-

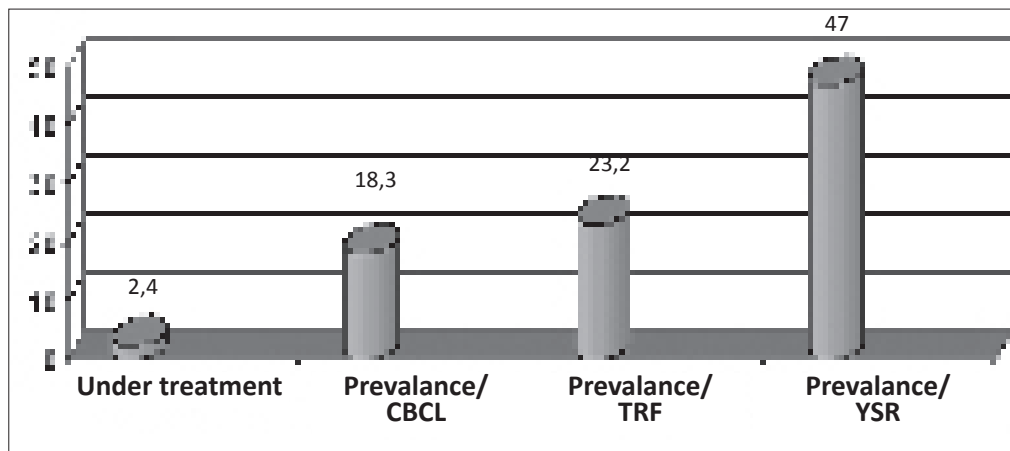


FIGURE 1. The prevalence rate (%) of total problems and children that utilized mental health services according to caregiver (CBCL), teacher (TRF), and adolescent (YSR) reports.

lems, and teachers reported more thought problems in institutionalized children. In the community sample, the prevalence rates of social, thought, and attention problems were similar.

According to the reports of mothers/caregivers, younger aged boys in the community sample (5%) had significantly more social problems than older aged boys ($P<0.05$). There were no gender or age differences in social problems among the children in institutional care ($P>0.05$). Similarly, there were no significant age or gender differences among the institutionalized children and those from the community sample in terms of thought problems ($P>0.05$). Males in the community sample had significantly more attention problems than females ($P<0.05$), but there were no significant age or gender differences with regards to attention problems among children in institutions.

According to the reports of teachers, there were no gender or age differences in social problems or attention problems among the children in institutions ($P>0.05$). In the community sample, teachers reported that males had significantly more attention problems than females ($P<0.05$). In both research samples, younger aged boys had significantly more thought disorders than the older aged children ($P<0.05$). According to the reports of adolescents, there were no age or gender differences in social problems, attention problems, or thought problems ($P>0.05$).

The Risk of Problem Behaviors and Protective Factors

A summary of the results of multiple regression analysis of CBCL, TRF, and YSR total problem scores is presented in Table IV. In univariate analysis we found that age, gender, the conditions of institutionalization

at early ages and with the history of abuse, and two or more moves between institutions were significantly related to CBCL total problem score ($P<0.05$). Moreover, the presence of recurrent medical problems, level of competency, regular contact with relatives or family, and level of involvement in activities were significantly related to total problem score ($P<0.05$).

Multiple regression analysis indicated that the variables in the equation explained 23% of the variance in CBCL total problem score (Table IV). Institutionalization at younger ages, 2 or more moves between institutions, institutionalization due to abuse, and recurrent medical problems increased the level of problem behaviors ($P<0.05$). High-level competence was associated with fewer problem behaviors ($P<0.05$).

Univariate analysis revealed that age, gender, the history for admission, age at first admission, the number of moves between institutions, competency level, death of mother/father, regular contact with relatives/family, quality of the relation between school and the institution, level of involvement in activities, and stigmatization were significantly related to TRF total problem score ($P<0.05$). All these variables explained 73% of the variance in TRF total problem score. According to this model, being younger-aged, the admission of institutionalization at early ages and with reasons of abuse/neglect, and stigmatization were risk factors that independently predicted problem behaviors and increased total score 3-38 points ($P<0.05$). Based on this model, the protective factors against problem behaviors were regular contact with relatives, involvement in school activities, high-level competency, and supportive caregivers. These factors decreased the average problem behavior score by 4.1-20.8 points ($P<0.05$).

We analyzed the relationship between YSR total score

of adolescents and independent variables. Results of univariate analysis showed that YSR total problem score was significantly related to age, caregiver attitude, fatalistic attitude, problem-solving abilities, academic success, social relationships, and tobacco and alcohol use ($P < 0.05$). We tested the relationship between total problem score and the significantly related variables using a multiple regression model. The independent variables predicted 33% of the variance in total problem score (Table IV). Supportive caregivers and high-level problem-solving abilities of adolescents lowered problem behavior scores by 4-6 points, which indicated that they were protective factors. A fatalistic thinking style and substance use -as risk factors -increased total problem behavior score by 13-15 points ($P < 0.05$).

Mental Health Service Needs

In order to determine the mental health service needs in institutions, we used a socio demographic information form that determined whether any child received mental health services. Results indicated that 18.3%-47% of the 674 children exhibited problem behaviors at the clinical level (based on the different sources of informants); however, only 2.4% of the children received speciality mental health services (Figure I).

DISCUSSION

In this study we compared children in institutional care and children living with their families, and found that institutional care had negative affects on the emotional and behavioral development of children aged 6-18 years, which is in agreement with previous research (Fisher et al., 1997; Vorria et al., 1998; Rutter et al., 1999; Roy et al., 2000; MacLean, 2003). Although the responsible authorities in Turkey work towards improving the quality of orphanages, our study showed that this kind of care model -institutional care -has significantly negative effects on the development of children. Another importance of this study was that our findings pointed out what can be done to maintain children's mental health, showing mental health service needs.

The Prevalence Rate of Problem Behaviors

We estimated the prevalence rate of problem behaviors based on the data gathered from caregivers, teachers, and directly from the adolescents. According to these multiple sources, the prevalence rate of total problems was between 18.3% and 47% among those in institutional care, versus 9%-11% among the children living

with their families. We found that institutional care increased total problem scores by a factor of 2.1-4.6. Studies that used CBCL indicated that the prevalence rate of problem behaviors was nearly 20%-78% (Burns et al., 2004).

The prevalence rate of internalized problems, which consist of anxiety, depression, and somatic disorders, was between 6.2% and 40.1% among the institutionalized children, whereas this rate was between 8.9% and 11.5% among the children living with their families. The frequency rate of externalized problems, which consist of aggressive behaviors and rule breaking sub-scales was between 21.4% and 41.9% among those in institutional care, versus 6.9%-10.9% among the children living with their families. We found that institutional care increased internalization problems by a factor of 1.7-3.4 and increased externalization problems by a factor of 2.5-2.9.

Adolescents in institutional care and those from the community sample had similar prevalence rates of externalizing and internalizing problems; however, according to the caregiver and teacher reports, children in institutional care had more externalizing problems than those living with their families, which is similar to the findings of previous studies. One cause of this was suggested to be the separation of a child from his/her parents at early ages and the related attachment problems that lead to externalization problems (Keil and Price, 2006).

Additionally, the current study attempted to determine the prevalence and risk rates for social problems, thought problems, and attention problems. According to the reports of caregivers, teachers, and adolescents, institutional care increased the rate of social problems by a factor of 2.5-4.0, thought problems by a factor of 2.6-8.9 times, and attention problems by a factor of 3.7-13.1. This finding shows that institutional care represented a higher risk for attention problems and thought problems than for internalizing or externalizing problems. The frequency of attention problems ranges between 2% and 16% in different countries (Gidwani et al., 2006). Professionals need to give the same level of importance to attention problems and thought problems as they do to externalizing and internalizing problems. Related sources mostly accentuated on hyperactivity and attention deficiency problems (Rushton and Minnis, 2002).

The Protective and Risk Factors for Problem Behaviors

Protective factors are categorized into 3 groups in the

pediatric mental health field (Garmezy, 1985): cognitive abilities, coping behaviors, and positive interaction between child and adult members of the family, without abuse or neglect (Werner and Smith, 1982; Rutter, 1990; Masten and Coatsworth, 1998). Previous studies indicated that regular contact with relatives or family decreases the risk of psychopathology, which is similar to our findings (Werner and Smith, 1982; Rutter, 1990; Masten and Coatsworth, 1998).

Another protective factor of institutional care for pediatric mental health is cooperation between schools and orphanages, and children's participation in school activities. Studies have reported that cooperation between school teachers and the personnel of institutional care facilities decreases the incidence of behavioral problems in children. Identification of problems in the early stage and subsequently offering appropriate support to the child decrease the risk of psychopathology (Jackson, 1994).

According to the reports of adolescents, caregiver quality was the most important predictive factor for behavioral problems, which is compatible with previous studies (Zeanah, 2000; Ellis et al., 2004). One of the leading factors that ensure the mental health of children is the quality of the relationship with a caregiver, which is marked by confidence, support, continuity, and warmth. For this reason, caregiver training is identified as one of the most important preventive interventions. Moreover, increasing the level of problem-solving skills in adolescents is another protective factor against problem behaviors.

According to the reports of multiple informants, institutionalization at younger ages, the conditions of previous living in another institutions, two or more moves between institutions, and recurrent physical illness increased the risk of emotional and behavioral problems, which is in agreement with previous findings (Ames, 1997; Beckett et al., 2002; Fisher et al., 1997; Marcovitch et al., 1997). The Daphne program, which was conducted in 2002/2003 by the European Union, World Health Organization (WHO), Birmingham University in England, and 33 other countries, including Turkey, reported that nearly 23,099 children under the age of 3 years were in institutional care. It was argued that children ≤ 3 years of age should be taken care of in institutions at the minimum ratio of 1 caregiver per 11 children. In emergency circumstances, these children could be placed in high quality institutions for a maximum of 3 months (Brown et al., 2005).

We found that another risk factor was stigmatization. Stigmatization is a situation that damages a person's social status and social relationships, decreases self-confidence, increases feelings of loneliness and hopelessness, and increases psychological symptoms (Rosen et al., 2000; Ritsher et al., 2003). Isolation from school friends and the social environment were important factors that increased emotional and behavioural problems in our study sample, and in previous studies (Link and Phelan, 2001). Children receiving institutional care faces with social judgments. Discriminative attitudes like "those from institutions, stand up", "those from institutions, your service has come" hurt them. As a result, these children usually do not tell their teachers and friends that they live in an orphanage. Destroying their individuality and just looking at their institutional life instead of focusing on their strengths are weakening them. Unfortunately, personnel of the institutions did not attend to family meeting at the school due to their overloaded works, which made these children felt as they are abandoned. These children face with social judgments as well as their own individual difficulties by themselves. It is important to inform and sensitize society, institutional and school personnel, and parents about this issue.

We found that institutionalization due to poverty and family disruption had few negative effects on the institutional care processes; however, we found that a history of abuse and neglect had a detrimental effect on the mental health of the children. Previous studies similarly showed that child abuse affected the physical, emotional, behavioral, and cognitive functioning of children (Cicchetti and Toth, 2000; De Bellis, 2001; Manly et al., 2001).

Another risk factor for adolescents was fatalistic thinking. Fatalistic thinking is the belief that responsibility for one's life belongs to an external power and neglect of one's own responsibility. Studies that investigated the relationship between a fatalistic thinking style and psychological problems showed that fatalism is a risk factor for poor adolescent mental health (Roberts et al., 2000). This result suggests that problem-solving abilities, coping abilities, and social skills of adolescents and children should be supported. Lastly, we found that tobacco smoking and alcohol use were risk factors that negatively affected the mental health of children (Crowley and Riggs, 1995).

Mental Health Service Needs

In this study we found that nearly 18%-40% of 674 children had behavioral problems at the clinical level,

but only 2.4% of them utilized mental health services. In a study by Burns et al. (2004), the prevalence rate of problem behaviors was 47.9%, but only 11.7% of participants received mental health services due to scarce resources, low awareness of personnel of institutions on child's condition due to their work overload, and social work professionals insufficient information on mental health of children to screen any problems in children (Burns et al., 2004). In Turkey, Erol (2004) and Aktaş (2004) found that work overload and bureaucratic work overload, lack of professionally trained personnel, and personnel with low-level education were the reasons for low-level utilization of mental health services.

CONCLUSION

This study provided important data useful for the maintenance and development of mental health in children in institutional care. One of the limitations of our study was that we did not use any objective measures of fatalism, stigmatization, caregiver quality, or problem-solving skills, but developed questions based on focus group meetings and questions used in other studies. A more detailed research on these concepts will contribute to the literature.

Our study was a cross-sectional epidemiologic study with the objective to examine the prevalence rates of problem behaviors, the related risk and protective factors, and mental health service needs. We compared children in institutional care with a community sample and found that institutional care was a risk factor for poor mental health. Our study collected and analyzed data on the risk and protective factors, and suggested what social service specialists can do with these children's families, schools, and social environments. In order to create a more confident and supportive environment for these children, we need to develop empirically supported

intervention programs that are protective of the rights of children, and sensitive to their developmental stages. Regular screening and evaluation of these children's physical, mental, and social needs should be mandatory. Our results indicate that interventions should be supported with a multidisciplinary approach. Coordination between services, families, and caregivers should be enhanced. Social skills and problem-solving skills of children should be improved with structured programs. Sufficient level of support to the children should be targeted. Programs that aim to reduce the stigmatization of these children should be developed.

In Turkey, an increasing number of children are institutionalized each year due to poverty, migration, unemployment, family disruption, physical and mental disorders, neglect, and abuse. The services presently available aim to provide help after a problem occurs, but services that target prevention are lacking and inaccessible. Nevertheless, prevailing policies and laws give preventive programs a priority. Preventive programs target the maintenance of healthy marriages, education for parents about child rearing methods, prevention of adolescent pregnancy, early recognition of at-risk families, and increasing support for families (Şimşek, 2001).

This study showed that in cases of family disruption, family-based services, such as guardianship by other families or relatives, or adoption are needed. We have a responsibility to give voice to the problems of these children and adolescents, and to protect their rights. Not every single child or adolescent in institutional care has severe problems; therefore, it is important to identify the protective factors against problem behaviors. Empirical studies will reveal this issue with the help of multiple informants determine the risk and protective factors and will suggest alternative solutions to these problems.

REFERENCES

- Achenbach TM (1991a) Manual for the Child Behavior Checklist/4–18 and 1991 Profile. University of Vermont, Department of Psychiatry, Burlington, VT.
- Achenbach TM (1991b) Manual for The Teacher's Report Form and 1991 Profile. University of Vermont, Department of Psychiatry, Burlington VT.
- Achenbach TM (1991c) Manual for The Youth Self-Report and 1991 Profile. University of Vermont, Department of Psychiatry, Burlington VT.
- Achenbach TM, Rescorla LA (2001) Manual for the ASEBA school-age forms & profiles. Burlington, VT: University of Vermont, Research Center for Children, Youth, and Families.
- Aksakoğlu G (2001) Sağlıkta Araştırma Teknikleri ve Analiz yöntemleri. Dokuz Eylül Üniversitesi Yayınları, İzmir.
- Aktaş AM (2004) "Türkiye'de korunmaya muhtaç çocuklar ve çalışan personel". Koruma Altındaki Çocuklar Prof.Dr. Mualla Öztürk Anısına XVII. Sempozyum Sunuları –23-25 Şubat 2004 (Yayına hazırlayan RunaUslu). Ankara Üniversitesi Çocuk Ruh Sağlığı ve Hastalıkları Anabilim Dalı Yayınları, Yayın no: IX. Ankara Üniversitesi Basımevi, 159–193.
- Ames EW (1997) Development of Romanian Orphanage children adopted to Canada. Final report to the Human Resources Development Office, Ottawa, Canada.
- Başbakanlık Sosyal Hizmetler ve Çocuk Esirgeme Kurumu Genel Müdürlüğü, Ulusal Eylem Planı. (shcek@gov.tr). Erişim Tarihi: 08.08.2005.
- Beckett C, Bredenkamp D, Castle J et al. (2002) Behavior problems

associated with institutional deprivation: A study of children adopted from Romania. *J Dev Behav Pediatr*, 23: 297–303.

Brown KD, Giachtitsis CH, Johnson R et al. (2005) European Commission Daphne Programme in collaboration with the World Health Organization Regional Office for Europe & The University of Birmingham, UK (2005) Mapping the number and characteristics of children under three in institutions across Europe at risk of harm. Birmingham, UK.

Burns BJ, Phillips SD, Wagner HR et al. (2004) Mental health need and access to mental health services by youths involved with child welfare: A national survey. *J Am Acad Child Adolescent Psychiatry*, 43 (8): 960–970.

Cicchetti D, Toth S (2000) Developmental processes in maltreated children. In: D. Hansen (Ed.), *Nebraska Symposium on Motivation*, vol. 46, 1998: Motivation & Child Maltreatment (pp. 85-160). Lincoln, NE: University of Nebraska Press.

Crowley TJ, Riggs PD (1995), Adolescent substance use disorder with conduct disorder and comorbid conditions. *NIDA Res Monogr*, 156: 49–111.

DeBellis M (2001) Developmental traumatology: The psychobiological development of maltreated children and its implications for research, treatment, and policy. *Dev Psychopathol*, 13: 539–564.

Dümenci L, Erol N, Achenbach TM, Simsek Z (2004) Measurement structure of the Turkish translation of the Child Behavior Checklist using confirmatory factor analytic approaches to validation of syndromal constructs. *J Abnorm Child Psychol*, 32(3): 337–342.

Ellis BH, Fisher PA, Zaharie S (2004) Predictors of disruptive behavior, developmental delays, anxiety, and affective symptomatology among institutionally reared romanian children. *J Am Acad Child Adolescent Psychiatry*, 43(10):1283–1292.

Ekşi A (2004) Koruma altında çocuklar; Dünyada beş kıtanın çeşitli ülkelerinden örnekler- Koruma Altındaki Çocuklar- Şubat 2004 (Yayına hazırlayan Runa Uslu). Ankara Üniversitesi Çocuk Ruh Sağlığı ve Hastalıkları Anabilim Dalı Yayınları, Yayın no: IX. Ankara Üniversitesi Basımevi, 9–24.

Erol N, Arslan BL, Akçakın M (1995) The adaptation and standardization of the Child Behavior Checklist among 6-18 Year-Old Turkish Children. In J Sergeant (ed.), *Eunethydis: European Approaches to Hyperkinetic Disorder*. Zurich: Fotoratar. 97–113.

Erol N, Şimşek Z (1998) Çocuk ve Gençlerde Ruh Sağlığı:Yeterlik Alanları, Davranış ve Duygusal Sorunların Dağılımı. In N. Erol, C. Kılıç, M. Ulusoy, M. Keçeci, Z. Şimşek (eds). *Türkiye Ruh Sağlığı Profili Raporu*, T.C. Sağlık Bakanlığı Temel Sağlık Hizmetleri Genel Müdürlüğü, Eksen Tanıtım Ltd. Şti. Ankara: 25–75.

Erol N, Şimşek Z (2000) Mental Health of Turkish Children: Behavioral and Emotional Problems Reported by Parents, Teachers and Adolescents. *International Perspectives on Child and Adolescent Mental Health*, N. Singh, J P Leung, A N Singh (Ed), Elsevier Science Ltd; 223–247.

Erol N (2004) Yuva, Yetiştirme Yurtları Sorunun mu Yoksa Çözümünü Parçası? Koruma Altındaki Çocuklar; Prof. Dr. Mualla Öztürk Anısına XVII.Sempozyum Sunuları –23–25 Şubat 2004 (Yayına hazırlayan Runa Uslu). Ankara Üniversitesi Çocuk Ruh Sağlığı ve Hastalıkları Anabilim Dalı Yayınları, Yayın no: IX. Ankara Üniversitesi Basımevi; 33–140.

Erol N, Şimşek Z, Üstüner S (2005) Çiçekli Dünyamda Elimi Yalnız Bırakma; Dünyada ve Türkiye’de Çocuk Koruma Sistemleri; Kurum Bakımı, Koruyucu Aile ve Evlat Edinme. Ümit Matbaacılık. Ankara.

Fisher L, Ames EW, Chisholm K, et al.. (1997) Problems reported by parents of Romanian orphans adopted to British Columbia. *Int J Behav Dev*, 20: 67–83.

Garnezy N (1985). Stres-resistant children: The search of protective factors. In J. E. Stevenson, *Recent research in developmental psychopathology* (pp:213-233). Tarrytown, NY: Pergamon Press.

Gidwani PP, Opitz GM, Perin JM (2006) Mother’s view on hyperactivity: A cross-cultural perspective. *Dev Behav Pediatr*, 27(2): 121–126.

Jackson, S. (1994). Education on residential child care. *Oxford Review of Education*, 20 (3): 267–279.

Keil V, Price JM (2006) Externalizing behavior disorders in child welfare settings: Definition, prevalence, and implications for assessment and treatments. *Child Youth Serv Rev*, 28: 761–779.

Koşar N (1992) Sosyal Hizmetlerde Aile ve Çocuk Refahı Alanı. Yargıçoğlu Matbaası, Ankara.

Link BG, Phelan JC (2001) Conceptualizing stigma. *Annu Rev Sociol*, 27: 363-385.

MacLean K (2003) The impact of institutionalization on child development. *Dev Psychopathol*, 5: 853–884.

McCann JB, James A, Wilson S, Dunn G (1996) Prevalence of psychiatric disorders in young people in the care system. *British Med J*, 313: 1529–1530.

Manly J, Kim J, Rogosch F (2001) Dimensions of child maltreatment and children’s adjustment: Contributions of developmental timing and subtype. *Dev Psychopathol*, 13: 759-782.

Masten A, Coatsworth JD (1998) The developmental of competence in favorable and unfavorable environments: Lessons from research on successful children. *American Psychol*, 53(2): 205–220.

Marcovitch S, Goldberg S, Gold A et al. (1997) Determinants of behavioral problems in Romanian children adopted to Ontario. *Inter J Behav Dev*, 20: 17–31.

Ritsher JB, Otilingam PG, Grajales M (2003) Internalized stigma of mental illness: Psychometric properties of a new measure. *Psychiatry Res*, 121: 31-49.

Roberts RE, Roberts CR, Chen IG (2000) Fatalism and risk of adolescent depression. *Psychiatry*, 63 (3): 239-252.

Rosen A, Walter G, Casey D, et al. (2000) Combating psychiatric stigma: An overview of contemporary initiatives. *Aust Psychiatry*, 8: 19-26.

Roy P, Rutter M, Pickles A (2000) Institutional care: Risk from family background or pattern of rearing? *J Child Psychology Psychiatry*, 41 (2):139-149.

Rushton A, Minnis H (2002) Residential and foster family care. *Child and Adolescent Psychiatry*, 4. baskı, M Rutter, E Taylor (Ed.): 359-369.

Rutter M (1990) Psychosocial resilience and protective mechanisms. Risk and protective factors in the developmental of psychopathology, J Rolf, AS Masten, D Cicchetti, KH Nuechterlein, S Weintraub (Ed). New York, NY: Cambridge University Press, s. 651-682.

Rutter M, Anderson-Wood L, Beckett C et al. (1999) Quasi-autistic patterns following severe early global privation. *J Child Psychology Psychiatry*, 40 (4): 537–549.

Şimşek Z (2001) Çocuk Hakları açısından temel sağlık hizmetlerine yaklaşım ve sosyal hizmet”, *Sosyal Hizmette Yeni Yaklaşımlar ve Sorun Alanları*: Prof. Dr. Nihal Turan’a Armağan, Ankara; 69-80.

Şimşek Z (2004) “Kurum bakımı ve çocuk ruh sağlığı: Kurum bakımı altındaki çocukların sorun davranışlarını yordayan faktörler”. *Sosyal Hizmet Sempozyumu 2004: Türkiye’de Sosyal Hizmet Uygulamaları, İhtiyaç ve Sorunlar*”. 4–6 Kasım 2004, Alanya. Başkent Üniversitesi Sağlık Bilimleri Fakültesi Sosyal Hizmetler Bölümü, Bildiri Özetleri, 49.

Tizard B, Hodges J (1978) The effect of early institutional rearing on the development of eight-year- old children. *J Child Psychology Psychiatry*, 19: 99–118.

The St. Petersburg-USA Orphanage Research Team (2005) Characteristics of children, caregivers, and orphanages for young children in St. Petersburg, Russian Federation. *J Appl Dev Psychology*, 26: 477–506.

Ulusoy M (1998) Türkiye Ruh Sağlığı Profili: Örneklem planı ve hane halkı anketi ile ilgili sonuçlar. In N. Erol, C. Kılıç, M. Ulusoy, M

Keçeçi, Z. Şimşek (eds). Türkiye Ruh Sağlığı Profili Raporu, T.C. Sağlık Bakanlığı Temel Sağlık Hizmetleri Genel Müdürlüğü, Eksen Tanıtım Ltd. Şti., Ankara, 25–77.

Üstüner S, Erol N, Şimşek Z (2005) Koruyucu aile bakımı altındaki çocukların davranış ve duygusal sorunları. Çocuk ve Gençlik Ruh Sağlığı Dergisi, 12 (3): 130–140.

Vorria P, Rutter M, Pickles A et al. (1998) A comparative study of Greek children in long term group care and in two-parent families: I. Social, Emotional, and Behavioral differences. J Child Psychology Psychiatry, 36(4): 1633–644.

Werner E, Smith R (1982) Vulnerable but invincible: A longitudinal

study of resilient children and youth. New York: Adams, Bannister, and Cox.

Wolff PH, Fesseha G (1999) The orphans of Eritrea: A Five-year follow-up study. J Child Psychol Psyc, 40: 1231–1237.

Yörükoğlu A (2003). Koruma altındaki çocuklar ve hakları. Çocuk ve Gençlik Ruh Sağlığı Dergisi, 10(3): 148-150.

Zeanah CH (2000) Disturbances of attachment in young children adopted from institutions. J Dev Behav Pediatr, 15: 215–220.

2828 Sayılı Sosyal Hizmetler ve Çocuk Esirgeme Kurumu Kanunu (Kabul tarihi: 24/5/1983).